Technical Support Document (TSD)

for the Transport Rule

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# Air Quality Modeling

U.S. Environmental Protection Agency
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# I. Introduction

In this technical support document (TSD) we describe the air quality modeling performed to support the Environmental Protection Agency's Transport Rule proposal (TR). For this rule we used air quality modeling to:

(1) identify locations expected to be nonattainment or have maintenance problems for annual (average) $PM_{2.5}$, 24-hour $PM_{2.5}$, and/or 8-hour ozone for the analytic years chosen for the TR,

(2) quantify the impacts (i.e., air quality contributions) of $SO_2$ and $NO_X$ emissions from upwind states on downwind annual and 24-hour $PM_{2.5}$ concentrations at monitoring sites projected to be nonattainment or have maintenance problems in 2012 for the 1997 annual and 2006 24-hour $PM_{2.5}$ NAAQS[1], respectively,

(3) quantify the contributions of $NO_X$ emissions from upwind states on downwind 8-hour ozone concentrations at monitoring sites projected to be nonattainment or have maintenance problems in 2012 for the 1997 ozone NAAQS, and

(4) assess the health and welfare benefits of the emissions reductions expected to result from this rule.

This TSD includes information on the following analytical aspects of the TR air quality modeling:

(1) a description of the modeling platform,

(2) an evaluation of model predictions compared to measured concentrations,

(3) the procedures and results of projecting ozone and $PM_{2.5}$ concentrations for future year scenarios,

(4) the procedures used to quantify interstate contributions for annual and 24-hour $PM_{2.5}$, and 8-hour ozone,

(5) the results of evaluating the interstate contributions using concentration thresholds, and

(6) the air quality impacts from the $SO_2$ and $NO_X$ emissions reductions expected from the "State Budgets/Limited Trading" remedy (i.e., remedy scenario), as described in section IV.D of the proposed rule preamble.

[1] National Ambient Air Quality Standards (NAAQS).

Air quality modeling was performed for four emissions scenarios: a 2005 base year, a 2012 “no CAIR” base case, a 2014 “no CAIR” base case, and the 2014 remedy scenario. The modeling for 2005 was used as the base year for projecting air quality for each of the three future year scenarios. The year 2005 was selected for the Transport Rule base year because this is the most recent year for which EPA has a complete national emissions inventory. The 2012 base case modeling was used to identify future nonattainment and maintenance locations and to quantify the contributions of emissions in upwind states to annual and 24-hour $PM_{2.5}$, and 8-hour ozone at downwind receptors. The 2014 base case and 2014 remedy case modeling were used to quantify the benefits of the emissions reductions from the rule. The rationale for selecting 2012 and 2014 as the analytic years for the TR is provided in the preamble.

Section II of this TSD describes the air quality modeling platform and the evaluation of model predictions of $PM_{2.5}$ and ozone using corresponding ambient measurements. Section III defines the procedures for projecting future case $PM_{2.5}$ and ozone concentrations and the approach for determining locations with projected nonattainment and/or maintenance problems. Section IV describes (1) the source apportionment (i.e., contribution) modeling, (2) the procedures for quantifying contributions to nonattainment and/or maintenance, and (3) the evaluation of contributions to determine which State are covered by this rule. In section V we present the results of modeling performed for 2014 to assess the impacts on air quality of the emissions reductions expected from this rule. Information on the development of emissions inventories for the TR and the steps and data used in creating emissions inputs for air quality modeling can be found in the Transport Rule Emissions Inventory TSD (EITSD). The EITSD also contains State/sector/pollutant emissions summaries for each of the emissions scenarios modeled.

## II. Air Quality Modeling Platform

### *A. Air Quality Model*

We used the Comprehensive Air Quality Model with Extension[2] (CAMx) version 5 to simulate ozone and $PM_{2.5}$ concentrations for the 2005 base year and the 2012 and 2014 future year scenarios modeled for the TR. CAMx was also used for the source apportionment modeling to quantify interstate transport of ozone and $PM_{2.5}$. CAMx is a three-dimensional grid-based photochemical model designed to simulate the formation, chemical transformation, transport, and removal of ozone, secondary and directly emitted $PM_{2.5}$, and their precursor species on national, regional, and local scales for short-term episodes up to annual time periods.

### *B. Modeling Domains*

The CAMx model applications for the TR focus on States in the Eastern U.S. using a horizontal grid resolution of 12 x 12 km. The Eastern modeling region (i.e., Eastern modeling domain) extends from Texas northward to North Dakota and eastward to the East Coast. Thirty seven States and the District of Columbia are wholly contained with this modeling domain. The Eastern modeling domain was nested within a coarse grid, 36 x 36 km modeling domain which covers the lower 48 states and adjacent portions of Canada and Mexico. The 36 km and 12 km modeling domains extend vertically from the surface to 100 millibars (approximately 15 km) using a sigma-pressure coordinate system. Predictions from the 36 km Continental U.S. (CONUS) domain were used to provide initial and boundary concentrations for simulations in the 12 km domain. Each of the emissions scenarios were modeled for the 36 km and 12 km domains. However, as described below, the source apportionment modeling was performed for the 37 States wholly within the 12 km Eastern domain only. The 36 km and 12 km modeling domains are shown in Figure II-1. Table II-1 provides geographic specifications for these domains.

In addition to the CAMx model, the TR modeling platform includes (1) emissions for the 2005 base year, 2012 base case, 2014 base case and 2014 remedy scenario, (2) meteorology for the year 2005, and (3) estimates of intercontinental transport (i.e., boundary concentrations) from a global photochemical model. Using these input data,

[2] Comprehensive Air Quality Model with Extensions Version 5 User's Guide. Environ International Corporation. Novato, CA. March 2009.

CAMx was run to generate hourly predictions of ozone and $PM_{2.5}$ component species concentrations for each grid cell in the modeling domains. The development of 2005 meteorological inputs and initial and boundary concentrations for the CONUS domain are described below. The emissions inventories used in the TR air quality modeling are described in the EITSD.

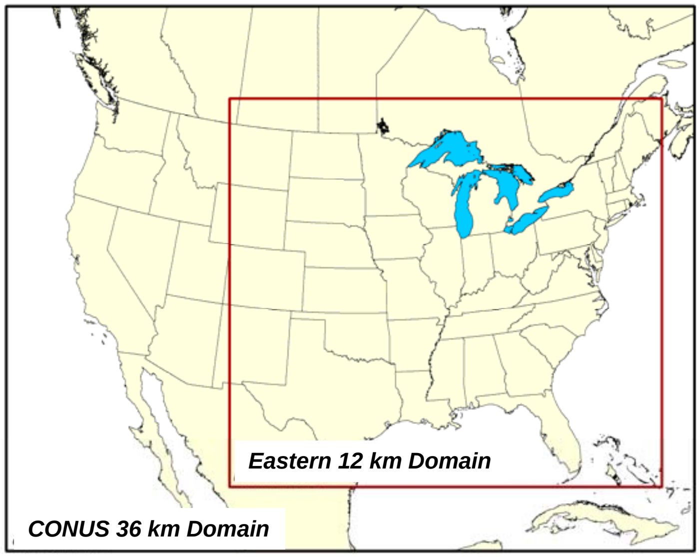


Figure II-1. Transport Rule air quality modeling domains.

Table II-1. Specifications of the air quality modeling domains.

| | 36 x 36 km Domain | 12 x 12 km Domain |
|---|---|---|
| **Map Projection** | Lambert Conformal Projection | |
| **Grid Resolution** | 36 km | 12 km |
| **Coordinate Center** | 97 deg W, 40 deg N | |
| **True Latitudes** | 33 deg N and 45 deg N | |
| **Dimensions** | 148 x 112 x 14 | 279 x 240 x 14 |
| **Vertical extent** | 14 Layers: Surface to 100 millibar level (see Table II-2) | |

### *C. Model Simulation Periods*

Annual simulations of CAMx were performed in quarterly segments (i.e., January through March, April through June, July through September, and October through December) for each emissions scenario. The CONUS domain simulations included a "ramp-up" period, comprised of 10 days before the beginning of each quarter, to mitigate the effects of initial concentrations. For the 12 km Eastern domain simulations we used a 3-day ramp-up period for each quarter. Fewer ramp-up days were used for the 12 km simulations because the initial concentrations were derived from the parent 36 km simulations.

***D. Meteorological Input Data***

All of the TR CAMx simulations used meteorology for 2005. The gridded meteorological input data for 2005 were derived from simulations of the Pennsylvania State University / National Center for Atmospheric Research Mesoscale Model. This model, commonly referred to as MM5, is a limited-area, nonhydrostatic, terrain-following system that solves for the full set of physical and thermodynamic equations which govern atmospheric motions.[3] Meteorological model input fields were prepared separately for each of the domains shown in Figure II-1 using MM5 version 3.7.4. The MM5 simulations were run on the same map projection as CAMx.

The CONUS and Eastern meteorological model runs were configured similarly. The selections for key MM5 physics options are as follows:

- Pleim-Xiu PBL and land surface schemes
- Kain-Fritsh 2 cumulus parameterization
- Reisner 2 mixed phase moisture scheme
- RRTM longwave radiation scheme
- Dudhia shortwave radiation scheme

Three dimensional analysis nudging for temperature and moisture was applied above the boundary layer only. Analysis nudging for the wind field was applied above and below the boundary layer. The 36 km domain nudging weighting factors were 3.0 x $10^4$ for wind fields and temperatures and 1.0 x $10^5$ for moisture fields. The 12 km domain nudging weighting factors were 1.0 x $10^4$ for wind fields and temperatures and 1.0 x $10^5$ for moisture fields.

The meteorological model runs were conducted in 5.5 day segments with 12 hours of overlap for spin-up purposes. The meteorological modeling domains contain 34 vertical layers with an approximately 38 m deep surface layer and a 100 millibar top. The MM5 and CAMx vertical structures are shown in Table II-2 and do not vary by horizontal grid resolution. The meteorological outputs from the MM5 simulations were

[3] Grell, G., J. Dudhia, and D. Stauffer, 1994: A Description of the Fifth-Generation Penn State/NCAR Mesoscale Model (MM5), NCAR/TN-398+STR., 138 pp, National Center for Atmospheric Research, Boulder CO.

processed to create model-ready inputs for CAMx using the MM5CAMx meteorological processor.

Table II-2. Vertical layer structure for MM5 and CAMx (heights are layer top).

| CAMx Layers | MM5 Layers | Sigma P | Approximate Height (m) | Approximate Pressure (mb) |
|---|---|---|---|---|
| 0 | 0 | 1.000 | 0 | 1000 |
| 1 | 1 | 0.995 | 38 | 995 |
| 2 | 2 | 0.990 | 77 | 991 |
| 3 | 3 | 0.985 | 115 | 987 |
| | 4 | 0.980 | 154 | 982 |
| 4 | 5 | 0.970 | 232 | 973 |
| | 6 | 0.960 | 310 | 964 |
| 5 | 7 | 0.950 | 389 | 955 |
| | 8 | 0.940 | 469 | 946 |
| 6 | 9 | 0.930 | 550 | 937 |
| | 10 | 0.920 | 631 | 928 |
| | 11 | 0.910 | 712 | 919 |
| 7 | 12 | 0.900 | 794 | 910 |
| | 13 | 0.880 | 961 | 892 |
| | 14 | 0.860 | 1,130 | 874 |
| 8 | 15 | 0.840 | 1,303 | 856 |
| | 16 | 0.820 | 1,478 | 838 |
| | 17 | 0.800 | 1,657 | 820 |
| 9 | 18 | 0.770 | 1,930 | 793 |
| | 19 | 0.740 | 2,212 | 766 |
| 10 | 20 | 0.700 | 2,600 | 730 |
| | 21 | 0.650 | 3,108 | 685 |
| 11 | 22 | 0.600 | 3,644 | 640 |
| | 23 | 0.550 | 4,212 | 595 |
| 12 | 24 | 0.500 | 4,816 | 550 |
| | 25 | 0.450 | 5,461 | 505 |
| | 26 | 0.400 | 6,153 | 460 |
| 13 | 27 | 0.350 | 6,903 | 415 |
| | 28 | 0.300 | 7,720 | 370 |
| | 29 | 0.250 | 8,621 | 325 |
| | 30 | 0.200 | 9,625 | 280 |
| 14 | 31 | 0.150 | 10,764 | 235 |
| | 32 | 0.100 | 12,085 | 190 |
| | 33 | 0.050 | 13,670 | 145 |
| | 34 | 0.000 | 15,674 | 100 |

The 2005 MM5 meteorological predictions were compared to the corresponding observations as part of a model performance evaluation to assess the adequacy of the MM5 simulated fields. The qualitative aspects of this evaluation included the comparison of the model-estimated synoptic patterns against observed patterns from historical weather chart archives for 2005. Additionally, the evaluation compared spatial patterns of monthly average rainfall and monthly maximum planetary boundary layer (PBL) heights. Qualitatively, the model fields closely matched the observed synoptic patterns, which is not unexpected given the use of nudging. An operational evaluation was performed using statistical comparisons of model/observed pairs (e.g., mean normalized bias, mean normalized error, index of agreement, root mean square errors, etc.) for multiple meteorological parameters. For this portion of the evaluation, five meteorological parameters were investigated: temperature, humidity, shortwave downward radiation, wind speed, and wind direction. The three individual MM5 evaluations are described elsewhere.[4,5,6] The results of these analyses indicate that the bias and error values associated with the 2005 meteorological data were generally within the range of past meteorological modeling results that have been used for air quality applications.

***E. Initial and Boundary Concentrations***

The lateral boundary and initial species concentrations are provided by a three-dimensional global atmospheric chemistry model, the GEOS-CHEM model[7] (standard version 7-04-11[8]). The global GEOS-CHEM model simulates atmospheric chemical and physical processes driven by assimilated meteorological observations from the NASA's Goddard Earth Observing System (GEOS). The GEOS-CHEM model was run for 2005 with a grid resolution of 2.0 degree x 2.5 degree (latitude-longitude) and 30 vertical layers up to 100 mb. The predictions were used to provide one-way dynamic boundary conditions at three-hour intervals and an initial concentration field for the 36 km CAMx simulations. The concentrations from the 36 km CONUS domain model simulations were used to develop the initial/boundary concentrations for the corresponding 12 km Eastern domain model simulations.

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[4]Baker K. and P. Dolwick. Meteorological Modeling Performance Evaluation for the Annual 2005 Eastern U.S. 12-km Domain Simulation, USEPA/OAQPS, February 2, 2009. http://www.epa.gov/scram001/meteorology/metgridmodeling/met.2005.12EUS1.pdf

[5] Baker K. and P. Dolwick. Meteorological Modeling Performance Evaluation for the Annual 2005 Western U.S. 12-km Domain Simulation, USEPA/OAQPS, February 2, 2009. http://www.epa.gov/scram001/meteorology/metgridmodeling/met.2005.12WUS1.pdf

[6] Baker K. and P. Dolwick. Meteorological Modeling Performance Evaluation for the Annual 2005 Continental U.S. 36-km Domain Simulation, USEPA/OAQPS, February 2, 2009. http://www.epa.gov/scram001/meteorology/metgridmodeling/met.2005.36US1.pdf

[7] Yantosca, B., 2006. GEOS-CHEMv7-04112 User's Guide, Atmospheric Chemistry Modeling Group, Harvard University, Cambridge, MA, March 05, 2006.

[8] Henze, D.K., J.H. Seinfeld, N.L. Ng, J.H. Kroll, T-M. Fu, D.J. Jacob, C.L. Heald, 2008. Global modeling of secondary organic aerosol formation from aromatic hydrocarbons: high-vs.low-yield pathways. *Atmos. Chem. Phys.*, 8, 2405-2420.

### *F. Model Performance Evaluation for Ozone and $PM_{2.5}$*

The 2005 base year model predictions for ozone and fine particulate sulfate, nitrate, ammonium, organic carbon, elemental carbon, and crustal material were compared to measured concentrations in order to evaluate the performance of the modeling platform for replicating observed concentrations. This evaluation was comprised of statistical comparisons of paired modeled and observed data. Details on the model performance evaluation including a description of the methodology and model performance statistics are provided in the Appendix A.

The most relevant pollutants for the TR are ozone and the sulfate and nitrate components of $PM_{2.5}$. Overall, the model performance statistics for these pollutants are within or close to the ranges found in other recent applications. The normalized mean bias for 8-hour daily maximum ozone concentrations was -2.9 percent and the normalized mean error was 13.2 percent for the months of May through September 2005, based on an aggregate of observed-predicted pairs within the 12 km modeling domain. For the summer months of June though August, when observed sulfate concentrations are highest in the East, the model predictions of 24-hour average sulfate were lower than the corresponding measured values by 7 percent at urban sites and 9 to 10 percent at rural sites in the IMPROVE[9] and CASTNET[10] monitoring networks, respectively. For the winter months of December through February, when observed nitrate concentrations are highest in the East, the model predictions of 24-hour average particulate nitrate were lower than the corresponding measured values by 12 percent at urban sites and by 4 percent at rural sites in the IMPROVE monitoring network.

## III. Projection of Future Nonattainment and Maintenance for Annual $PM_{2.5}$, 24-Hour $PM_{2.5}$, and 8-Hour Ozone

In this section we describe the approach for projecting future concentrations of ozone and $PM_{2.5}$ to identify locations that are expected to be nonattainment or have a maintenance problem in the 2012 and 2014 future year scenarios modeled for the TR. The nonattainment and maintenance locations are based on projections of future air quality at existing ozone and $PM_{2.5}$ monitoring sites. The nonattainment and

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[9] Interagency Monitoring of PROtected Visual Environments (IMPROVE). Debell, L.J., et. al. Spatial and Seasonal Patterns and Temporal Variability of Haze and its Constituents in the United States: Report IV. November 2006.
[10] Clean Air Status and Trends Network (CASTNET) 2005 Annual Report. EPA Office of Air and Radiation, Clean Air Markets Division. Washington, DC. December 2006.

maintenance sites for the 2012 base case are used as the "receptors" for quantifying the contributions of emissions in upwind states to nonattainment and maintenance in downwind locations. Future year concentrations for the 2014 base case and 2014 remedy scenario were used to assess the impacts of the emissions reductions from the TR on ozone and $PM_{2.5}$ air quality.

For this analysis we are using the air quality modeling results in a "relative" sense to project future concentrations of ozone and $PM_{2.5}$. Rather than use the absolute model-predicted future year ozone and $PM_{2.5}$ concentrations, the base year and future year predictions are used to calculate a (relative) percent change in ozone and $PM_{2.5}$ concentrations. In this approach, the ratio of future year model predictions to base year model predictions are used to adjust ambient measured data up or down depending on the relative (percent) change in model predictions for each location. The use of ambient data as part of the calculation helps to constrain the future year predictions, even if the absolute model concentrations are over-predicted or under-predicted. As described below, the procedures for projecting annual and 24-hour $PM_{2.5}$ and 8-hour ozone conform to the methodologies contained in the final guidance for attainment demonstration modeling[11] (referred to below as "the modeling guidance").

***A. Procedures for Processing Ambient Ozone and $PM_{2.5}$ Data***

In this analysis we use measurements of ambient ozone and $PM_{2.5}$ data from several State and Federal monitoring networks. This includes data from over 500 ozone monitoring sites as well as over 500 Federal Reference Method (FRM) $PM_{2.5}$ sites in the Eastern U.S.. In addition, speciated $PM_{2.5}$ data from the Chemical Speciation Network (CSN) and IMPROVE network are used to estimate $PM_{2.5}$ species concentrations at each FRM site. The ambient data used in this analysis were obtained from EPA's Air Quality System (AQS).

In order to use the ambient data, the raw measurements must be processed into a form pertinent for useful interpretations. The ozone data were processed consistent with the formats associated with the 1997 8-hour NAAQS for ozone. The level of the 1997 8-hour O3 NAAQS is 0.08 ppm. The 8-hour ozone standard is not met if the 3-year

[11] U.S. EPA, 2007: Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze; Office of Air Quality Planning and Standards, Research Triangle Park, NC.
http://www.epa.gov/ttn/scram/guidance/guide/final-03-pm-rh-guidance.pdf

average of the annual 4th highest daily maximum 8-hour O3 concentration is greater than 0.08 ppm (0.085 ppm when rounded up). This 3-year average is referred to as the design value.

The $PM_{2.5}$ ambient data were processed consistent with the formats associated with the NAAQS for $PM_{2.5}$. For $PM_{2.5}$, we evaluated concentrations of both the annual $PM_{2.5}$ NAAQS and the 24-hour $PM_{2.5}$ NAAQS. The annual $PM_{2.5}$ standard is not met if the 3-year average of the annual mean concentration is greater than 15.0 $\mu g/m^3$ (15.05 $\mu g/m^3$ when rounded up). The 3-year average annual mean concentration is computed at each site by averaging the daily Federal Reference Method (FRM) samples by quarter, averaging these quarterly averages to obtain an annual average, and then averaging the three annual averages. The 3-year average annual mean concentration is referred to as the annual design value.

The 24-hour standard is not met when the 3-year average of the annual $98^{th}$ percentile $PM_{2.5}$ concentration is greater than 35 $\mu g/m^3$ (35.5 $\mu g/m^3$ when rounded up). The 3-year average mean $98^{th}$ percentile concentration is computed at each site by averaging the 3 individual annual $98^{th}$ percentile values at each site. The 3-year average $98^{th}$ percentile concentration is referred to as the 24-hour design value.

The modeling guidance recommends using the average of the three design value periods centered on the year of the base year emissions. Since 2005 was the base emissions year for the TR modeling, we used the design value for 2003-2005, 2004-2006, and 2005-2007 to represent the base period ozone and $PM_{2.5}$ concentrations. Specifically, we used ambient ozone and annual and 24-hour $PM_{2.5}$ design values for the periods 2003-2005, 2004-2006, and 2005-2007 as the starting point for our projections of design values for each of the future year scenarios modeled. The 2003–2005, 2004-2006, and 2005-2007 design values are accessible at www.epa.gov/airtrends/values.html.

Ambient design values from monitoring sites were included in our analysis if the site had at least one complete[12] design value in the 2003-2007 period.[13] There were 721 monitoring sites in the 12 km Eastern modeling domain which had at least one complete design value period for the annual $PM_{2.5}$ NAAQS, and 736 sites which met this criteria

[12] Design value completeness was determined according to the monitoring rules in CFR 40 Part 50 Appendix I (8-hour ozone) and Appendix N (annual and 24-hr PM2.5).
[13] If there is only one complete design value, then the nonattainment and maintenance design values are the same.

for the 24-hour NAAQS[14] and 787 sites which met the criteria for the 8-hour ozone NAAQS.

***B. Projection of Future Design Values and Determination of Nonattainment and Maintenance for Annual and 24-Hour $PM_{2.5}$***

As noted above, the projection methodology for $PM_{2.5}$ involves using the model predictions in a relative sense to estimate the change in $PM_{2.5}$ between 2005 and each future year scenario. For a particular location, the percent change in modeled concentration is multiplied by the corresponding observed base period ambient concentration to estimate the future year design value for that location. The procedure for calculating future year annual and 24-hour $PM_{2.5}$ design values is called the Speciated Modeled Attainment Test (SMAT). The SMAT approach is codified in a software tool available from EPA called MATS[15]. The software (including documentation) is available at: http://www.epa.gov/scram001/modelingapps_mats.htm.

As described below, design values of $PM_{2.5}$ in 2012 and 2014 were estimated by applying the 2005 to 2012 or 2005 to 2014 relative change in model-predicted $PM_{2.5}$ species concentrations to the measured (2003-2007) $PM_{2.5}$ species concentrations. The $PM_{2.5}$ species include sulfate, nitrate, ammonium, particle bound water, elemental carbon, salt, other primary $PM_{2.5}$, and organic aerosol mass (by difference). Organic aerosol mass by difference is defined as the difference between FRM $PM_{2.5}$ and the sum of the other components.

For each FRM $PM_{2.5}$ monitoring site, all valid design values (up to 3) from this period were averaged together. Since 2005 is included in all three design value periods, this has the effect of creating a 5-year weighted average, where the middle year is weighted 3 times, the 2$^{nd}$ and 4$^{th}$ years are weighted twice, and the 1$^{st}$ and 5$^{th}$ years are weighted once. We refer to this as the 5-year weighted average design value concentration.

The 5-year weighted average design values were used to project concentrations for the 2012 and 2014 scenarios in order to determine which monitoring sites are expected to be nonattainment for these future year scenarios. For the 2012 base case we

[14] Design values were only used if they were deemed to be officially complete based on CFR 40 Part 50 Appendix N. The completeness criteria for the annual and 24-hour $PM_{2.5}$ NAAQS are different. Therefore, there are fewer complete sites for the annual NAAQS.

[15] U.S. EPA, 2009: Modeled Attainment Test Software; User's Manual http://www.epa.gov/ttn/scram/guidance/guide/MATS%20manual-1-5-1.pdf

also projected design values for each of the individual 3-year design value periods (i.e., 2003-2005, 2004-2006, and 2003-2007). The projection of design values for these individual periods was used in the interstate contribution analysis to determine sites expected to have maintenance problems, as described below.

### 1. Methodology for Projecting Future Annual $PM_{2.5}$ Nonattainment and Maintenance

The following is a summary of the method used to project future year annual $PM_{2.5}$ design values. Additional details are provided in the modeling guidance and MATS documentation.

Base period (i.e., 2003 – 2007) FRM data are the starting point for projecting future design values since these data are used to determine attainment status. In order to apply SMAT to the FRM data, information on $PM_{2.5}$ speciation is needed for the location of each FRM monitoring site. Since co-located $PM_{2.5}$ speciation data are only available at ~15 percent of FRM monitoring sites, spatial interpolation techniques are used to calculate species concentrations for each FRM monitoring site. Speciation data from the IMPROVE and CSN were interpolated to each FRM monitor location by applying the Voronoi Neighbor Averaging (VNA) technique (using MATS). Additional information on the VNA interpolation techniques and data handling procedures can be found in the MATS User's Guide. After the species fractions are calculated for each FRM site, the following procedures were used to estimate future year design values:

Step 1**:** Calculate quarterly mean concentrations for each of the major species components of $PM_{2.5}$ (i.e., sulfate, nitrate, ammonium, elemental carbon, organic carbon mass, particle bound water, salt, and blank mass). This is done by multiplying the monitored quarterly mean concentration of FRM-derived total $PM_{2.5}$ by the monitored fractional composition of $PM_{2.5}$ species for each quarter averaged over 3 years[16] (e.g., 20 percent sulfate fraction multiplied by 15 $\mu g/m^3$ $PM_{2.5}$ equals 3 $\mu g/m^3$ sulfate).

Step 2**:** For each quarter, calculate the ratio of future year to base year model predictions for sulfate, nitrate, elemental carbon, organic carbon, and other primary PM2.5. The result is a set of species-specific relative response factors (RRF) (e.g., assume that the model-predicted 2005 base year sulfate for a particular location is 10.0 $\mu g/m^3$ and the 2012 future concentration is 8.0 $\mu g/m^3$, then RRF for sulfate is 0.8). The

[16] For this analysis, species fractions were calculated using FRM and speciation data for the 2004-2006 time period. This was deemed to be representative of the 2005 base year period.

RRFs are calculated based on the modeled concentrations averaged over the nine grid cells[17] centered at the location of the monitor.

Step 3**:** For each quarter and each of the species, multiply the base year quarterly mean component concentration (Step 1) by the species-specific RRF obtained in Step 2. This results in an estimated future year quarterly mean concentration for each species (e.g., 3 $\mu g/m^3$ sulfate multiplied by the 0.8 RRF equals a future sulfate concentration of 2.4 $\mu g/m^3$).

Step 4: The future year concentrations for the remaining species are then calculated[18]. The future year ammonium is calculated based on the calculated future year sulfate and nitrate concentrations, using a constant value for the degree of neutralization of sulfate (from the ambient data). The future year particle bound water concentration is calculated from an empirical formula derived from the Aerosol Inorganic Model (AIM). The inputs to the formula are the future year concentrations of sulfate, nitrate, and ammonium (from step 3).

Step 5**:** Average the four quarterly mean future concentrations to obtain the future year annual design value concentration for each of the component species. Sum the species concentrations to obtain the future year annual design value for $PM_{2.5}$.

Step 6**:** Calculate the **maximum** future design value by processing each of the three base design value periods (2003-2005, 2004-2006, and 2005-2007) separately. The highest of the three future values is the maximum design value. The maximum design values are used to determine future year maintenance sites.

The preceding procedures for determining future year $PM_{2.5}$ concentrations were applied for each FRM site. The calculated annual $PM_{2.5}$ design values are truncated after the second decimal place[19]. This is consistent with the truncation and rounding procedures for the annual $PM_{2.5}$ NAAQS. Any value that is greater than or equal to 15.05 $\mu g/m^3$ is rounded to 15.1 $\mu g/m^3$ and is considered to be violating the NAAQS. Thus, sites with future year annual $PM_{2.5}$ design values of 15.05 $\mu g/m^3$ or greater, based on the

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[17] The modeling guidance recommends calculating annual $PM_{2.5}$ RRFs using a 3 X 3 grid cell array (9 grid cells) when using a model resolution of 12km.

[18] All of the calculations and assumptions are consistent with the default MATS settings (as described in the MATS user's guide and the photochemical modeling guidance). Additionally, we did not explicitly model salt and therefore the salt concentration was held constant from the base to future. Blank mass was assumed to be a constant mass of 0.5 ug/m3 in both the base and future year.

[19] For example, a calculated annual average concentration of 14.94753 becomes 14.94 when digits beyond two places to the right are truncated.

projection of 5-year weighted average concentrations, are predicted to be nonattainment sites. Sites with future year maximum design values of 15.05 µg/m$^3$ or greater are predicted to be maintenance sites. Note that nonattainment sites are also maintenance sites because the maximum design value at a site is always greater than or equal to the 5-year weighted average at that site. For ease of reference we use the term "nonattainment sites" to refer to those sites that are projected to exceed the NAAQS based on both the average and maximum design values. Those sites that are projected to be attainment based on the average design value but exceed the NAAQS based on the maximum design value are referred to as maintenance sites. The monitoring sites that we project to be nonattainment and/or maintenance for the annual $PM_{2.5}$ NAAQS in the 2012 base case are used as the nonattainment/maintenance receptors for assessing the contribution of emissions in upwind states to downwind nonattainment and maintenance of the annual $PM_{2.5}$ NAAQS (see section IV, below). The 2003-2007 base period and projected annual $PM_{2.5}$ design values for each site for the 2012 and 2014 scenarios are provided in Appendix B.

### 2. Methodology for Projecting Future 24-Hour $PM_{2.5}$ Nonattainment and Maintenance

The following is a summary of the procedures used for calculating future year 24-hour $PM_{2.5}$ design values. Additional details are provided in the modeling guidance and in the MATS documentation. Similar to the annual $PM_{2.5}$ calculations, we are using the 2003-2007 base period FRM data for projecting future year design values. The 24-hour $PM_{2.5}$ calculations are computationally similar to the annual average calculations. The main difference is that the base period 24-hour 98$^{th}$ percentile $PM_{2.5}$ concentrations are projected to the future year, instead of the annual average concentrations. Also, the $PM_{2.5}$ species fractions and relative response factors are calculated from observed and modeled **high concentration** days, instead of quarterly average data.

Both the annual $PM_{2.5}$ and 24-hour $PM_{2.5}$ calculations are performed on a calendar quarter basis. Since all years and quarters are averaged together in the annual $PM_{2.5}$ calculations, the individual years can be averaged together early in the calculations. However, in the 24-hour $PM_{2.5}$ calculations, only the high quarter from each year is used in the final calculations. This represents the 98$^{th}$ percentile value, which can come from any of the 4 quarters in any of the five years (i.e. 2003 through 2007). Therefore all quarters and years (4 quarters per year x 5 years = 20 total quarters) must be carried through to near the end of the calculations when the individual future year high quarter values are selected. To calculate final future year design values, the high quarter for each year is identified and then a five year weighted average of the high quarters for each site was calculated to derive the future year design value. Table III-1 below provides an example of how the 24 hr $PM_{2.5}$ design values are calculated from the 20 quarterly values. The table shows the $PM_{2.5}$ concentrations for the base year for each of the 20 quarters (from ambient measurements) and the corresponding future year concentrations for each of the 20 quarters. These quarterly data represent "potential" 98$^{th}$ percentile values. To calculate a design value, the highest quarterly value from each year is selected and then used to calculate a 5 year weighted average concentration. In Table III-1, the high quarters in each year are indicated by an asterisk. The base year and future year 5-year weighted average design values are shown at the bottom of the table.

Table III-1. Example 24-hour $PM_{2.5}$ design value calculation at a single monitoring site.

| AIRS ID | State | County | Year | Quarter | Base Year $PM_{2.5}$ (ug/m3) | Future Year $PM_{2.5}$ (ug/m3) |
|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 2003 | 1 | 19.7 | 16.32 |
| 10030010 | Alabama | Baldwin | 2003 | 2 | **29.1*** | **22.29*** |
| 10030010 | Alabama | Baldwin | 2003 | 3 | 22.7 | 15.45 |
| 10030010 | Alabama | Baldwin | 2003 | 4 | 28.4 | 20.82 |
| 10030010 | Alabama | Baldwin | 2004 | 1 | 25.5 | **21.09*** |
| 10030010 | Alabama | Baldwin | 2004 | 2 | 18.1 | 13.91 |
| 10030010 | Alabama | Baldwin | 2004 | 3 | **27.5*** | 18.68 |
| 10030010 | Alabama | Baldwin | 2004 | 4 | 24.6 | 18.06 |
| 10030010 | Alabama | Baldwin | 2005 | 1 | 23.4 | 19.36 |
| 10030010 | Alabama | Baldwin | 2005 | 2 | **26.0*** | **19.93*** |
| 10030010 | Alabama | Baldwin | 2005 | 3 | 23.7 | 16.12 |
| 10030010 | Alabama | Baldwin | 2005 | 4 | 25.0 | 18.35 |
| 10030010 | Alabama | Baldwin | 2006 | 1 | 25.1 | **20.76*** |
| 10030010 | Alabama | Baldwin | 2006 | 2 | 25.6 | 19.62 |
| 10030010 | Alabama | Baldwin | 2006 | 3 | **25.7*** | 17.47 |
| 10030010 | Alabama | Baldwin | 2006 | 4 | 15.9 | 11.72 |
| 10030010 | Alabama | Baldwin | 2007 | 1 | 18.9 | 15.66 |
| 10030010 | Alabama | Baldwin | 2007 | 2 | **22.4*** | **17.18*** |
| 10030010 | Alabama | Baldwin | 2007 | 3 | 17.7 | 12.08 |
| 10030010 | Alabama | Baldwin | 2007 | 4 | 19.7 | 14.49 |
| | | 5 year weighted average = | | | 26.2 | 20.3 |

The following are the individual steps followed for calculating the future year 24-hour $PM_{2.5}$ design values:

Step 1**:** At each FRM monitoring site, identify the maximum 24-hour $PM_{2.5}$ concentration in each quarter that is **less than or equal to** the 98th percentile[20] value over the entire year. This results in a data set for each year (for up to 5 years) for each site containing one quarter with the observed 98th percentile value and three quarters with the maximum highest values from each quarter that are less than or equal to the 98th percentile value for the year. All 20 quarters (i.e., 4 quarters in each of 5 years) of data are carried through the calculations until the high future year quarter value is identified in step 6.

Step 2**:** In this step we calculate quarterly ambient concentrations on "high"[21] days for each of the major component species of $PM_{2.5}$ (sulfate, nitrate, ammonium, elemental carbon, organic carbon mass, particle-bound water, salt and blank mass). This calculation is performed by multiplying the monitored concentrations of FRM-derived total $PM_{2.5}$ mass on the 10 percent highest days from each quarter, by the monitored fractional composition[22] of $PM_{2.5}$ species on the 10 percent highest $PM_{2.5}$ days for each quarter, averaged over 3 years[23] (e.g., 20 percent sulfate fraction multiplied by 40 µg/m$^3$ $PM_{2.5}$ equals 8 µg/m$^3$ sulfate).

Step 3**:** For each quarter, calculate the ratio of future year (i.e., 2012) to base year (i.e., 2005) predictions for sulfate, nitrate, elemental carbon, organic carbon, and other primary $PM_{2.5}$ for the top 10 percent of days[24] based on predicted concentrations of 24-hour $PM_{2.5}$. The result is a set of species-specific relative response factors (RRF) for the high $PM_{2.5}$ days in each quarter (e.g., assume that 2005 predicted sulfate on the 10

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[20] The 98$^{th}$ percentile values for each monitoring site used in the analysis were the values used in the "official" design value calculations.

[21] High ambient data and model days were defined as the top 10 percent days in each quarter based on 24-hour average concentrations of $PM_{2.5}$ mass.

[22] Similar to the annual average calculations, the quarterly species fractions are calculated at each FRM site using interpolated species data (using VNA). For the 24-hour species interpolations, the highest 10% of monitor days in each quarter are interpolated.

[23] For this analysis, species fractions were calculated using an average of FRM and speciation data for the 2004-2006 time period. This was deemed to be representative of the 2005 modeling year.

[24] The calculation of the top 10% of modeled PM2.5 days in each quarter did not include "other primary PM2.5" (crustal) concentrations. As indicated in Appendix A, the crustal component of PM2.5 was severely over-predicted. Therefore, we did not want the selection of the "high" modeled days (which are used for the RRF calculations) to be unduly influenced by the over-predicted crustal concentrations. However, the modeled crustal concentrations were used to calculate the "crustal" component RRF.

percent highest $PM_{2.5}$ days for a quarter for a particular location is 20 μg/$m^3$ and the 2012 base case concentration is 16 μg/$m^3$, then RRF for sulfate is 0.8). The RRFs are calculated based on the modeled concentrations at the single[25] grid cell where the monitor is located.

Step 4**:** For each quarter, multiply the quarterly species concentration (step 2) by the quarterly[26] species-specific RRF obtained in step 3. This leads to an estimated future quarterly concentration for each component. (e.g., 21.0 μg/$m^3$ nitrate x 0.75 = future nitrate of 15.75 μg/$m^3$).

Step 5: The future year concentrations for the remaining species are then calculated[27]. The future year ammonium is calculated based on the calculated future year sulfate and nitrate concentrations, using a constant value for the degree of neutralization of sulfate (from the ambient data). The future year particle bound water concentration is calculated from an empirical formula derived from the AIM. The inputs to the formula are the calculated future year concentrations of sulfate, nitrate, and ammonium (from step 4).

Step 6**:** Sum the species concentrations to obtain quarterly $PM_{2.5}$ values. This step is repeated for each quarter and for each of the 5 years of ambient data. The highest daily value (from the 4 quarterly values) for each year at each monitor is considered to be the estimated future year 98th percentile 24-hour value for that year.

Step 7**:** The estimated 98th percentile values for each of the 5 years are averaged over 3 year intervals to create the 3 year average design values (e.g. the high quarter from 2003, 2004, and 2005 are averaged. Then the high quarter from 2004, 2005, and 2006 are averaged, etc.). These (up to 3) design values are averaged to create a 5 year weighted average for each monitoring site.

Step 8**:** Calculate the **maximum** future design value by processing each of the three base design value periods (2003-2005, 2004-2006, and 2005-2007) separately. The

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[25] The modeling guidance recommends using a single grid cell to calculate RRFs for the 24-hr PM2.5 NAAQS.

[26] Since there is only one modeled base year (2005), there are four quarterly RRFs at each monitor. The modeled quarterly RRF for quarter 1 is multiplied by the ambient data for quarter 1 for each of the 5 years of ambient data. The same procedure is applied for the other 3 quarters.

[27] All of the calculations and assumptions are consistent with the default MATS settings (as described in the MATS user's guide and the photochemical modeling guidance). Additionally, we did not explicitly model salt and therefore the salt concentration was held constant from the base to future. Blank mass was assumed to be a constant mass of 0.5 ug/m3 in both the base and future year.

highest of the three future values is the maximum design value. The maximum design values are used to determine future year 24-hour $PM_{2.5}$ maintenance receptors.

The preceding procedures for determining future year 24-hour $PM_{2.5}$ concentrations were applied for each FRM site. The 24-hour $PM_{2.5}$ design values are truncated after the first decimal place. This approach is consistent with the truncation and rounding procedures for the 24-hour $PM_{2.5}$ NAAQS. Any value that is greater than or equal to 35.5 μg/m$^3$ is rounded to 36 μg/m$^3$ and is violating the NAAQS. Sites with future year 5 year weighted average design values of 35.5 μg/m$^3$ or greater, based on the projection of **5-year weighted average** concentrations, are predicted to be nonattainment. Sites with future year **maximum** design values of 35.5 μg/m$^3$ or greater are predicted to be maintenance sites. Note that nonattainment sites for the 24-hour NAAQS are also maintenance sites because the maximum design value is at a site is always greater than or equal to the 5-year weighted average for that site. For ease of reference we use the term "nonattainment sites" to refer to those sites that are projected to exceed the NAAQS based on both the average and maximum design values. Those sites that are projected to be attainment based on the average design value but exceed the NAAQS based on the maximum design value are referred to as maintenance sites. The monitoring sites that we project to be nonattainment and/or maintenance for the 24-hour $PM_{2.5}$ NAAQS in the 2012 base case are used as the nonattainment/maintenance receptors for assessing the contribution of emissions in upwind states to downwind nonattainment and maintenance of 24-hour $PM_{2.5}$ NAAQS (see section IV, below). The 2003-2007 base period and projected 24-hour $PM_{2.5}$ design values for each site for the 2012 and 2014 scenarios are provided in Appendix B.

### *C. Projection of Future Design Values and Determination of Nonattainment and Maintenance for 8-Hour Ozone*

The following is a summary of the future year 8-hour ozone calculations. Additional details are provided in the modeling guidance and MATS documentation. Base period 2003-2007 ambient ozone design value data are the starting point for projecting future year design values. Since ozone is a single species, the ozone projection procedure is relatively simple (compared to the $PM_{2.5}$ projection methodologies). It is not necessary to interpolate ambient ozone data, since ambient ozone design values and gridded, modeled ozone data are all that are needed for the projections.

To project 8-hour ozone design values we used the 2005 base year, the 2012 future base case, and 2014 future base and control case model-predicted ozone concentrations to calculate relative response factors. The methodology we followed is consistent with the attainment demonstration modeling guidance. The RRFs were applied to the 2003-2007 ozone design values through the following steps:

Step 1**:** For each monitoring site calculate the mean of the modeled 8-hour daily maximum predictions across all days with 8-hour daily maximum predictions greater than or equal to 85 ppb[28]. The mean concentrations are calculated using the predictions in the nine grid cells that include or surround the location of the monitoring site. The RRF for a site is the ratio of the mean prediction in the future year to the mean prediction in the 2005 base year. The RRFs were calculated on a site-by-site basis.

Step 2**:** The RRF for each site is then multiplied by the 2003-2007 5-year weighted average ambient design value for that site, yielding an estimate of the future year (2012) design value at that particular monitoring location.

Step 3**:** We calculate the **maximum** future design value by projecting design values for each of the three base periods (2003-2005, 2004-2006, and 2005-2007) separately. The highest of the three future values is the maximum design value. This **maximum** value is used to identify the 8-hour ozone maintenance receptors.

The preceding procedures for determining future year 8-hour ozone design values were applied for each ozone monitoring site. The future year design values are truncated to integers in units of ppb. This approach is consistent with the truncation and rounding procedures for the 8-hour ozone NAAQS. Future year design values that are greater than or equal to 85 ppb are considered to be violating the NAAQS. Sites with future year 5 year weighted average design values of 85 ppb or greater are predicted to be nonattainment. Sites with future year maximum design values of 85 ppb or greater are predicted to be future year maintenance sites. Note that, as described previously for the annual and 24-hour $PM_{2.5}$ NAAQS, nonattainment sites for the ozone NAAQS are also maintenance sites because the maximum design value is always greater than or equal to the 5-year weighted average. For ease of reference we use the term "nonattainment sites" to refer to those sites that are projected to exceed the NAAQS based on both the average

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[28] As specified in the attainment demonstration modeling guidance, if there are less than 10 modeled days > 85 ppb, then the threshold is lowered in 1 ppb increments (to as low as 70 ppb) until there 10 days. If there are less than 5 days > 70 ppb, then an RRF calculation is not completed for that site.

and maximum design values. Those sites that are projected to be attainment based on the average design value but exceed the NAAQS based on the maximum design value are referred to as maintenance sites. The monitoring sites that we project to be nonattainment and/or maintenance for the ozone NAAQS in the 2012 base case are the nonattainment/maintenance receptors used for assessing the contribution of emissions in upwind states to downwind nonattainment and maintenance of ozone NAAQS as part of this proposal. The 2003-2007 base period and projected 8-hour ozone design values for all sites for the 2012 and 2014 scenarios are provided in Appendix B.

## IV. State by State Source Contribution Modeling and Results

This section documents the procedures used to quantify the impacts (i.e., contributions) of emissions in individual States on annual $PM_{2.5}$, 24-hour $PM_{2.5}$, and/or 8-hour ozone concentrations at projected 2012 nonattainment and maintenance sites in the East. The purpose of this assessment is to determine which States contribute to ozone, and/or annual $PM_{2.5}$, and/or 24-hour $PM_{2.5}$ nonattainment and/or maintenance problems in other States[29] in amounts at or above thresholds based on 1 percent of the corresponding NAAQS. The air quality contributions were quantified using source apportionment techniques in CAMx. In general, these techniques track the formation and transport of ozone and particulate matter from specific emissions sources and calculate the contribution of sources and precursors to ozone and $PM_{2.5}$ at individual receptor locations. The strength of the photochemical model source apportionment technique is that all modeled ozone and/or $PM_{2.5}$ mass at a given receptor location in the modeling domain can be tracked back to specific sources of emissions and boundary conditions in order to fully characterize culpable sources. This type of source apportionment is useful for understanding both the types of sources or regions and the magnitude of the contributions that are associated with ozone and $PM_{2.5}$, as estimated by the model. More details on the implementation of source apportionment in CAMx can be found in the CAMx user's guide[30].

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[29] In this assessment we refer to source States as "upwind" States and nonattainment and/or maintenance sites in other States as "downwind" nonattainment and/or maintenance and "downwind" receptors.

[30] Comprehensive Air Quality Model with Extensions Version 5 User's Guide. Environ International Corporation. Novato, CA. March 2009.

### *A. Nonattainment and Maintenance Receptors for the Assessment of $PM_{2.5}$ and Ozone Contributions*

As described above in section III, we identified monitoring sites in the East that are expected to be nonattainment and/or have maintenance problems for the 2012 base case for the 1997 annual and 2006 24-hour $PM_{2.5}$ standards and the 1997 8-hour standard[31]. These 2012 nonattainment and/or maintenance sites are used as the receptors in the analysis of interstate contributions. Note that counties with multiple monitoring sites can have both nonattainment sites and maintenance only sites.

Table IV-1 contains the 2003-2007 base period average and maximum annual $PM_{2.5}$ design values and the corresponding 2012 base case average and maximum design values for sites projected to be nonattainment of the annual $PM_{2.5}$ NAAQS in 2012. Table IV-2 contains this same information for projected 2012 base case maintenance-only sites. There are 32 sites in 21 counties projected to be nonattainment for the annual $PM_{2.5}$ NAAQS in 2012. There are 16 sites in 14 counties projected to have maintenance only problems for the annual $PM_{2.5}$ NAAQS in 2012. The 2012 base case annual $PM_{2.5}$ nonattainment and/or maintenance sites in the East are shown in Figure IV-1.

Table IV-1. Average and maximum 2003-2007 and 2012 base case annual $PM_{2.5}$ design values ($\mu g/m^3$) at projected nonattainment sites.

| Monitor ID | State | County | Average Design Value 2003-2007 ug/m3 | Maximum Design Value 2003-2007 ug/m3 | Average Design Value 2012 ug/m3 | Maximum Design Value 2012 ug/m3 |
|---|---|---|---|---|---|---|
| 10730023 | Alabama | Jefferson | 18.48 | 18.67 | 17.15 | 17.33 |
| 10732003 | Alabama | Jefferson | 17.07 | 17.45 | 15.99 | 16.35 |
| 130210007 | Georgia | Bibb | 16.47 | 16.78 | 15.33 | 15.62 |
| 130630091 | Georgia | Clayton | 16.47 | 16.71 | 15.07 | 15.29 |
| 131210039 | Georgia | Fulton | 17.43 | 17.47 | 16.01 | 16.04 |
| 170310052 | Illinois | Cook | 15.75 | 16.02 | 15.16 | 15.43 |
| 171191007 | Illinois | Madison | 16.72 | 17.01 | 16.56 | 16.85 |
| 171630010 | Illinois | Saint Clair | 15.58 | 15.74 | 15.48 | 15.63 |
| 180190006 | Indiana | Clark | 16.40 | 16.60 | 15.96 | 16.16 |
| 180372001 | Indiana | Dubois | 15.18 | 15.68 | 15.07 | 15.57 |
| 180970078 | Indiana | Marion | 15.26 | 15.43 | 15.18 | 15.36 |
| 180970081 | Indiana | Marion | 16.05 | 16.36 | 15.93 | 16.25 |
| 180970083 | Indiana | Marion | 15.90 | 16.27 | 15.77 | 16.15 |
| 211110043 | Kentucky | Jefferson | 15.53 | 15.75 | 15.19 | 15.41 |
| 261630015 | Michigan | Wayne | 15.88 | 16.40 | 15.05 | 15.55 |

[31] As indicated previously, average design values are used to indentify sites that are nonattainment and maximum design values are used to identify sites that have a maintenance problem.

| Monitor ID | State | County | Average Design Value 2003-2007 ug/m3 | Maximum Design Value 2003-2007 ug/m3 | Average Design Value 2012 ug/m3 | Maximum Design Value 2012 ug/m3 |
|---|---|---|---|---|---|---|
| 261630033 | Michigan | Wayne | 17.50 | 18.16 | 16.57 | 17.19 |
| 390170016 | Ohio | Butler | 15.74 | 16.11 | 15.25 | 15.61 |
| 390350038 | Ohio | Cuyahoga | 17.37 | 18.10 | 16.26 | 16.95 |
| 390350045 | Ohio | Cuyahoga | 16.47 | 16.98 | 15.42 | 15.91 |
| 390350060 | Ohio | Cuyahoga | 17.11 | 17.66 | 16.02 | 16.55 |
| 390610014 | Ohio | Hamilton | 17.29 | 17.53 | 16.69 | 16.93 |
| 390610042 | Ohio | Hamilton | 16.85 | 17.25 | 16.33 | 16.71 |
| 390610043 | Ohio | Hamilton | 15.55 | 15.82 | 15.05 | 15.32 |
| 390617001 | Ohio | Hamilton | 16.17 | 16.56 | 15.65 | 16.03 |
| 390618001 | Ohio | Hamilton | 17.54 | 17.90 | 16.93 | 17.27 |
| 420030064 | Pennsylvania | Allegheny | 20.31 | 20.75 | 18.90 | 19.31 |
| 420031301 | Pennsylvania | Allegheny | 16.26 | 16.57 | 15.13 | 15.42 |
| 420070014 | Pennsylvania | Beaver | 16.38 | 16.45 | 15.23 | 15.30 |
| 420710007 | Pennsylvania | Lancaster | 16.55 | 17.46 | 15.19 | 16.01 |
| 421330008 | Pennsylvania | York | 16.52 | 17.25 | 15.25 | 15.94 |
| 540110006 | West Virginia | Cabell | 16.30 | 16.57 | 15.25 | 15.50 |
| 540391005 | West Virginia | Kanawha | 16.52 | 16.59 | 15.28 | 15.34 |

Table IV-2. Average and maximum 2003-2007 and 2012 base case annual $PM_{2.5}$ design values ($\mu g/m^3$) at projected maintenance-only sites.

| Monitor ID | State | County | Average Design Value 2003-2007 | Maximum Design Value 2003-2007 | Average Design Value 2012 | Maximum Design Value 2012 |
|---|---|---|---|---|---|---|
| 170313301 | Illinois | Cook | 15.24 | 15.59 | 14.73 | 15.06 |
| 170316005 | Illinois | Cook | 15.48 | 16.07 | 14.92 | 15.48 |
| 211110044 | Kentucky | Jefferson | 15.31 | 15.47 | 14.93 | 15.09 |
| 360610056 | New York | New York | 16.18 | 17.02 | 14.98 | 15.74 |
| 390350027 | Ohio | Cuyahoga | 15.46 | 16.13 | 14.50 | 15.13 |
| 390350065 | Ohio | Cuyahoga | 15.97 | 16.44 | 14.96 | 15.40 |
| 390610040 | Ohio | Hamilton | 15.50 | 15.88 | 15.03 | 15.40 |
| 390811001 | Ohio | Jefferson | 16.51 | 17.17 | 14.95 | 15.54 |
| 391130032 | Ohio | Montgomery | 15.54 | 15.92 | 15.01 | 15.37 |
| 391510017 | Ohio | Stark | 16.15 | 16.59 | 14.99 | 15.40 |
| 420110011 | Pennsylvania | Berks | 15.82 | 16.19 | 14.77 | 15.11 |
| 482011035 | Texas | Harris | 15.42 | 15.84 | 14.74 | 15.14 |
| 540030003 | West Virginia | Berkeley | 15.93 | 16.19 | 14.95 | 15.20 |
| 540090005 | West Virginia | Brooke | 16.52 | 16.80 | 14.95 | 15.22 |
| 540291004 | West Virginia | Hancock | 15.76 | 16.64 | 14.34 | 15.15 |
| 540490006 | West Virginia | Marion | 15.03 | 15.25 | 14.96 | 15.18 |

Figure IV-1. Projected 2012 base case annual $PM_{2.5}$ nonattainment and/or maintenance sites in the East.

Table IV-3 contains the 2003-2007 base period average and maximum 24-hour $PM_{2.5}$ design values and the 2012 base case average and maximum design values for sites projected to be 2012 nonattainment of the 24-hour $PM_{2.5}$ NAAQS in 2012. Table IV-4 contains this same information for projected 2012 24-hour maintenance-only sites. There are 92 sites in 43 counties projected to be nonattainment for the 24-hour $PM_{2.5}$ NAAQS in 2012. There are 38 sites in 31 counties projected to have maintenance only problems for the 24-hour $PM_{2.5}$ NAAQS in 2012. The 2012 base case 24-hour $PM_{2.5}$ nonattainment and/or maintenance site in the East are shown in Figure IV-2.

Table IV-3. Average and maximum 2003-2007 and 2012 base case 24-hour $PM_{2.5}$ design values ($\mu g/m^3$) at projected nonattainment sites.

| Monitor ID | State | County | Average Design Value 2003-2007 | Maximum Design Value 2003-2007 | Average Design Value 2012 | Maximum Design Value 2012 |
|---|---|---|---|---|---|---|
| 10730023 | Alabama | Jefferson | 44.0 | 44.2 | 40.0 | 40.7 |
| 10732003 | Alabama | Jefferson | 40.3 | 40.8 | 38.1 | 38.9 |
| 90091123 | Connecticut | New Haven | 38.3 | 40.3 | 35.7 | 36.6 |
| 170310052 | Illinois | Cook | 40.2 | 41.4 | 38.5 | 39.7 |
| 170310057 | Illinois | Cook | 37.3 | 38.6 | 35.7 | 37.0 |
| 170310076 | Illinois | Cook | 38.0 | 39.1 | 36.3 | 37.3 |
| 170311016 | Illinois | Cook | 43.0 | 46.3 | 41.0 | 44.1 |
| 170312001 | Illinois | Cook | 37.7 | 40.6 | 35.6 | 38.2 |
| 170313103 | Illinois | Cook | 39.6 | 40.3 | 38.1 | 38.7 |
| 170313301 | Illinois | Cook | 40.2 | 43.3 | 38.2 | 41.0 |
| 170316005 | Illinois | Cook | 39.1 | 41.8 | 37.4 | 39.8 |
| 171190023 | Illinois | Madison | 37.3 | 38.1 | 39.4 | 40.2 |
| 171191007 | Illinois | Madison | 39.1 | 40.1 | 40.0 | 40.6 |
| 171192009 | Illinois | Madison | 34.9 | 35.9 | 37.2 | 38.2 |
| 171193007 | Illinois | Madison | 34.0 | 34.6 | 36.5 | 37.3 |
| 180190006 | Indiana | Clark | 37.5 | 39.4 | 38.1 | 40.2 |
| 180372001 | Indiana | Dubois | 35.3 | 36.9 | 36.5 | 38.0 |
| 180830004 | Indiana | Knox | 35.9 | 36.3 | 35.9 | 36.5 |
| 180890022 | Indiana | Lake | 38.9 | 44.0 | 37.3 | 42.1 |
| 180890026 | Indiana | Lake | 38.4 | 41.3 | 36.3 | 39.3 |
| 180970042 | Indiana | Marion | 34.2 | 35.3 | 36.3 | 37.2 |
| 180970043 | Indiana | Marion | 38.4 | 39.9 | 40.5 | 42.0 |
| 180970066 | Indiana | Marion | 38.3 | 39.6 | 40.3 | 41.8 |
| 180970078 | Indiana | Marion | 36.6 | 37.6 | 38.7 | 39.7 |
| 180970079 | Indiana | Marion | 35.6 | 36.7 | 37.2 | 38.3 |
| 180970081 | Indiana | Marion | 38.2 | 39.2 | 40.1 | 41.1 |
| 180970083 | Indiana | Marion | 36.6 | 37.0 | 39.0 | 39.3 |
| 181570008 | Indiana | Tippecanoe | 35.6 | 36.7 | 35.9 | 36.9 |
| 191630019 | Iowa | Scott | 37.1 | 37.1 | 36.8 | 36.8 |
| 210590005 | Kentucky | Daviess | 33.8 | 33.8 | 37.0 | 37.0 |
| 211110043 | Kentucky | Jefferson | 35.4 | 36.1 | 35.8 | 36.4 |
| 211110044 | Kentucky | Jefferson | 36.1 | 36.6 | 36.0 | 36.5 |
| 211110048 | Kentucky | Jefferson | 36.4 | 37.2 | 35.6 | 36.4 |
| 245100040 | Maryland | Baltimore City | 39.0 | 40.9 | 36.3 | 38.3 |
| 245100049 | Maryland | Baltimore City | 38.1 | 38.1 | 35.5 | 35.5 |
| 261150005 | Michigan | Monroe | 38.8 | 39.6 | 37.0 | 38.0 |
| 261250001 | Michigan | Oakland | 39.9 | 40.4 | 37.9 | 38.4 |
| 261470005 | Michigan | St. Clair | 39.6 | 40.6 | 38.4 | 39.4 |
| 261610008 | Michigan | Washtenaw | 39.4 | 40.8 | 38.1 | 39.8 |
| 261630015 | Michigan | Wayne | 40.1 | 40.6 | 38.5 | 39.1 |
| 261630016 | Michigan | Wayne | 42.9 | 45.4 | 40.6 | 43.0 |
| 261630019 | Michigan | Wayne | 40.9 | 41.4 | 38.6 | 39.1 |
| 261630033 | Michigan | Wayne | 43.8 | 44.2 | 42.1 | 42.6 |
| 261630036 | Michigan | Wayne | 37.1 | 37.9 | 36.3 | 36.9 |
| 290990012 | Missouri | Jefferson | 33.4 | 34.2 | 35.7 | 36.5 |

| Monitor ID | State | County | Average Design Value 2003-2007 | Maximum Design Value 2003-2007 | Average Design Value 2012 | Maximum Design Value 2012 |
|---|---|---|---|---|---|---|
| 291831002 | Missouri | Saint Charles | 33.1 | 34.7 | 35.5 | 37.1 |
| 295100007 | Missouri | St. Louis City | 33.1 | 33.5 | 36.0 | 36.3 |
| 295100087 | Missouri | St. Louis City | 34.3 | 34.7 | 36.4 | 36.9 |
| 340171003 | New Jersey | Hudson | 39.0 | 40.5 | 35.7 | 36.1 |
| 340172002 | New Jersey | Hudson | 41.4 | 41.4 | 38.2 | 38.2 |
| 340390004 | New Jersey | Union | 40.4 | 41.4 | 36.7 | 37.2 |
| 360050080 | New York | Bronx | 38.8 | 40.2 | 35.9 | 36.2 |
| 360610056 | New York | New York | 39.7 | 40.6 | 37.1 | 38.0 |
| 360610128 | New York | New York | 39.4 | 41.8 | 36.2 | 38.0 |
| 390170003 | Ohio | Butler | 39.2 | 41.1 | 40.3 | 42.3 |
| 390170016 | Ohio | Butler | 37.1 | 37.7 | 37.5 | 37.8 |
| 390170017 | Ohio | Butler | 37.9 | 37.9 | 38.5 | 38.5 |
| 390171004 | Ohio | Butler | 37.1 | 38.1 | 37.8 | 38.6 |
| 390350038 | Ohio | Cuyahoga | 44.2 | 47.0 | 41.2 | 44.0 |
| 390350045 | Ohio | Cuyahoga | 38.5 | 41.5 | 36.0 | 39.0 |
| 390350060 | Ohio | Cuyahoga | 42.1 | 45.7 | 39.4 | 42.8 |
| 390350065 | Ohio | Cuyahoga | 38.6 | 41.0 | 36.5 | 38.9 |
| 390490024 | Ohio | Franklin | 38.5 | 39.7 | 36.6 | 37.6 |
| 390490025 | Ohio | Franklin | 38.4 | 39.1 | 36.1 | 36.4 |
| 390610006 | Ohio | Hamilton | 37.6 | 37.6 | 38.0 | 38.0 |
| 390610014 | Ohio | Hamilton | 38.2 | 39.4 | 37.5 | 38.5 |
| 390610040 | Ohio | Hamilton | 36.7 | 37.7 | 35.8 | 36.8 |
| 390610042 | Ohio | Hamilton | 37.3 | 38.2 | 37.2 | 38.0 |
| 390610043 | Ohio | Hamilton | 35.9 | 36.2 | 36.0 | 36.4 |
| 390617001 | Ohio | Hamilton | 38.8 | 39.6 | 37.7 | 38.1 |
| 390618001 | Ohio | Hamilton | 40.6 | 40.9 | 39.6 | 40.3 |
| 390811001 | Ohio | Jefferson | 41.9 | 45.5 | 36.5 | 39.9 |
| 391130032 | Ohio | Montgomery | 37.8 | 40.0 | 36.3 | 38.5 |
| 391530017 | Ohio | Summit | 38.0 | 39.6 | 35.6 | 37.2 |
| 420030008 | Pennsylvania | Allegheny | 39.4 | 39.9 | 35.9 | 36.3 |
| 420030064 | Pennsylvania | Allegheny | 64.2 | 68.2 | 58.8 | 62.3 |
| 420030093 | Pennsylvania | Allegheny | 45.6 | 51.5 | 41.1 | 46.2 |
| 420030116 | Pennsylvania | Allegheny | 42.5 | 42.5 | 37.1 | 37.1 |
| 420031008 | Pennsylvania | Allegheny | 41.3 | 42.8 | 38.0 | 39.3 |
| 420031301 | Pennsylvania | Allegheny | 40.3 | 42.4 | 36.6 | 38.6 |
| 420070014 | Pennsylvania | Beaver | 43.4 | 44.6 | 37.7 | 39.1 |
| 420110011 | Pennsylvania | Berks | 37.7 | 39.1 | 35.8 | 37.0 |
| 420210011 | Pennsylvania | Cambria | 39.0 | 39.4 | 40.3 | 40.7 |
| 420430401 | Pennsylvania | Dauphin | 38.0 | 39.0 | 35.7 | 37.1 |
| 420710007 | Pennsylvania | Lancaster | 40.8 | 44.0 | 37.7 | 40.1 |
| 421330008 | Pennsylvania | York | 38.2 | 40.7 | 35.9 | 38.8 |
| 471251009 | Tennessee | Montgomery | 36.3 | 37.5 | 36.6 | 37.9 |
| 540090011 | West Virginia | Brooke | 43.9 | 44.9 | 39.9 | 40.8 |
| 550790010 | Wisconsin | Milwaukee | 38.6 | 40.0 | 37.7 | 39.0 |
| 550790026 | Wisconsin | Milwaukee | 37.3 | 41.3 | 36.3 | 40.1 |
| 550790043 | Wisconsin | Milwaukee | 39.9 | 40.8 | 38.8 | 39.7 |
| 550790099 | Wisconsin | Milwaukee | 37.7 | 38.7 | 36.8 | 37.7 |

Table IV-4. Average and maximum 2003-2007 and 2012 base case 24-hour $PM_{2.5}$ design values ($\mu g/m^3$) at projected maintenance-only sites.

| Monitor ID | State | County | Average Design Value 2003-2007 | Maximum Design Value 2003-2007 | Average Design Value 2012 | Maximum Design Value 2012 |
|---|---|---|---|---|---|---|
| 110010041 | Washington D.C. | Washington D.C. | 36.3 | 37.8 | 34.0 | 35.6 |
| 110010042 | Washington D.C. | Washington D.C. | 34.9 | 37.0 | 33.0 | 35.6 |
| 170310022 | Illinois | Cook | 36.6 | 38.6 | 34.9 | 36.6 |
| 170310050 | Illinois | Cook | 36.1 | 38.0 | 34.1 | 35.8 |
| 170314007 | Illinois | Cook | 34.3 | 36.4 | 33.6 | 35.7 |
| 171630010 | Illinois | Saint Clair | 33.7 | 34.1 | 35.3 | 35.9 |
| 171971002 | Illinois | Will | 36.4 | 37.1 | 35.1 | 35.8 |
| 180390003 | Indiana | Elkhart | 34.4 | 36.3 | 33.8 | 35.6 |
| 180431004 | Indiana | Floyd | 33.2 | 34.5 | 34.3 | 35.7 |
| 181670023 | Indiana | Vigo | 34.8 | 36.1 | 35.1 | 36.5 |
| 191390015 | Iowa | Muscatine | 36.0 | 37.7 | 34.5 | 36.0 |
| 210290006 | Kentucky | Bullitt | 34.6 | 35.8 | 35.0 | 36.3 |
| 211451004 | Kentucky | McCracken | 33.6 | 35.9 | 34.4 | 36.8 |
| 212270007 | Kentucky | Warren | 33.1 | 35.1 | 33.7 | 36.3 |
| 240031003 | Maryland | Anne Arundel | 35.5 | 37.4 | 33.8 | 36.7 |
| 245100035 | Maryland | Baltimore (City) | 37.7 | 39.2 | 34.7 | 35.5 |
| 261630001 | Michigan | Wayne | 37.8 | 40.1 | 35.4 | 37.8 |
| 295100085 | Missouri | St. Louis City | 33.2 | 33.8 | 35.3 | 35.7 |
| 360610062 | New York | New York | 38.8 | 41.6 | 35.3 | 37.0 |
| 360610079 | New York | New York | 37.9 | 40.2 | 34.2 | 36.4 |
| 390350027 | Ohio | Cuyahoga | 36.6 | 38.8 | 34.5 | 36.6 |
| 390350034 | Ohio | Cuyahoga | 36.5 | 37.9 | 33.7 | 35.7 |
| 390810017 | Ohio | Jefferson | 40.7 | 42.4 | 35.3 | 36.8 |
| 390950024 | Ohio | Lucas | 36.3 | 38.6 | 34.2 | 36.5 |
| 390950026 | Ohio | Lucas | 34.9 | 36.7 | 33.6 | 35.6 |
| 390990014 | Ohio | Mahoning | 36.8 | 38.2 | 34.2 | 35.8 |
| 391130031 | Ohio | Montgomery | 35.7 | 37.1 | 34.3 | 35.6 |
| 391351001 | Ohio | Preble | 32.8 | 33.9 | 34.3 | 35.5 |
| 391550007 | Ohio | Trumbull | 36.2 | 37.8 | 33.9 | 35.6 |
| 420030095 | Pennsylvania | Allegheny | 38.7 | 40.7 | 34.3 | 36.6 |
| 420033007 | Pennsylvania | Allegheny | 37.5 | 43.1 | 33.8 | 38.5 |
| 420410101 | Pennsylvania | Cumberland | 38.0 | 40.2 | 35.3 | 37.0 |
| 421255001 | Pennsylvania | Washington | 38.1 | 39.9 | 33.9 | 35.5 |
| 471650007 | Tennessee | Sumner | 33.6 | 34.5 | 35.1 | 36.0 |
| 540090005 | West Virginia | Brooke | 39.4 | 41.5 | 33.9 | 36.1 |
| 550250047 | Wisconsin | Dane | 35.5 | 36.9 | 35.1 | 36.1 |
| 550790059 | Wisconsin | Milwaukee | 35.5 | 37.0 | 34.8 | 36.3 |
| 551330027 | Wisconsin | Waukesha | 35.4 | 36.2 | 34.9 | 35.6 |

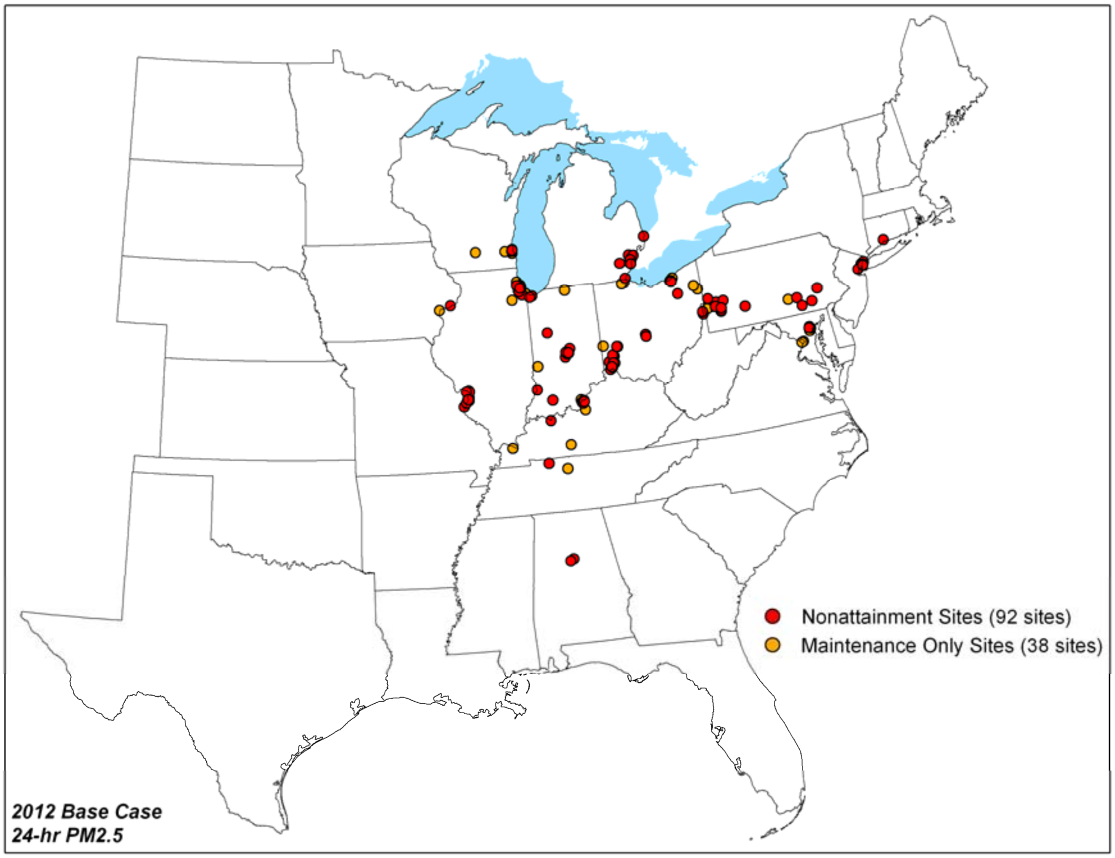


Figure IV-2. Projected 2012 base case 24-hour $PM_{2.5}$ nonattainment and/or maintenance sites in the East.

Table IV-5 contains the 2003-2007 base period average and maximum 8-hour ozone design values and the 2012 base case average and maximum design values for sites projected to be 2012 nonattainment of the 8-hour ozone NAAQS in 2012. Table IV-6 contains this same information for projected 2012 8-hour ozone maintenance-only sites. There are 11 sites in 6 counties projected to be nonattainment for the 1997 8-hour ozone NAAQS in 2012. There are 16 sites in 9 counties projected to have maintenance only problems for the 1997 8-hour ozone NAAQS in 2012. The 2012 base case 8-hour ozone nonattainment and/or maintenance sites in the East are shown in Figure IV-3.

Table IV-5. Average and maximum 2003-2007 and 2012 base case 8-hour ozone design values (ppb) at projected nonattainment sites.

| Monitor ID | State | County | Average Design Value 2003-2007 | Maximum Design Value 2003-2007 | Average Design Value 2012 | Maximum Design Value 2012 |
|---|---|---|---|---|---|---|
| 220330003 | Louisiana | East Baton Rouge | 92.0 | 96.0 | 87.8 | 91.6 |
| 361030002 | New York | Suffolk | 90.0 | 91.0 | 86.3 | 87.2 |
| 361030009 | New York | Suffolk | 90.3 | 91.0 | 85.1 | 85.8 |
| 421010024 | Pennsylvania | Philadelphia | 90.3 | 91.0 | 85.3 | 86.0 |
| 480391004 | Texas | Brazoria | 94.7 | 97.0 | 88.8 | 91.0 |
| 482010051 | Texas | Harris | 93.0 | 98.0 | 88.4 | 93.1 |
| 482010055 | Texas | Harris | 100.7 | 103.0 | 95.7 | 97.9 |
| 482010062 | Texas | Harris | 95.7 | 99.0 | 90.5 | 93.7 |
| 482010066 | Texas | Harris | 92.3 | 96.0 | 89.9 | 93.5 |
| 482011039 | Texas | Harris | 96.3 | 100.0 | 90.5 | 93.9 |
| 484391002 | Texas | Tarrant | 93.3 | 95.0 | 85.1 | 86.7 |

Table IV-6. Average and maximum 2003-2007 and 2012 base case 8-hour ozone design values (ppb) at projected maintenance-only sites.

| Monitor ID | State | County | Average Design Value 2003-2007 | Maximum Design Value 2003-2007 | Average Design Value 2012 | Maximum Design Value 2012 |
|---|---|---|---|---|---|---|
| 90010017 | Connecticut | Fairfield | 88.0 | 90.0 | 83.1 | 85.0 |
| 90011123 | Connecticut | Fairfield | 92.3 | 94.0 | 84.8 | 86.4 |
| 90013007 | Connecticut | Fairfield | 90.0 | 92.0 | 84.5 | 86.4 |
| 90093002 | Connecticut | New Haven | 90.3 | 93.0 | 82.9 | 85.4 |
| 130890002 | Georgia | DeKalb | 88.7 | 93.0 | 81.6 | 85.6 |
| 131210055 | Georgia | Fulton | 91.7 | 94.0 | 84.4 | 86.5 |
| 361192004 | New York | Westchester | 87.7 | 90.0 | 84.7 | 86.9 |
| 420170012 | Pennsylvania | Bucks | 88.0 | 92.0 | 81.8 | 85.6 |
| 481130069 | Texas | Dallas | 87.0 | 90.0 | 82.9 | 85.8 |
| 481130087 | Texas | Dallas | 87.0 | 88.0 | 84.6 | 85.6 |
| 482010024 | Texas | Harris | 88.0 | 92.0 | 83.3 | 87.1 |
| 482010029 | Texas | Harris | 91.7 | 93.0 | 84.4 | 85.6 |
| 482011015 | Texas | Harris | 89.0 | 96.0 | 83.7 | 90.3 |
| 482011035 | Texas | Harris | 86.3 | 95.0 | 82.0 | 90.3 |
| 482011050 | Texas | Harris | 89.3 | 92.0 | 83.9 | 86.5 |
| 484392003 | Texas | Tarrant | 93.7 | 95.0 | 84.0 | 85.2 |


Figure IV-3. Projected 2012 base case 8-hour ozone nonattainment and/or maintenance sites in the East.

### *B. Overview of Approach for Source Apportionment Modeling*

Source apportionment modeling for both ozone and $PM_{2.5}$ was performed using the 2012 base case emissions. In this modeling we tracked ozone and $PM_{2.5}$ formed from anthropogenic emissions in each State that is wholly within the 12 km modeling domain. The modeling results were used to calculate the contributions of the emissions in these States to concentrations at nonattainment and maintenance sites in other (i.e., downwind) States. The States included in the source apportionment modeling for ozone and $PM_{2.5}$ are: Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South

Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, West Virginia, Washington D.C.[32], and Wisconsin.

There are several other States that are only partially contained within the 12 km modeling domain (i.e., Colorado, Montana, New Mexico, and Wyoming). We did not track the emissions or assess the contribution from emissions in these States individually. Rather, the emissions from these States were tracked as a combined set of emissions together with emissions from sources in Canada and Mexico in a category named “other”. Emissions from wild fires in all States were also included in the “other” category. In our CAMx source apportionment techniques we also tracked the contributions from biogenic emissions (regionally) and initial and boundary concentrations (IC/BCs). The contributions from these three categories (i.e., other, biogenic, and IC/BCs) were not used in the analysis to determine which State to include in the TR.

### *C. Approach to Calculating Contributions for Annual and 24-Hour $PM_{2.5}$*

We used the CAMx Particulate Source Apportionment Technique (PSAT) to calculate contributions to annual and 24-hour $PM_{2.5}$ nonattainment and maintenance. The CAMx PSAT is capable of “tagging” (i.e., tracking) source category emissions for certain PM species and precursor emissions. For the Transport Rule, we ran PSAT to tag emissions of $NO_X$, $SO_2$, and primary $PM_{2.5}$ from the individual States listed above. Each State was a separate tag, and the tagged emissions followed state boundaries (not grid cells). Information on the creation of tagged emissions can be found in the Transport Rule EITSD. Due to the relatively small modeled concentrations of secondary organic aerosols (SOA), and the relatively large runtime penalty of the SOA PSAT mechanism, we chose not to track SOA.

In the PSAT simulation, $NO_X$ emissions are tracked to contributions to particulate nitrate concentrations, $SO_2$ emissions are tracked to contributions to particulate sulfate concentrations, and primary particulates (organic carbon, elemental carbon, and other, unspeciated $PM_{2.5}$) are tracked as contributions to primary particulates. We combined the contributions of nitrate and sulfate in calculating the net contributions to $PM_{2.5}$ for the purpose of evaluating the interstate contributions against specific threshold criteria, as described in section IV.E, below. The rationale for including mass associated with nitrate

[32] Although contributions from emissions in Washington, D.C. were tracked in the source apportionment modeling these contributions were combined with those of Maryland as a single entity. This is a logical approach because of the small size of the District of Columbia and, hence, its emissions and its close proximity to Maryland, as described in the TR preamble.

plus sulfate and excluding primary $PM_{2.5}$ and SOA in the contributions for the TR is articulated in section IV.B of the TR preamble.

We developed and applied several post-processing steps to transform the PSAT modeling outputs to $PM_{2.5}$ contributions. The approach involved processing the PSAT model outputs using MATS along with other post-processing software to calculate the contribution of each upwind state to each nonattainment and/or maintenance site (i.e., receptor).

The following is a description of the procedures for calculating contributions for annual $PM_{2.5.}$ These procedures were applied separately for each source State.

1. Receptor sites include the 2012 base case annual $PM_{2.5}$ nonattainment and maintenance sites in the 12km Eastern modeling domain.
2. Contributions for each of the $PM_{2.5}$ species from each State, as predicted by PSAT, are subtracted from the standard 2012 base case CAMx model output to generate a new set of model output files for each source region.
3. Daily, 24-hr average $PM_{2.5}$ species are calculated for the "standard" model output files and newly generated source contribution output files.
4. The relative response factors (RRFs) for each of the $PM_{2.5}$ species is calculated for each source region at all receptors using the MATS model attainment software. In this approach, the MATS "baseline" model file is defined as the standard 2012 base case CAMx model output file and the "future case" model file is defined as the 2012 State contribution model output file (from step 3).
5. The species-specific annual average RRFs (generated by MATS in step 4) for each source State are multiplied by the annual average future year (2012) species concentrations generated for the 2012 base case to estimate $PM_{2.5}$ species contributions in ug/m3 from each species for each source region[33,34].

[33] The calculations in step 5 use MATS outputs and additional post-processing software developed for this rule. More details on the post-processing steps and software can be found in Appendix C.

[34] Due to precision issues in MATS it is possible to have RRFs for ammonium and water that are slightly greater than 1 which can result in very small negative values in the calculation of contributions of sulfate. Any negative contribution values were reset to zero.

6. The annual average contributions of sulfate ion, nitrate ion, ammonium, and water for each source State are combined to calculate the nitrate plus sulfate $PM_{2.5}$ contribution used in the TR analysis[35].

7. Annual $PM_{2.5}$ (i.e., nitrate plus sulfate) contributions are expressed in units of $\mu g/m^3$. Values of annual $PM_{2.5}$ contribution are truncated after two places to the right of the decimal (e.g. a contribution of 0.149 $\mu g/m^3$ is truncated to 0.14 $\mu g/m^3$).

The 24-hour $PM_{2.5}$ contributions were calculated in a manner similar to the procedures for annual $PM_{2.5}$. However, there are several more steps in the 24-hour calculations which are designed to retain the contributions in each quarter through most of the post-processing. For 24-hour $PM_{2.5}$, the contributions are calculated as the five year average contributions to the "high" concentration quarters at each site.

The following is a description of the procedures for calculating contributions for 24-hour $PM_{2.5}$. These procedures were applied separately for each source State.

1. Receptor sites include the 2012 base case 24-hour $PM_{2.5}$ nonattainment and maintenance sites in the 12km photochemical modeling domain.

2. Contributions for each of the $PM_{2.5}$ species from each State, as predicted by PSAT, are subtracted from the standard 2012 CAMx model output to generate a new set of model output files for each source region.

3. Daily, 24-hr average $PM_{2.5}$ species model output files are generated for the "standard" 2012 base case model output files and newly generated source contribution output files.

[35] Particulate ammonium and particle bound water are attached to the nitrate and sulfate. Therefore, they are counted as part of the downwind contribution of total sulfate and total nitrate. As in the design value calculations in section III, the ammonium contribution is calculated based on the calculated sulfate and nitrate concentrations, using a constant value for the degree of neutralization of sulfate (from the ambient data). The particle bound water contribution concentration is calculated from the empirical formula contained in MATS. The following equations were used to calculate ammonium nitrate and ammonium sulfate:
Ammonium nitrate = (1.29 x 1.12 x nitrate ion); where the 1.29 factor represents the ammonium associated with nitrate ion (assuming that nitrate exists as ammonium nitrate) and the 1.12 factor is applied to subtract out the particle bound water attached to the ammonium nitrate.
Ammonium sulfate = ((ammonium ion + sulfate ion) – (0.29 x nitrate ion) + (particle bound water – (0.12 * 1.29* nitrate ion))); where the 0.29 and 1.29 factors are included to subtract out the ammonium associated with nitrate ion (assuming that nitrate exists as ammonium nitrate) and the 1.12 factor is applied to subtract out the particle bound water attached to the ammonium nitrate. The remaining ammonium and water is added to the sulfate ion and is assumed to be attached to sulfate.

4. Relative response factors (RRFs) are calculated for each of the $PM_{2.5}$ species[36] for each source State at all receptors using the MATS model attainment software. Quarterly RRFs are calculated using the "high" concentration model days in each quarter. The high concentration days are based on the highest 10% of modeled $PM_{2.5}$ days[37] (in each grid cell) in the 2012 base case. The MATS "baseline" model file is defined as the standard 2012 base case CAMx model output file and the "future case" model file is defined as the 2012 State contribution region model output file (from step 3).

5. The species "high days" quarterly average RRFs (generated by MATS in step 4) for each source region are multiplied[38] by the high days quarterly average future year (2012) species concentrations from the 24-hr $PM_{2.5}$ 2012 base case. This calculation is done for (up to) 5 years of data for each quarter (for a total of up to 20 quarters). The result of this calculation is the contribution of each of the species from the upwind source to each of the 20 quarters.

6. For each receptor, the contributions during the high future year quarters for each year are identified and selected for use in the analysis. The high quarter for each year (based on the 2012 base case) is already known from the 2012 base case 24-hr $PM_{2.5}$ design value calculations. The contributions of each species for the (up to) 5 high quarters are averaged[39] together. This represents the species contributions to 24-hour $PM_{2.5}$ concentrations.

[36] As in the design value calculations in section III, the ammonium contribution is calculated based on the calculated sulfate and nitrate contribution concentrations, using a constant value for the degree of neutralization of sulfate (from the ambient data). The particle bound water contribution concentration is calculated from the empirical formula contained in MATS.

[37] Due to large over-predictions of crustal PM (other primary PM2.5), the modeled PM2.5 concentrations used to determine the high modeled days in each quarter do not include crustal PM2.5. We did not want the crustal PM2.5 to unduly influence the selection of the high modeled days. The model performance for crustal PM2.5 and all other PM2.5 components is documented in Appendix A.

[38] The calculations in steps 5 and 6 use MATS outputs and post-processing software written for this rule. More details on the post-processing steps and software can be found in Appendix C.

[39] For the 24-hr PM2.5 NAAQs contribution calculations, the five year average contributions are **not weighted** towards the middle year of the period. Since the high quarter for each year can be in a different season, EPA did not want to weight the upwind contribution to a particular season. Upwind states should not be penalized for having a large contribution in the high season for 2005, compared to other years. Likewise, upwind states should not be rewarded for having a small contribution to 2005 compared to other years

7. The 24-hour contributions of sulfate ion, nitrate ion, ammonium, and water[40] for each source State are combined to calculate the total $PM_{2.5}$ contribution used in the TR analysis, as in the calculations for annual $PM_{2.5}$ , described above..

8. 24-hour $PM_{2.5}$ contributions are expressed in units of $\mu g/m^3$. Values of 24-hour $PM_{2.5}$ contribution are truncated after two places to the right of the decimal (e.g. a contribution of 0.349 $\mu g/m^3$ is truncated to 0.34 $\mu g/m^3$).

***D. Approach to Calculating Contributions for 8-Hour Ozone***

We used the CAMx Anthropogenic Precursor Culpability Assessment (APCA) source apportionment technique to calculate the contributions to 8-hour ozone nonattainment and maintenance in the 2012 base case. APCA tracks the formation of ozone from $NO_X$ and VOC emissions. Through emissions pre-processing procedures, we tagged all of the anthropogenic $NO_X$ and VOC emissions in each State wholly within the Eastern modeling domain. A separate tag was created for each State, and the tagged emissions followed state boundaries.

All anthropogenic sources of $NO_X$ and VOC were tracked in the APCA simulation. Several post-processing steps were developed to transform the raw model outputs to ozone contributions. The approach for calculating ozone contributions was similar to the approach used for $PM_{2.5}$, except that the APCA model outputs were processed using MATS instead of the PSAT outputs used for $PM_{2.5.}$

The following is a description of the procedures for calculating contributions for 8-hour ozone. These procedures were applied separately for each source State.

1. Receptor sites include the 2012 base case ozone nonattainment and maintenance sites in the 12km photochemical modeling domain.

2. Contributions from each source State are subtracted from the standard 2012 CAMx model output to generate a new set of model output files for each State.

3. Daily 8-hr maximum ozone model output files are generated from hourly ozone predictions in the "standard" model output files and newly generated source contribution output files.

4. Relative response factors (RRFs) are calculated for each source State for all receptors using MATS. The "baseline" ozone values in this calculation are the 2012 base case 8-

[40] Particulate ammonium and particle bound water are attached to the nitrate and sulfate. Therefore, they are counted as part of the downwind contribution of total sulfate and total nitrate.

hour daily maximum concentrations and the "future case" ozone values are the 8-hour daily maximum concentrations in the 2012 source State file created in step 3.

5. The model attainment test is applied with MATS using an initial ozone criterion of 85 ppb and a minimum allowable criterion of 70 ppb. A minimum number of 5 days at or above the 85 ppb criterion or 5 days of modeled ozone greater than the minimum allowable criterion (70 ppb) are required[41] for a relative response factor to be estimated at a receptor site. For sites at which there are not 5 modeled days with predicted 8-hour daily maximum concentrations above the initial ozone criterion, the criterion is decreased by 1 ppb until 5 days are included in the RRF calculation until the minimum threshold (70 ppb) is reached. If there are less than 5 modeled days above 70 ppb, then a contribution to the receptor is not calculated and the receptor is not used in the contribution analysis.

6. The relative response factor (from step 4) is multiplied by the 2012 base case design value to estimate ozone contribution in ppb from the source State[42].

7. Ozone contributions are expressed in units of ppb. Ozone contribution values are truncated after 1 place to the right of the decimal (e.g. a contribution of 0.79 ppb is truncated to 0.7 ppb).

***E. Evaluation of Interstate Contributions***

The previous section describes the procedures for calculating 8-hour ozone and annual and 24-hour $PM_{2.5}$ contributions to the nonattainment and maintenance receptor sites[43]. The contributions to each 2012 nonattainment receptor and each maintenance receptor are provided in Appendix D[44]. For annual $PM_{2.5}$ we calculated each State's contribution to each of the 32 monitoring sites that are projected to be nonattainment and

[41] The contribution analysis uses a minimum number of days above the threshold of 5 days. This differs from the default attainment test minimum number of 10 days > 85 ppb. It was reasoned that the contribution should be averaged over multiple days, but requiring a minimum of 10 days was not necessary. Since the attainment test uses an absolute minimum of 5 days in order to perform an RRF calculation, we chose to use 5 days as the default minimum number of days needed for each contribution calculation.

[42] The calculation in step 6 uses MATS outputs and post-processing software written for this rule. More details on the post-processing steps and software can be found in Appendix C.

[43] As noted previously, the nonattainment receptors are those monitoring sites which are projected to exceed the NAAQS in the 2012 base case, based on the 5-year weighted average design values. The maintenance receptors are those monitoring sites which are projected to exceed the NAAQS in the 2012 base case based on projections of the maximum design value in the 5-year period. Monitoring sites with average design values at or below the level of the NAAQS, but with maximum design values exceeding the NAAQS are referred to as maintenance only receptors.

[44] The contributions to all monitoring sites in the 12 km Eastern modeling domain are provided in the TR docket.

each of the 16 sites that are projected to have maintenance problems for the annual $PM_{2.5}$ NAAQS in the 2012 base case. For 24-hour $PM_{2.5}$, we calculated each state's contribution to each of the 92 monitoring sites that are projected to be nonattainment and each of the 38 sites that are projected to have maintenance problems for the 24-hour $PM_{2.5}$ NAAQS in the 2012 base case. Similarly, for ozone we calculated each state's contribution to each of the 11 monitoring sites that are projected to be nonattainment and each of 14[45] sites that are projected to have maintenance problems for the 8-hour ozone NAAQS in the 2012 Base Case.

The upwind State-to-downwind receptor combinations (i.e., linkages) were evaluated to determine if the contributions to downwind nonattainment and/or maintenance are at or above specific contribution thresholds. As described in section IV.B of the TR preamble, EPA is using 1 percent of the NAAQS as the threshold for determining which States to include in this rule. The thresholds for the 1997 annual $PM_{2.5}$ NAAQS, 2006 24-hour $PM_{2.5}$ NAAQS, and 1997 8-hour ozone NAAQS are shown in Table IV-7.

Table IV-7. Threshold concentrations used for evaluating interstate contributions to annual and 24-hour $PM_{2.5}$ and 8-hour ozone.

| Pollutant | Level of the NAAQS | 1 Percent Threshold |
|---|---|---|
| | | |
| **Annual $PM_{2.5}$** | 15.0 $\mu g/m^3$ | 0.15 $\mu g/m^3$ |
| | | |
| **24-Hour $PM_{2.5}$** | 35 $\mu g/m^3$ | 0.35 $\mu g/m^3$ |
| | | |
| **8-Hour Ozone** | 0.08 ppm | 0.0008 ppm (0.8 ppb) |

To determine which States contribute amounts at or above these thresholds to nonattainment and/or maintenance, we examined the amount of contribution from each State to each downwind nonattainment receptor and each maintenance only receptor for the three NAAQS and noted the magnitude of the contribution relative to the threshold. States that contribute amounts at or above the threshold to at least one downwind nonattainment receptor or one maintenance receptor for the annual $PM_{2.5}$ NAAQS or the 24-hour $PM_{2.5}$ NAAQS are included in the TR for annual $SO_2$ and $NO_X$ emissions

[45] For two of the 16 projected maintenance sites (Harris Co., Texas sites 482011015 and 482011035) there were less than 5 days with 8-hour ozone predictions of at least 70 ppb. Thus, based on recommendations in the modeling guidance we did not calculate contributions for these two maintenance sites.

budgets. States that contribute amounts that are at or above the threshold to at least one 8-hour ozone downwind nonattainment or maintenance receptor are included in the TR for summer season $NO_X$ emissions budgets.

**1. Contributions to Annual $PM_{2.5}$ Nonattainment and Maintenance**

The largest contribution from each State to annual $PM_{2.5}$ across all downwind nonattainment receptors is provided in Table IV-8. The largest contribution from each State to annual $PM_{2.5}$ across all downwind maintenance-only receptors is also provided in Table IV-8.

Table IV-8. Largest contribution to downwind annual $PM_{2.5}$ ($\mu g/m^3$) nonattainment and maintenance for each of 37 States.

| **Upwind State** | **Largest Downwind Contribution to Nonattainment for Annual $PM_{2.5}$ ($\mu g/m^3$)** | | **Largest Downwind Contribution to Maintenance for Annual $PM_{2.5}$ ($\mu g/m^3$)** |
|---|---|---|---|
| Alabama | 0.46 | | 0.18 |
| Arkansas | 0.09 | | 0.04 |
| Connecticut | 0.04 | | 0.09 |
| Delaware | 0.20 | | 0.14 |
| Florida | 0.29 | | 0.07 |
| Georgia | 0.63 | | 0.18 |
| Illinois | 1.01 | | 0.63 |
| Indiana | 2.09 | | 1.78 |
| Iowa | 0.31 | | 0.30 |
| Kansas | 0.09 | | 0.05 |
| Kentucky | 1.68 | | 1.01 |
| Louisiana | 0.11 | | 0.34 |
| Maine | 0.01 | | 0.02 |
| Maryland/ Washington, D.C. | 0.63 | | 0.56 |
| Massachusetts | 0.07 | | 0.13 |
| Michigan | 0.72 | | 0.71 |
| Minnesota | 0.19 | | 0.17 |
| Mississippi | 0.07 | | 0.03 |
| Missouri | 1.38 | | 0.27 |
| Nebraska | 0.08 | | 0.06 |
| New Hampshire | 0.01 | | 0.02 |
| New Jersey | 0.34 | | 0.68 |
| New York | 0.49 | | 0.47 |
| North Carolina | 0.19 | | 0.11 |
| North Dakota | 0.05 | | 0.05 |
| Ohio | 1.49 | | 2.03 |
| Oklahoma | 0.08 | | 0.05 |
| Pennsylvania | 0.83 | | 1.60 |
| Rhode Island | 0.01 | | 0.01 |
| South Carolina | 0.26 | | 0.04 |
| South Dakota | 0.02 | | 0.02 |

| Upwind State | Largest Downwind Contribution to Nonattainment for Annual $PM_{2.5}$ ($\mu g/m^3$) | | Largest Downwind Contribution to Maintenance for Annual $PM_{2.5}$ ($\mu g/m^3$) |
|---|---|---|---|
| Tennessee | 0.68 | | 0.64 |
| Texas | 0.13 | | 0.06 |
| Vermont | 0.00 | | 0.00 |
| Virginia | 0.36 | | 0.37 |
| West Virginia | 0.98 | | 1.17 |
| Wisconsin | 0.46 | | 0.42 |

Based on the State-by-State contribution analysis, there are 22 States (and the District of Columbia) which contribute 0.15 $\mu g/m^3$ or more to downwind annual $PM_{2.5}$ nonattainment. These states are: Alabama, the District of Columbia, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, and Wisconsin. A list of the downwind nonattainment sites to which each upwind State contributes 0.15 $\mu g/m^3$ or more (i.e., the upwind State-to-downwind nonattainment "linkages") are provided in Appendix E.

There are 19 States (and the District of Columbia) which contribute 0.15 µg/m3 or more to downwind annual $PM_{2.5}$ maintenance. These states are: Alabama, the District of Columbia, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, New Jersey, New York, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin. A list of the downwind maintenance sites to which each upwind State contributes 0.15 µg/m3 or more (i.e., the upwind State-to-downwind maintenance "linkages") are provided in Appendix E.

**2. Contributions to 24-Hour $PM_{2.5}$ Nonattainment and Maintenance**

The largest contribution from each State to 24-hour $PM_{2.5}$ across all downwind nonattainment receptors is provided in Table IV-9. The largest contribution from each State to 24-hour $PM_{2.5}$ across all downwind maintenance-only receptors is also provided in Table IV-9.

Table IV-9. Largest contribution to downwind 24-hour $PM_{2.5}$ ($\mu g/m^3$) nonattainment and maintenance for each of 37 States.

| Upwind State | Largest Downwind Contribution to Nonattainment for 24-Hour $PM_{2.5}$ ($ug/m^3$) | | Largest Downwind Contribution to Maintenance for 24-Hour $PM_{2.5}$ ($ug/m^3$) |
|---|---|---|---|
| Alabama | 0.48 | | 0.32 |
| Arkansas | 0.20 | | 0.17 |
| Connecticut | 0.41 | | 0.70 |
| Delaware | 0.50 | | 0.36 |
| Florida | 0.08 | | 0.08 |
| Georgia | 0.95 | | 0.41 |
| Illinois | 7.28 | | 6.57 |
| Indiana | 9.91 | | 8.94 |
| Iowa | 1.87 | | 1.67 |
| Kansas | 0.77 | | 0.45 |
| Kentucky | 6.53 | | 6.91 |
| Louisiana | 0.23 | | 0.18 |
| Maine | 0.19 | | 0.19 |
| Maryland/ Washington, D.C. | 2.63 | | 1.82 |
| Massachusetts | 0.67 | | 0.71 |
| Michigan | 2.35 | | 3.35 |
| Minnesota | 0.91 | | 0.86 |
| Mississippi | 0.09 | | 0.04 |
| Missouri | 5.03 | | 4.82 |
| Nebraska | 0.62 | | 0.39 |
| New Hampshire | 0.21 | | 0.23 |
| New Jersey | 2.69 | | 4.74 |
| New York | 5.82 | | 1.17 |
| North Carolina | 0.50 | | 0.45 |
| North Dakota | 0.27 | | 0.15 |
| Ohio | 5.84 | | 5.56 |
| Oklahoma | 0.16 | | 0.21 |
| Pennsylvania | 3.67 | | 4.86 |
| Rhode Island | 0.05 | | 0.06 |
| South Carolina | 0.19 | | 0.19 |
| South Dakota | 0.13 | | 0.09 |
| Tennessee | 3.92 | | 4.70 |
| Texas | 0.21 | | 0.28 |
| Vermont | 0.06 | | 0.07 |
| Virginia | 1.32 | | 2.26 |
| West Virginia | 3.51 | | 4.83 |
| Wisconsin | 0.80 | | 1.01 |

Based on the State-by-State contribution analysis, there are 24 States (and the District of Columbia) which contribute 0.35 µg/m3 or more to downwind 24-hour $PM_{2.5}$ nonattainment. These States are: Alabama, the District of Columbia, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin. A list of the downwind nonattainment counties to which each upwind State contributes 0.35 µg/m3 or more (i.e., the upwind State-to-downwind nonattainment "linkages") are provided in Appendix E.

There are 23 states and the District of Columbia which contribute (individually) 0.35 µg/m3 or more to downwind 24-hour $PM_{2.5}$ maintenance. These states are: Connecticut, Delaware, the District of Columbia, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin. A list of the downwind maintenance sites to which each upwind State contributes 0.35 µg/m3 or more (i.e., the upwind State-to-downwind maintenance "linkages") are provided in Appendix E.

**3. Contributions to 8-Hour Ozone Nonattainment and Maintenance**

The largest contribution from each State to 8-hour ozone across all downwind nonattainment receptors is provided in Table IV-10. The largest contribution from each State to 8-hour ozone across all downwind maintenance-only receptors is also provided in Table IV-10.

Table IV-10. Largest contribution to downwind 8-hour ozone nonattainment and maintenance for each of 37 States.

| Upwind State | Largest Downwind Contribution to Nonattainment for Ozone (ppb) | Largest Downwind Contribution to Maintenance for Ozone (ppb) |
|---|---|---|
| Alabama | 4.7 | 4.7 |
| Arkansas | 1.4 | 1.8 |
| Connecticut | 1.7 | 1.6 |
| Delaware | 3.3 | 2.5 |
| Florida | 0.8 | 2.1 |
| Georgia | 2.1 | 1.7 |
| Illinois | 0.8 | 0.6 |
| Indiana | 1.1 | 1.0 |
| Iowa | 0.3 | 0.3 |
| Kansas | 0.6 | 0.8 |
| Kentucky | 2.3 | 1.8 |
| Louisiana | 11.4 | 10.6 |
| Maine | 0.0 | 0.0 |
| Maryland/Washington,DC | 6.1 | 4.2 |
| Massachusetts | 0.6 | 0.5 |

| Upwind State | Largest Downwind Contribution to Nonattainment for Ozone (ppb) | Largest Downwind Contribution to Maintenance for Ozone (ppb) |
|---|---|---|
| Michigan | 0.9 | 0.5 |
| Minnesota | 0.1 | 0.2 |
| Mississippi | 5.2 | 2.5 |
| Missouri | 0.7 | 0.6 |
| Nebraska | 0.2 | 0.2 |
| New Hampshire | 0.1 | 0.1 |
| New Jersey | 16.8 | 15.8 |
| New York | 0.4 | 22.7 |
| North Carolina | 1.7 | 2.0 |
| North Dakota | 0.1 | 0.0 |
| Ohio | 2.8 | 2.6 |
| Oklahoma | 2.1 | 2.7 |
| Pennsylvania | 8.9 | 8.1 |
| Rhode Island | 0.1 | 0.1 |
| South Carolina | 0.6 | 0.8 |
| South Dakota | 0.0 | 0.0 |
| Tennessee | 1.6 | 3.0 |
| Texas | 1.6 | 0.6 |
| Vermont | 0.0 | 0.1 |
| Virginia | 4.2 | 4.5 |
| West Virginia | 2.7 | 2.3 |
| Wisconsin | 0.3 | 0.2 |

Based on the State-by-State contribution analysis, there are 22 States (and the District of Columbia) which contribute 0.8 ppb or more to downwind 8-hour ozone nonattainment. These States are: Alabama, Arkansas, Connecticut, Delaware, the District of Columbia, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Mississippi, New Jersey, North Carolina, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Virginia, and West Virginia. A list of the downwind nonattainment counties to which each upwind State contributes 0.8 ppb or more (i.e., the upwind State-to-downwind nonattainment "linkages") is provided in Appendix E.

There are 22 States and the District of Columbia which contribute 0.8 ppb or more to downwind 8-hour ozone maintenance. These States are: Alabama, Arkansas, Connecticut, Delaware, the District of Columbia, Florida, Georgia, Indiana, Kansas, Kentucky, Louisiana, Maryland, Mississippi, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia. A list of the downwind nonattainment counties to which each upwind State contributes 0.8 ppb or more (i.e., the upwind State-to-downwind nonattainment "linkages") is provided in Appendix E.

## V. Air Quality Impacts of the Proposed $SO_2$ and $NO_X$ Emissions Reductions

In this section we present the air quality impacts of the $SO_2$ and $NO_X$ emissions reductions in the 2014 remedy scenario in comparison to air quality predicted for the 2012 base case and 2014 base case scenarios[46]. We first describe the magnitude and spatial patterns in emissions reductions (and increases) in the East. Then we quantify the impacts of these emissions changes on projected design value concentrations for annual $PM_{2.5}$, 24-hour $PM_{2.5}$, and 8-hour ozone at monitoring sites in the Eastern modeling domain[47]. We also provide the impacts on visibility for the 20 percent worst days in Class I Areas in the East.

### *A. Characterization of Emissions in 2014 for the Proposed Remedy Scenario*

The approach for developing the 2014 remedy scenario is described in section IV.D of the TR preamble. The methods for projecting emissions for the 2012 and 2014 base case scenarios, including the baseline control programs, are presented in the EITSD[48]. The 27 States and Washington, D.C. that are included in the TR for annual $SO_2$ and $NO_X$ emissions controls to reduce interstate contributions of $PM_{2.5}$ are shown on the map in Figure V-1. These States are divided into two groups with different levels of $SO_2$ emissions reductions. The States in Group 1 have deeper reductions than those in Group 2[49]. The 25 States (plus Washington, D.C.) subject to summer season (May through September) $NO_X$ controls to reduce interstate transport of ozone are shown on the map in Figure V-2. The aggregate emissions of annual $SO_2$, annual $NO_X$, and summer $NO_X$ for the States covered by the TR are provided in Appendix F for the 2014 base case and remedy scenarios.

[46] Note that the comparisons between the 2012 base case and the 2014 remedy scenario include the impacts of emissions reductions from other rules and control programs that are projected to come into effect between 2012 and 2014, in addition to the impacts of the emissions reductions in the TR proposal. The comparison between the 2014 base case and the 2014 remedy reflects the SO2 and NOx emissions reductions in the TR proposal, only.
[47] This analysis does not include projections for monitoring sites that do not meet certain completeness criteria or other projection criteria, as described in section III of this TSD.
[48] State/sector/pollutant emissions summaries for all of the scenarios simulated with CAMx can be found in the EITSD.
[49] See section IV.D of the TR preamble for details on the SO2 emissions reduction requirements for Group 1 and Group 2 States.

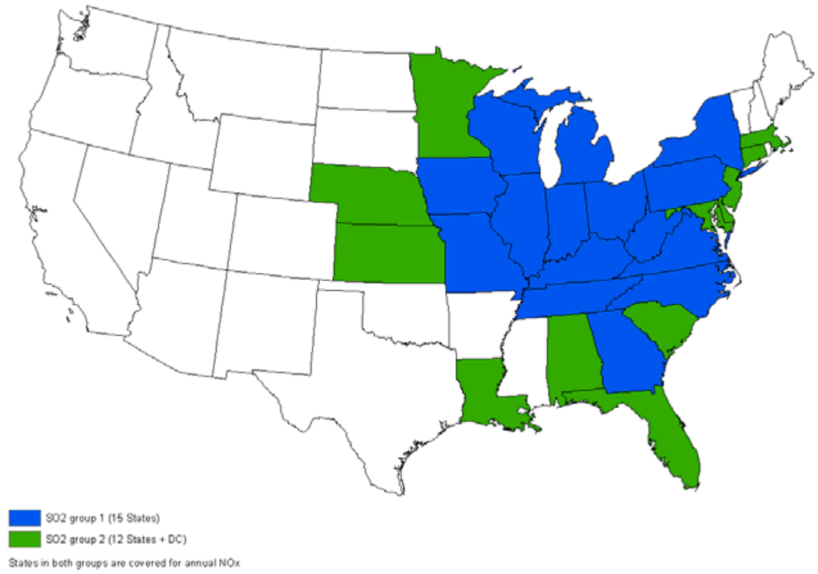


Figure V-1. States included in the Transport Rule for annual $SO_2$ and $NO_X$ emission reductions.

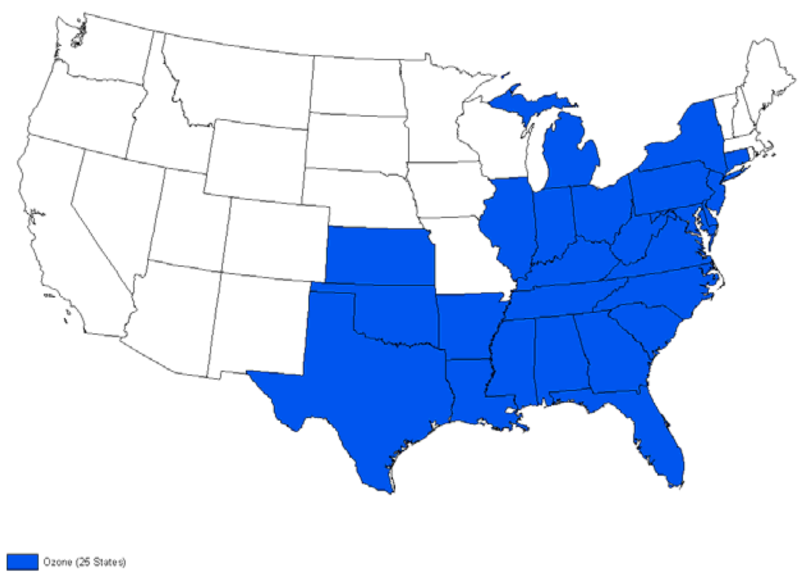


Figure V-2. States included in the Transport Rule for summer $NO_X$ emission reductions.

For the Group 1 States as a whole, annual $SO_2$ emissions from electric generating units (EGUs) are projected to be 68 percent lower in 2014 with the TR controls compared to those in the 2014 base case. The reduction in EGU emissions yields a net 53 percent reduction in total $SO_2$ for the Group 1 States. Overall, for both Group 1 and Group 2

States, total $SO_2$ emissions across all source categories are 45 percent lower in the 2014 remedy scenario, compared to the 2014 base case.

The difference in annual total $SO_2$ emissions between the 2014 base and remedy scenarios at individual facilities is shown in Figure V-3. This figure reveals that substantial $SO_2$ emissions reductions will occur at facilities in the States covered by the TR with the largest reductions in portions of the Midwest, Tennessee Valley, and Ohio Valley extending across Pennsylvania. Some increases in $SO_2$ emissions are noted in a few States not included in the TR for annual $SO_2$ reductions, most notably at several facilities in Arkansas, Texas, and Colorado.

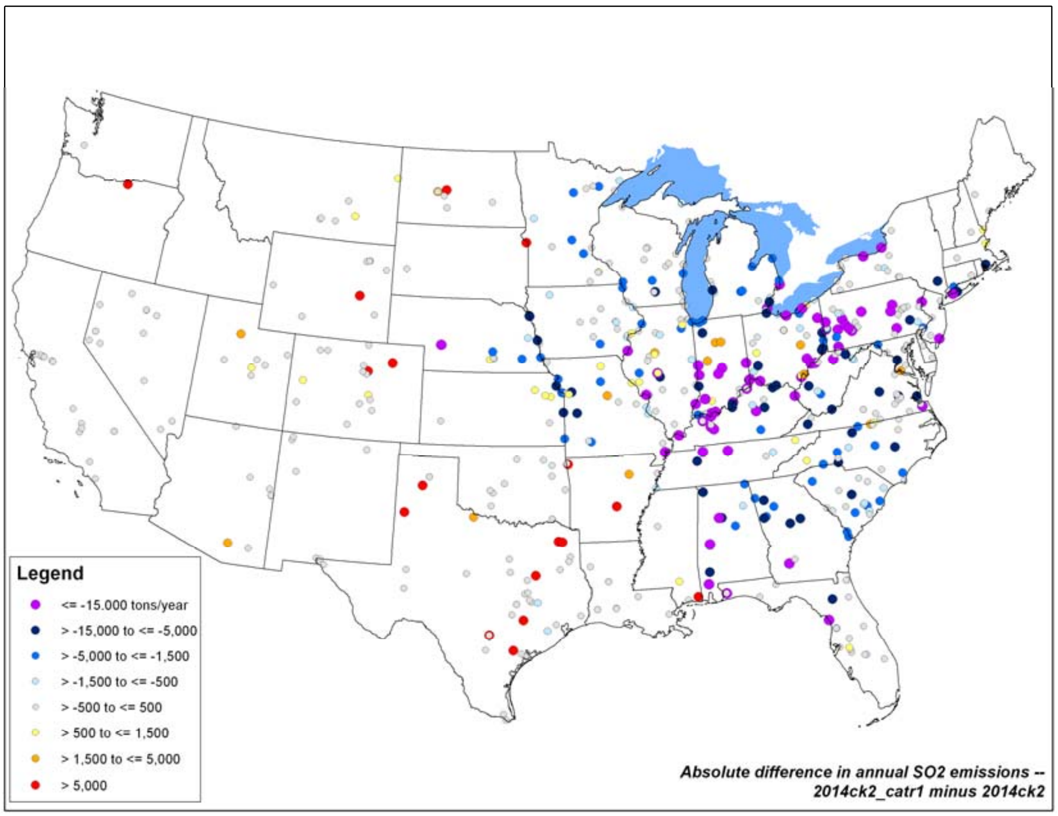


Figure V-3. Change in annual EGU $SO_2$ emissions between the 2014 base and control scenarios at individual facilities.

Annual emissions of $NO_X$ from EGUs are lower by 36 percent in the remedy scenario compared to the 2014 base case for the 27 States and Washington, D.C. that are included in the TR for annual $NO_X$ emissions reductions. The reduction in EGU $NO_X$ produces an 8 percent net reduction in total $NO_X$ for these States. For the 25 States and Washington, D.C. included for ozone season $NO_X$ controls, summer EGU $NO_X$ emission are 16 percent lower in the 2014 remedy scenario, compared to the 2014 base case.

The changes in winter and summer $NO_X$ emissions between the 2014 remedy and 2014 base case at individual facilities are presented in Figures V-4 and V-5, respectively. As is evident from Figure V-4, the largest reductions in winter $NO_X$ are at facilities located in the area extending from Florida to Louisiana northward to Minnesota and Wisconsin and across Tennessee to States along the Ohio River, then eastward to Pennsylvania and New Jersey.  Increases in EGU $NO_X$ emissions are seen in locations scattered across the East.  Comparing Figures V-4 and V-5 indicates that the there is a different pattern in $NO_X$ emissions reductions between the summer and the winter.  In the winter, many states in the East have sizable $NO_X$ reductions.  But in the summer, most of the $NO_X$ reductions occur outside of the $NO_X$ SIP call states.  This is due to the fact that the $NO_X$ reductions from the SIP call are included as part of the future base case and remedy scenarios.

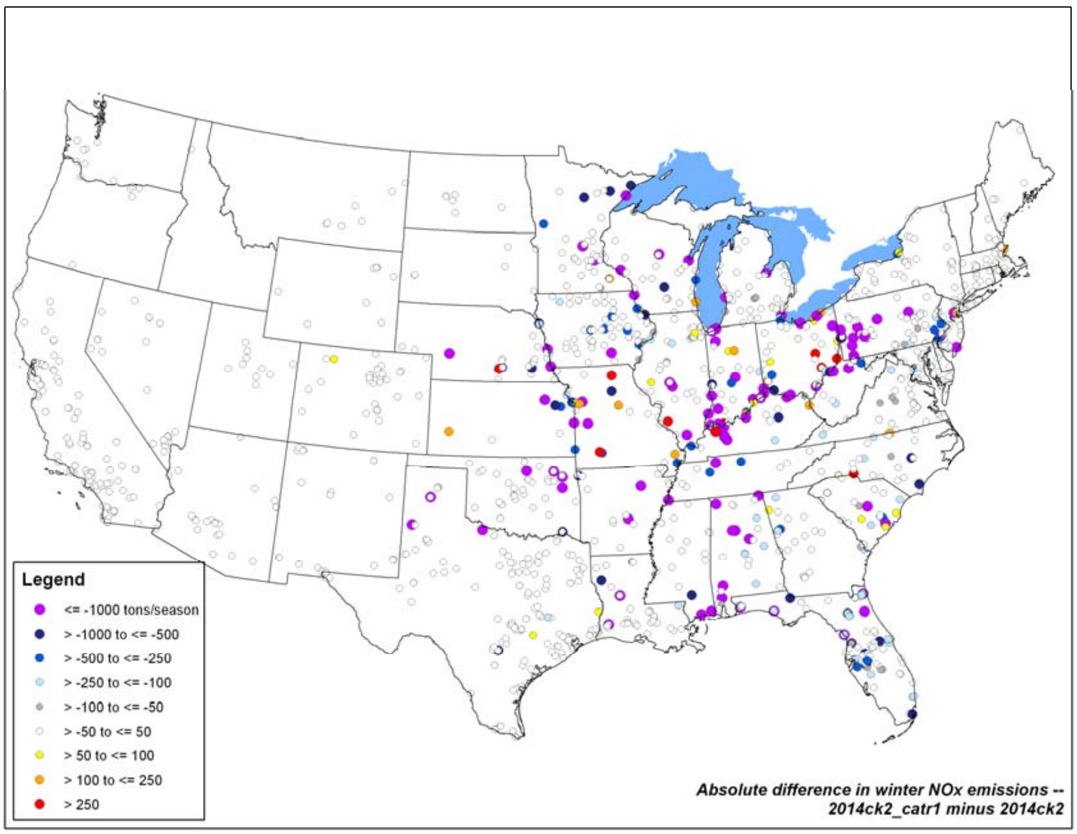


Figure V- 4.  Change in winter season EGU $NO_X$ emissions between the 2014 base and control scenarios at individual facilities.

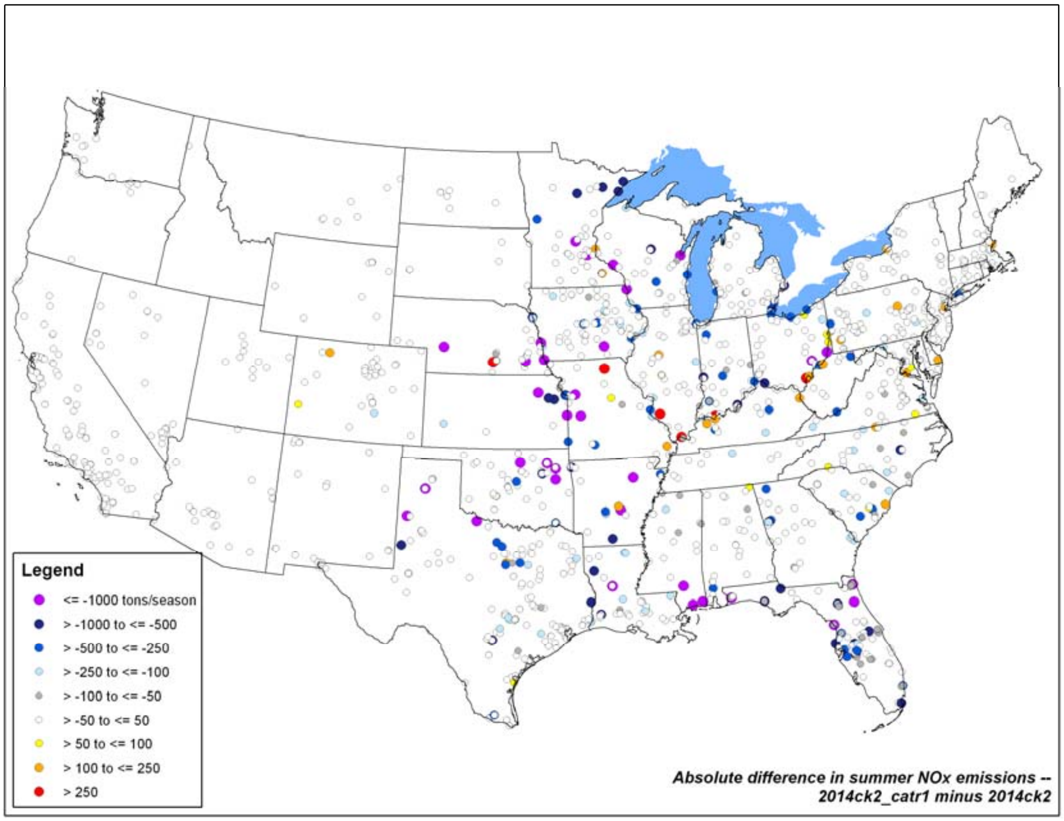


Figure V-5. Change in summer season EGU $NO_X$ emissions between the 2014 base and control scenarios at individual facilities.

### *B. Impacts on Projected $PM_{2.5}$ Design Value Concentrations*

The projected annual and 24-hour $PM_{2.5}$ design values for the 2014 base case and 2014 remedy scenario are provided in Appendix B. The impacts of the annual $SO_2$ and $NO_X$ emissions reductions on annual and 24-hour $PM_{2.5}$ design values are also provided in Appendix B. The impacts on annual and 24-hour $PM_{2.5}$ design values for each monitored county are shown in Figures V-6 and V-7, respectively[50,51]. The results, as shown in these figures indicate that the emissions reductions from the TR will substantially lower annual and 24-hour $PM_{2.5}$ concentrations at most locations in the Eastern U.S, compared to the 2014 base case. Annual $PM_{2.5}$ is lower by more than 2 ug/m$^3$ in areas of the East extending from Tennessee northward to Indiana and Ohio, and

[50] These maps, which show the difference between the 2014 remedy scenario and the 2014 base case, are based upon 5-year weighted average design values. Additional maps showing average design value concentrations for 2003-2007, the 2012 and 2014 base cases, and the 2014 remedy scenario for annual and 24-hour $PM_{2.5}$ are provided in Appendix G. Maps showing the predicted change in annual and 24-hour $PM_{2.5}$ between the 2014 remedy and the 2012 base case are also provided in Appendix G.

[51] For counties with multiple monitoring sites, the maps show the largest difference from among the sites in a county.

eastward across Pennsylvania. Along the highly populated Northeast Corridor, across the Southeast and in the upper Midwest, including the cities of Atlanta, Birmingham, St. Louis, Chicago, and Detroit annual $PM_{2.5}$ concentrations are lower by 1 to 2 ug/m3.

As shown in Figure V-7, the predicted reductions in 24-hour $PM_{2.5}$ are greater than those for annual $PM_{2.5}$ concentrations. Daily $PM_{2.5}$ concentrations in the remedy scenario are lower than in the 2014 base case by 2 to 6 ug/m3 across much of the Southeast and along portions of the Northeast Corridor. In the multi-State area from Tennessee to western Pennsylvania, our modeling predicts 24-hour $PM_{2.5}$ concentrations that are 6 to 10 ug/m3 lower than those in the 2014 base case.

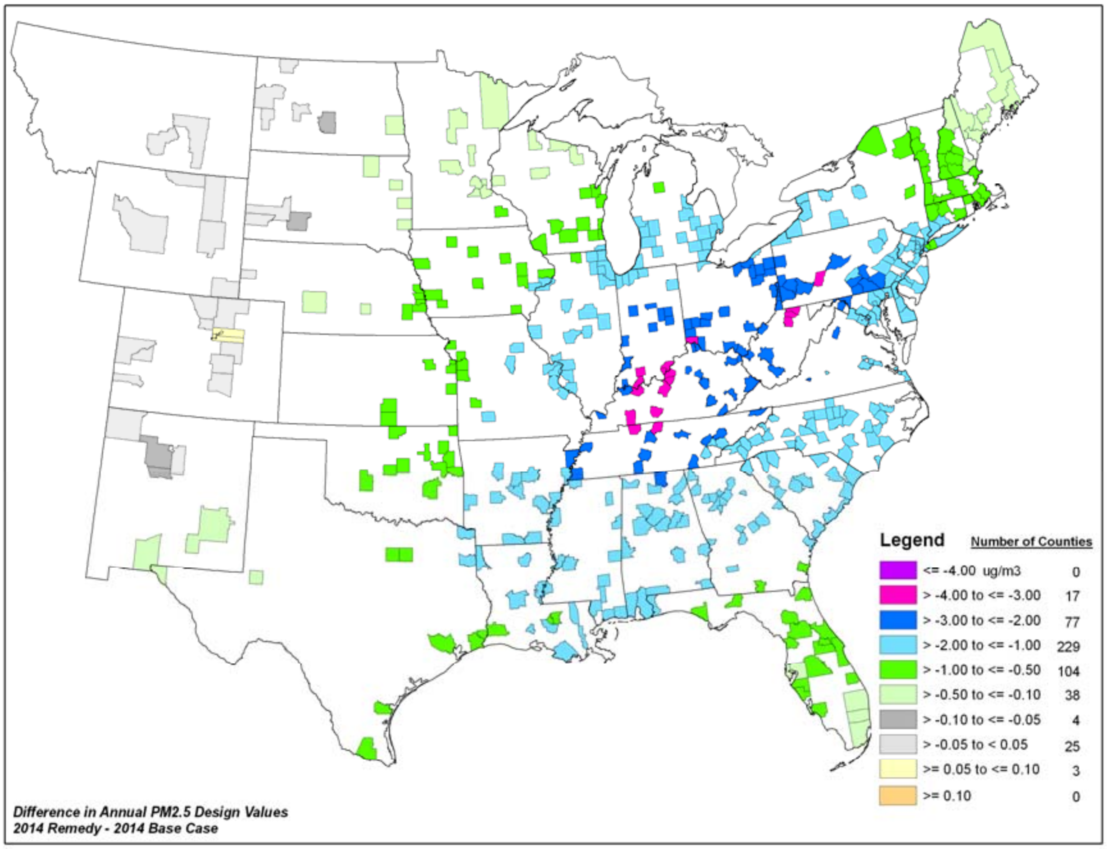


Figure V-6. Impacts on annual average $PM_{2.5}$ concentrations in 2014 resulting from the emissions reductions in the 2014 remedy scenario.

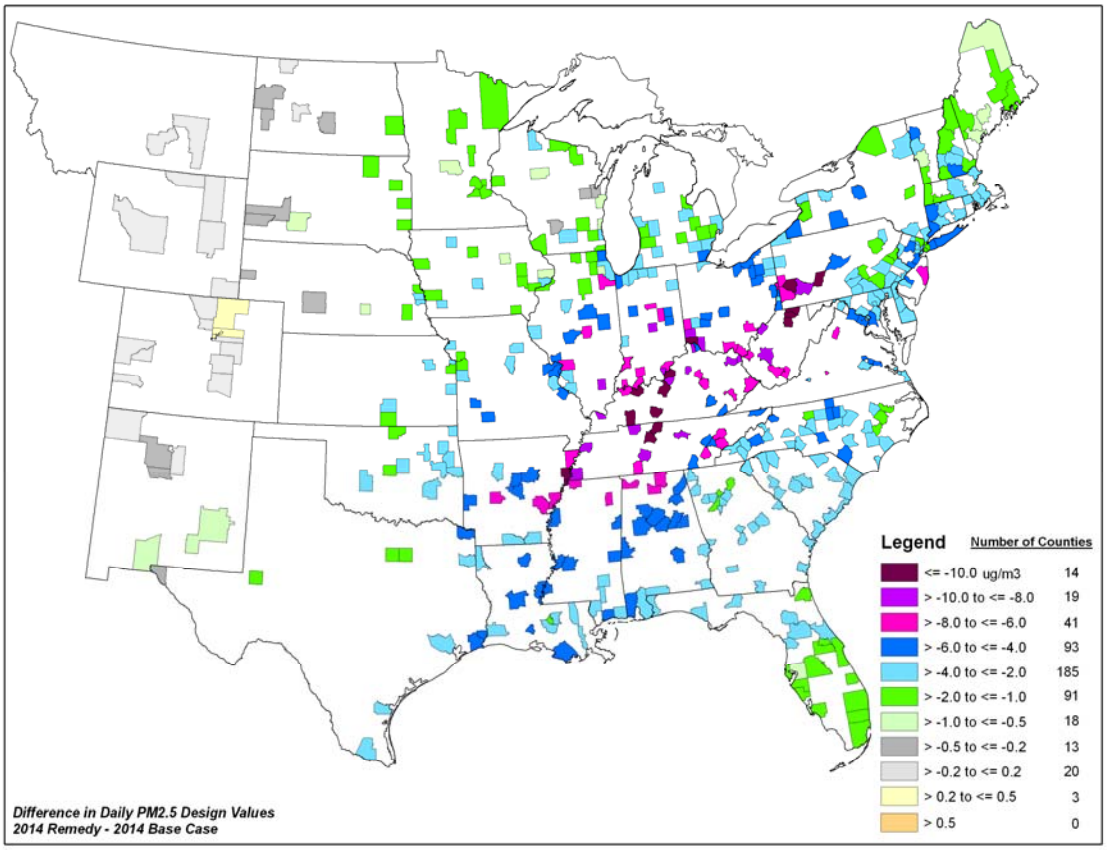


Figure V-7. Impacts on 24-hour $PM_{2.5}$ concentrations in 2014 resulting from the emissions reductions in the 2014 remedy scenario.

The spatial patterns of the magnitude of reduction in annual and 24-hour $PM_{2.5}$ across the East are generally consistent with the patterns in annual $SO_2$ and winter $NO_X$ emissions reductions from EGUs, as evident by comparing Figures V-6 and V-7 to Figures V-3 and V-4, respectively. These figures also indicate that $PM_{2.5}$ concentrations are lower in the remedy scenario in those States in the East not included in the TR for annual $SO_2$ and $NO_X$ reductions, like Arkansas, Mississippi, Oklahoma, Texas and several northern New England. In Texas and Arkansas, the reductions in transported $PM_{2.5}$ are large enough to more than offset the forecasted increases in local emissions of $SO_2$ in these two States.

There are a few locations mainly in the West where $SO_2$ emissions and, therefore, $PM_{2.5}$ is predicted to be higher in the 2014 remedy scenario compared to the 2014 base case. Locations where $PM_{2.5}$ levels are higher in the remedy scenario are evident in counties near Denver, CO.

### *C. Impacts on Annual and 24-Hour $PM_{2.5}$ Nonattainment and Maintenance*

The number of projected nonattainment and/or maintenance sites in the East for the 2003-2007 base period, 2012 base case, 2014 base case, and 2014 remedy scenario for annual $PM_{2.5}$ and 24-hour $PM_{2.5}$ are provided in Table V-1. The percent difference in the number of nonattainment and maintenance sites between the 2014 remedy scenario and both the 2012 and 2014 base case scenarios are also provided in this table. The average and peak reductions in annual $PM_{2.5}$ and 24-hour $PM_{2.5}$ concentrations for those sites with 2012 nonattainment and/or maintenance problems are provided in Table V-2. The annual $PM_{2.5}$ nonattainment and/or maintenance sites in the East for the 2014 base case and 2014 remedy scenario are shown in Figures V-8 and V-9, respectively. Similar maps are provided in Figures V-10 and V-11 for 24-hour $PM_{2.5}$.

Table V-1. Percent reduction in annual and 24-hour $PM_{2.5}$ nonattainment and/or maintenance in the Eastern U.S.

| | **Number of Nonattainment and Maintenance Sites** | | | | **Percent Reduction in Nonattainment/Maintenance Sites** | |
|---|---|---|---|---|---|---|
| | **Ambient (2003-2007)** | **2012 Base Case** | **2014 Base Case** | **2014 Remedy** | **2012 Base vs 2014 Remedy** | **2014 Base vs 2014 Remedy** |
| Annual $PM_{2.5}$ Nonattainment Sites[a] | 102 | 32 | 15 | 1 | 97% | 93% |
| Annual $PM_{2.5}$ Maintenance-Only Sites | 21 | 16 | 7 | 1 | 94% | 86% |
| | | | | | | |
| Daily $PM_{2.5}$ Nonattainment Sites | 151 | 92 | 54 | 17 | 82% | 69% |
| Daily $PM_{2.5}$ Maintenance-Only Sites | 48 | 38 | 28 | 11 | 71% | 61% |

[a] As indicated in section III, the term "nonattainment" is used to denote sites that are projected to have both nonattainment and maintenance problems.

Table V-2. Average and peak reductions in annual $PM_{2.5}$ and 24-hour $PM_{2.5}$ for the 2012 base case nonattainment and/or maintenance sites.

| | **2014 Remedy vs 2012 Base Case** | | **2014 Remedy vs 2014 Base Case** | |
|---|---|---|---|---|
| | **Average Reduction** | **Peak Reduction** | **Average Reduction** | **Peak Reduction** |
| Annual $PM_{2.5}$ Nonattainment Sites | 2.8 µg/m3 | 3.9 µg/m3 | 2.3 µg/m3 | 3.3 µg/m3 |
| Annual $PM_{2.5}$ Maintenance-Only Sites | 2.8 µg/m3 | 4.2 µg/m3 | 2.3 µg/m3 | 3.6 µg/m3 |
| | | | | |
| 24-Hour $PM_{2.5}$ Nonattainment Sites | 5.8 µg/m3 | 15.3 µg/m3 | 4.5 µg/m3 | 13.8 µg/m3 |
| 24-Hour $PM_{2.5}$ Maintenance-Only Sites | 5.5 µg/m3 | 15.3 µg/m3 | 4.2 µg/m3 | 13.8 µg/m3 |

The information in Table V-1 shows that the extent of nonattainment and maintenance problems for annual $PM_{2.5}$ and 24-hour $PM_{2.5}$ is significantly lower in the 2014 remedy scenario compared to both the 2012 base case and the 2014 base case. All but 1 site[52] is projected to be in attainment and only 1 site[53] is projected to have a maintenance problem for annual $PM_{2.5}$ with the emissions reductions expected from the remedy by 2014. Annual $PM_{2.5}$ concentrations are, on average, more than 2 $\mu g/m^3$ lower across the 32 sites that were nonattainment in the 2012 base case. The impacts on annual $PM_{2.5}$ at maintenance-only sites are comparable to those at the nonattainment sites.

For 24-hour $PM_{2.5}$, there are significantly fewer nonattainment and/or maintenance sites in the 2014 remedy scenario compared to both the 2012 and 2014 base cases. For example, in the 2014 remedy scenario the number of nonattainment sites is 69 percent less than in the 2014 base case. The average reduction in 24-hour $PM_{2.5}$ across the 92 2012 nonattainment sites is 5.8 µg/m3 and the peak reduction at an individual nonattainment site is 15.3 µg/m3. Comparable reductions are projected at 24-hour $PM_{2.5}$ maintenance-only sites.

52 Allegheny Co., PA site 420030064.
53 Jefferson Co., AL site 010730023.

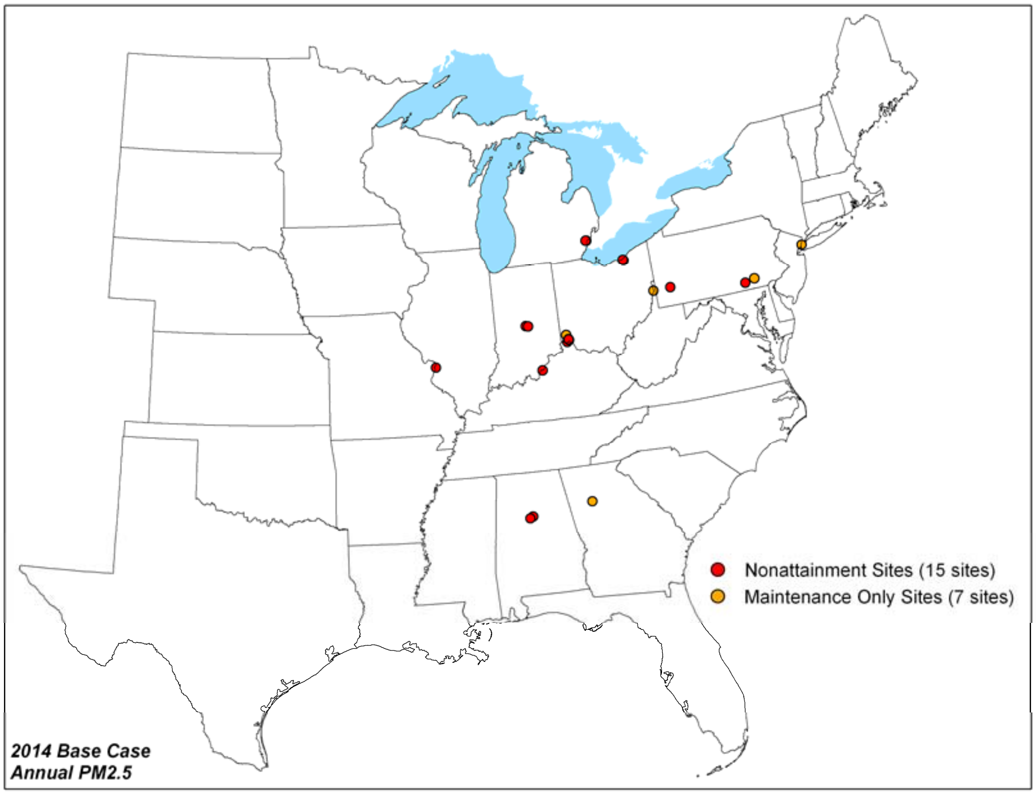


Figure V-8. Projected annual $PM_{2.5}$ nonattainment and/or maintenance sites in the East for the 2014 base case.


Figure V-9. Projected annual $PM_{2.5}$ nonattainment and/or maintenance sites in the East for the 2014 remedy scenario.


Figure V-10. Projected 24-hour $PM_{2.5}$ nonattainment and/or maintenance sites in the East for the 2014 base case.

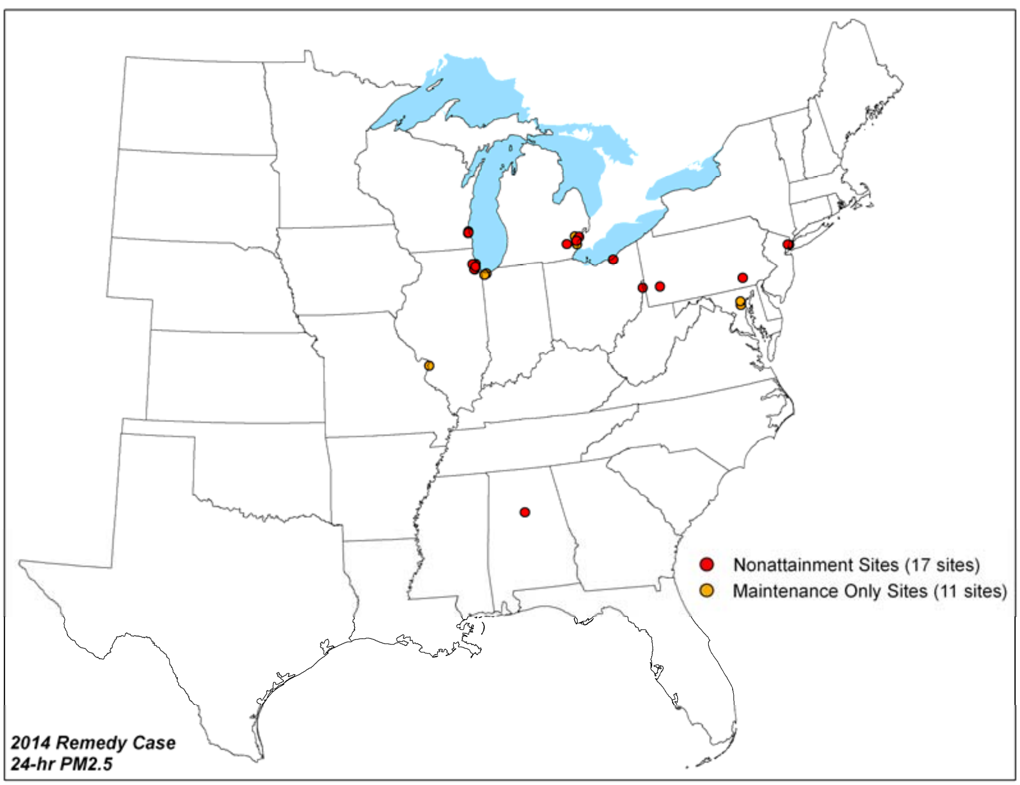


Figure V-11. Projected 24-hour $PM_{2.5}$ nonattainment and/or maintenance sites in the East for the 2014 remedy scenario.

### *D. Analysis of Residual Nonattainment for 24-Hour $PM_{2.5}$*

As indicated in Table V-1, there are 28 sites that are predicted to have nonattainment and/or maintenance problems for the 24-hour the $PM_{2.5}$ standard in the 2014 remedy scenario. The average and maximum 24-hour $PM_{2.5}$ design values at these 28 sites are provided in Table V-3. Although these sites are predicted to have nonattainment/maintenance problems, the emissions reductions in the TR will result in considerable progress toward attainment and maintenance at these 28 sites. On average, the predicted amount of $PM_{2.5}$ reduction at these sites is more than half of what is needed for the sites to attain and/or maintain the 24-hour standard.

Table V-3. Average and maximum 24-hour $PM_{2.5}$ design values ($\mu g/m^3$) for projected nonattainment and/or maintenance sites in the 2014 remedy scenario.

| Urban Area | County | Monitoring Site ID | 2014 Remedy Scenario Average Design Value[a] | 2014 Remedy Scenario Maximum Design Value[b] |
|---|---|---|---|---|
| Ann Arbor, MI | Washtenaw Co | 261610008 | 35.6 | 36.2 |
| Baltimore, MD | Anne Arundel Co | 240031003 | 32.9 | 36.1 |
| | Baltimore City | 245100040 | 35.0 | 36.8 |
| Birmingham, AL | Jefferson Co | 10730023 | 35.6 | 36.8 |
| Chicago, IL | Cook Co | 170310052 | 36.6 | 37.4 |
| | Cook Co | 170311016 | 37.7 | 41.2 |
| | Cook Co | 170313103 | 35.9 | 36.5 |
| | Cook Co | 170313301 | 34.9 | 37.3 |
| | Cook Co | 170316005 | 35.6 | 38.2 |
| Cleveland, OH | Cuyahoga Co | 390350038 | 35.7 | 38.2 |
| | Cuyahoga Co | 390350060 | 36.3 | 38.0 |
| Detroit, MI | Oakland Co | 261250001 | 35.1 | 36.2 |
| | Wayne Co | 261630016 | 38.2 | 40.8 |
| | Wayne Co | 261630019 | 37.0 | 37.5 |
| | Wayne Co | 261630033 | 39.1 | 39.4 |
| | Wayne Co | 261630036 | 34.4 | 35.5 |
| E. St. Louis, MO | Madison Co | 171191007 | 34.3 | 37.0 |
| Gary, IN | Lake Co | 180890022 | 35.3 | 39.8 |
| | Lake Co | 180890026 | 32.7 | 35.8 |
| Jersey City, NJ | Hudson Co | 340172002 | 36.6 | 36.6 |
| Lancaster, PA | Lancaster Co | 420710007 | 36.0 | 38.2 |
| Milwaukee, WI | Milwaukee Co | 550790010 | 36.3 | 37.5 |
| | Milwaukee Co | 550790026 | 34.4 | 38.3 |
| | Milwaukee Co | 550790043 | 36.3 | 37.7 |
| | Milwaukee Co | 550790099 | 33.3 | 35.9 |

| Urban Area | County | Monitoring Site ID | 2014 Remedy Scenario Average Design Value[a] | 2014 Remedy Scenario Maximum Design Value[b] |
|---|---|---|---|---|
| New York City, NY | New York Co | 360610056 | 35.3 | 36.0 |
| Pittsburgh, PA | Allegheny Co | 420030064 | 55.8 | 58.9 |
| Steubenville, OH | Brooke Co, WV | 540090011 | 36.4 | 37.1 |

[a] Sites with average projected design values >= 35.5 µg/m$^3$ are projected to be nonattainment.
[b] Sites with maximum projected design values >= 35.5 µg/m$^3$ and average design values <35.5 µg/m$^3$ are projected to be maintenance-only.

To further characterize the nature of the residual nonattainment and/or maintenance problems at these 28 sites we examined the 24-hour concentrations by quarter that were developed as part of the projection of 24-hour $PM_{2.5}$ design values, as described in section III.B.2, above. The quarterly data set for each site includes a projected 24-hour $PM_{2.5}$ concentration for each of 4 the quarters for each of the 5 base years of ambient data (i.e., 2003 through 2007)[54]. Using these data we identified the number of quarterly values that exceed the level of 24-hour $PM_{2.5}$ NAAQS at each site for the 2014 base case and 2014 remedy scenario. The quarterly data reveal that the residual nonattainment/maintenance problems at the 28 sites are primarily due to exceedances during the 1$^{st}$ and 4$^{th}$ quarters (i.e., the cool season). Exceedances predicted during the 2$^{nd}$ and 3$^{rd}$ quarters (i.e., warm season) in the 2014 base case are completely eliminated by the emissions reductions in the 2014 remedy scenario at all sites except for the single remaining high sites in both Birmingham and Pittsburgh.

As part of our analysis of quarterly exceedances we calculated the average percent reduction in sulfate by quarter for the residual nonattainment/maintenance sites in each of the 14 urban areas in Table V-3, above. The results are displayed in Figures V-12 and V-13. These figures indicate that there are significant differences in the reduction in sulfate by quarter and from city to city. In general, our modeling results indicate that the response of sulfate during the 2$^{nd}$ and 3$^{rd}$ quarters (warm season) is generally proportional to the overall regional reduction in $SO_2$ emissions. However, during the 1$^{st}$ and 4$^{th}$ quarters (cool season) the relationship between the change in $SO_2$ emissions and the change in sulfate is non-proportional. In 11 of the 14 urban areas the percent reduction in

[54] The quarterly concentrations by site for the 2014 base case and 2014 remedy scenario can be found in Appendix H.

sulfate during the 2nd and/or 3rd quarters ranges from 38 to 48 percent[55]. This level of reduction in sulfate is consistent with the net 45 percent reduction in $SO_2$ emissions, in aggregate, for the States covered by the TR. In the other 3 urban areas (i.e., Birmingham, Jersey City, and New York City), 2nd and/or 3rd quarter reductions in sulfate are in the range of 25 to 30 percent which is generally consistent with the $SO_2$ emissions reduction in these States[56].

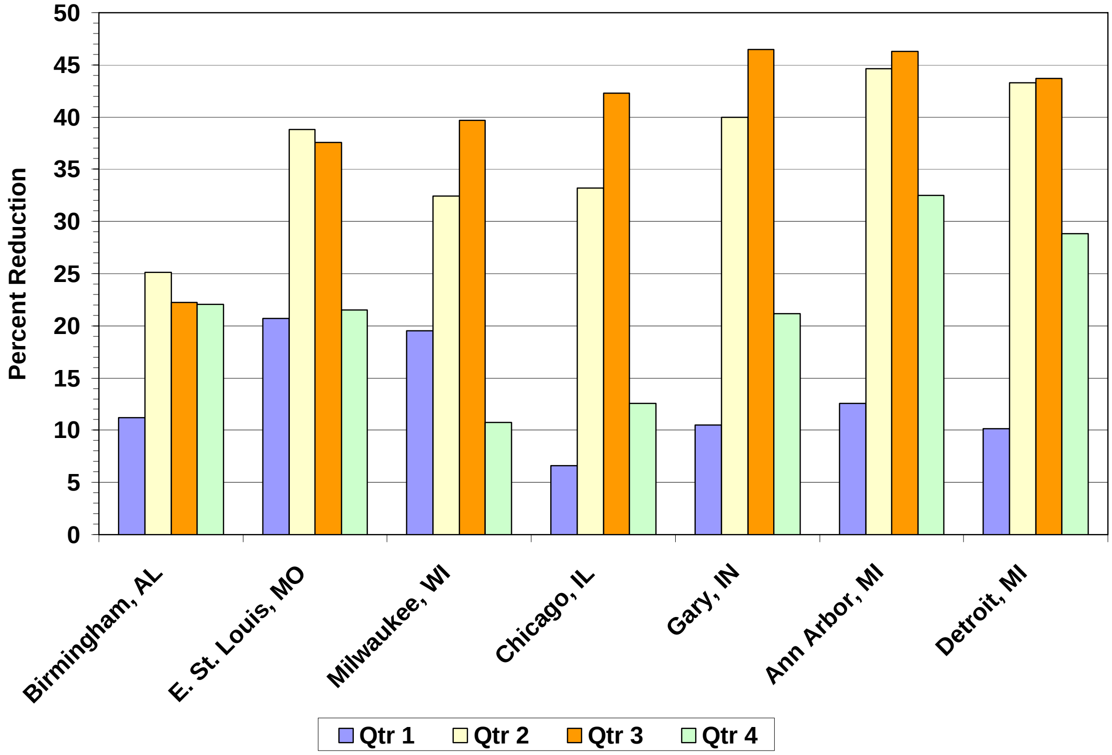


Figure V-12. Percent reduction in sulfate concentrations by quarter at residual nonattainment/maintenance sites in Birmingham, East St. Louis, Milwaukee, Chicago, Gary, Ann Arbor, and Detroit.

As indicated in Figures V-12 and V-13, the percent reduction in sulfate during the 1st and 4th quarters is much less than in 2nd and 3rd quarters. Sulfate concentrations during the 1st quarter show the least response to emissions changes. The percent reduction in sulfate during this quarter ranges from 7 to 25 percent. Comparing the percent reduction in 1st quarter sulfate to that in the 3rd quarter indicates that 1st quarter reduction is only about a third (or less) of the reduction in the 3rd quarter for 9 of the 14

[55] The reduction in sulfate during the 3rd quarter tends to be somewhat greater than in the 2nd quarter in most, but not all, of these urban areas. This may be due to a combination of differences between spring and summer in meteorological conditions in combination with chemical processes that associated with the formation of sulfate.

[56] See Table 6-2 in the TR EITSD.

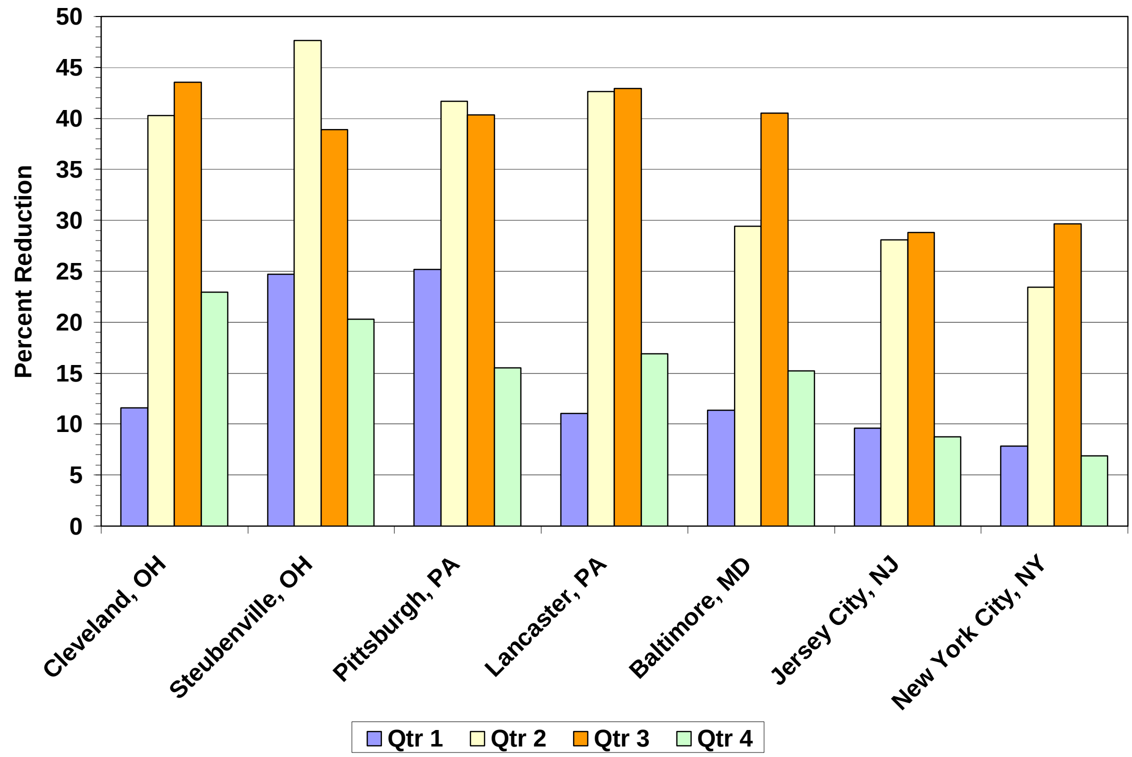


Figure V-13. Percent reduction in sulfate concentrations by quarter at residual nonattainment/maintenance sites in Cleveland, Steubenville, Pittsburgh, Lancaster, Baltimore, Jersey City, and New York City.

urban areas. In the other 5 areas (i.e., Birmingham, East St. Louis, Pittsburgh, and Steubenville), the percent reduction in 1st quarter sulfate is approximately 50 to 60 percent of the reduction predicted in the 3rd quarter. During the 4th quarter, the response of sulfate to emissions reductions is somewhat greater than the response in the 1st quarter in all but 5 of the 14 areas (Jersey City, Milwaukee, New York City, Pittsburgh, and Steubenville).

Our results are consistent with the findings of Tsimpidi, et.al.[57] They found that a 50 percent reduction in $SO_2$ emissions produced a 46 percent reduction in sulfate based on a model simulation for July. However, during a January simulation sulfate responded nonlinearly with an average sulfate reduction of 17 percent for a 50 percent reduction in $SO_2$ emissions. Thus, in their analysis the January response of sulfate was only 37 percent of the reduction predicted for July (17 percent / 46 percent). They conclude that the response of sulfate in January was limited by the availability of hydrogen peroxide.

[57] Tsimpidi, A.P.; Karydis, V.A.; Pandis, S.N.; Response of Inorganic Fine Particulate Matter to Emission Changes of Sulfur Dioxide and Ammonia: The Eastern Unites States as a Case Study; *J. Air & Waste Manage. Assoc.* 2007, *44*, 1489-1498.

Hydrogen peroxide, a strong oxidizing agent that is important in the formation of sulfate from $SO_2$, is low in the winter and more abundant the summer when photochemistry is at a maximum.

In addition to the lower response of sulfate to $SO_2$ emissions reductions in the cool season months, there are several other factors which contribute to residual nonattainment predicted at sites in the 14 urban areas despite the large reductions in $SO_2$ emissions. Examining the composition of 24-hour $PM_{2.5}$ concentrations provides insight into these factors. Figure V-14 shows the average $PM_{2.5}$ species concentrations by quarter for the 2014 remedy scenario at three sites selected as illustrative examples. The figure indicates that, in all 4 quarters, a significant portion of the 24-hour $PM_{2.5}$ at the sites in Pittsburgh and Birmingham are associated with organic carbon. An analysis of ambient measurements for the Birmingham site indicates that approximately 70 percent of the organic carbon during the cool season and 60 percent during the warm season is associated with local sources[58]. Thus, we believe that a large portion of the residual maintenance problem at this site is due to local sources. The site in Pittsburgh is known to be heavily influenced by emissions from local sources[59]. The $PM_{2.5}$ species concentrations at the Detroit site indicate that nitrate and organic carbon concentrations during the 1st and 4th quarters are greater contributors to the residual nonattainment problem than sulfate. During the 2nd and 3rd quarter sulfate is the dominant species. The relative amount of $PM_{2.5}$ species at the other residual nonattainment/maintenance sites are generally similar to what is seen at the Detroit site. That is, in the 1st and 4th quarter, nitrate and organic carbon concentrations combined represent a much larger portion of total 24-hour $PM_{2.5}$ than sulfate. This analysis is part of an on-going effort to understand the seasonal variations in the response of sulfate and nitrate to $SO_2$ and $NO_X$ emissions reductions and the underlying factors that contribute to exceeedances in the 1st and 4th quarters which lead to residual nonattainment/maintenance problems at the 28 sites.

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[58] Derivation of the Contributing Emissions Score. U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. Research Triangle Park, NC. December 15, 2008. http://www.epa.gov/ttn/naaqs/pm/docs/tsd_ces_methodology.pdf

[59] Proposed Revision to the Allegheny County Portion of the Pennsylvania State Implementation Plan. Attainment Demonstration for the Liberty-Clairton PM2.5 Nonattainment Area. Allegheny County Health Department. February 22, 2010.

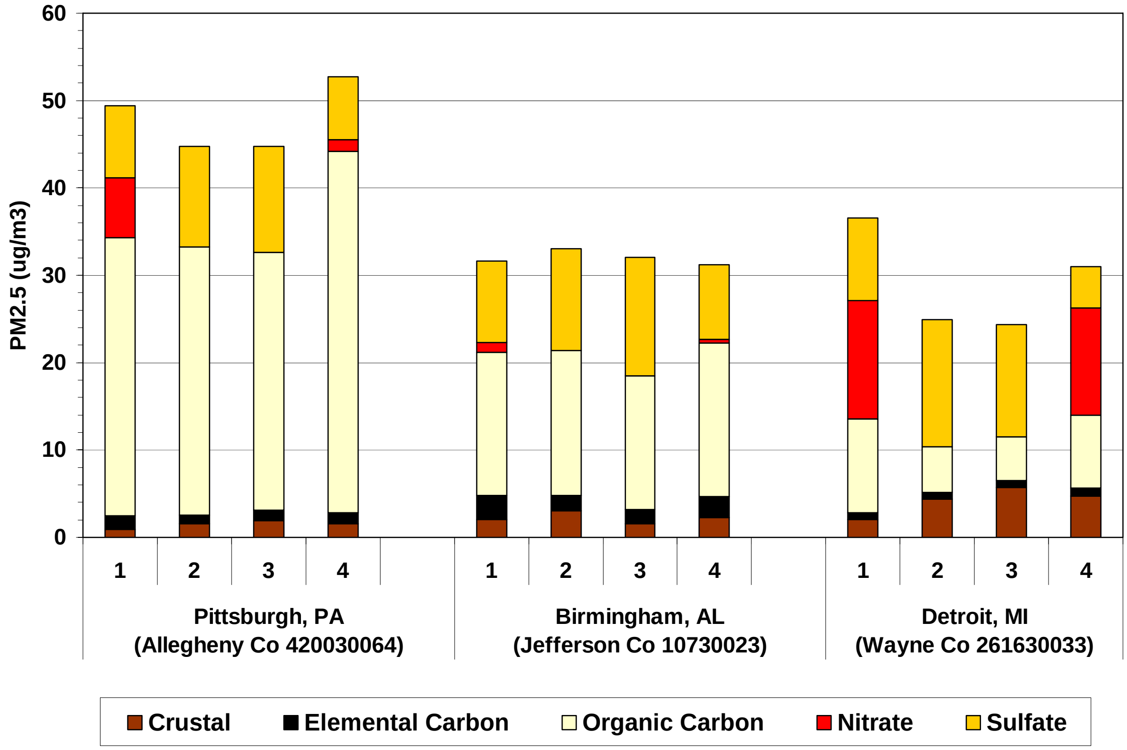


Figure V-14. Average $PM_{2.5}$ species concentrations by quarter at sites in Pittsburgh, Birmingham, and Detroit.

### *E. Impacts on Projected 8-Hour Ozone Design Value*

The projected 8-hour ozone design values for the 2014 base case and 2014 remedy scenario are provided in Appendix B. The impacts of the summer season $NO_X$ emissions reductions on 8-hour ozone design values for monitored counties in the Eastern 12 km modeling domain are also provided in Appendix B. The impacts are shown in Figure V-15[60]. This figure indicates that the emissions reductions from the TR will result in lower ozone concentrations in most counties in the Eastern U.S., compared to the 2014 base case. Concentrations of 8-hour ozone are lower by 0.5 ppb or more for the 2014 remedy scenario in portions of the Southeast and from Texas northeastward into Pennsylvania. Reductions in ozone of 2 ppb or more are predicted at sites in 22 counties in portions of Alabama, Florida, Mississippi, Missouri, Oklahoma, and Pennsylvania. The spatial patterns of the magnitude of reduction in 8-hour ozone across the East are

[60] These maps, which show the difference between the 2014 remedy scenario and the 2014 base case, are based upon 5-year weighted average design values. Additional maps showing average design value concentrations for 2003-2007, the 2012 and 2014 base cases, and the 2014 remedy scenario for 8-hour are provided in Appendix G. Maps showing the predicted change in 8-hour between the 2014 remedy and the 2012 base case are also provided in Appendix G..

generally consistent with the patterns in summer $NO_X$ emissions reductions from EGUs, as evident by comparing Figures V-5 to Figures V-15.

One county in southern Illinois is predicted to have higher ozone of 0.2 ppb or more in the 2014 remedy scenario compared to the 2014 base case. This increase appears to be related to predicted increases in summer $NO_X$ emissions at EGUs near this county[61].

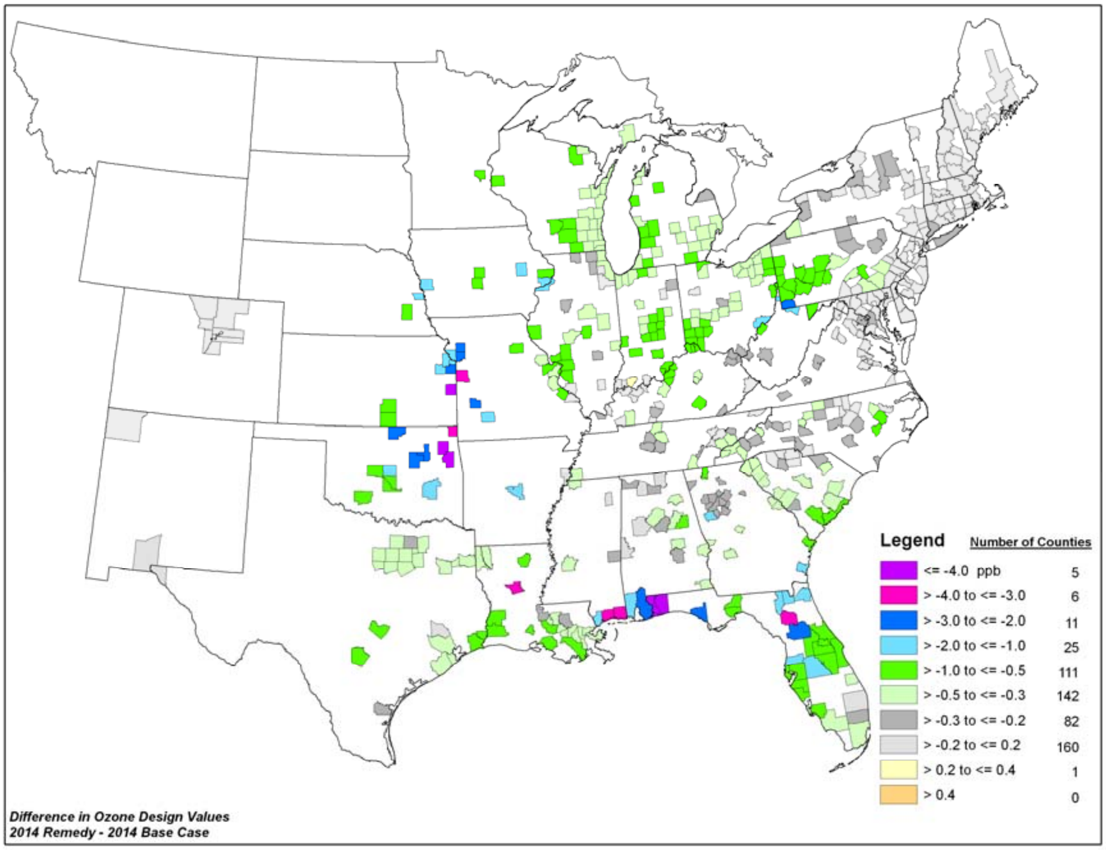


Figure V-15. Impacts on 8-hour ozone concentrations in 2014 resulting from the emissions reductions in the 2014 remedy scenario.

### *F. Impacts on 8-Hour Ozone Nonattainment and Maintenance*

The number of projected 8-hour ozone nonattainment and/or maintenance sites in the East for the 2012 base case, 2014 base case, and 2014 remedy for 8-hour ozone are provided in Table V-4. The percent difference in the number of nonattainment and maintenance sites between the 2014 remedy scenario and both the 2012 and 2014 base case scenarios are also provided in this table. The average and peak reductions in 8-hour

[61] Increases in ozone between the 2014 base case and the 2014 remedy are also predicted in other unmonitored areas as evident in the ozone spatial fields prepared for the calculation of benefits in the Regulatory Impact Analysis (RIA). These other increases occur in oxidant-limited areas where reductions in NOx emissions can result in predicted increases in ozone (see the RIA for additional details).

ozone concentrations for those sites with 2012 nonattainment and/or maintenance problems are provided in Table V-5. The location of 8-hour ozone nonattainment and/or maintenance sites in the East for the 2014 base case and 2014 remedy scenario are shown in Figures V-16 and V-17, respectively.

Table V-4. Percent reduction in 8-hour ozone nonattainment and/or maintenance in the Eastern U.S.

| | **Number of Nonattainment and Maintenance Sites** | | | | **Percent Reduction in Nonattainment/ Maintenance Sites** | |
|---|---|---|---|---|---|---|
| **8-Hour Ozone** | **Ambient (2003-2007)** | **2012 Base Case** | **2014 Base Case** | **2014 Remedy** | **2012 Base vs 2014 Remedy** | **2014 Base vs 2014 Remedy** |
| Nonattainment Sites | 103 | 11 | 7 | 7 | 36% | 0% |
| Maintenance-Only Sites | 67 | 16 | 6 | 5 | 69% | 17% |

Table V-5. Average and peak reductions in 8-hour ozone for the 2012 base case nonattainment and/or maintenance sites.

| **8- Hour Ozone** | **2014 Remedy vs 2012 Base Case** | | **2014 Remedy vs 2014 Base Case** | |
|---|---|---|---|---|
| | **Average Reduction** | **Greatest Reduction** | **Average Reduction** | **Greatest Reduction** |
| Nonattainment Sites | 2.0 ppb | 3.2 ppb | 0.3 ppb | 0.4 ppb |
| Maintenance-Only Sites | 2.2 ppb | 3.8 ppb | 0.3 ppb | 0.5 ppb |

The information in Table V-4 shows that the extent of nonattainment and maintenance problems for 8-hour ozone is predicted to be lower by 36 percent and the number maintenance-only sites by 69 percent in the 2014 remedy scenario compared to the 2012 base case. The 2014 remedy scenario has 17 percent fewer maintenance sites than in the 2014 base case.

For the 12 sites with residual nonattainment and/or maintenance problems in the 2014 remedy scenario, the predicted ozone reductions provide nearly 10 percent of the amount needed for these sites to attain and/or maintain the ozone standard. Of these 12 sites, 7 are predicted to be nonattainment and 5 are predicted to have maintenance problems. Six of the nonattainment sites are located in Houston and 1 is in Baton Rouge. Two of the residual maintenance only sites are in New York City and 3 are in Houston.

The average and maximum 8-hour ozone design values at these sites for the 2014 remedy scenario are provided in Table V-6.

Table V-6. Average and maximum 8-hour ozone design values (ppb) for monitoring sites projected to have nonattainment and/or have maintenance problems in the 2014 remedy scenario.

| **Urban Area** | **County** | **Monitoring Site ID** | **Average Design Value**[a] | **Maximum Design Value**[b] |
|---|---|---|---|---|
| Baton Rouge, LA | E. Baton Rouge | 261610008 | 86.0 | 89.7 |
| Houston, TX | Brazoria Co | 480391004 | 86.6 | 88.7 |
| | Harris Co | 482010024 | 81.9 | 85.6 |
| | Harris Co | 482010051 | 86.3 | 90.9 |
| | Harris Co | 482010055 | 93.4 | 95.5 |
| | Harris Co | 482010062 | 88.6 | 91.6 |
| | Harris Co | 482010066 | 88.6 | 92.1 |
| | Harris Co | 482011015 | 81.8 | 88.2 |
| | Harris Co | 482011035 | 80.7 | 88.8 |
| | Harris Co | 482011039 | 88.5 | 91.9 |
| New York City, NY | Suffolk Co | 361030002 | 84.8 | 85.7 |
| | Westchester Co | 361192004 | 83.4 | 85.5 |

[a] Sites with average projected design values >= 85 ppb are projected to be nonattainment.
[b] Sites with maximum projected design values >= 85 ppb and average design values <85 ppb are projected to be maintenance-only.


Figure V-16.  Projected 8-hour ozone nonattainment and/or maintenance sites in the East for the 2014 base case.


Figure V-17. Projected 8-hour ozone nonattainment and/or maintenance sites in the East for the 2014 remedy scenario.

### *G. Impacts on Visibility in Class 1 Areas*

The impacts of the TR regional $SO_2$ and $NO_X$ emissions reductions were examined in terms of the projected improvements in visibility on the 20 percent worst visibility days at Class I areas[62]. We quantified visibility impacts at the 60 Class I areas in the Eastern modeling domain which have complete IMPROVE ambient data for 2005 or are represented by IMPROVE monitors with complete data. Sites were used in this analysis if they had at least 3 years of complete data for the 2002-2006 period[63].

Visibility for the 2012 base case, 2014 base case and 2014 remedy scenario were calculated using the regional haze modeling guidance methodology, which applies modeling results in a relative sense, using base year ambient data. The $PM_{2.5}$ and regional haze modeling guidance recommends the calculation of future year changes in visibility in a similar manner to the calculation of changes in $PM_{2.5}$ design values. The regional haze methodology for calculating future year visibility impairment is included in MATS (as previously documented in section III).

In calculating visibility impairment, the extinction coefficient and deciview values are made up of individual component species (sulfate, nitrate, organics, etc). The predicted change in visibility (on the 20 percent worst days) is calculated as the modeled percent change in the mass for each of the $PM_{2.5}$ species (on the 20% worst observed days) multiplied by the observed concentrations. The future mass is converted to extinction and then daily species extinction coefficients are summed to get a daily total extinction value. The daily extinction coefficients are converted to deciviews and then averaged across all 20 percent worst days. In this way, we calculate an average change in deciviews from the base case to a future case at each IMPROVE site. Subtracting the 2014 remedy scenario deciview values from the corresponding 2014 base case deciview values gives an estimate of the visibility benefits in Class I areas that are expected to occur from the TR.

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[62] The focus of this analysis is on visibility impacts at Class I areas within our 12 km Eastern modeling domain. We have also calculated visibility impacts for Class I areas farther to the west using results of the 2014 base case and remedy modeling for the 36 km modeling domain. These results can be found in Appendix I.

[63] Since the base case modeling used meteorology for 2005, one of the complete years must be 2005.

The following options were chosen in MATS for calculating the future year visibility values for the rule:

New IMPROVE algorithm
Use model grid cells at Class 1 area Centroid
Temporal adjustment at monitor- 3x3 for 12km grid, 1x1 for 36km grid
Start monitor year- 2002
End monitor year- 2006
Base model year 2005
Minimum years required for a valid monitor- 3

The "base model year" was chosen as 2005 because it is the base case meteorological year for the Transport Rule modeling. The start and end years were chosen as 2002 and 2006 because that is the most recent 5 year period of IMPROVE data in the MATS database. These choices are consistent with using a 5 year base period for regional haze calculations. The predicted change in visibility (on the 20 percent worst days) is provided in Table V-7 for each Class I area in the Eastern modeling domain.

Table V-7. Visibility (deciviews) impacts on 20 percent worst days at Class I areas in the Eastern modeling domain.

| Class I Area (IMPROVE Site) | Site Code | State | 2002-2006 Baseline Visibility 20% Worst Days (dv) | 2012 Base Case Visibility (dv) | 2014 Base Case Visibility (dv) | 2014 Remedy Visibility (dv) | 2014 Visibility Change from 2014 Base Case (dv) |
|---|---|---|---|---|---|---|---|
| Acadia NP | ACAD | Maine | 23.19 | 21.91 | 21.79 | 20.55 | -1.24 |
| Badlands NP | BADL | South Dakota | 16.73 | 16.39 | 16.24 | 15.90 | -0.34 |
| Bandelier NM | BAND | New Mexico | 11.87 | 11.57 | 11.49 | 11.29 | -0.20 |
| Big Bend NP | BIBE | Texas | 17.39 | 17.07 | 16.91 | 16.38 | -0.53 |
| Black Canyon of the Gunnison NM | BLCA | Colorado | 10.18 | 9.80 | 9.75 | 9.77 | 0.02 |
| Bosque del Apache | BOAP | New Mexico | 13.89 | 13.41 | 13.28 | 13.08 | -0.20 |
| Bridger Wilderness | BRID | Wyoming | 10.93 | 10.67 | 10.64 | 10.66 | 0.02 |
| Brigantine | BRIG | New Jersey | 29.28 | 28.01 | 27.72 | 25.04 | -2.68 |
| Caney Creek Wilderness | CACR | Arkansas | 26.78 | 26.56 | 25.89 | 22.63 | -3.26 |
| Carlsbad Caverns NP | CAVE | New Mexico | 16.98 | 16.51 | 16.38 | 15.79 | -0.59 |
| Dolly Sods Wilderness | DOSO | West Virginia | 29.73 | 28.76 | 28.09 | 22.02 | -6.07 |
| Eagles Nest Wilderness | EANE | Colorado | 9.38 | 8.97 | 8.92 | 8.96 | 0.04 |
| Everglades NP | EVER | Florida | 22.48 | 21.54 | 21.35 | 20.47 | -0.88 |
| Fitzpatrick Wilderness | FITZ | Wyoming | 10.93 | 10.69 | 10.63 | 10.65 | 0.02 |
| Flat Tops Wilderness | FLTO | Colorado | 9.38 | 9.04 | 9.01 | 9.03 | 0.02 |
| Great Gulf Wilderness | GRGU | New Hampshire | 22.13 | 21.23 | 20.97 | 19.11 | -1.86 |

| Class I Area (IMPROVE Site) | Site Code | State | 2002-2006 Baseline Visibility 20% Worst Days (dv) | 2012 Base Case Visibility (dv) | 2014 Base Case Visibility (dv) | 2014 Remedy Visibility (dv) | 2014 Visibility Change from 2014 Base Case (dv) |
|---|---|---|---|---|---|---|---|
| Great Sand Dunes NM | GRSA | Colorado | 12.49 | 12.13 | 12.10 | 12.14 | 0.04 |
| Great Smoky Mountains NP | GRSM | Tennessee | 30.43 | 28.08 | 26.99 | 23.29 | -3.70 |
| Guadalupe Mountains NP | GUMO | Texas | 16.98 | 16.50 | 16.38 | 15.89 | -0.49 |
| Hercules-Glades Wilderness | HEGL | Missouri | 27.15 | 27.02 | 26.30 | 23.75 | -2.55 |
| Isle Royale NP | ISLE | Michigan | 21.33 | 20.90 | 20.45 | 19.40 | -1.05 |
| James River Face Wilderness | JARI | Virginia | 29.32 | 27.34 | 26.69 | 22.60 | -4.09 |
| Joyce-Kilmer-Slickrock Wilderness | JOYC | Tennessee | 30.43 | 28.28 | 27.22 | 23.55 | -3.67 |
| La Garita Wilderness | LAGA | Colorado | 10.18 | 9.93 | 9.91 | 9.93 | 0.02 |
| Linville Gorge Wilderness | LIGO | North Carolina | 29.40 | 27.10 | 26.35 | 22.45 | -3.90 |
| Lostwood | LOST | North Dakota | 19.50 | 18.95 | 18.84 | 18.71 | -0.13 |
| Lye Brook Wilderness | LYBR | Vermont | 24.17 | 22.57 | 22.21 | 19.55 | -2.66 |
| Maroon Bells-Snowmass Wilderness | MABE | Colorado | 9.38 | 9.04 | 9.02 | 9.03 | 0.01 |
| Mammoth Cave NP | MACA | Kentucky | 31.76 | 31.90 | 31.21 | 25.08 | -6.13 |
| Medicine Lake | MELA | Montana | 17.78 | 17.45 | 17.38 | 17.32 | -0.06 |
| Mesa Verde NP | MEVE | Colorado | 12.78 | 12.16 | 12.09 | 12.12 | 0.03 |
| Moosehorn | MOOS | Maine | 21.94 | 20.91 | 20.75 | 19.61 | -1.14 |
| Mount Zirkel Wilderness | MOZI | Colorado | 10.19 | 9.98 | 9.92 | 9.94 | 0.02 |
| North Absaroka Wilderness | NOAB | Wyoming | 11.12 | 10.96 | 10.94 | 10.94 | 0.00 |
| Okefenokee | OKEF | Georgia | 27.24 | 25.84 | 25.11 | 22.97 | -2.14 |
| Otter Creek Wilderness | OTCR | West Virginia | 29.73 | 28.86 | 28.15 | 21.85 | -6.30 |
| Pecos Wilderness | PECO | New Mexico | 10.10 | 9.79 | 9.71 | 9.68 | -0.03 |
| Presidential Range-Dry River Wilderness | PRRA | New Hampshire | 22.13 | 21.28 | 21.00 | 19.03 | -1.97 |
| Rawah Wilderness | RAWA | Colorado | 10.19 | 9.91 | 9.87 | 9.88 | 0.01 |
| Roosevelt Campobello International Park | ROCA | Maine | 21.94 | 20.95 | 20.82 | 19.63 | -1.19 |
| Cape Romain | ROMA | South Carolina | 27.14 | 25.83 | 25.32 | 23.16 | -2.16 |
| Rocky Mountain NP | ROMO | Colorado | 13.54 | 13.17 | 13.10 | 13.07 | -0.03 |
| Salt Creek | SACR | New Mexico | 18.20 | 17.71 | 17.56 | 17.05 | -0.51 |
| San Pedro Parks Wilderness | SAPE | New Mexico | 10.39 | 10.07 | 9.99 | 9.95 | -0.04 |
| Seney | SENE | Michigan | 24.71 | 24.60 | 23.81 | 22.08 | -1.73 |
| Shenandoah NP | SHEN | Virginia | 29.66 | 27.92 | 27.33 | 22.62 | -4.71 |
| Shining Rock Wilderness | SHRO | North Carolina | 28.72 | 26.43 | 25.46 | 22.05 | -3.41 |
| Sipsey Wilderness | SIPS | Alabama | 29.62 | 28.02 | 26.67 | 23.23 | -3.44 |

| Class I Area (IMPROVE Site) | Site Code | State | 2002-2006 Baseline Visibility 20% Worst Days (dv) | 2012 Base Case Visibility (dv) | 2014 Base Case Visibility (dv) | 2014 Remedy Visibility (dv) | 2014 Visibility Change from 2014 Base Case (dv) |
|---|---|---|---|---|---|---|---|
| Theodore Roosevelt NP | THRO | North Dakota | 17.69 | 17.20 | 17.08 | 16.97 | -0.11 |
| UL Bend | ULBE | Montana | 14.92 | 14.75 | 14.72 | 14.71 | -0.01 |
| Upper Buffalo Wilderness | UPBU | Arkansas | 27.09 | 26.93 | 26.15 | 22.73 | -3.42 |
| Voyageurs NP | VOYA | Minnesota | 19.82 | 19.32 | 19.02 | 18.16 | -0.86 |
| Washakie Wilderness | WASH | Wyoming | 11.12 | 10.96 | 10.94 | 10.94 | 0.00 |
| West Elk Wilderness | WEEL | Colorado | 9.38 | 9.00 | 8.98 | 9.00 | 0.02 |
| Weminuche Wilderness | WEMI | Colorado | 10.18 | 9.90 | 9.88 | 9.89 | 0.01 |
| White Mountain Wilderness | WHIT | New Mexico | 13.52 | 13.23 | 13.06 | 12.45 | -0.61 |
| Wheeler Peak Wilderness | WHPE | New Mexico | 10.10 | 9.75 | 9.70 | 9.67 | -0.03 |
| Wind Cave NP | WICA | South Dakota | 15.96 | 15.49 | 15.37 | 15.24 | -0.13 |
| Wichita Mountains | WIMO | Oklahoma | 23.79 | 23.09 | 22.69 | 21.21 | -1.48 |
| Wolf Island | WOLF | Georgia | 27.24 | 25.79 | 25.19 | 23.20 | -1.99 |

# Transport Rule Air Quality Modeling Technical Support Document

## Appendix A

## Air Quality Model Performance Evaluation

## A. Introduction

An operational model performance evaluation was conducted for ozone and $PM_{2.5}$ and its components species predicted by CAMx for the 2005 base year model simulation. The purpose of this evaluation was to examine the ability of the CAMx modeling system to replicate the base year concentrations measured at monitoring sites in the 12 km Eastern modeling domain[1]. This evaluation includes statistical assessments of model versus observed data that were paired in space and time on a daily or weekly basis, depending on the sampling frequency of each monitoring network included in the analysis[2,3]. The Atmospheric Model Evaluation Tool (AMET) was used to calculate the performance statistics described in this document.[4]

The evaluation of ozone predictions focuses on 8-hour daily maximum ozone concentrations during the months of May through September when 8-hour daily maximum ozone concentrations are typically highest in the East. Observed ozone data for 2005 were obtained from the Air Quality System (AQS) Aerometric Information Retrieval System (AIRS). Model performance statistics for ozone were calculated using the daily pairs of predicted and measured 8-hour daily maximum concentrations. As is the common practice for evaluating ozone, we calculated performance statistics both with and without a concentration cut-off. For this analysis we calculated one set statistics using all observed-predicted pairs, irrespective of concentration, and a second set based on observed concentrations > 60 ppb.

The evaluation of $PM_{2.5}$ component species includes comparisons of predicted and observed concentrations of sulfate ($SO_4$), nitrate ($NO_3$), total nitrate[5] ($TNO_3$), ammonium ($NH_4$), elemental carbon (EC), and organic carbon (OC). The $PM_{2.5}$ performance statistics were calculated for each of the four seasons[6]. $PM_{2.5}$ ambient measurements for 2005 were obtained from the following networks: the **C**hemical **S**peciation **N**etwork (CSN), the **I**nteragency **M**onitoring of **PRO**tected **V**isual **E**nvironments (IMPROVE), and the **C**lean **A**ir **S**tatus and **T**rends **Net**work (CASTNet). The CSN sites are generally located within urban areas, CASTNet sites in suburban/rural locations, and the IMPROVE sites are, for the most part, in rural/remote areas.

The $PM_{2.5}$ species included in the evaluation for each network are listed in Table A-1. For species that are measured by more than one network, we calculated separate sets of statistics for each network. The measurements at CSN and IMPROVE sites represent 24-hour average concentrations, whereas measurements at CASTNet sites represent weekly averages. In calculating the model performance statistics, the CAMx hourly species predictions were aggregated to the averaging times of the measurements in each network: 24-hour averages for comparison to CSN and IMPROVE measurements and weekly average for comparison to CASTNet measurements.

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[1] The 12 km modeling domain is shown in Figure II-1.

[2] Time periods with missing ozone or $PM_{25}$ species measurements we excluded from the data sets used in the calculation of performance statistics.

[3] It should be noted that each modeled concentration represents a grid-cell volume-averaged value, while the ambient network measurements are made at specific locations.

[4] Gilliam, R. C., W. Appel, and S. Phillips. The Atmospheric Model Evaluation Tool (AMET): Meteorology Module. Presented at 4th Annual CMAS Models-3 Users Conference, Chapel Hill, NC, September 26 - 28, 2005. (http://www.cmascenter.org/)

[5] Total nitrate includes particulate nitrate and nitric acid gas ($HNO_3$)

[6] Seasons were defined as follows: winter (December-January-February), spring (March-April-May), summer (June-July-August), and fall (September-October-November).

Table A-1. $PM_{2.5}$ monitoring networks and pollutants species included in the CAMx performance evaluation.

| **Ambient Monitoring Networks** | **Particulate Species** | | | | | |
|---|---|---|---|---|---|---|
| | $SO_4$ | $NO_3$ | $TNO_3$ | EC | $NH_4$ | OC |
| IMPROVE | X | X | - | X | X | X |
| CSN | X | X | - | X | X | X |
| CASTNet | X | - | X | - | X | - |

There are various statistical metrics available and used by the modeling community for model performance evaluation. For a robust evaluation, the principal evaluation statistics used to evaluate CAMx performance were two bias metrics, normalized mean bias and mean fractional bias; and two error metrics, normalized mean error and mean fractional error.

Normalized mean bias (NMB) is the ratio of the difference (model - observed) to the sum of observed values. NMB is a useful model performance indicator because it avoids over-inflating the observed range of values, especially at low concentrations. Normalized mean bias is defined as:

$$\text{NMB} = \frac{\sum_{1}^{n}(P-O)}{\sum_{1}^{n}(O)} * 100$$

Normalized mean error (NME) is the ratio of the absolute value of the difference (model - observed) to the sum of observed values. Normalized mean error is defined as:

$$\text{NME} = \frac{\sum_{1}^{n}|P-O|}{\sum_{1}^{n}(O)} * 100$$

Mean fractional bias is defined as:

$$\text{MFB} = \frac{1}{n}\left(\sum_{1}^{n} \frac{(P-O)}{\left(\frac{(P+O)}{2}\right)}\right) * 100$$, where P = predicted concentrations and O = observed values.

MFB is a useful model performance indicator because it has the advantage of equally weighting positive and negative bias estimates. The single largest disadvantage in this estimate of model performance is that the estimated concentration (i.e., prediction, P) is found in both the numerator and denominator. Mean fractional error (MFE) is similar to fractional bias except the absolute value of the difference is used so that the error is always positive. Mean fractional error is defined as:

$$\text{MFE} = \frac{1}{n}\left(\sum_{1}^{n} \frac{|P-O|}{\left(\frac{(P+O)}{2}\right)}\right) *100$$

Both MFB and MFE do not require a threshold in order to be appropriate for analyses.[7]

The "acceptability" of model performance was judged by comparing the CAMx 2005 performance results to the range of performance found in recent regional ozone and $PM_{2.5}$ model applications (e.g., Revised Renewable Fuel Standards Final Rule,[8] Clean Air Interstate Rule[9], Final PM NAAQS Rule[10], and EPA's Proposal to Designate an Emissions Control Area for Nitrogen Oxides[11]). These other modeling studies represent a wide range of modeling analyses which cover various models, model configurations, domains, years and/or episodes, chemical mechanisms, and aerosol modules. Ozone bias and error in these studies are typically in the range of $\pm$ 10 percent for bias and within 20 percent for error. For sulfate and nitrate, the two key $PM_{2.5}$ species for this rule, mean fractional bias is typically in the range of – 10 percent to + 30 percent for summer sulfate and +50 to + 70 percent for winter nitrate. The error for summer sulfate based on these other studies was within 35 to 50 percent and the error for winter nitrate was within 85 to 105 percent. Also, Boylan, et.al.[12] have recently completed a study of model performance results from numerous $PM_{2.5}$ air quality model applications. In their paper they discuss model performance goals and criteria[13] for evaluating $PM_{2.5}$ air quality modeling. Their proposed performance criteria are MFB of $\leq \pm$ 60 percent and MFE of $\leq$ +75 percent; but that "less stringent" performance criteria should be applied to species at low concentration levels.

The model performance statistics for ozone and $PM_{2.5}$ species based on the 2005 CAMx

[7] Seigneur, C., Pun, B., Prasad, P., Louis, J.-F., Solomon, P., Emery, C., Morris, R., Zahniser, M., Worsnop, D., Koutrakis, P., White, W., and Tombach, I., 2000. Guidance for the performance evaluation of three-dimensional air quality modeling systems for particulate matter and visibility. J. Air Waste Ma. 50: 588-599.

[8] EPA 2010, Renewable Fuel Standard Program (RFS2) Regulatory Impact Analysis. EPA-420-R-10-006. February 2010. Sections 3.4.2.1.2 and 3.4.3.3. Docket EPA-HQ-OAR-2009-0472-11332.

[9] See: U.S. Environmental Protection Agency; Technical Support Document for the Final Clean Air Interstate Rule: Air Quality Modeling; Office of Air Quality Planning and Standards; RTP, NC; March 2005 (CAIR Docket OAR-2005-0053-2149).

[10] U.S. Environmental Protection Agency, 2006. Technical Support Document for the Final PM NAAQS Rule: Office of Air Quality Planning and Standards, Research Triangle Park, NC.

[11] U.S. Environmental Protection Agency, Proposal to Designate an Emissions Control Area for Nitrogen Oxides, Sulfur Oxides, and Particulate Matter: Technical Support Document. EPA-420-R-007, 329pp., 2009. (http://www.epa.gov/otaq/regs/nonroad/marine/ci/420r09007.pdf)

[12] Boylan, J.W. and Russell, A.G., PM and light extinction model performance metrics, goals, and criteria for three-dimensional air quality models. Atmos. Environment;*40*; 26; August 2006, 4946-4959.

[13] Performance goal is defined as "the level of accuracy that is considered to be close to the best a model can be expected to achieve." Performance criteria is defined as "the level of accuracy that is considered to be acceptable for modeling applications."

modeling for the Eastern U.S. are provided in Tables A-2 and A-3, respectively. The number of observed-predicted pairs used in the calculation of the various statistics is also provided in these tables.

Overall, the model performance statistics for ozone, sulfate, and nitrate from the CAMx 2005 simulation are within or close to the ranges found in other recent applications, as described above. These model performance results give us confidence that our applications of CAMx using this 2005 modeling platform provide a scientifically credible approach for assessing ozone and $PM_{2.5}$ concentrations for the purposes of the Transport Rule. The model performance results for ozone and several of the PM2.5 component species are highlighted in the discussion below.

Table A-2. Model performance statistics for 8-hour daily maximum ozone concentrations.

| | **Month** | **No. of Obs.** | **NMB (%)** | **NME (%)** | **MFB (%)** | **MFE (%)** |
|---|---|---|---|---|---|---|
| **8-Hour Daily Max: Observed > 60 ppb** | May | 5429 | -13.9 | 15.5 | -15.4 | 16.9 |
| | June | 7648 | -2.7 | 12.1 | -3.4 | 12.3 |
| | July | 6388 | 2.1 | 14.2 | 0.9 | 13.9 |
| | August | 6020 | 3.7 | 13.4 | 2.6 | 13.0 |
| | September | 5786 | -5.9 | 11.3 | -6.6 | 11.7 |
| | | | | | | |
| | May - Sept | 31271 | -2.9 | 13.2 | -4.0 | 13.5 |
| | | | | | | |
| **8-Hour Daily Max: All Observed** | May | 24362 | -1.2 | 15.2 | 0.5 | 15.8 |
| | June | 23449 | 11.3 | 20.7 | 13.5 | 21.7 |
| | July | 23609 | 21.0 | 27.7 | 21.0 | 26.9 |
| | August | 23749 | 20.8 | 26.2 | 20.4 | 25.2 |
| | September | 22716 | 8.4 | 17.9 | 10.8 | 18.9 |
| | | | | | | |
| | May - Sept | 117885 | 12.0 | 21.5 | 13.2 | 21.7 |

Table A-3. Model performance statistics for $PM_{2.5}$ component species concentrations.

| Species | Network | Season | No. of Obs. | NMB (%) | NME (%) | MFB (%) | MFE (%) |
|---|---|---|---|---|---|---|---|
| **Sulfate** | IMPROVE | Winter | 2076 | 63.2 | 73.1 | 43.4 | 55.7 |
| | | Spring | 2435 | 38.5 | 51.3 | 35.2 | 44.9 |
| | | Summer | 2324 | -9.0 | 44.2 | -6.5 | 49.8 |
| | | Fall | 2199 | 21.3 | 49.4 | 28.6 | 48.5 |
| | CSN | Winter | 3390 | 58.9 | 71.3 | 34.6 | 49.7 |
| | | Spring | 3626 | 35.6 | 48.0 | 29.2 | 39.7 |
| | | Summer | 3516 | -7.2 | 40.9 | -8.0 | 46.6 |
| | | Fall | 3365 | 18.2 | 44.1 | 24.2 | 41.8 |
| | CASTNet | Winter | 760 | 39.7 | 44.3 | 31.6 | 38.1 |
| | | Spring | 832 | 25.3 | 33.0 | 24.7 | 31.3 |
| | | Summer | 792 | -10.0 | 27.1 | -10.3 | 33.5 |
| | | Fall | 786 | 14.4 | 33.0 | 19.9 | 32.7 |
| **Nitrate** | IMPROVE | Winter | 2076 | -5.3 | 56.6 | -48.0 | 96.0 |
| | | Spring | 2435 | 9.2 | 71.0 | -70.3 | 113.4 |
| | | Summer | 2324 | -21.9 | 94.2 | -118.0 | 142.1 |
| | | Fall | 2192 | 59.5 | 122.7 | -72.3 | 127.6 |
| | CSN | Winter | 3099 | -11.5 | 48.4 | -29.8 | 67.7 |
| | | Spring | 3254 | 19.0 | 66.2 | -34.7 | 84.9 |
| | | Summer | 3150 | -6.4 | 86.5 | -80.3 | 116.2 |
| | | Fall | 3238 | 42.1 | 96.1 | -47.9 | 104.0 |
| **Total Nitrate** | CASTNet | Winter | 760 | 7.3 | 26.5 | 13.7 | 29.8 |
| | | Spring | 832 | 4.8 | 27.0 | -2.3 | 28.0 |
| | | Summer | 792 | 17.4 | 36.9 | 4.1 | 33.9 |
| | | Fall | 786 | 49.6 | 57.4 | 31.8 | 43.9 |
| **Ammonium** | IMPROVE | Winter | 206 | 33.1 | 51.8 | 26.3 | 44.4 |
| | | Spring | 92 | 20.7 | 46.9 | 21.5 | 41.7 |
| | | Summer | 85 | -25.1 | 44.6 | -28.0 | 56.0 |
| | | Fall | 89 | 21.4 | 60.0 | 29.0 | 58.2 |
| | CSN | Winter | 3390 | 20.2 | 44.1 | 19.1 | 41.6 |
| | | Spring | 3626 | 35.0 | 50.9 | 29.5 | 44.2 |
| | | Summer | 3516 | -3.6 | 42.6 | 3.3 | 51.5 |
| | | Fall | 3365 | 21.9 | 51.6 | 31.5 | 51.7 |
| | CASTNet | Winter | 760 | 18.1 | 30.5 | 22.6 | 32.1 |
| | | Spring | 832 | 30.6 | 40.2 | 26.4 | 35.4 |
| | | Summer | 792 | -19.3 | 30.9 | -21.8 | 37.1 |
| | | Fall | 786 | 14.2 | 42.1 | 19.2 | 41.1 |
| **Elemental** | IMPROVE | Winter | 2072 | 18.6 | 55.4 | 11.1 | 49.7 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Carbon** | | Spring | 2296 | -0.2 | 48.8 | 9.6 | 46.3 |
| | | Summer | 2182 | -23.8 | 44.5 | -23.3 | 50.8 |
| | | Fall | 2118 | -6.4 | 47.1 | -9.1 | 46.6 |
| | CSN | Winter | 3441 | 67.6 | 93.1 | 47.3 | 63.8 |
| | | Spring | 3672 | 57.3 | 82.7 | 40.7 | 59.8 |
| | | Summer | 3529 | 55.3 | 81.7 | 36.8 | 62.7 |
| | | Fall | 3396 | 27.9 | 65.1 | 24.8 | 51.8 |
| **Organic Carbon** | IMPROVE | Winter | 2071 | 32.3 | 60.6 | 20.2 | 50.9 |
| | | Spring | 2290 | 4.5 | 44.2 | 11.5 | 42.7 |
| | | Summer | 2183 | -0.1 | 39.0 | 1.1 | 40.2 |
| | | Fall | 2118 | 4.1 | 42.7 | 1.9 | 43.0 |
| | CSN | Winter | 3051 | 19.8 | 60.6 | 29.7 | 58.6 |
| | | Spring | 3243 | -8.1 | 47.5 | 4.0 | 52.2 |
| | | Summer | 3228 | -24.2 | 38.5 | -25.2 | 45.8 |
| | | Fall | 3097 | -9.1 | 42.4 | 2.0 | 49.2 |
| **Crustal** | IMPROVE | Winter | 2172 | 761.2 | 768.4 | 137.4 | 142.7 |
| | | Spring | 2334 | 182.0 | 226.7 | 77.1 | 105.8 |
| | | Summer | 2246 | 96.0 | 153.2 | 61.2 | 89.1 |
| | | Fall | 2229 | 247.0 | 269.7 | 98.6 | 111.7 |
| | STN | Winter | 3392 | 1017.4 | 1022.4 | 163.7 | 164.3 |
| | | Spring | 3597 | 461.5 | 479.0 | 133.9 | 138.1 |
| | | Summer | 3510 | 263.3 | 306.4 | 111.6 | 125.6 |
| | | Fall | 3362 | 459.7 | 471.5 | 136.8 | 139.2 |

For ozone, the CAMx 2005 simulation shows a tendency to under predict observed 8-hour daily maximum values to some extent at high concentration levels and over predict at low observed concentration levels. Observed sulfate concentrations tend to be slightly under predicted during the summer (by ~10 percent, or less), but generally over predicted during the other seasons. Particle nitrate tends to be under predicted somewhat during the winter at both urban and rural/remote sites. The negative fractional bias statistics in all seasons for particle nitrate suggest that under prediction may be occurring at lower concentration levels. For ammonium, model performance is generally consistent at both urban and suburban/rural locations with a tendency for under prediction during the summer and over prediction during other seasons. The model performance statistics for crustal material indicate that this component of $PM_{2.5}$ is over predicted by a large amount in each season[14].

The model performance results reported here are being used by EPA's Office of Air Quality Planning and Standards and Office of Research and Development in an on-going coordinated effort to understand and improve model performance for research and regulatory applications.

[14] The performance results for crustal material provided the basis for excluding this species in the procedures used for calculating $PM_{2.5}$ contributions, as noted in Section IV.

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# Appendix B

# 2003-2007 Base Period and Projected 2012 and 2014 Design Values for Monitoring Sites in the Eastern Modeling Domain

The tables in this appendix provide the 5-year weighted average and maximum design values for 8-hour ozone, annual PM2.5, and 24-hour PM2.5 for monitoring sites in the 12 km Eastern U.S. modeling domain[1]. Design values are provided for the 2003-2007 base period, 2012 base case, 2014 base case, and 2014 remedy scenario.

Also included in this appendix are tables of the differences (i.e., increases and decreases) by site in average design values between the 2014 remedy scenario and both the 2012 base case and 2014 base case. Note that increases and decreases reported as ± 0.1 ppb for ozone, ± 0.01 μg/m$^3$ for annual PM2.5, and ± 0.1 μg/m$^3$ for 24-hour PM2.5 may overstate the actual difference in concentrations because the design value concentrations are truncated before the differences are calculated.

[1] Design values are provided for those sites which meet the data completeness and projection criteria described in Section III of the TSD.

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 10030010 | Alabama | Baldwin | 77.3 | 78.0 | 70.7 | 71.4 | 69.0 | 69.7 | 66.8 | 67.5 |
| 10270001 | Alabama | Clay | 74.0 | 76.0 | 64.8 | 66.5 | 61.2 | 62.9 | 60.6 | 62.3 |
| 10331002 | Alabama | Colbert | 72.0 | 74.0 | 64.5 | 66.3 | 62.7 | 64.4 | 62.5 | 64.2 |
| 10510001 | Alabama | Elmore | 70.7 | 71.0 | 62.0 | 62.3 | 59.6 | 59.9 | 59.3 | 59.6 |
| 10550011 | Alabama | Etowah | 71.7 | 73.0 | 61.6 | 62.7 | 58.7 | 59.7 | 58.3 | 59.4 |
| 10690004 | Alabama | Houston | 71.0 | 71.0 | 62.8 | 62.8 | 60.1 | 60.1 | 59.8 | 59.8 |
| 10730023 | Alabama | Jefferson | 78.7 | 86.0 | 69.6 | 76.1 | 67.1 | 73.3 | 66.9 | 73.1 |
| 10731003 | Alabama | Jefferson | 79.0 | 84.0 | 69.7 | 74.1 | 67.1 | 71.4 | 66.9 | 71.2 |
| 10731005 | Alabama | Jefferson | 81.0 | 86.0 | 71.0 | 75.4 | 68.1 | 72.3 | 67.9 | 72.1 |
| 10731009 | Alabama | Jefferson | 77.0 | 82.0 | 66.4 | 70.7 | 64.0 | 68.1 | 63.8 | 67.9 |
| 10731010 | Alabama | Jefferson | 73.0 | 75.0 | 63.8 | 65.6 | 61.2 | 62.9 | 61.0 | 62.7 |
| 10732006 | Alabama | Jefferson | 83.7 | 89.0 | 74.0 | 78.7 | 71.3 | 75.8 | 71.1 | 75.6 |
| 10735002 | Alabama | Jefferson | 74.0 | 77.0 | 65.3 | 67.9 | 62.8 | 65.4 | 62.6 | 65.1 |
| 10735003 | Alabama | Jefferson | 77.0 | 82.0 | 66.6 | 71.0 | 64.2 | 68.4 | 63.9 | 68.1 |
| 10736002 | Alabama | Jefferson | 81.3 | 89.0 | 72.0 | 78.8 | 69.4 | 76.0 | 69.2 | 75.8 |
| 10790002 | Alabama | Lawrence | 72.0 | 74.0 | 63.2 | 64.9 | 60.6 | 62.3 | 60.5 | 62.2 |
| 10890014 | Alabama | Madison | 77.3 | 78.0 | 67.9 | 68.6 | 64.6 | 65.2 | 64.5 | 65.1 |
| 10970003 | Alabama | Mobile | 76.7 | 78.0 | 69.8 | 71.0 | 68.1 | 69.3 | 66.4 | 67.6 |
| 10972005 | Alabama | Mobile | 76.7 | 77.0 | 70.0 | 70.3 | 68.2 | 68.5 | 66.3 | 66.6 |
| 11011002 | Alabama | Montgomery | 69.3 | 74.0 | 60.6 | 64.7 | 58.2 | 62.1 | 58.0 | 61.9 |
| 11030011 | Alabama | Morgan | 77.3 | 79.0 | 70.2 | 71.8 | 67.9 | 69.4 | 67.7 | 69.2 |
| 11130002 | Alabama | Russell | 71.3 | 75.0 | 63.0 | 66.3 | 59.8 | 62.9 | 59.4 | 62.5 |
| 11170004 | Alabama | Shelby | 85.7 | 88.0 | 75.2 | 77.2 | 72.2 | 74.1 | 72.0 | 73.9 |
| 11190002 | Alabama | Sumter | 64.0 | 66.0 | 58.2 | 60.1 | 56.4 | 58.1 | 56.3 | 58.1 |
| 11210003 | Alabama | Talladega | 72.0 | 72.0 | 62.4 | 62.4 | 59.7 | 59.7 | 59.4 | 59.4 |
| 11250010 | Alabama | Tuscaloosa | 73.3 | 77.0 | 63.3 | 66.5 | 60.6 | 63.7 | 60.5 | 63.5 |
| 50350005 | Arkansas | Crittenden | 87.3 | 89.0 | 77.3 | 78.8 | 74.5 | 76.0 | 74.4 | 75.8 |
| 51190007 | Arkansas | Pulaski | 78.3 | 80.0 | 69.0 | 70.5 | 66.6 | 68.0 | 65.4 | 66.8 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 51191002 | Arkansas | Pulaski | 79.7 | 83.0 | 70.2 | 73.1 | 67.6 | 70.4 | 66.5 | 69.3 |
| 51191005 | Arkansas | Pulaski | 74.0 | 75.0 | 65.4 | 66.3 | 63.1 | 64.0 | 62.0 | 62.9 |
| 80013001 | Colorado | Adams | 69.0 | 70.0 | 66.8 | 67.7 | 66.2 | 67.1 | 66.2 | 67.1 |
| 80050002 | Colorado | Arapahoe | 78.7 | 81.0 | 76.0 | 78.2 | 75.1 | 77.3 | 75.1 | 77.3 |
| 80130011 | Colorado | Boulder | 77.0 | 81.0 | 73.4 | 77.2 | 72.2 | 76.0 | 72.3 | 76.0 |
| 80310002 | Colorado | Denver | 56.0 | 56.0 | 54.2 | 54.2 | 53.7 | 53.7 | 53.7 | 53.7 |
| 80310014 | Colorado | Denver | 73.0 | 75.0 | 70.7 | 72.6 | 70.0 | 71.9 | 70.0 | 71.9 |
| 80350004 | Colorado | Douglas | 83.0 | 84.0 | 79.3 | 80.3 | 78.0 | 79.0 | 78.1 | 79.0 |
| 80590002 | Colorado | Jefferson | 76.3 | 79.0 | 73.9 | 76.6 | 73.2 | 75.8 | 73.3 | 75.9 |
| 80590005 | Colorado | Jefferson | 70.3 | 75.0 | 67.9 | 72.4 | 67.0 | 71.5 | 67.1 | 71.5 |
| 80590006 | Colorado | Jefferson | 81.7 | 85.0 | 78.1 | 81.3 | 76.9 | 80.1 | 77.0 | 80.1 |
| 80590011 | Colorado | Jefferson | 80.7 | 82.0 | 78.2 | 79.5 | 77.5 | 78.7 | 77.5 | 78.7 |
| 80691004 | Colorado | Larimer | 72.3 | 74.0 | 68.4 | 70.0 | 67.3 | 68.9 | 67.4 | 69.0 |
| 81230009 | Colorado | Weld | 76.7 | 78.0 | 72.7 | 73.9 | 71.6 | 72.9 | 71.7 | 72.9 |
| 90010017 | Connecticut | Fairfield | 88.0 | 90.0 | 83.1 | 85.0 | 81.4 | 83.3 | 81.3 | 83.2 |
| 90011123 | Connecticut | Fairfield | 92.3 | 94.0 | 84.8 | 86.4 | 82.7 | 84.2 | 82.6 | 84.1 |
| 90013007 | Connecticut | Fairfield | 90.0 | 92.0 | 84.5 | 86.4 | 82.7 | 84.5 | 82.5 | 84.4 |
| 90019003 | Connecticut | Fairfield | 87.7 | 89.0 | 82.8 | 84.0 | 81.1 | 82.3 | 81.0 | 82.2 |
| 90031003 | Connecticut | Hartford | 84.3 | 90.0 | 75.0 | 80.1 | 72.7 | 77.7 | 72.7 | 77.6 |
| 90050005 | Connecticut | Litchfield | 87.7 | 89.0 | 78.0 | 79.1 | 75.5 | 76.7 | 75.5 | 76.6 |
| 90070007 | Connecticut | Middlesex | 90.3 | 92.0 | 81.8 | 83.4 | 79.6 | 81.1 | 79.5 | 81.0 |
| 90090027 | Connecticut | New Haven | 79.3 | 81.0 | 73.3 | 74.9 | 71.5 | 73.0 | 71.4 | 72.9 |
| 90093002 | Connecticut | New Haven | 90.3 | 93.0 | 82.9 | 85.4 | 80.7 | 83.2 | 80.6 | 83.0 |
| 90110008 | Connecticut | New London | 85.3 | 88.0 | 77.1 | 79.5 | 75.0 | 77.4 | 74.9 | 77.3 |
| 90131001 | Connecticut | Tolland | 88.7 | 91.0 | 78.0 | 80.1 | 75.5 | 77.5 | 75.4 | 77.4 |
| 100010002 | Delaware | Kent | 80.3 | 81.0 | 70.8 | 71.4 | 68.8 | 69.4 | 68.7 | 69.3 |
| 100031007 | Delaware | New Castle | 80.0 | 82.0 | 70.5 | 72.3 | 68.7 | 70.4 | 68.6 | 70.3 |
| 100031010 | Delaware | New Castle | 82.3 | 83.0 | 74.4 | 75.0 | 72.6 | 73.3 | 72.6 | 73.2 |
| 100031013 | Delaware | New Castle | 81.3 | 82.0 | 72.7 | 73.3 | 70.9 | 71.5 | 70.8 | 71.4 |
| 100051002 | Delaware | Sussex | 81.3 | 82.0 | 71.4 | 72.0 | 69.3 | 69.9 | 69.2 | 69.8 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 100051003 | Delaware | Sussex | 82.7 | 84.0 | 73.9 | 75.0 | 72.0 | 73.2 | 72.0 | 73.1 |
| 110010025 | District Of Columbia | District of Columbia | 79.7 | 81.0 | 74.3 | 75.5 | 72.6 | 73.8 | 72.6 | 73.7 |
| 110010041 | District Of Columbia | District of Columbia | 80.3 | 85.0 | 75.4 | 79.8 | 73.7 | 78.0 | 73.5 | 77.8 |
| 110010043 | District Of Columbia | District of Columbia | 84.7 | 87.0 | 79.5 | 81.7 | 77.7 | 79.8 | 77.6 | 79.7 |
| 120010025 | Florida | Alachua | 72.0 | 72.0 | 65.7 | 65.7 | 63.2 | 63.2 | 59.9 | 59.9 |
| 120030002 | Florida | Baker | 68.7 | 70.0 | 62.0 | 63.2 | 59.6 | 60.8 | 58.2 | 59.3 |
| 120050006 | Florida | Bay | 78.7 | 81.0 | 72.1 | 74.3 | 69.7 | 71.8 | 66.9 | 68.8 |
| 120090007 | Florida | Brevard | 69.0 | 69.0 | 63.9 | 63.9 | 60.8 | 60.8 | 60.0 | 60.0 |
| 120094001 | Florida | Brevard | 71.3 | 72.0 | 66.3 | 66.9 | 62.9 | 63.5 | 62.0 | 62.6 |
| 120110031 | Florida | Broward | 62.0 | 63.0 | 60.7 | 61.6 | 60.4 | 61.3 | 60.3 | 61.2 |
| 120112003 | Florida | Broward | 61.3 | 63.0 | 58.1 | 59.7 | 57.1 | 58.7 | 56.9 | 58.5 |
| 120118002 | Florida | Broward | 65.0 | 67.0 | 62.3 | 64.2 | 61.5 | 63.4 | 61.3 | 63.1 |
| 120210004 | Florida | Collier | 68.3 | 69.0 | 60.4 | 61.0 | 58.1 | 58.7 | 57.8 | 58.3 |
| 120230002 | Florida | Columbia | 72.0 | 72.0 | 65.0 | 65.0 | 62.4 | 62.4 | 61.3 | 61.3 |
| 120310077 | Florida | Duval | 77.0 | 77.0 | 72.2 | 72.2 | 70.2 | 70.2 | 68.5 | 68.5 |
| 120310100 | Florida | Duval | 77.7 | 79.0 | 72.3 | 73.5 | 70.0 | 71.2 | 68.2 | 69.4 |
| 120330004 | Florida | Escambia | 79.7 | 81.0 | 75.9 | 77.2 | 74.3 | 75.6 | 69.6 | 70.8 |
| 120330018 | Florida | Escambia | 82.7 | 83.0 | 78.5 | 78.8 | 76.8 | 77.0 | 71.2 | 71.4 |
| 120330024 | Florida | Escambia | 80.7 | 81.0 | 76.6 | 76.9 | 74.9 | 75.2 | 69.4 | 69.7 |
| 120570081 | Florida | Hillsborough | 78.7 | 80.0 | 75.3 | 76.6 | 73.5 | 74.7 | 72.9 | 74.1 |
| 120570110 | Florida | Hillsborough | 76.0 | 76.0 | 70.5 | 70.5 | 68.9 | 68.9 | 68.3 | 68.3 |
| 120571035 | Florida | Hillsborough | 74.0 | 76.0 | 72.0 | 73.9 | 70.4 | 72.3 | 69.8 | 71.7 |
| 120571065 | Florida | Hillsborough | 80.7 | 81.0 | 77.9 | 78.2 | 76.0 | 76.2 | 75.1 | 75.4 |
| 120573002 | Florida | Hillsborough | 77.5 | 78.0 | 72.3 | 72.7 | 70.7 | 71.1 | 70.4 | 70.8 |
| 120574004 | Florida | Hillsborough | 74.0 | 74.0 | 68.1 | 68.1 | 66.4 | 66.4 | 66.0 | 66.0 |
| 120690002 | Florida | Lake | 76.7 | 77.0 | 69.9 | 70.2 | 66.8 | 67.1 | 66.1 | 66.4 |
| 120712002 | Florida | Lee | 70.3 | 72.0 | 62.8 | 64.4 | 60.7 | 62.1 | 60.3 | 61.7 |
| 120713002 | Florida | Lee | 70.3 | 71.0 | 62.8 | 63.4 | 60.6 | 61.2 | 60.1 | 60.7 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 120730012 | Florida | Leon | 70.0 | 70.0 | 61.5 | 61.5 | 59.0 | 59.0 | 58.3 | 58.3 |
| 120730013 | Florida | Leon | 71.0 | 72.0 | 62.2 | 63.1 | 59.5 | 60.3 | 58.8 | 59.6 |
| 120813002 | Florida | Manatee | 77.3 | 79.0 | 71.9 | 73.5 | 70.0 | 71.6 | 69.3 | 70.9 |
| 120814012 | Florida | Manatee | 76.3 | 77.0 | 69.4 | 70.0 | 67.5 | 68.1 | 66.7 | 67.4 |
| 120814013 | Florida | Manatee | 72.7 | 73.0 | 65.9 | 66.2 | 64.3 | 64.6 | 63.5 | 63.8 |
| 120830003 | Florida | Marion | 71.7 | 72.0 | 63.4 | 63.7 | 60.8 | 61.0 | 59.1 | 59.3 |
| 120830004 | Florida | Marion | 73.0 | 73.0 | 65.2 | 65.2 | 63.0 | 63.0 | 60.6 | 60.6 |
| 120860027 | Florida | Miami-Dade | 71.3 | 74.0 | 69.4 | 72.1 | 69.2 | 71.8 | 68.9 | 71.6 |
| 120860029 | Florida | Miami-Dade | 67.7 | 69.0 | 66.0 | 67.2 | 65.4 | 66.7 | 65.2 | 66.5 |
| 120950008 | Florida | Orange | 79.3 | 81.0 | 73.6 | 75.2 | 70.4 | 71.9 | 69.5 | 71.0 |
| 120952002 | Florida | Orange | 79.3 | 80.0 | 74.6 | 75.3 | 71.6 | 72.2 | 71.0 | 71.6 |
| 120972002 | Florida | Osceola | 72.0 | 73.0 | 66.1 | 67.0 | 63.3 | 64.2 | 62.6 | 63.5 |
| 120990020 | Florida | Palm Beach | 65.0 | 65.0 | 61.5 | 61.5 | 59.7 | 59.7 | 59.6 | 59.6 |
| 121010005 | Florida | Pasco | 76.3 | 77.0 | 70.5 | 71.1 | 68.8 | 69.5 | 67.4 | 68.0 |
| 121012001 | Florida | Pasco | 73.3 | 75.0 | 67.7 | 69.2 | 65.8 | 67.3 | 64.9 | 66.4 |
| 121030004 | Florida | Pinellas | 72.3 | 73.0 | 68.4 | 69.0 | 66.7 | 67.3 | 65.9 | 66.5 |
| 121030018 | Florida | Pinellas | 69.7 | 71.0 | 66.3 | 67.5 | 64.8 | 66.0 | 64.1 | 65.3 |
| 121035002 | Florida | Pinellas | 72.7 | 74.0 | 68.9 | 70.2 | 67.2 | 68.4 | 66.5 | 67.7 |
| 121056005 | Florida | Polk | 73.3 | 75.0 | 66.7 | 68.3 | 64.9 | 66.4 | 63.9 | 65.4 |
| 121056006 | Florida | Polk | 74.7 | 75.0 | 68.0 | 68.3 | 66.0 | 66.3 | 64.9 | 65.2 |
| 121111002 | Florida | St. Lucie | 66.5 | 68.0 | 60.9 | 62.3 | 58.7 | 60.1 | 58.3 | 59.6 |
| 121130015 | Florida | Santa Rosa | 80.0 | 80.0 | 76.3 | 76.3 | 74.5 | 74.5 | 69.0 | 69.0 |
| 121151005 | Florida | Sarasota | 77.3 | 78.0 | 69.4 | 70.1 | 67.5 | 68.1 | 66.8 | 67.4 |
| 121151006 | Florida | Sarasota | 73.3 | 74.0 | 65.9 | 66.6 | 64.1 | 64.7 | 63.4 | 64.0 |
| 121152002 | Florida | Sarasota | 72.0 | 74.0 | 63.5 | 65.3 | 61.7 | 63.4 | 60.9 | 62.6 |
| 121171002 | Florida | Seminole | 76.0 | 77.0 | 70.4 | 71.4 | 66.8 | 67.7 | 66.2 | 67.0 |
| 121272001 | Florida | Volusia | 68.3 | 69.0 | 61.4 | 62.0 | 57.6 | 58.2 | 56.8 | 57.3 |
| 121275002 | Florida | Volusia | 68.3 | 69.0 | 60.8 | 61.4 | 57.0 | 57.6 | 56.4 | 57.0 |
| 121290001 | Florida | Wakulla | 71.3 | 74.0 | 64.1 | 66.5 | 62.0 | 64.3 | 61.3 | 63.6 |
| 130210012 | Georgia | Bibb | 81.0 | 83.0 | 71.1 | 72.8 | 66.1 | 67.8 | 65.8 | 67.5 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 130210013 | Georgia | Bibb | 81.0 | 81.0 | 71.4 | 71.4 | 66.0 | 66.0 | 65.7 | 65.7 |
| 130510021 | Georgia | Chatham | 68.3 | 69.0 | 62.2 | 62.9 | 59.9 | 60.5 | 59.4 | 60.0 |
| 130550001 | Georgia | Chattooga | 75.0 | 76.0 | 64.3 | 65.2 | 60.8 | 61.6 | 60.6 | 61.4 |
| 130590002 | Georgia | Clarke | 80.7 | 83.0 | 68.7 | 70.6 | 64.5 | 66.4 | 64.3 | 66.2 |
| 130670003 | Georgia | Cobb | 82.7 | 87.0 | 73.8 | 77.6 | 69.9 | 73.5 | 69.7 | 73.4 |
| 130730001 | Georgia | Columbia | 73.0 | 73.0 | 64.5 | 64.5 | 61.7 | 61.7 | 61.4 | 61.4 |
| 130770002 | Georgia | Coweta | 82.0 | 85.0 | 74.3 | 77.0 | 69.7 | 72.2 | 68.7 | 71.2 |
| 130850001 | Georgia | Dawson | 76.3 | 79.0 | 66.1 | 68.5 | 62.4 | 64.6 | 62.2 | 64.4 |
| 130890002 | Georgia | DeKalb | 88.7 | 93.0 | 81.6 | 85.6 | 78.2 | 82.0 | 78.1 | 81.8 |
| 130893001 | Georgia | DeKalb | 87.5 | 88.0 | 80.7 | 81.2 | 77.7 | 78.1 | 77.5 | 77.9 |
| 130970004 | Georgia | Douglas | 87.3 | 90.0 | 77.8 | 80.2 | 73.2 | 75.4 | 73.0 | 75.2 |
| 131130001 | Georgia | Fayette | 85.7 | 89.0 | 78.2 | 81.2 | 74.9 | 77.8 | 74.7 | 77.6 |
| 131210055 | Georgia | Fulton | 91.7 | 94.0 | 84.4 | 86.5 | 80.9 | 82.9 | 80.7 | 82.7 |
| 131270006 | Georgia | Glynn | 67.0 | 68.0 | 61.7 | 62.6 | 59.6 | 60.5 | 57.7 | 58.5 |
| 131350002 | Georgia | Gwinnett | 88.7 | 90.0 | 79.1 | 80.3 | 75.3 | 76.4 | 75.1 | 76.2 |
| 131510002 | Georgia | Henry | 89.7 | 95.0 | 79.7 | 84.5 | 75.7 | 80.2 | 75.5 | 80.0 |
| 132130003 | Georgia | Murray | 78.0 | 79.0 | 68.9 | 69.8 | 65.6 | 66.5 | 64.9 | 65.7 |
| 132150008 | Georgia | Muscogee | 75.7 | 80.0 | 65.5 | 69.2 | 61.9 | 65.4 | 61.5 | 65.0 |
| 132151003 | Georgia | Muscogee | 70.7 | 73.0 | 61.4 | 63.4 | 58.0 | 59.9 | 57.7 | 59.5 |
| 132230003 | Georgia | Paulding | 80.3 | 83.0 | 69.2 | 71.5 | 65.1 | 67.2 | 64.9 | 67.1 |
| 132450091 | Georgia | Richmond | 80.3 | 81.0 | 70.8 | 71.4 | 67.8 | 68.4 | 67.4 | 68.0 |
| 132470001 | Georgia | Rockdale | 90.0 | 95.0 | 78.8 | 83.2 | 74.5 | 78.6 | 74.3 | 78.4 |
| 132611001 | Georgia | Sumter | 72.3 | 74.0 | 64.4 | 65.9 | 61.3 | 62.8 | 60.9 | 62.3 |
| 170010006 | Illinois | Adams | 70.0 | 70.0 | 64.8 | 64.8 | 63.4 | 63.4 | 62.6 | 62.6 |
| 170190004 | Illinois | Champaign | 68.3 | 70.0 | 62.3 | 63.8 | 60.9 | 62.4 | 60.6 | 62.1 |
| 170230001 | Illinois | Clark | 66.0 | 66.0 | 59.8 | 59.8 | 58.4 | 58.4 | 58.0 | 58.0 |
| 170310001 | Illinois | Cook | 77.3 | 82.0 | 75.9 | 80.5 | 74.8 | 79.4 | 74.7 | 79.2 |
| 170310032 | Illinois | Cook | 74.3 | 77.0 | 71.1 | 73.7 | 70.1 | 72.6 | 69.9 | 72.4 |
| 170310064 | Illinois | Cook | 71.3 | 77.0 | 68.2 | 73.7 | 67.2 | 72.6 | 67.0 | 72.4 |
| 170310072 | Illinois | Cook | 71.0 | 73.0 | 67.7 | 69.6 | 66.7 | 68.6 | 66.5 | 68.4 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 170310076 | Illinois | Cook | 77.0 | 79.0 | 75.8 | 77.8 | 75.0 | 77.0 | 74.8 | 76.8 |
| 170311003 | Illinois | Cook | 76.3 | 79.0 | 73.6 | 76.2 | 72.7 | 75.3 | 72.5 | 75.1 |
| 170311601 | Illinois | Cook | 76.7 | 80.0 | 74.8 | 78.0 | 73.6 | 76.7 | 73.5 | 76.6 |
| 170314002 | Illinois | Cook | 66.3 | 68.0 | 65.9 | 67.6 | 65.4 | 67.0 | 65.2 | 66.9 |
| 170314007 | Illinois | Cook | 71.7 | 74.0 | 69.2 | 71.4 | 68.3 | 70.5 | 68.2 | 70.4 |
| 170314201 | Illinois | Cook | 74.3 | 76.0 | 71.7 | 73.4 | 70.8 | 72.4 | 70.7 | 72.3 |
| 170317002 | Illinois | Cook | 77.7 | 79.0 | 74.7 | 76.0 | 73.7 | 74.9 | 73.4 | 74.6 |
| 170436001 | Illinois | DuPage | 69.0 | 70.0 | 67.4 | 68.3 | 66.5 | 67.5 | 66.4 | 67.4 |
| 170491001 | Illinois | Effingham | 70.0 | 72.0 | 63.8 | 65.6 | 62.3 | 64.1 | 62.1 | 63.9 |
| 170650002 | Illinois | Hamilton | 73.0 | 73.0 | 66.2 | 66.2 | 64.5 | 64.5 | 64.6 | 64.6 |
| 170831001 | Illinois | Jersey | 78.7 | 80.0 | 71.4 | 72.6 | 69.4 | 70.6 | 68.9 | 70.0 |
| 170890005 | Illinois | Kane | 74.3 | 77.0 | 69.9 | 72.4 | 68.5 | 71.0 | 68.3 | 70.8 |
| 170971002 | Illinois | Lake | 76.7 | 79.0 | 73.7 | 75.9 | 72.6 | 74.7 | 72.3 | 74.5 |
| 170971007 | Illinois | Lake | 78.0 | 79.0 | 75.0 | 75.9 | 73.8 | 74.7 | 73.5 | 74.5 |
| 171110001 | Illinois | McHenry | 73.3 | 78.0 | 68.3 | 72.7 | 66.7 | 71.0 | 66.5 | 70.7 |
| 171132003 | Illinois | McLean | 73.0 | 74.0 | 65.7 | 66.6 | 63.8 | 64.7 | 63.5 | 64.4 |
| 171150013 | Illinois | Macon | 71.3 | 74.0 | 64.8 | 67.2 | 63.3 | 65.7 | 62.8 | 65.2 |
| 171170002 | Illinois | Macoupin | 73.0 | 74.0 | 64.4 | 65.3 | 62.3 | 63.1 | 61.7 | 62.5 |
| 171190008 | Illinois | Madison | 82.7 | 84.0 | 75.8 | 77.0 | 73.7 | 74.9 | 73.0 | 74.2 |
| 171191009 | Illinois | Madison | 83.0 | 84.0 | 76.5 | 77.4 | 74.4 | 75.3 | 73.8 | 74.7 |
| 171193007 | Illinois | Madison | 81.0 | 83.0 | 74.3 | 76.1 | 72.2 | 74.0 | 71.5 | 73.3 |
| 171430024 | Illinois | Peoria | 68.3 | 71.0 | 61.9 | 64.3 | 59.9 | 62.2 | 59.7 | 62.0 |
| 171431001 | Illinois | Peoria | 72.7 | 76.0 | 65.9 | 68.9 | 63.7 | 66.6 | 63.5 | 66.4 |
| 171570001 | Illinois | Randolph | 72.0 | 75.0 | 65.5 | 68.2 | 63.8 | 66.4 | 63.7 | 66.4 |
| 171613002 | Illinois | Rock Island | 65.3 | 68.0 | 60.8 | 63.3 | 59.5 | 61.9 | 58.4 | 60.8 |
| 171630010 | Illinois | Saint Clair | 81.7 | 82.0 | 76.5 | 76.8 | 74.9 | 75.2 | 74.3 | 74.6 |
| 171670010 | Illinois | Sangamon | 70.0 | 71.0 | 61.6 | 62.5 | 59.9 | 60.7 | 59.5 | 60.4 |
| 171971011 | Illinois | Will | 71.7 | 72.0 | 67.5 | 67.8 | 66.0 | 66.3 | 65.9 | 66.1 |
| 172010009 | Illinois | Winnebago | 69.0 | 71.0 | 62.4 | 64.2 | 60.5 | 62.3 | 60.3 | 62.0 |
| 172012001 | Illinois | Winnebago | 68.3 | 70.0 | 61.8 | 63.3 | 59.9 | 61.4 | 59.7 | 61.1 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 180030002 | Indiana | Allen | 79.3 | 83.0 | 71.6 | 74.9 | 69.4 | 72.6 | 69.2 | 72.4 |
| 180030004 | Indiana | Allen | 74.3 | 76.0 | 67.1 | 68.6 | 65.0 | 66.5 | 64.8 | 66.3 |
| 180110001 | Indiana | Boone | 79.7 | 81.0 | 72.1 | 73.3 | 69.8 | 70.9 | 69.4 | 70.5 |
| 180150002 | Indiana | Carroll | 74.0 | 75.0 | 67.1 | 68.0 | 65.2 | 66.1 | 64.9 | 65.7 |
| 180190008 | Indiana | Clark | 80.3 | 83.0 | 74.4 | 76.9 | 72.4 | 74.8 | 71.6 | 74.0 |
| 180350010 | Indiana | Delaware | 76.3 | 78.0 | 68.3 | 69.8 | 65.9 | 67.3 | 65.5 | 67.0 |
| 180390007 | Indiana | Elkhart | 79.0 | 83.0 | 71.0 | 74.6 | 68.8 | 72.3 | 68.4 | 71.8 |
| 180431004 | Indiana | Floyd | 77.7 | 79.0 | 72.6 | 73.8 | 70.8 | 72.0 | 70.1 | 71.2 |
| 180550001 | Indiana | Greene | 78.3 | 80.0 | 71.0 | 72.5 | 69.3 | 70.8 | 68.8 | 70.2 |
| 180570005 | Indiana | Hamilton | 82.7 | 87.0 | 75.3 | 79.2 | 72.8 | 76.6 | 72.3 | 76.1 |
| 180590003 | Indiana | Hancock | 78.0 | 81.0 | 71.3 | 74.0 | 69.0 | 71.7 | 68.5 | 71.1 |
| 180630004 | Indiana | Hendricks | 75.3 | 76.0 | 68.8 | 69.5 | 66.8 | 67.4 | 66.4 | 67.0 |
| 180690002 | Indiana | Huntington | 75.0 | 76.0 | 67.6 | 68.5 | 65.5 | 66.4 | 65.4 | 66.2 |
| 180710001 | Indiana | Jackson | 74.7 | 76.0 | 66.5 | 67.6 | 64.7 | 65.8 | 64.2 | 65.3 |
| 180810002 | Indiana | Johnson | 76.7 | 78.0 | 69.3 | 70.5 | 67.2 | 68.3 | 66.6 | 67.8 |
| 180890022 | Indiana | Lake | 77.7 | 82.0 | 73.6 | 77.7 | 72.5 | 76.5 | 72.2 | 76.2 |
| 180890030 | Indiana | Lake | 81.0 | 85.0 | 76.9 | 80.7 | 75.9 | 79.6 | 75.5 | 79.3 |
| 180892008 | Indiana | Lake | 77.7 | 79.0 | 73.8 | 75.0 | 72.8 | 74.0 | 72.5 | 73.7 |
| 180910005 | Indiana | LaPorte | 77.0 | 78.0 | 71.5 | 72.4 | 70.0 | 70.9 | 69.7 | 70.6 |
| 180910010 | Indiana | LaPorte | 78.5 | 79.0 | 72.6 | 73.0 | 70.9 | 71.4 | 70.6 | 71.1 |
| 180950010 | Indiana | Madison | 76.7 | 80.0 | 69.2 | 72.1 | 66.8 | 69.7 | 66.3 | 69.2 |
| 180970042 | Indiana | Marion | 72.7 | 76.0 | 68.0 | 71.1 | 66.3 | 69.3 | 65.6 | 68.5 |
| 180970050 | Indiana | Marion | 78.7 | 81.0 | 72.4 | 74.5 | 70.4 | 72.4 | 69.9 | 72.0 |
| 180970057 | Indiana | Marion | 75.0 | 77.0 | 69.7 | 71.5 | 67.9 | 69.7 | 67.4 | 69.2 |
| 180970073 | Indiana | Marion | 75.7 | 77.0 | 70.0 | 71.2 | 68.1 | 69.3 | 67.6 | 68.8 |
| 181090005 | Indiana | Morgan | 77.0 | 79.0 | 70.3 | 72.1 | 68.1 | 69.9 | 67.4 | 69.2 |
| 181230009 | Indiana | Perry | 81.0 | 81.0 | 75.5 | 75.5 | 73.1 | 73.1 | 73.0 | 73.0 |
| 181270024 | Indiana | Porter | 78.3 | 81.0 | 73.7 | 76.2 | 72.4 | 74.9 | 72.1 | 74.6 |
| 181270026 | Indiana | Porter | 75.3 | 77.0 | 69.9 | 71.5 | 68.5 | 70.0 | 68.1 | 69.6 |
| 181290003 | Indiana | Posey | 71.7 | 75.0 | 64.8 | 67.8 | 62.8 | 65.7 | 62.8 | 65.7 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 181410010 | Indiana | St. Joseph | 74.7 | 77.0 | 67.5 | 69.6 | 65.6 | 67.6 | 65.1 | 67.1 |
| 181410015 | Indiana | St. Joseph | 74.3 | 79.0 | 67.1 | 71.4 | 65.1 | 69.3 | 64.7 | 68.8 |
| 181411007 | Indiana | St. Joseph | 79.3 | 82.0 | 71.6 | 74.1 | 69.5 | 71.9 | 69.0 | 71.4 |
| 181450001 | Indiana | Shelby | 77.3 | 80.0 | 71.8 | 74.3 | 70.0 | 72.4 | 69.3 | 71.7 |
| 181630012 | Indiana | Vanderburgh | 77.3 | 80.0 | 70.3 | 72.8 | 68.1 | 70.5 | 68.3 | 70.7 |
| 181630013 | Indiana | Vanderburgh | 67.7 | 75.0 | 61.1 | 67.7 | 59.1 | 65.5 | 59.2 | 65.6 |
| 181670018 | Indiana | Vigo | 63.0 | 67.0 | 57.7 | 61.3 | 56.2 | 59.8 | 55.6 | 59.1 |
| 181670024 | Indiana | Vigo | 74.0 | 76.0 | 68.1 | 69.9 | 66.5 | 68.3 | 65.6 | 67.4 |
| 181730008 | Indiana | Warrick | 77.7 | 80.0 | 71.8 | 73.9 | 69.9 | 72.0 | 70.2 | 72.3 |
| 181730009 | Indiana | Warrick | 72.7 | 75.0 | 66.0 | 68.1 | 64.1 | 66.1 | 64.0 | 66.0 |
| 181730011 | Indiana | Warrick | 76.7 | 77.0 | 71.0 | 71.3 | 69.1 | 69.3 | 69.4 | 69.7 |
| 190450021 | Iowa | Clinton | 71.3 | 73.0 | 66.0 | 67.5 | 64.5 | 66.0 | 63.7 | 65.2 |
| 190851101 | Iowa | Harrison | 74.7 | 75.0 | 69.5 | 69.8 | 68.2 | 68.4 | 66.4 | 66.7 |
| 191130028 | Iowa | Linn | 67.7 | 71.0 | 63.0 | 66.1 | 61.6 | 64.6 | 61.0 | 63.9 |
| 191130033 | Iowa | Linn | 68.3 | 70.0 | 63.7 | 65.3 | 62.2 | 63.8 | 61.1 | 62.6 |
| 191530058 | Iowa | Polk | 63.0 | 66.0 | 58.2 | 61.0 | 56.6 | 59.3 | 56.1 | 58.7 |
| 191630014 | Iowa | Scott | 70.3 | 74.0 | 64.8 | 68.2 | 63.2 | 66.5 | 62.3 | 65.6 |
| 191632011 | Iowa | Scott | 72.0 | 72.0 | 66.6 | 66.6 | 65.0 | 65.0 | 63.9 | 63.9 |
| 191690011 | Iowa | Story | 61.0 | 66.0 | 56.1 | 60.7 | 54.7 | 59.1 | 53.8 | 58.2 |
| 200450004 | Kansas | Douglas | 73.0 | 73.0 | 66.6 | 66.6 | 65.1 | 65.1 | 63.2 | 63.2 |
| 200910010 | Kansas | Johnson | 75.3 | 76.0 | 70.4 | 71.0 | 68.9 | 69.6 | 66.7 | 67.4 |
| 201030003 | Kansas | Leavenworth | 75.0 | 77.0 | 69.5 | 71.4 | 68.0 | 69.8 | 66.5 | 68.3 |
| 201070002 | Kansas | Linn | 73.3 | 74.0 | 68.3 | 69.0 | 67.1 | 67.7 | 63.0 | 63.6 |
| 201730001 | Kansas | Sedgwick | 64.3 | 66.0 | 58.6 | 60.2 | 56.9 | 58.4 | 56.1 | 57.6 |
| 201730010 | Kansas | Sedgwick | 71.3 | 74.0 | 65.5 | 68.0 | 63.6 | 66.1 | 62.8 | 65.2 |
| 201910002 | Kansas | Sumner | 71.7 | 76.0 | 64.9 | 68.8 | 62.9 | 66.7 | 62.3 | 66.0 |
| 202090021 | Kansas | Wyandotte | 75.3 | 77.0 | 71.1 | 72.7 | 69.8 | 71.4 | 68.1 | 69.6 |
| 210130002 | Kentucky | Bell | 71.7 | 74.0 | 61.9 | 63.9 | 59.2 | 61.1 | 59.0 | 60.9 |
| 210150003 | Kentucky | Boone | 75.7 | 77.0 | 67.8 | 68.9 | 66.0 | 67.1 | 65.2 | 66.3 |
| 210190017 | Kentucky | Boyd | 77.3 | 79.0 | 69.5 | 71.0 | 68.0 | 69.4 | 67.8 | 69.2 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 210290006 | Kentucky | Bullitt | 74.0 | 76.0 | 68.8 | 70.7 | 67.0 | 68.8 | 66.3 | 68.1 |
| 210370003 | Kentucky | Campbell | 75.0 | 83.0 | 70.2 | 77.7 | 68.7 | 76.1 | 68.0 | 75.3 |
| 210430500 | Kentucky | Carter | 71.0 | 72.0 | 62.8 | 63.7 | 61.2 | 62.0 | 61.0 | 61.8 |
| 210470006 | Kentucky | Christian | 78.0 | 81.0 | 67.9 | 70.5 | 65.6 | 68.1 | 65.3 | 67.8 |
| 210590005 | Kentucky | Daviess | 75.7 | 81.0 | 70.3 | 75.3 | 68.3 | 73.1 | 68.3 | 73.1 |
| 210610501 | Kentucky | Edmonson | 73.7 | 76.0 | 65.7 | 67.7 | 63.5 | 65.5 | 63.4 | 65.4 |
| 210670001 | Kentucky | Fayette | 62.7 | 65.0 | 56.8 | 58.8 | 54.9 | 56.9 | 54.6 | 56.6 |
| 210670012 | Kentucky | Fayette | 70.3 | 73.0 | 63.6 | 66.1 | 61.5 | 63.9 | 61.2 | 63.6 |
| 210890007 | Kentucky | Greenup | 76.7 | 78.0 | 69.1 | 70.3 | 67.6 | 68.7 | 67.4 | 68.6 |
| 210910012 | Kentucky | Hancock | 74.0 | 76.0 | 68.9 | 70.7 | 66.8 | 68.6 | 66.8 | 68.6 |
| 210930006 | Kentucky | Hardin | 74.7 | 78.0 | 67.6 | 70.6 | 65.6 | 68.5 | 65.2 | 68.1 |
| 211010014 | Kentucky | Henderson | 75.3 | 78.0 | 69.2 | 71.7 | 67.2 | 69.7 | 67.4 | 69.8 |
| 211110027 | Kentucky | Jefferson | 75.3 | 79.0 | 70.5 | 73.9 | 68.5 | 71.9 | 67.9 | 71.2 |
| 211110051 | Kentucky | Jefferson | 78.3 | 82.0 | 73.3 | 76.7 | 71.7 | 75.1 | 70.8 | 74.1 |
| 211111021 | Kentucky | Jefferson | 71.0 | 73.0 | 66.9 | 68.8 | 65.3 | 67.2 | 64.7 | 66.5 |
| 211130001 | Kentucky | Jessamine | 73.3 | 77.0 | 66.6 | 70.0 | 64.6 | 67.8 | 64.3 | 67.5 |
| 211170007 | Kentucky | Kenton | 78.7 | 81.0 | 73.1 | 75.3 | 71.5 | 73.6 | 70.8 | 72.9 |
| 211390003 | Kentucky | Livingston | 73.7 | 75.0 | 68.2 | 69.4 | 66.3 | 67.5 | 66.3 | 67.5 |
| 211451024 | Kentucky | McCracken | 73.3 | 76.0 | 68.2 | 70.7 | 66.5 | 69.0 | 66.3 | 68.7 |
| 211490001 | Kentucky | McLean | 73.0 | 73.0 | 67.1 | 67.1 | 65.0 | 65.0 | 65.2 | 65.2 |
| 211850004 | Kentucky | Oldham | 83.0 | 85.0 | 75.3 | 77.1 | 72.8 | 74.5 | 72.1 | 73.9 |
| 211950002 | Kentucky | Pike | 66.7 | 70.0 | 58.6 | 61.5 | 56.7 | 59.5 | 56.7 | 59.5 |
| 211990003 | Kentucky | Pulaski | 70.3 | 72.0 | 65.1 | 66.7 | 60.8 | 62.3 | 60.3 | 61.8 |
| 212130004 | Kentucky | Simpson | 75.7 | 78.0 | 65.9 | 67.9 | 63.3 | 65.3 | 63.2 | 65.1 |
| 212210013 | Kentucky | Trigg | 70.0 | 70.0 | 63.8 | 63.8 | 61.8 | 61.8 | 61.8 | 61.8 |
| 212270008 | Kentucky | Warren | 72.0 | 73.0 | 63.6 | 64.5 | 61.6 | 62.5 | 61.4 | 62.3 |
| 220050004 | Louisiana | Ascension | 82.0 | 84.0 | 76.9 | 78.8 | 75.3 | 77.2 | 75.0 | 76.9 |
| 220110002 | Louisiana | Beauregard | 75.0 | 75.0 | 71.3 | 71.3 | 70.4 | 70.4 | 69.7 | 69.7 |
| 220150008 | Louisiana | Bossier | 78.0 | 79.0 | 69.6 | 70.5 | 67.2 | 68.0 | 66.9 | 67.8 |
| 220170001 | Louisiana | Caddo | 79.0 | 80.0 | 70.7 | 71.6 | 68.3 | 69.2 | 67.9 | 68.7 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 220190002 | Louisiana | Calcasieu | 82.0 | 83.0 | 78.0 | 78.9 | 76.8 | 77.8 | 76.2 | 77.1 |
| 220190008 | Louisiana | Calcasieu | 70.0 | 71.0 | 66.8 | 67.7 | 65.9 | 66.9 | 65.5 | 66.4 |
| 220190009 | Louisiana | Calcasieu | 78.7 | 80.0 | 73.3 | 74.5 | 71.9 | 73.1 | 71.2 | 72.4 |
| 220330003 | Louisiana | East Baton Rouge | 92.0 | 96.0 | 87.8 | 91.6 | 86.4 | 90.2 | 86.0 | 89.7 |
| 220330009 | Louisiana | East Baton Rouge | 80.3 | 81.0 | 76.5 | 77.2 | 75.3 | 75.9 | 74.9 | 75.6 |
| 220330013 | Louisiana | East Baton Rouge | 81.3 | 82.0 | 76.4 | 77.1 | 75.0 | 75.7 | 74.8 | 75.5 |
| 220331001 | Louisiana | East Baton Rouge | 86.0 | 87.0 | 82.9 | 83.8 | 81.7 | 82.7 | 81.5 | 82.5 |
| 220430001 | Louisiana | Grant | 73.0 | 73.0 | 68.7 | 68.7 | 66.9 | 66.9 | 63.8 | 63.8 |
| 220470007 | Louisiana | Iberville | 84.0 | 86.0 | 79.1 | 81.0 | 77.6 | 79.4 | 77.1 | 78.9 |
| 220470009 | Louisiana | Iberville | 80.0 | 81.0 | 75.5 | 76.5 | 74.2 | 75.1 | 73.7 | 74.6 |
| 220470012 | Louisiana | Iberville | 85.0 | 86.0 | 80.3 | 81.3 | 78.9 | 79.8 | 78.5 | 79.5 |
| 220511001 | Louisiana | Jefferson | 83.0 | 84.0 | 78.5 | 79.4 | 76.9 | 77.9 | 76.5 | 77.4 |
| 220550005 | Louisiana | Lafayette | 82.0 | 82.0 | 76.0 | 76.0 | 74.0 | 74.0 | 73.3 | 73.3 |
| 220550007 | Louisiana | Lafayette | 66.0 | 66.0 | 61.1 | 61.1 | 59.6 | 59.6 | 59.0 | 59.0 |
| 220570004 | Louisiana | Lafourche | 79.3 | 80.0 | 74.4 | 75.1 | 73.0 | 73.6 | 72.5 | 73.2 |
| 220630002 | Louisiana | Livingston | 78.3 | 80.0 | 72.9 | 74.5 | 71.3 | 72.8 | 71.1 | 72.6 |
| 220710012 | Louisiana | Orleans | 70.0 | 70.0 | 66.9 | 66.9 | 65.7 | 65.7 | 65.3 | 65.3 |
| 220730004 | Louisiana | Ouachita | 75.3 | 77.0 | 68.8 | 70.3 | 66.8 | 68.3 | 66.1 | 67.6 |
| 220770001 | Louisiana | Pointe Coupee | 83.7 | 86.0 | 78.8 | 81.0 | 77.4 | 79.5 | 77.2 | 79.3 |
| 220870002 | Louisiana | St. Bernard | 78.0 | 78.0 | 74.7 | 74.7 | 73.6 | 73.6 | 73.3 | 73.3 |
| 220890003 | Louisiana | St. Charles | 77.3 | 78.0 | 73.1 | 73.8 | 71.8 | 72.4 | 71.4 | 72.0 |
| 220930002 | Louisiana | St. James | 76.3 | 77.0 | 71.9 | 72.6 | 70.7 | 71.3 | 70.3 | 71.0 |
| 220950002 | Louisiana | St. John the Baptist | 79.0 | 80.0 | 74.8 | 75.7 | 73.7 | 74.6 | 73.3 | 74.3 |
| 221010003 | Louisiana | St. Mary | 76.0 | 76.0 | 70.3 | 70.3 | 68.6 | 68.6 | 68.1 | 68.1 |
| 221210001 | Louisiana | West Baton Rouge | 84.3 | 85.0 | 80.3 | 81.0 | 79.0 | 79.7 | 78.7 | 79.3 |
| 230050027 | Maine | Cumberland | 60.0 | 61.0 | 52.5 | 53.3 | 50.8 | 51.6 | 50.8 | 51.6 |
| 230052003 | Maine | Cumberland | 72.0 | 75.0 | 63.0 | 65.6 | 60.9 | 63.5 | 60.9 | 63.5 |
| 230090102 | Maine | Hancock | 82.0 | 83.0 | 72.3 | 73.2 | 70.4 | 71.2 | 70.4 | 71.2 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 230090103 | Maine | Hancock | 73.0 | 74.0 | 64.4 | 65.3 | 62.6 | 63.4 | 62.6 | 63.4 |
| 230090301 | Maine | Hancock | 68.7 | 70.0 | 60.4 | 61.6 | 58.7 | 59.8 | 58.7 | 59.8 |
| 230112005 | Maine | Kennebec | 69.7 | 71.0 | 60.9 | 62.1 | 59.1 | 60.2 | 59.1 | 60.2 |
| 230130004 | Maine | Knox | 75.3 | 77.0 | 65.8 | 67.3 | 63.8 | 65.3 | 63.8 | 65.3 |
| 230173001 | Maine | Oxford | 61.0 | 63.0 | 54.3 | 56.1 | 52.6 | 54.4 | 52.7 | 54.4 |
| 230194008 | Maine | Penobscot | 67.0 | 68.0 | 59.2 | 60.0 | 57.5 | 58.4 | 57.5 | 58.4 |
| 230230004 | Maine | Sagadahoc | 68.5 | 70.0 | 59.8 | 61.1 | 57.9 | 59.2 | 57.9 | 59.2 |
| 230310038 | Maine | York | 73.7 | 75.0 | 64.2 | 65.3 | 62.0 | 63.1 | 62.0 | 63.1 |
| 230312002 | Maine | York | 74.0 | 74.0 | 65.3 | 65.3 | 63.2 | 63.2 | 63.2 | 63.2 |
| 230313002 | Maine | York | 74.0 | 77.0 | 65.2 | 67.8 | 63.1 | 65.6 | 63.1 | 65.6 |
| 240030014 | Maryland | Anne Arundel | 89.7 | 90.0 | 79.7 | 79.9 | 77.1 | 77.4 | 77.0 | 77.2 |
| 240051007 | Maryland | Baltimore | 77.3 | 78.0 | 71.2 | 71.8 | 69.6 | 70.3 | 69.5 | 70.2 |
| 240053001 | Maryland | Baltimore | 85.3 | 87.0 | 78.5 | 80.1 | 76.9 | 78.4 | 76.8 | 78.3 |
| 240090011 | Maryland | Calvert | 81.0 | 81.0 | 69.8 | 69.8 | 67.7 | 67.7 | 67.6 | 67.6 |
| 240130001 | Maryland | Carroll | 83.3 | 86.0 | 73.0 | 75.4 | 70.5 | 72.8 | 70.4 | 72.7 |
| 240150003 | Maryland | Cecil | 90.7 | 93.0 | 79.1 | 81.1 | 76.9 | 78.9 | 76.8 | 78.8 |
| 240170010 | Maryland | Charles | 86.0 | 88.0 | 73.8 | 75.5 | 71.2 | 72.9 | 71.1 | 72.8 |
| 240210037 | Maryland | Frederick | 80.3 | 83.0 | 70.4 | 72.7 | 67.9 | 70.2 | 67.9 | 70.2 |
| 240230002 | Maryland | Garrett | 75.5 | 76.0 | 68.4 | 68.8 | 66.9 | 67.3 | 66.1 | 66.5 |
| 240251001 | Maryland | Harford | 92.7 | 94.0 | 83.5 | 84.7 | 81.6 | 82.8 | 81.5 | 82.7 |
| 240259001 | Maryland | Harford | 88.3 | 91.0 | 78.3 | 80.7 | 76.5 | 78.8 | 76.4 | 78.7 |
| 240290002 | Maryland | Kent | 82.0 | 83.0 | 71.6 | 72.5 | 69.7 | 70.6 | 69.6 | 70.4 |
| 240313001 | Maryland | Montgomery | 83.0 | 86.0 | 76.4 | 79.1 | 74.5 | 77.1 | 74.4 | 77.1 |
| 240330030 | Maryland | Prince George's | 85.0 | 85.0 | 77.3 | 77.3 | 75.1 | 75.1 | 75.0 | 75.0 |
| 240338003 | Maryland | Prince George's | 91.0 | 91.0 | 81.2 | 81.2 | 78.7 | 78.7 | 78.5 | 78.5 |
| 240430009 | Maryland | Washington | 78.3 | 79.0 | 68.4 | 69.0 | 66.1 | 66.7 | 66.0 | 66.6 |
| 250010002 | Massachusetts | Barnstable | 84.7 | 86.0 | 75.1 | 76.2 | 73.1 | 74.2 | 73.1 | 74.2 |
| 250034002 | Massachusetts | Berkshire | 79.7 | 81.0 | 70.8 | 72.0 | 68.7 | 69.8 | 68.6 | 69.7 |
| 250051002 | Massachusetts | Bristol | 82.7 | 86.0 | 73.6 | 76.5 | 71.7 | 74.5 | 71.6 | 74.5 |
| 250070001 | Massachusetts | Dukes | 83.0 | 84.0 | 74.8 | 75.7 | 72.9 | 73.8 | 72.9 | 73.8 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 250092006 | Massachusetts | Essex | 83.3 | 84.0 | 76.7 | 77.3 | 74.8 | 75.5 | 74.9 | 75.5 |
| 250094004 | Massachusetts | Essex | 77.7 | 79.0 | 69.0 | 70.2 | 66.8 | 68.0 | 66.9 | 68.0 |
| 250095005 | Massachusetts | Essex | 77.5 | 80.0 | 68.3 | 70.5 | 66.1 | 68.2 | 66.1 | 68.2 |
| 250130008 | Massachusetts | Hampden | 87.3 | 92.0 | 76.9 | 81.0 | 74.4 | 78.4 | 74.3 | 78.3 |
| 250150103 | Massachusetts | Hampshire | 71.7 | 77.0 | 62.4 | 67.0 | 60.2 | 64.7 | 60.2 | 64.7 |
| 250154002 | Massachusetts | Hampshire | 85.0 | 87.0 | 74.6 | 76.4 | 72.2 | 73.9 | 72.2 | 73.9 |
| 250170009 | Massachusetts | Middlesex | 79.0 | 79.0 | 69.4 | 69.4 | 67.0 | 67.0 | 67.0 | 67.0 |
| 250171102 | Massachusetts | Middlesex | 77.3 | 81.0 | 67.8 | 71.1 | 65.6 | 68.7 | 65.5 | 68.6 |
| 250213003 | Massachusetts | Norfolk | 84.7 | 86.0 | 76.5 | 77.7 | 74.2 | 75.4 | 74.2 | 75.3 |
| 250250041 | Massachusetts | Suffolk | 80.3 | 81.0 | 72.8 | 73.5 | 70.8 | 71.4 | 70.8 | 71.4 |
| 250250042 | Massachusetts | Suffolk | 67.3 | 68.0 | 61.7 | 62.3 | 60.1 | 60.7 | 60.1 | 60.7 |
| 250270015 | Massachusetts | Worcester | 80.0 | 83.0 | 69.7 | 72.3 | 67.4 | 69.9 | 67.3 | 69.9 |
| 260050003 | Michigan | Allegan | 90.0 | 93.0 | 82.0 | 84.7 | 79.9 | 82.5 | 79.4 | 82.1 |
| 260190003 | Michigan | Benzie | 81.7 | 83.0 | 74.7 | 75.9 | 72.7 | 73.9 | 72.3 | 73.5 |
| 260210014 | Michigan | Berrien | 82.3 | 84.0 | 75.5 | 77.0 | 73.6 | 75.1 | 73.2 | 74.7 |
| 260270003 | Michigan | Cass | 80.7 | 84.0 | 72.4 | 75.4 | 70.3 | 73.2 | 69.7 | 72.5 |
| 260370001 | Michigan | Clinton | 75.7 | 78.0 | 67.0 | 69.1 | 64.8 | 66.7 | 64.5 | 66.4 |
| 260490021 | Michigan | Genesee | 77.3 | 80.0 | 69.7 | 72.2 | 67.6 | 70.0 | 67.3 | 69.7 |
| 260492001 | Michigan | Genesee | 79.3 | 82.0 | 71.9 | 74.4 | 69.9 | 72.3 | 69.6 | 72.0 |
| 260630007 | Michigan | Huron | 75.7 | 78.0 | 69.3 | 71.4 | 67.6 | 69.7 | 67.4 | 69.4 |
| 260650012 | Michigan | Ingham | 76.0 | 78.0 | 67.5 | 69.2 | 65.2 | 66.9 | 64.9 | 66.6 |
| 260770008 | Michigan | Kalamazoo | 75.3 | 78.0 | 67.8 | 70.3 | 65.8 | 68.1 | 65.4 | 67.7 |
| 260810020 | Michigan | Kent | 79.3 | 83.0 | 71.3 | 74.7 | 69.1 | 72.3 | 68.6 | 71.9 |
| 260810022 | Michigan | Kent | 81.0 | 83.0 | 72.2 | 74.0 | 69.9 | 71.6 | 69.4 | 71.1 |
| 260890001 | Michigan | Leelanau | 75.7 | 77.0 | 69.7 | 70.9 | 68.0 | 69.1 | 67.6 | 68.7 |
| 260910007 | Michigan | Lenawee | 78.7 | 81.0 | 71.4 | 73.4 | 69.7 | 71.8 | 69.2 | 71.2 |
| 260990009 | Michigan | Macomb | 86.0 | 90.0 | 80.1 | 83.8 | 78.6 | 82.3 | 78.3 | 82.0 |
| 260991003 | Michigan | Macomb | 84.0 | 87.0 | 79.7 | 82.5 | 78.3 | 81.1 | 78.2 | 81.0 |
| 261050007 | Michigan | Mason | 79.7 | 81.0 | 72.4 | 73.6 | 70.5 | 71.6 | 69.9 | 71.0 |
| 261130001 | Michigan | Missaukee | 73.7 | 75.0 | 66.6 | 67.8 | 64.9 | 66.0 | 64.3 | 65.5 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 261210039 | Michigan | Muskegon | 85.0 | 88.0 | 77.5 | 80.2 | 75.5 | 78.2 | 75.1 | 77.7 |
| 261250001 | Michigan | Oakland | 78.0 | 81.0 | 73.7 | 76.6 | 72.6 | 75.4 | 72.3 | 75.1 |
| 261390005 | Michigan | Ottawa | 81.7 | 85.0 | 73.8 | 76.8 | 71.7 | 74.6 | 71.2 | 74.1 |
| 261470005 | Michigan | St. Clair | 82.3 | 85.0 | 75.0 | 77.4 | 73.0 | 75.4 | 72.7 | 75.1 |
| 261530001 | Michigan | Schoolcraft | 79.3 | 82.0 | 72.0 | 74.4 | 70.1 | 72.4 | 69.8 | 72.2 |
| 261610008 | Michigan | Washtenaw | 78.3 | 81.0 | 72.5 | 75.0 | 71.1 | 73.6 | 70.8 | 73.2 |
| 261630001 | Michigan | Wayne | 73.0 | 75.0 | 68.2 | 70.0 | 66.9 | 68.7 | 66.6 | 68.4 |
| 261630016 | Michigan | Wayne | 73.5 | 76.0 | 68.0 | 70.3 | 66.6 | 68.8 | 66.3 | 68.6 |
| 261630019 | Michigan | Wayne | 82.0 | 83.0 | 77.1 | 78.0 | 75.7 | 76.6 | 75.4 | 76.3 |
| 270031002 | Minnesota | Anoka | 67.7 | 69.0 | 66.9 | 68.2 | 66.4 | 67.7 | 65.7 | 67.0 |
| 280330002 | Mississippi | DeSoto | 82.7 | 85.0 | 73.5 | 75.6 | 70.8 | 72.8 | 70.5 | 72.4 |
| 280450001 | Mississippi | Hancock | 79.0 | 79.0 | 72.2 | 72.2 | 70.2 | 70.2 | 68.9 | 68.9 |
| 280470008 | Mississippi | Harrison | 83.0 | 83.0 | 76.9 | 76.9 | 75.0 | 75.0 | 71.5 | 71.5 |
| 280470009 | Mississippi | Harrison | 77.0 | 77.0 | 71.8 | 71.8 | 70.4 | 70.4 | 68.1 | 68.1 |
| 280490010 | Mississippi | Hinds | 71.3 | 73.0 | 59.4 | 60.8 | 56.6 | 57.9 | 56.3 | 57.6 |
| 280590006 | Mississippi | Jackson | 80.3 | 81.0 | 74.5 | 75.2 | 72.8 | 73.4 | 69.9 | 70.5 |
| 280590007 | Mississippi | Jackson | 74.0 | 74.0 | 68.8 | 68.8 | 67.3 | 67.3 | 63.5 | 63.5 |
| 280750003 | Mississippi | Lauderdale | 74.3 | 76.0 | 65.2 | 66.6 | 62.3 | 63.7 | 62.1 | 63.5 |
| 280810005 | Mississippi | Lee | 73.7 | 75.0 | 64.2 | 65.3 | 61.3 | 62.4 | 61.2 | 62.2 |
| 290370003 | Missouri | Cass | 74.7 | 77.0 | 69.2 | 71.3 | 67.9 | 70.0 | 64.8 | 66.8 |
| 290390001 | Missouri | Cedar | 75.7 | 76.0 | 70.0 | 70.3 | 68.3 | 68.6 | 66.1 | 66.3 |
| 290470003 | Missouri | Clay | 79.0 | 81.0 | 72.2 | 74.0 | 70.4 | 72.2 | 68.1 | 69.8 |
| 290470005 | Missouri | Clay | 84.3 | 87.0 | 78.2 | 80.7 | 76.5 | 78.9 | 74.3 | 76.7 |
| 290470006 | Missouri | Clay | 83.0 | 87.0 | 76.8 | 80.5 | 75.0 | 78.6 | 73.0 | 76.5 |
| 290490001 | Missouri | Clinton | 83.0 | 85.0 | 76.4 | 78.2 | 74.5 | 76.3 | 72.4 | 74.1 |
| 290770036 | Missouri | Greene | 73.0 | 77.0 | 66.2 | 69.8 | 64.6 | 68.1 | 63.5 | 67.0 |
| 290990012 | Missouri | Jefferson | 82.3 | 86.0 | 77.5 | 80.9 | 75.6 | 79.1 | 75.3 | 78.7 |
| 291130003 | Missouri | Lincoln | 87.0 | 87.0 | 78.8 | 78.8 | 76.6 | 76.6 | 76.2 | 76.2 |
| 291370001 | Missouri | Monroe | 71.7 | 75.0 | 66.0 | 69.0 | 64.5 | 67.4 | 63.6 | 66.6 |
| 291570001 | Missouri | Perry | 77.5 | 80.0 | 70.3 | 72.5 | 68.4 | 70.6 | 68.3 | 70.5 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 291650023 | Missouri | Platte | 77.0 | 77.0 | 71.8 | 71.8 | 70.3 | 70.3 | 68.6 | 68.6 |
| 291831002 | Missouri | Saint Charles | 86.3 | 89.0 | 79.9 | 82.4 | 77.9 | 80.3 | 77.2 | 79.6 |
| 291831004 | Missouri | Saint Charles | 87.0 | 89.0 | 79.9 | 81.8 | 77.7 | 79.5 | 77.3 | 79.1 |
| 291860005 | Missouri | Sainte Genevieve | 79.7 | 83.0 | 72.5 | 75.5 | 70.5 | 73.4 | 70.0 | 72.9 |
| 291890004 | Missouri | Saint Louis | 82.3 | 86.0 | 78.5 | 82.1 | 77.0 | 80.4 | 76.6 | 80.1 |
| 291890005 | Missouri | Saint Louis | 83.0 | 83.0 | 77.0 | 77.0 | 74.9 | 74.9 | 74.5 | 74.5 |
| 291890006 | Missouri | Saint Louis | 78.0 | 78.0 | 73.3 | 73.3 | 71.6 | 71.6 | 71.2 | 71.2 |
| 291890014 | Missouri | Saint Louis | 88.0 | 88.0 | 83.0 | 83.0 | 81.1 | 81.1 | 80.7 | 80.7 |
| 295100085 | Missouri | St. Louis City | 84.0 | 84.0 | 80.3 | 80.3 | 78.8 | 78.8 | 78.2 | 78.2 |
| 295100086 | Missouri | St. Louis City | 83.0 | 86.0 | 79.4 | 82.2 | 77.8 | 80.6 | 77.2 | 80.0 |
| 310550028 | Nebraska | Douglas | 68.7 | 70.0 | 64.5 | 65.7 | 63.6 | 64.8 | 62.5 | 63.6 |
| 310550032 | Nebraska | Douglas | 64.7 | 66.0 | 60.5 | 61.7 | 59.4 | 60.6 | 58.4 | 59.6 |
| 310550035 | Nebraska | Douglas | 66.3 | 68.0 | 62.4 | 64.0 | 61.3 | 62.9 | 60.2 | 61.7 |
| 311090016 | Nebraska | Lancaster | 56.0 | 57.0 | 51.6 | 52.5 | 50.5 | 51.4 | 49.8 | 50.7 |
| 330012004 | New Hampshire | Belknap | 71.3 | 73.0 | 63.3 | 64.8 | 61.1 | 62.5 | 61.1 | 62.5 |
| 330050007 | New Hampshire | Cheshire | 70.7 | 71.0 | 62.2 | 62.5 | 60.2 | 60.4 | 60.1 | 60.4 |
| 330074001 | New Hampshire | Coos | 77.0 | 77.0 | 69.1 | 69.1 | 67.1 | 67.1 | 67.1 | 67.1 |
| 330074002 | New Hampshire | Coos | 65.0 | 67.0 | 58.3 | 60.1 | 56.7 | 58.4 | 56.7 | 58.4 |
| 330090010 | New Hampshire | Grafton | 67.0 | 67.0 | 59.0 | 59.0 | 57.0 | 57.0 | 57.0 | 57.0 |
| 330110020 | New Hampshire | Hillsborough | 70.3 | 71.0 | 61.2 | 61.8 | 59.0 | 59.6 | 59.0 | 59.6 |
| 330111011 | New Hampshire | Hillsborough | 78.7 | 80.0 | 68.6 | 69.7 | 66.1 | 67.2 | 66.1 | 67.2 |
| 330115001 | New Hampshire | Hillsborough | 78.3 | 80.0 | 68.9 | 70.4 | 66.6 | 68.1 | 66.6 | 68.0 |
| 330131007 | New Hampshire | Merrimack | 71.7 | 72.0 | 62.4 | 62.6 | 60.3 | 60.5 | 60.2 | 60.5 |
| 330150014 | New Hampshire | Rockingham | 74.7 | 75.0 | 65.8 | 66.0 | 63.7 | 63.9 | 63.7 | 63.9 |
| 330150016 | New Hampshire | Rockingham | 75.0 | 79.0 | 66.0 | 69.6 | 63.9 | 67.3 | 63.9 | 67.3 |
| 330190003 | New Hampshire | Sullivan | 70.0 | 72.0 | 61.9 | 63.7 | 59.9 | 61.7 | 59.9 | 61.6 |
| 340010005 | New Jersey | Atlantic | 79.3 | 82.0 | 70.7 | 73.1 | 68.7 | 71.0 | 68.6 | 71.0 |
| 340030005 | New Jersey | Bergen | 86.0 | 86.0 | 82.2 | 82.2 | 80.8 | 80.8 | 80.7 | 80.7 |
| 340070003 | New Jersey | Camden | 85.7 | 88.0 | 79.6 | 81.8 | 78.2 | 80.3 | 78.2 | 80.3 |
| 340071001 | New Jersey | Camden | 89.3 | 91.0 | 80.9 | 82.4 | 78.7 | 80.1 | 78.6 | 80.1 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 340110007 | New Jersey | Cumberland | 83.3 | 84.0 | 73.5 | 74.1 | 71.4 | 72.0 | 71.3 | 71.9 |
| 340150002 | New Jersey | Gloucester | 87.0 | 88.0 | 79.5 | 80.4 | 77.7 | 78.6 | 77.6 | 78.5 |
| 340170006 | New Jersey | Hudson | 85.7 | 89.0 | 80.1 | 83.2 | 78.6 | 81.7 | 78.5 | 81.5 |
| 340190001 | New Jersey | Hunterdon | 89.0 | 90.0 | 79.3 | 80.2 | 76.6 | 77.4 | 76.5 | 77.4 |
| 340210005 | New Jersey | Mercer | 88.0 | 91.0 | 81.4 | 84.1 | 79.3 | 82.0 | 79.3 | 82.0 |
| 340230011 | New Jersey | Middlesex | 88.3 | 91.0 | 80.2 | 82.6 | 77.8 | 80.2 | 77.8 | 80.2 |
| 340250005 | New Jersey | Monmouth | 87.3 | 89.0 | 79.5 | 81.0 | 77.5 | 79.0 | 77.4 | 78.9 |
| 340273001 | New Jersey | Morris | 83.3 | 86.0 | 75.0 | 77.5 | 72.7 | 75.0 | 72.6 | 75.0 |
| 340290006 | New Jersey | Ocean | 93.0 | 94.0 | 83.3 | 84.2 | 80.8 | 81.7 | 80.7 | 81.6 |
| 340315001 | New Jersey | Passaic | 81.0 | 83.0 | 75.0 | 76.9 | 73.2 | 75.1 | 73.2 | 75.0 |
| 350130008 | New Mexico | Dona Ana | 70.7 | 72.0 | 66.9 | 68.1 | 66.5 | 67.8 | 66.5 | 67.7 |
| 350130017 | New Mexico | Dona Ana | 71.3 | 72.0 | 67.3 | 67.9 | 66.7 | 67.3 | 66.7 | 67.3 |
| 350130021 | New Mexico | Dona Ana | 75.3 | 77.0 | 71.0 | 72.7 | 70.4 | 72.0 | 70.4 | 72.0 |
| 350130022 | New Mexico | Dona Ana | 72.7 | 74.0 | 68.5 | 69.8 | 67.9 | 69.1 | 67.8 | 69.0 |
| 350450009 | New Mexico | San Juan | 69.7 | 72.0 | 66.4 | 68.6 | 65.9 | 68.1 | 65.9 | 68.1 |
| 350451005 | New Mexico | San Juan | 71.3 | 72.0 | 68.1 | 68.8 | 67.6 | 68.3 | 67.6 | 68.3 |
| 360010012 | New York | Albany | 73.7 | 76.0 | 65.9 | 67.9 | 63.9 | 65.9 | 63.9 | 65.9 |
| 360050110 | New York | Bronx | 74.0 | 76.0 | 68.9 | 70.8 | 67.6 | 69.5 | 67.5 | 69.3 |
| 360050133 | New York | Bronx | 74.7 | 75.0 | 72.0 | 72.3 | 71.0 | 71.2 | 70.8 | 71.1 |
| 360130006 | New York | Chautauqua | 86.7 | 89.0 | 79.3 | 81.4 | 77.4 | 79.5 | 77.2 | 79.2 |
| 360130011 | New York | Chautauqua | 77.3 | 79.0 | 70.5 | 72.1 | 68.8 | 70.3 | 68.5 | 70.0 |
| 360150003 | New York | Chemung | 68.7 | 70.0 | 61.2 | 62.4 | 59.6 | 60.7 | 59.4 | 60.5 |
| 360270007 | New York | Dutchess | 75.7 | 79.0 | 67.3 | 70.2 | 65.4 | 68.2 | 65.3 | 68.2 |
| 360290002 | New York | Erie | 85.0 | 86.0 | 77.5 | 78.4 | 75.6 | 76.5 | 75.4 | 76.2 |
| 360410005 | New York | Hamilton | 71.7 | 73.0 | 65.5 | 66.7 | 64.1 | 65.2 | 63.9 | 65.1 |
| 360430005 | New York | Herkimer | 68.3 | 70.0 | 63.0 | 64.6 | 61.9 | 63.4 | 61.7 | 63.2 |
| 360450002 | New York | Jefferson | 78.0 | 80.0 | 71.2 | 73.0 | 69.6 | 71.4 | 69.6 | 71.4 |
| 360530006 | New York | Madison | 72.0 | 73.0 | 64.1 | 64.9 | 62.5 | 63.4 | 62.4 | 63.2 |
| 360551007 | New York | Monroe | 75.0 | 80.0 | 68.9 | 73.5 | 67.4 | 71.9 | 67.2 | 71.7 |
| 360631006 | New York | Niagara | 82.7 | 86.0 | 76.1 | 79.2 | 74.7 | 77.7 | 74.6 | 77.5 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 360650004 | New York | Oneida | 68.3 | 72.0 | 61.5 | 64.8 | 59.9 | 63.2 | 59.8 | 63.0 |
| 360671015 | New York | Onondaga | 73.7 | 76.0 | 66.6 | 68.7 | 65.0 | 67.0 | 64.9 | 66.9 |
| 360715001 | New York | Orange | 82.0 | 84.0 | 73.3 | 75.1 | 71.0 | 72.7 | 71.0 | 72.7 |
| 360750003 | New York | Oswego | 78.0 | 82.0 | 71.1 | 74.8 | 69.6 | 73.1 | 69.4 | 73.0 |
| 360790005 | New York | Putnam | 84.3 | 86.0 | 76.8 | 78.4 | 74.7 | 76.2 | 74.6 | 76.1 |
| 360810098 | New York | Queens | 69.0 | 69.0 | 64.3 | 64.3 | 63.1 | 63.1 | 62.9 | 62.9 |
| 360810124 | New York | Queens | 80.0 | 82.0 | 75.1 | 77.0 | 73.8 | 75.7 | 73.7 | 75.5 |
| 360830004 | New York | Rensselaer | 77.3 | 80.0 | 69.1 | 71.5 | 67.1 | 69.4 | 67.1 | 69.4 |
| 360850067 | New York | Richmond | 88.3 | 89.0 | 82.6 | 83.2 | 80.8 | 81.4 | 80.7 | 81.3 |
| 360910004 | New York | Saratoga | 79.7 | 82.0 | 71.3 | 73.4 | 69.2 | 71.2 | 69.2 | 71.2 |
| 360930003 | New York | Schenectady | 70.0 | 74.0 | 62.8 | 66.4 | 60.9 | 64.4 | 60.9 | 64.4 |
| 361030002 | New York | Suffolk | 90.0 | 91.0 | 86.3 | 87.2 | 84.9 | 85.9 | 84.8 | 85.7 |
| 361030004 | New York | Suffolk | 84.7 | 90.0 | 78.6 | 83.6 | 76.8 | 81.6 | 76.6 | 81.4 |
| 361030009 | New York | Suffolk | 90.3 | 91.0 | 85.1 | 85.8 | 83.7 | 84.4 | 83.6 | 84.3 |
| 361111005 | New York | Ulster | 77.3 | 79.0 | 68.4 | 69.9 | 66.3 | 67.7 | 66.2 | 67.6 |
| 361173001 | New York | Wayne | 68.0 | 71.0 | 62.1 | 64.8 | 60.7 | 63.4 | 60.6 | 63.2 |
| 361192004 | New York | Westchester | 87.7 | 90.0 | 84.7 | 86.9 | 83.5 | 85.6 | 83.4 | 85.5 |
| 370030004 | North Carolina | Alexander | 77.0 | 79.0 | 67.8 | 69.6 | 65.5 | 67.2 | 65.4 | 67.1 |
| 370110002 | North Carolina | Avery | 70.0 | 72.0 | 60.0 | 61.8 | 57.7 | 59.3 | 57.5 | 59.2 |
| 370210030 | North Carolina | Buncombe | 74.0 | 74.0 | 63.8 | 63.8 | 61.2 | 61.2 | 61.0 | 61.0 |
| 370270003 | North Carolina | Caldwell | 74.3 | 76.0 | 63.7 | 65.1 | 61.1 | 62.5 | 60.9 | 62.3 |
| 370330001 | North Carolina | Caswell | 76.3 | 77.0 | 65.5 | 66.1 | 62.7 | 63.3 | 62.5 | 63.0 |
| 370370004 | North Carolina | Chatham | 73.3 | 74.0 | 63.1 | 63.7 | 60.5 | 61.1 | 60.3 | 60.9 |
| 370510008 | North Carolina | Cumberland | 78.0 | 80.0 | 67.3 | 69.1 | 64.4 | 66.1 | 64.2 | 65.9 |
| 370511003 | North Carolina | Cumberland | 81.7 | 83.0 | 70.5 | 71.7 | 67.6 | 68.7 | 67.4 | 68.5 |
| 370590002 | North Carolina | Davie | 81.3 | 83.0 | 71.0 | 72.5 | 68.4 | 69.8 | 68.1 | 69.6 |
| 370630013 | North Carolina | Durham | 77.0 | 78.0 | 66.8 | 67.7 | 63.8 | 64.6 | 63.7 | 64.5 |
| 370650099 | North Carolina | Edgecombe | 77.0 | 79.0 | 67.3 | 69.0 | 64.6 | 66.3 | 64.3 | 65.9 |
| 370670022 | North Carolina | Forsyth | 78.0 | 79.0 | 66.9 | 67.8 | 64.5 | 65.3 | 64.3 | 65.1 |
| 370670028 | North Carolina | Forsyth | 73.0 | 74.0 | 62.3 | 63.2 | 60.0 | 60.8 | 59.8 | 60.7 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 370670030 | North Carolina | Forsyth | 76.0 | 76.0 | 65.7 | 65.7 | 63.3 | 63.3 | 63.0 | 63.0 |
| 370671008 | North Carolina | Forsyth | 80.0 | 81.0 | 68.9 | 69.7 | 66.3 | 67.1 | 66.0 | 66.8 |
| 370690001 | North Carolina | Franklin | 78.7 | 81.0 | 67.7 | 69.7 | 64.4 | 66.3 | 64.3 | 66.1 |
| 370750001 | North Carolina | Graham | 78.3 | 79.0 | 68.4 | 69.0 | 65.4 | 65.9 | 65.0 | 65.6 |
| 370770001 | North Carolina | Granville | 82.0 | 85.0 | 70.8 | 73.4 | 67.6 | 70.1 | 67.5 | 69.9 |
| 370810011 | North Carolina | Guilford | 77.0 | 77.0 | 67.3 | 67.3 | 64.3 | 64.3 | 64.2 | 64.2 |
| 370810013 | North Carolina | Guilford | 82.0 | 82.0 | 71.6 | 71.6 | 68.4 | 68.4 | 68.2 | 68.2 |
| 370870004 | North Carolina | Haywood | 71.3 | 73.0 | 62.4 | 63.9 | 60.0 | 61.5 | 59.8 | 61.2 |
| 370870035 | North Carolina | Haywood | 78.3 | 79.0 | 68.3 | 68.9 | 65.4 | 66.0 | 65.2 | 65.8 |
| 370870036 | North Carolina | Haywood | 77.3 | 78.0 | 68.4 | 69.0 | 65.9 | 66.5 | 65.7 | 66.3 |
| 370990005 | North Carolina | Jackson | 76.0 | 76.0 | 66.6 | 66.6 | 64.0 | 64.0 | 63.7 | 63.7 |
| 371010002 | North Carolina | Johnston | 77.3 | 79.0 | 66.9 | 68.4 | 63.9 | 65.3 | 63.7 | 65.1 |
| 371070004 | North Carolina | Lenoir | 75.3 | 77.0 | 66.6 | 68.1 | 64.3 | 65.7 | 63.6 | 65.1 |
| 371090004 | North Carolina | Lincoln | 81.0 | 83.0 | 71.5 | 73.2 | 69.2 | 70.9 | 69.0 | 70.7 |
| 371170001 | North Carolina | Martin | 75.0 | 77.0 | 67.9 | 69.7 | 66.2 | 68.0 | 66.2 | 67.9 |
| 371190041 | North Carolina | Mecklenburg | 88.0 | 90.0 | 78.5 | 80.3 | 75.9 | 77.6 | 75.7 | 77.5 |
| 371191005 | North Carolina | Mecklenburg | 80.3 | 83.0 | 72.1 | 74.6 | 69.8 | 72.1 | 69.6 | 72.0 |
| 371191009 | North Carolina | Mecklenburg | 89.3 | 93.0 | 78.3 | 81.6 | 75.4 | 78.5 | 75.2 | 78.3 |
| 371290002 | North Carolina | New Hanover | 72.3 | 73.0 | 66.7 | 67.3 | 64.8 | 65.5 | 64.6 | 65.2 |
| 371450003 | North Carolina | Person | 77.3 | 79.0 | 65.5 | 67.0 | 63.5 | 64.9 | 63.6 | 65.0 |
| 371470099 | North Carolina | Pitt | 76.3 | 77.0 | 66.9 | 67.5 | 64.4 | 65.0 | 63.8 | 64.4 |
| 371570099 | North Carolina | Rockingham | 77.0 | 78.0 | 66.1 | 66.9 | 63.4 | 64.2 | 63.1 | 64.0 |
| 371590021 | North Carolina | Rowan | 86.7 | 89.0 | 75.7 | 77.7 | 72.7 | 74.7 | 72.5 | 74.4 |
| 371590022 | North Carolina | Rowan | 86.7 | 90.0 | 75.9 | 78.8 | 72.9 | 75.7 | 72.7 | 75.5 |
| 371730002 | North Carolina | Swain | 66.3 | 68.0 | 57.6 | 59.1 | 55.0 | 56.4 | 54.7 | 56.1 |
| 371790003 | North Carolina | Union | 79.3 | 81.0 | 68.8 | 70.3 | 66.0 | 67.4 | 65.9 | 67.3 |
| 371830014 | North Carolina | Wake | 80.3 | 82.0 | 70.1 | 71.6 | 67.0 | 68.5 | 66.9 | 68.3 |
| 371830016 | North Carolina | Wake | 80.0 | 83.0 | 69.4 | 72.0 | 66.3 | 68.8 | 66.2 | 68.7 |
| 371990003 | North Carolina | Yancey | 76.0 | 76.0 | 66.3 | 66.3 | 63.7 | 63.7 | 63.4 | 63.4 |
| 390030002 | Ohio | Allen | 78.7 | 81.0 | 70.7 | 72.8 | 68.5 | 70.5 | 68.4 | 70.4 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 390071001 | Ohio | Ashtabula | 89.0 | 91.0 | 81.1 | 83.0 | 79.0 | 80.8 | 78.6 | 80.4 |
| 390170004 | Ohio | Butler | 83.3 | 85.0 | 76.2 | 77.8 | 74.2 | 75.7 | 73.6 | 75.1 |
| 390171004 | Ohio | Butler | 82.3 | 85.0 | 74.6 | 77.0 | 72.4 | 74.8 | 71.9 | 74.2 |
| 390230001 | Ohio | Clark | 81.0 | 83.0 | 72.4 | 74.2 | 70.2 | 72.0 | 69.8 | 71.6 |
| 390230003 | Ohio | Clark | 77.0 | 78.0 | 69.9 | 70.8 | 67.9 | 68.8 | 67.6 | 68.4 |
| 390250022 | Ohio | Clermont | 81.0 | 83.0 | 74.2 | 76.0 | 72.2 | 74.0 | 71.3 | 73.0 |
| 390271002 | Ohio | Clinton | 82.3 | 85.0 | 73.4 | 75.8 | 71.1 | 73.4 | 70.3 | 72.6 |
| 390350034 | Ohio | Cuyahoga | 71.0 | 76.0 | 65.0 | 69.6 | 63.4 | 67.9 | 63.1 | 67.5 |
| 390350064 | Ohio | Cuyahoga | 73.0 | 76.0 | 67.3 | 70.0 | 65.6 | 68.3 | 65.3 | 68.0 |
| 390355002 | Ohio | Cuyahoga | 79.7 | 81.0 | 73.3 | 74.5 | 71.5 | 72.7 | 71.2 | 72.3 |
| 390410002 | Ohio | Delaware | 78.3 | 81.0 | 69.7 | 72.1 | 67.2 | 69.6 | 67.0 | 69.3 |
| 390490028 | Ohio | Franklin | 80.3 | 82.0 | 73.6 | 75.2 | 71.6 | 73.1 | 71.3 | 72.8 |
| 390490029 | Ohio | Franklin | 86.3 | 88.0 | 77.4 | 78.9 | 75.0 | 76.4 | 74.7 | 76.2 |
| 390490037 | Ohio | Franklin | 80.3 | 81.0 | 74.2 | 74.9 | 72.1 | 72.7 | 71.8 | 72.4 |
| 390490081 | Ohio | Franklin | 79.7 | 80.0 | 71.9 | 72.1 | 69.6 | 69.8 | 69.3 | 69.6 |
| 390550004 | Ohio | Geauga | 79.3 | 86.0 | 71.3 | 77.3 | 69.2 | 75.0 | 68.8 | 74.6 |
| 390570006 | Ohio | Greene | 80.3 | 83.0 | 71.7 | 74.1 | 69.6 | 72.0 | 69.1 | 71.5 |
| 390610006 | Ohio | Hamilton | 84.7 | 86.0 | 78.1 | 79.3 | 76.1 | 77.2 | 75.5 | 76.7 |
| 390610010 | Ohio | Hamilton | 82.0 | 84.0 | 75.7 | 77.6 | 74.1 | 75.9 | 73.3 | 75.1 |
| 390610040 | Ohio | Hamilton | 81.7 | 83.0 | 76.0 | 77.2 | 74.3 | 75.4 | 73.6 | 74.7 |
| 390810017 | Ohio | Jefferson | 78.0 | 80.0 | 68.5 | 70.3 | 67.1 | 68.9 | 66.5 | 68.2 |
| 390830002 | Ohio | Knox | 77.7 | 79.0 | 68.6 | 69.7 | 66.2 | 67.3 | 65.9 | 67.0 |
| 390850003 | Ohio | Lake | 86.3 | 89.0 | 78.7 | 81.2 | 76.7 | 79.1 | 76.3 | 78.7 |
| 390853002 | Ohio | Lake | 80.7 | 81.0 | 73.4 | 73.7 | 71.5 | 71.8 | 71.1 | 71.4 |
| 390870006 | Ohio | Lawrence | 70.7 | 73.0 | 63.7 | 65.8 | 62.3 | 64.3 | 62.1 | 64.2 |
| 390870011 | Ohio | Lawrence | 63.3 | 69.0 | 55.3 | 60.3 | 53.9 | 58.8 | 53.8 | 58.7 |
| 390890005 | Ohio | Licking | 78.0 | 81.0 | 68.9 | 71.6 | 66.4 | 68.9 | 66.1 | 68.7 |
| 390930018 | Ohio | Lorain | 76.7 | 80.0 | 70.4 | 73.4 | 68.6 | 71.6 | 68.2 | 71.1 |
| 390950024 | Ohio | Lucas | 76.3 | 78.0 | 70.3 | 71.9 | 68.7 | 70.2 | 68.3 | 69.8 |
| 390950027 | Ohio | Lucas | 77.7 | 82.0 | 72.1 | 76.1 | 70.5 | 74.4 | 70.1 | 74.0 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 390950034 | Ohio | Lucas | 81.3 | 86.0 | 74.8 | 79.1 | 73.0 | 77.2 | 72.5 | 76.7 |
| 390950081 | Ohio | Lucas | 80.7 | 84.0 | 74.4 | 77.4 | 72.6 | 75.6 | 72.2 | 75.1 |
| 390970007 | Ohio | Madison | 79.7 | 82.0 | 70.6 | 72.6 | 68.4 | 70.3 | 68.0 | 70.0 |
| 390990013 | Ohio | Mahoning | 78.7 | 80.0 | 70.7 | 71.9 | 69.0 | 70.2 | 68.4 | 69.6 |
| 391030003 | Ohio | Medina | 80.3 | 84.0 | 71.5 | 74.8 | 69.3 | 72.5 | 68.9 | 72.1 |
| 391090005 | Ohio | Miami | 76.7 | 80.0 | 68.1 | 71.1 | 65.9 | 68.8 | 65.6 | 68.4 |
| 391130037 | Ohio | Montgomery | 74.0 | 75.0 | 66.3 | 67.2 | 64.4 | 65.3 | 64.0 | 64.9 |
| 391331001 | Ohio | Portage | 83.7 | 88.0 | 75.3 | 79.1 | 73.0 | 76.8 | 72.7 | 76.4 |
| 391351001 | Ohio | Preble | 73.0 | 75.0 | 65.1 | 66.9 | 63.1 | 64.8 | 62.5 | 64.3 |
| 391510016 | Ohio | Stark | 78.0 | 79.0 | 68.7 | 69.6 | 66.6 | 67.5 | 66.3 | 67.2 |
| 391510022 | Ohio | Stark | 77.3 | 80.0 | 68.9 | 71.3 | 67.0 | 69.4 | 66.6 | 68.9 |
| 391514005 | Ohio | Stark | 81.0 | 82.0 | 71.3 | 72.2 | 69.3 | 70.2 | 69.0 | 69.8 |
| 391530020 | Ohio | Summit | 83.7 | 85.0 | 74.7 | 75.8 | 72.3 | 73.4 | 72.0 | 73.1 |
| 391550009 | Ohio | Trumbull | 80.0 | 83.0 | 71.3 | 73.9 | 69.3 | 71.9 | 68.8 | 71.3 |
| 391550011 | Ohio | Trumbull | 84.3 | 86.0 | 75.8 | 77.4 | 74.0 | 75.5 | 73.4 | 74.8 |
| 391650007 | Ohio | Warren | 87.7 | 89.0 | 79.0 | 80.1 | 76.6 | 77.7 | 76.0 | 77.1 |
| 391670004 | Ohio | Washington | 82.7 | 85.0 | 75.2 | 77.2 | 73.8 | 75.9 | 72.3 | 74.4 |
| 391730003 | Ohio | Wood | 80.0 | 83.0 | 73.4 | 76.2 | 71.6 | 74.3 | 71.2 | 73.8 |
| 400170101 | Oklahoma | Canadian | 76.0 | 76.0 | 71.1 | 71.1 | 68.5 | 68.5 | 67.9 | 67.9 |
| 400219002 | Oklahoma | Cherokee | 75.7 | 76.0 | 72.1 | 72.3 | 70.5 | 70.8 | 65.7 | 65.9 |
| 400270049 | Oklahoma | Cleveland | 74.7 | 75.0 | 69.1 | 69.4 | 66.7 | 67.0 | 65.8 | 66.1 |
| 400310647 | Oklahoma | Comanche | 77.5 | 78.0 | 71.3 | 71.7 | 68.8 | 69.3 | 68.3 | 68.7 |
| 400370144 | Oklahoma | Creek | 76.7 | 77.0 | 70.7 | 71.0 | 68.6 | 68.9 | 66.6 | 66.9 |
| 400719010 | Oklahoma | Kay | 78.0 | 79.0 | 72.7 | 73.6 | 70.6 | 71.5 | 67.7 | 68.5 |
| 400871073 | Oklahoma | McClain | 72.0 | 72.0 | 66.4 | 66.4 | 64.0 | 64.0 | 63.2 | 63.2 |
| 400979014 | Oklahoma | Mayes | 78.5 | 79.0 | 75.0 | 75.4 | 73.6 | 74.1 | 69.3 | 69.7 |
| 401090033 | Oklahoma | Oklahoma | 77.0 | 77.0 | 72.3 | 72.3 | 70.3 | 70.3 | 69.4 | 69.4 |
| 401090096 | Oklahoma | Oklahoma | 76.3 | 78.0 | 71.1 | 72.7 | 68.9 | 70.4 | 67.6 | 69.1 |
| 401091037 | Oklahoma | Oklahoma | 80.0 | 81.0 | 73.5 | 74.4 | 70.6 | 71.5 | 70.1 | 71.0 |
| 401159004 | Oklahoma | Ottawa | 78.0 | 79.0 | 72.9 | 73.9 | 71.4 | 72.3 | 68.0 | 68.9 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 401210415 | Oklahoma | Pittsburg | 72.0 | 73.0 | 67.6 | 68.5 | 65.9 | 66.8 | 64.3 | 65.2 |
| 401430137 | Oklahoma | Tulsa | 79.3 | 80.0 | 73.1 | 73.7 | 70.7 | 71.3 | 68.9 | 69.5 |
| 401430174 | Oklahoma | Tulsa | 74.0 | 76.0 | 68.9 | 70.8 | 67.0 | 68.8 | 65.0 | 66.7 |
| 401430178 | Oklahoma | Tulsa | 79.3 | 80.0 | 74.4 | 75.1 | 72.5 | 73.2 | 70.5 | 71.2 |
| 401431127 | Oklahoma | Tulsa | 77.0 | 78.0 | 71.6 | 72.5 | 69.3 | 70.2 | 67.6 | 68.5 |
| 420010002 | Pennsylvania | Adams | 76.3 | 78.0 | 65.8 | 67.3 | 63.7 | 65.1 | 63.6 | 65.0 |
| 420030008 | Pennsylvania | Allegheny | 79.3 | 81.0 | 73.5 | 75.1 | 72.4 | 74.0 | 72.0 | 73.5 |
| 420030010 | Pennsylvania | Allegheny | 82.3 | 84.0 | 76.3 | 77.9 | 75.2 | 76.7 | 74.7 | 76.2 |
| 420030067 | Pennsylvania | Allegheny | 80.3 | 82.0 | 73.3 | 74.8 | 72.0 | 73.5 | 71.6 | 73.1 |
| 420031005 | Pennsylvania | Allegheny | 83.7 | 87.0 | 75.4 | 78.4 | 73.9 | 76.8 | 73.1 | 76.0 |
| 420050001 | Pennsylvania | Armstrong | 83.0 | 84.0 | 73.9 | 74.8 | 72.2 | 73.1 | 71.5 | 72.3 |
| 420070002 | Pennsylvania | Beaver | 83.0 | 84.0 | 74.6 | 75.5 | 73.2 | 74.1 | 72.6 | 73.5 |
| 420070005 | Pennsylvania | Beaver | 79.3 | 81.0 | 71.6 | 73.1 | 70.2 | 71.7 | 69.7 | 71.2 |
| 420070014 | Pennsylvania | Beaver | 74.0 | 75.0 | 66.6 | 67.5 | 65.4 | 66.2 | 64.9 | 65.8 |
| 420110009 | Pennsylvania | Berks | 76.0 | 80.0 | 67.8 | 71.4 | 65.9 | 69.4 | 65.6 | 69.1 |
| 420130801 | Pennsylvania | Blair | 74.3 | 77.0 | 66.1 | 68.5 | 64.6 | 66.9 | 64.1 | 66.4 |
| 420170012 | Pennsylvania | Bucks | 88.0 | 92.0 | 81.8 | 85.6 | 79.9 | 83.5 | 79.8 | 83.5 |
| 420210011 | Pennsylvania | Cambria | 74.7 | 77.0 | 67.0 | 69.0 | 65.3 | 67.4 | 64.8 | 66.8 |
| 420270100 | Pennsylvania | Centre | 78.3 | 79.0 | 69.4 | 70.0 | 67.4 | 68.0 | 67.1 | 67.7 |
| 420290100 | Pennsylvania | Chester | 86.0 | 87.0 | 75.1 | 76.0 | 73.0 | 73.9 | 72.9 | 73.8 |
| 420334000 | Pennsylvania | Clearfield | 78.3 | 82.0 | 69.4 | 72.7 | 67.8 | 71.0 | 67.2 | 70.4 |
| 420430401 | Pennsylvania | Dauphin | 79.3 | 81.0 | 72.2 | 73.8 | 70.5 | 72.0 | 69.9 | 71.4 |
| 420431100 | Pennsylvania | Dauphin | 79.3 | 81.0 | 72.4 | 73.9 | 70.6 | 72.1 | 70.1 | 71.6 |
| 420450002 | Pennsylvania | Delaware | 83.3 | 85.0 | 75.5 | 77.1 | 73.8 | 75.4 | 73.8 | 75.3 |
| 420490003 | Pennsylvania | Erie | 81.3 | 83.0 | 73.9 | 75.5 | 72.0 | 73.5 | 71.8 | 73.3 |
| 420550001 | Pennsylvania | Franklin | 72.3 | 75.0 | 62.8 | 65.1 | 60.6 | 62.9 | 60.5 | 62.8 |
| 420590002 | Pennsylvania | Greene | 80.0 | 81.0 | 73.4 | 74.3 | 72.3 | 73.2 | 70.2 | 71.1 |
| 420630004 | Pennsylvania | Indiana | 80.0 | 80.0 | 71.1 | 71.1 | 69.5 | 69.5 | 68.8 | 68.8 |
| 420690101 | Pennsylvania | Lackawanna | 74.3 | 75.0 | 66.0 | 66.6 | 64.1 | 64.7 | 63.9 | 64.5 |
| 420692006 | Pennsylvania | Lackawanna | 75.3 | 76.0 | 66.8 | 67.4 | 64.8 | 65.4 | 64.6 | 65.2 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 420710007 | Pennsylvania | Lancaster | 83.3 | 84.0 | 74.3 | 74.9 | 72.3 | 72.9 | 72.0 | 72.6 |
| 420730015 | Pennsylvania | Lawrence | 72.3 | 73.0 | 64.4 | 65.1 | 62.9 | 63.5 | 62.3 | 62.9 |
| 420770004 | Pennsylvania | Lehigh | 83.3 | 85.0 | 74.7 | 76.3 | 72.5 | 74.0 | 72.5 | 74.0 |
| 420791100 | Pennsylvania | Luzerne | 69.3 | 73.0 | 61.8 | 65.1 | 60.0 | 63.2 | 59.8 | 63.0 |
| 420791101 | Pennsylvania | Luzerne | 76.3 | 77.0 | 67.9 | 68.5 | 65.9 | 66.5 | 65.7 | 66.3 |
| 420810100 | Pennsylvania | Lycoming | 77.3 | 79.0 | 68.7 | 70.2 | 66.7 | 68.2 | 66.5 | 68.0 |
| 420850100 | Pennsylvania | Mercer | 82.0 | 83.0 | 74.0 | 74.9 | 72.3 | 73.2 | 71.7 | 72.5 |
| 420910013 | Pennsylvania | Montgomery | 85.7 | 86.0 | 79.1 | 79.4 | 77.5 | 77.7 | 77.4 | 77.7 |
| 420950025 | Pennsylvania | Northampton | 84.3 | 87.0 | 75.4 | 77.9 | 73.2 | 75.6 | 73.2 | 75.5 |
| 420958000 | Pennsylvania | Northampton | 80.0 | 82.0 | 71.4 | 73.2 | 69.2 | 70.9 | 69.2 | 70.9 |
| 420990301 | Pennsylvania | Perry | 77.0 | 78.0 | 69.2 | 70.1 | 67.1 | 68.0 | 66.8 | 67.7 |
| 421010004 | Pennsylvania | Philadelphia | 64.3 | 68.0 | 61.0 | 64.5 | 59.8 | 63.3 | 59.8 | 63.3 |
| 421010014 | Pennsylvania | Philadelphia | 79.7 | 81.0 | 76.0 | 77.3 | 74.9 | 76.1 | 74.9 | 76.1 |
| 421010024 | Pennsylvania | Philadelphia | 90.3 | 91.0 | 85.3 | 86.0 | 83.6 | 84.3 | 83.6 | 84.3 |
| 421010136 | Pennsylvania | Philadelphia | 77.0 | 77.0 | 71.3 | 71.3 | 70.1 | 70.1 | 70.0 | 70.0 |
| 421174000 | Pennsylvania | Tioga | 77.7 | 81.0 | 68.8 | 71.8 | 66.9 | 69.7 | 66.7 | 69.5 |
| 421250005 | Pennsylvania | Washington | 78.3 | 80.0 | 71.5 | 73.1 | 70.3 | 71.8 | 70.0 | 71.5 |
| 421250200 | Pennsylvania | Washington | 77.3 | 81.0 | 70.1 | 73.5 | 68.8 | 72.1 | 68.5 | 71.8 |
| 421255001 | Pennsylvania | Washington | 78.0 | 78.0 | 70.0 | 70.0 | 68.5 | 68.5 | 68.0 | 68.0 |
| 421290006 | Pennsylvania | Westmoreland | 78.3 | 80.0 | 72.2 | 73.7 | 70.9 | 72.4 | 70.3 | 71.8 |
| 421290008 | Pennsylvania | Westmoreland | 79.0 | 82.0 | 72.1 | 74.8 | 70.6 | 73.2 | 70.1 | 72.8 |
| 421330008 | Pennsylvania | York | 82.0 | 83.0 | 73.6 | 74.5 | 71.7 | 72.6 | 71.3 | 72.2 |
| 440030002 | Rhode Island | Kent | 84.3 | 86.0 | 75.4 | 77.0 | 73.3 | 74.8 | 73.2 | 74.7 |
| 440071010 | Rhode Island | Providence | 82.3 | 84.0 | 73.5 | 75.0 | 71.3 | 72.8 | 71.3 | 72.7 |
| 440090007 | Rhode Island | Washington | 86.0 | 89.0 | 77.2 | 79.9 | 75.2 | 77.8 | 75.1 | 77.7 |
| 450010001 | South Carolina | Abbeville | 79.0 | 81.0 | 69.1 | 70.8 | 66.1 | 67.7 | 65.7 | 67.4 |
| 450030003 | South Carolina | Aiken | 76.0 | 77.0 | 66.4 | 67.3 | 63.3 | 64.1 | 63.0 | 63.8 |
| 450070003 | South Carolina | Anderson | 76.5 | 78.0 | 66.7 | 68.1 | 63.8 | 65.0 | 63.5 | 64.7 |
| 450110001 | South Carolina | Barnwell | 73.0 | 73.0 | 65.0 | 65.0 | 61.9 | 61.9 | 61.7 | 61.7 |
| 450150002 | South Carolina | Berkeley | 67.3 | 70.0 | 60.3 | 62.7 | 58.5 | 60.9 | 58.1 | 60.4 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 450190046 | South Carolina | Charleston | 74.0 | 75.0 | 67.2 | 68.1 | 65.0 | 65.8 | 64.5 | 65.4 |
| 450210002 | South Carolina | Cherokee | 74.0 | 75.0 | 63.8 | 64.7 | 61.1 | 61.9 | 61.0 | 61.8 |
| 450230002 | South Carolina | Chester | 75.7 | 76.0 | 66.1 | 66.4 | 63.5 | 63.7 | 63.4 | 63.6 |
| 450250001 | South Carolina | Chesterfield | 75.0 | 75.0 | 65.8 | 65.8 | 63.4 | 63.4 | 63.2 | 63.2 |
| 450290002 | South Carolina | Colleton | 72.3 | 74.0 | 65.6 | 67.2 | 63.0 | 64.5 | 62.4 | 63.9 |
| 450310003 | South Carolina | Darlington | 76.3 | 77.0 | 67.0 | 67.7 | 64.6 | 65.2 | 64.2 | 64.8 |
| 450370001 | South Carolina | Edgefield | 70.0 | 70.0 | 61.0 | 61.0 | 58.1 | 58.1 | 57.8 | 57.8 |
| 450730001 | South Carolina | Oconee | 73.0 | 76.0 | 63.4 | 66.0 | 60.4 | 62.9 | 60.1 | 62.6 |
| 450770002 | South Carolina | Pickens | 78.7 | 81.0 | 68.0 | 70.0 | 64.8 | 66.7 | 64.5 | 66.4 |
| 450790007 | South Carolina | Richland | 80.3 | 82.0 | 69.9 | 71.3 | 66.5 | 67.9 | 66.1 | 67.5 |
| 450790021 | South Carolina | Richland | 72.7 | 73.0 | 61.7 | 61.9 | 58.7 | 58.9 | 58.4 | 58.7 |
| 450791001 | South Carolina | Richland | 82.3 | 83.0 | 71.6 | 72.2 | 68.1 | 68.7 | 67.8 | 68.3 |
| 450830009 | South Carolina | Spartanburg | 82.3 | 83.0 | 71.5 | 72.1 | 68.6 | 69.2 | 68.5 | 69.1 |
| 450870001 | South Carolina | Union | 76.0 | 77.0 | 66.7 | 67.6 | 64.1 | 64.9 | 63.9 | 64.8 |
| 450890001 | South Carolina | Williamsburg | 69.3 | 70.0 | 62.3 | 62.9 | 60.2 | 60.8 | 59.9 | 60.5 |
| 450910006 | South Carolina | York | 76.7 | 79.0 | 67.2 | 69.2 | 64.5 | 66.4 | 64.4 | 66.3 |
| 470010101 | Tennessee | Anderson | 77.3 | 80.0 | 66.2 | 68.5 | 63.2 | 65.4 | 63.1 | 65.3 |
| 470090101 | Tennessee | Blount | 85.3 | 86.0 | 73.4 | 74.0 | 70.0 | 70.6 | 69.8 | 70.4 |
| 470090102 | Tennessee | Blount | 68.5 | 70.0 | 59.6 | 60.9 | 57.0 | 58.2 | 56.7 | 58.0 |
| 470370011 | Tennessee | Davidson | 68.7 | 72.0 | 60.7 | 63.6 | 58.4 | 61.3 | 58.2 | 61.0 |
| 470370026 | Tennessee | Davidson | 77.7 | 79.0 | 68.5 | 69.6 | 65.8 | 66.9 | 65.6 | 66.7 |
| 470651011 | Tennessee | Hamilton | 80.0 | 83.0 | 70.6 | 73.2 | 66.8 | 69.3 | 66.5 | 69.0 |
| 470654003 | Tennessee | Hamilton | 81.0 | 84.0 | 71.6 | 74.2 | 67.8 | 70.3 | 67.6 | 70.1 |
| 470890002 | Tennessee | Jefferson | 82.3 | 84.0 | 71.3 | 72.8 | 68.0 | 69.4 | 67.8 | 69.2 |
| 470930021 | Tennessee | Knox | 78.7 | 81.0 | 68.3 | 70.3 | 65.1 | 67.0 | 65.0 | 66.9 |
| 470931020 | Tennessee | Knox | 85.0 | 88.0 | 74.0 | 76.6 | 70.7 | 73.2 | 70.6 | 73.1 |
| 471050109 | Tennessee | Loudon | 83.0 | 85.0 | 70.6 | 72.3 | 67.5 | 69.1 | 67.4 | 69.0 |
| 471210104 | Tennessee | Meigs | 80.0 | 81.0 | 70.1 | 71.0 | 66.3 | 67.1 | 66.1 | 66.9 |
| 471490101 | Tennessee | Rutherford | 76.3 | 80.0 | 66.1 | 69.3 | 63.2 | 66.2 | 63.0 | 66.0 |
| 471550101 | Tennessee | Sevier | 79.0 | 82.0 | 68.7 | 71.3 | 65.8 | 68.3 | 65.6 | 68.1 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 471550102 | Tennessee | Sevier | 80.7 | 83.0 | 70.6 | 72.6 | 67.6 | 69.5 | 67.2 | 69.2 |
| 471570021 | Tennessee | Shelby | 80.0 | 82.0 | 71.0 | 72.8 | 68.5 | 70.2 | 68.2 | 69.9 |
| 471571004 | Tennessee | Shelby | 80.7 | 81.0 | 70.5 | 70.8 | 67.8 | 68.1 | 67.5 | 67.7 |
| 471632002 | Tennessee | Sullivan | 80.3 | 83.0 | 74.1 | 76.6 | 72.3 | 74.8 | 72.2 | 74.6 |
| 471632003 | Tennessee | Sullivan | 80.0 | 83.0 | 73.7 | 76.5 | 72.0 | 74.7 | 71.9 | 74.6 |
| 471650007 | Tennessee | Sumner | 83.0 | 84.0 | 73.0 | 73.9 | 70.1 | 70.9 | 69.8 | 70.6 |
| 471650101 | Tennessee | Sumner | 79.0 | 82.0 | 68.0 | 70.6 | 65.1 | 67.6 | 64.8 | 67.2 |
| 471870106 | Tennessee | Williamson | 75.3 | 77.0 | 65.2 | 66.7 | 62.3 | 63.7 | 62.1 | 63.5 |
| 471890103 | Tennessee | Wilson | 78.7 | 82.0 | 67.9 | 70.7 | 64.9 | 67.6 | 64.5 | 67.2 |
| 480290032 | Texas | Bexar | 82.0 | 85.0 | 76.3 | 79.1 | 74.0 | 76.7 | 73.6 | 76.2 |
| 480290052 | Texas | Bexar | 85.0 | 87.0 | 79.7 | 81.6 | 77.5 | 79.3 | 77.0 | 78.9 |
| 480391004 | Texas | Brazoria | 94.7 | 97.0 | 88.8 | 91.0 | 87.0 | 89.1 | 86.6 | 88.7 |
| 480391016 | Texas | Brazoria | 80.0 | 85.0 | 74.0 | 78.6 | 72.4 | 77.0 | 72.1 | 76.7 |
| 480850005 | Texas | Collin | 90.3 | 92.0 | 81.4 | 83.0 | 78.4 | 79.9 | 78.2 | 79.6 |
| 481130069 | Texas | Dallas | 87.0 | 90.0 | 82.9 | 85.8 | 80.5 | 83.3 | 80.2 | 83.0 |
| 481130075 | Texas | Dallas | 88.3 | 90.0 | 82.9 | 84.5 | 80.3 | 81.8 | 80.0 | 81.6 |
| 481130087 | Texas | Dallas | 87.0 | 88.0 | 84.6 | 85.6 | 82.3 | 83.3 | 82.1 | 83.0 |
| 481133003 | Texas | Dallas | 78.5 | 84.0 | 73.1 | 78.2 | 70.9 | 75.9 | 70.6 | 75.5 |
| 481210034 | Texas | Denton | 94.0 | 95.0 | 83.2 | 84.1 | 79.9 | 80.8 | 79.6 | 80.4 |
| 481390015 | Texas | Ellis | 81.7 | 84.0 | 73.8 | 75.9 | 70.9 | 72.9 | 70.5 | 72.5 |
| 481410029 | Texas | El Paso | 74.7 | 77.0 | 70.6 | 72.7 | 70.2 | 72.4 | 70.2 | 72.4 |
| 481410037 | Texas | El Paso | 77.7 | 79.0 | 73.9 | 75.1 | 73.2 | 74.5 | 73.2 | 74.4 |
| 481410044 | Texas | El Paso | 73.0 | 74.0 | 69.4 | 70.4 | 68.8 | 69.7 | 68.8 | 69.7 |
| 481410055 | Texas | El Paso | 76.0 | 77.0 | 72.3 | 73.2 | 71.6 | 72.6 | 71.6 | 72.6 |
| 481410057 | Texas | El Paso | 75.0 | 76.0 | 70.5 | 71.5 | 70.0 | 71.0 | 70.0 | 70.9 |
| 481410058 | Texas | El Paso | 74.3 | 75.0 | 70.4 | 71.0 | 69.8 | 70.5 | 69.8 | 70.5 |
| 481670014 | Texas | Galveston | 80.3 | 87.0 | 75.1 | 81.4 | 73.6 | 79.7 | 73.3 | 79.4 |
| 481830001 | Texas | Gregg | 84.3 | 85.0 | 78.3 | 79.0 | 76.8 | 77.4 | 76.4 | 77.1 |
| 482010024 | Texas | Harris | 88.0 | 92.0 | 83.3 | 87.1 | 82.2 | 85.9 | 81.9 | 85.6 |
| 482010026 | Texas | Harris | 85.7 | 89.0 | 80.6 | 83.7 | 79.1 | 82.1 | 78.8 | 81.8 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 482010029 | Texas | Harris | 91.7 | 93.0 | 84.4 | 85.6 | 82.3 | 83.5 | 82.0 | 83.2 |
| 482010046 | Texas | Harris | 78.7 | 82.0 | 74.5 | 77.6 | 73.5 | 76.6 | 73.2 | 76.3 |
| 482010047 | Texas | Harris | 78.7 | 80.0 | 75.8 | 77.0 | 74.8 | 76.0 | 74.6 | 75.8 |
| 482010051 | Texas | Harris | 93.0 | 98.0 | 88.4 | 93.1 | 86.6 | 91.2 | 86.3 | 90.9 |
| 482010055 | Texas | Harris | 100.7 | 103.0 | 95.7 | 97.9 | 93.8 | 95.9 | 93.4 | 95.5 |
| 482010062 | Texas | Harris | 95.7 | 99.0 | 90.5 | 93.7 | 89.0 | 92.1 | 88.6 | 91.6 |
| 482010066 | Texas | Harris | 92.3 | 96.0 | 89.9 | 93.5 | 88.8 | 92.4 | 88.6 | 92.1 |
| 482010070 | Texas | Harris | 84.3 | 88.0 | 81.3 | 84.8 | 80.2 | 83.8 | 80.0 | 83.5 |
| 482010075 | Texas | Harris | 83.3 | 88.0 | 80.3 | 84.8 | 79.3 | 83.8 | 79.0 | 83.5 |
| 482011015 | Texas | Harris | 89.0 | 96.0 | 83.7 | 90.3 | 82.1 | 88.6 | 81.8 | 88.2 |
| 482011034 | Texas | Harris | 82.7 | 87.0 | 78.6 | 82.7 | 77.7 | 81.7 | 77.3 | 81.4 |
| 482011035 | Texas | Harris | 86.3 | 95.0 | 82.0 | 90.3 | 81.1 | 89.3 | 80.7 | 88.8 |
| 482011039 | Texas | Harris | 96.3 | 100.0 | 90.5 | 93.9 | 88.9 | 92.3 | 88.5 | 91.9 |
| 482011050 | Texas | Harris | 89.3 | 92.0 | 83.9 | 86.5 | 82.5 | 85.0 | 82.1 | 84.6 |
| 482030002 | Texas | Harrison | 79.0 | 80.0 | 70.9 | 71.8 | 68.5 | 69.4 | 68.1 | 69.0 |
| 482210001 | Texas | Hood | 83.0 | 84.0 | 72.7 | 73.6 | 69.4 | 70.2 | 69.0 | 69.8 |
| 482311006 | Texas | Hunt | 78.0 | 79.0 | 69.9 | 70.8 | 67.8 | 68.7 | 67.5 | 68.3 |
| 482450009 | Texas | Jefferson | 81.7 | 82.0 | 75.6 | 75.9 | 74.0 | 74.3 | 73.3 | 73.6 |
| 482450011 | Texas | Jefferson | 80.0 | 81.0 | 74.8 | 75.7 | 73.2 | 74.1 | 72.6 | 73.5 |
| 482450018 | Texas | Jefferson | 83.3 | 84.0 | 77.4 | 78.0 | 75.8 | 76.4 | 75.1 | 75.7 |
| 482450022 | Texas | Jefferson | 79.7 | 81.0 | 73.5 | 74.7 | 71.8 | 72.9 | 71.1 | 72.3 |
| 482450101 | Texas | Jefferson | 84.7 | 88.0 | 79.7 | 82.8 | 78.1 | 81.1 | 77.5 | 80.5 |
| 482450628 | Texas | Jefferson | 78.0 | 78.0 | 72.9 | 72.9 | 71.3 | 71.3 | 70.8 | 70.8 |
| 482510003 | Texas | Johnson | 87.0 | 89.0 | 76.4 | 78.2 | 73.2 | 74.9 | 72.8 | 74.4 |
| 482570005 | Texas | Kaufman | 74.7 | 76.0 | 68.1 | 69.3 | 65.9 | 67.0 | 65.5 | 66.7 |
| 483390078 | Texas | Montgomery | 85.0 | 86.0 | 77.8 | 78.8 | 75.5 | 76.4 | 75.4 | 76.3 |
| 483550025 | Texas | Nueces | 72.3 | 75.0 | 68.3 | 70.9 | 67.2 | 69.8 | 67.0 | 69.5 |
| 483611001 | Texas | Orange | 78.0 | 80.0 | 72.3 | 74.1 | 70.8 | 72.6 | 70.0 | 71.8 |
| 483611100 | Texas | Orange | 73.0 | 74.0 | 67.2 | 68.2 | 65.9 | 66.8 | 65.4 | 66.3 |
| 483670081 | Texas | Parker | 88.7 | 91.0 | 76.0 | 78.0 | 72.6 | 74.5 | 72.3 | 74.2 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 483970001 | Texas | Rockwall | 79.7 | 81.0 | 73.3 | 74.5 | 70.9 | 72.1 | 70.5 | 71.7 |
| 484230007 | Texas | Smith | 81.0 | 82.0 | 74.5 | 75.4 | 72.4 | 73.3 | 72.1 | 73.0 |
| 484390075 | Texas | Tarrant | 95.3 | 96.0 | 84.2 | 84.8 | 80.9 | 81.5 | 80.6 | 81.2 |
| 484391002 | Texas | Tarrant | 93.3 | 95.0 | 85.1 | 86.7 | 82.1 | 83.6 | 81.9 | 83.4 |
| 484392003 | Texas | Tarrant | 93.7 | 95.0 | 84.0 | 85.2 | 80.9 | 82.0 | 80.6 | 81.8 |
| 484393009 | Texas | Tarrant | 92.7 | 93.0 | 84.3 | 84.5 | 81.2 | 81.5 | 80.9 | 81.2 |
| 484393011 | Texas | Tarrant | 86.0 | 87.0 | 79.6 | 80.5 | 77.0 | 77.9 | 76.7 | 77.6 |
| 484530014 | Texas | Travis | 81.3 | 82.0 | 73.6 | 74.3 | 71.1 | 71.7 | 70.7 | 71.3 |
| 484530020 | Texas | Travis | 79.3 | 81.0 | 71.7 | 73.2 | 69.2 | 70.7 | 68.7 | 70.2 |
| 484530613 | Texas | Travis | 76.0 | 76.0 | 69.3 | 69.3 | 67.6 | 67.6 | 67.2 | 67.2 |
| 500030004 | Vermont | Bennington | 72.0 | 73.0 | 63.9 | 64.8 | 61.9 | 62.7 | 61.8 | 62.7 |
| 500070007 | Vermont | Chittenden | 69.7 | 71.0 | 63.2 | 64.4 | 61.6 | 62.8 | 61.6 | 62.7 |
| 510130020 | Virginia | Arlington | 86.7 | 87.0 | 81.8 | 82.0 | 80.0 | 80.3 | 79.9 | 80.1 |
| 510330001 | Virginia | Caroline | 80.0 | 81.0 | 69.3 | 70.1 | 66.7 | 67.6 | 66.7 | 67.5 |
| 510360002 | Virginia | Charles | 80.3 | 82.0 | 71.2 | 72.7 | 69.2 | 70.7 | 69.1 | 70.6 |
| 510410004 | Virginia | Chesterfield | 76.7 | 77.0 | 68.0 | 68.2 | 66.1 | 66.3 | 66.0 | 66.2 |
| 510590005 | Virginia | Fairfax | 78.3 | 79.0 | 70.5 | 71.1 | 68.3 | 68.9 | 68.2 | 68.8 |
| 510590018 | Virginia | Fairfax | 90.0 | 91.0 | 83.2 | 84.1 | 81.3 | 82.2 | 81.1 | 82.0 |
| 510590030 | Virginia | Fairfax | 88.0 | 89.0 | 81.4 | 82.3 | 79.6 | 80.5 | 79.5 | 80.4 |
| 510591005 | Virginia | Fairfax | 85.7 | 87.0 | 79.3 | 80.5 | 77.5 | 78.7 | 77.4 | 78.6 |
| 510595001 | Virginia | Fairfax | 82.0 | 84.0 | 76.0 | 77.8 | 74.1 | 75.9 | 74.0 | 75.8 |
| 510610002 | Virginia | Fauquier | 72.7 | 73.0 | 62.4 | 62.7 | 60.1 | 60.3 | 60.1 | 60.3 |
| 510690010 | Virginia | Frederick | 72.3 | 73.0 | 63.6 | 64.2 | 61.6 | 62.2 | 61.6 | 62.2 |
| 510850003 | Virginia | Hanover | 81.3 | 82.0 | 71.4 | 72.0 | 69.1 | 69.7 | 69.1 | 69.7 |
| 510870014 | Virginia | Henrico | 82.0 | 85.0 | 72.6 | 75.3 | 70.4 | 73.0 | 70.3 | 72.9 |
| 511071005 | Virginia | Loudoun | 80.7 | 82.0 | 72.8 | 74.0 | 70.6 | 71.7 | 70.5 | 71.7 |
| 511130003 | Virginia | Madison | 77.7 | 80.0 | 68.0 | 70.0 | 65.8 | 67.7 | 65.7 | 67.7 |
| 511390004 | Virginia | Page | 74.0 | 76.0 | 64.9 | 66.7 | 62.9 | 64.6 | 62.8 | 64.5 |
| 511530009 | Virginia | Prince William | 78.7 | 79.0 | 70.0 | 70.3 | 67.7 | 68.0 | 67.7 | 68.0 |
| 511611004 | Virginia | Roanoke | 74.7 | 76.0 | 67.4 | 68.5 | 64.9 | 66.0 | 64.7 | 65.8 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 511630003 | Virginia | Rockbridge | 69.7 | 71.0 | 62.0 | 63.1 | 59.7 | 60.8 | 59.5 | 60.6 |
| 511790001 | Virginia | Stafford | 81.7 | 85.0 | 72.0 | 74.9 | 69.5 | 72.3 | 69.4 | 72.2 |
| 511970002 | Virginia | Wythe | 72.7 | 75.0 | 63.8 | 65.8 | 61.3 | 63.2 | 61.1 | 63.0 |
| 515100009 | Virginia | Alexandria City | 81.7 | 83.0 | 75.5 | 76.7 | 73.8 | 75.0 | 73.6 | 74.8 |
| 516500004 | Virginia | Hampton City | 76.7 | 78.0 | 71.7 | 72.9 | 70.5 | 71.7 | 70.4 | 71.6 |
| 518000004 | Virginia | Suffolk City | 76.7 | 78.0 | 71.9 | 73.1 | 70.8 | 72.0 | 70.7 | 71.9 |
| 518000005 | Virginia | Suffolk City | 75.3 | 77.0 | 66.8 | 68.3 | 64.7 | 66.2 | 64.6 | 66.1 |
| 540030003 | West Virginia | Berkeley | 75.0 | 76.0 | 66.4 | 67.3 | 64.2 | 65.1 | 64.2 | 65.0 |
| 540110006 | West Virginia | Cabell | 78.7 | 84.0 | 70.9 | 75.7 | 69.3 | 73.9 | 69.1 | 73.8 |
| 540291004 | West Virginia | Hancock | 75.7 | 77.0 | 66.8 | 68.0 | 65.6 | 66.7 | 64.9 | 66.0 |
| 540390010 | West Virginia | Kanawha | 77.3 | 79.0 | 66.3 | 67.7 | 64.6 | 66.0 | 64.4 | 65.9 |
| 540610003 | West Virginia | Monongalia | 75.3 | 78.0 | 71.4 | 74.0 | 70.2 | 72.7 | 68.3 | 70.8 |
| 540690010 | West Virginia | Ohio | 78.3 | 82.0 | 69.3 | 72.5 | 68.0 | 71.2 | 66.8 | 70.0 |
| 541071002 | West Virginia | Wood | 79.0 | 82.0 | 70.3 | 73.0 | 69.0 | 71.6 | 68.1 | 70.7 |
| 550090026 | Wisconsin | Brown | 73.7 | 75.0 | 67.7 | 68.9 | 66.0 | 67.1 | 65.6 | 66.8 |
| 550210015 | Wisconsin | Columbia | 72.7 | 74.0 | 65.7 | 66.9 | 64.1 | 65.3 | 63.5 | 64.7 |
| 550250041 | Wisconsin | Dane | 72.0 | 74.0 | 65.6 | 67.4 | 64.0 | 65.8 | 63.5 | 65.2 |
| 550270007 | Wisconsin | Dodge | 74.7 | 77.0 | 68.4 | 70.5 | 66.5 | 68.5 | 66.1 | 68.2 |
| 550290004 | Wisconsin | Door | 88.7 | 90.0 | 80.5 | 81.7 | 78.2 | 79.4 | 77.8 | 79.0 |
| 550370001 | Wisconsin | Florence | 66.3 | 68.0 | 60.5 | 62.1 | 59.1 | 60.6 | 58.7 | 60.2 |
| 550390006 | Wisconsin | Fond du Lac | 73.7 | 75.0 | 68.1 | 69.3 | 66.3 | 67.5 | 66.0 | 67.2 |
| 550410007 | Wisconsin | Forest | 69.5 | 71.0 | 63.3 | 64.7 | 61.8 | 63.1 | 61.2 | 62.5 |
| 550550002 | Wisconsin | Jefferson | 74.3 | 76.0 | 68.0 | 69.5 | 66.0 | 67.5 | 65.6 | 67.1 |
| 550590019 | Wisconsin | Kenosha | 84.7 | 86.0 | 81.3 | 82.5 | 79.9 | 81.1 | 79.6 | 80.9 |
| 550610002 | Wisconsin | Kewaunee | 82.7 | 86.0 | 75.4 | 78.4 | 73.4 | 76.3 | 73.0 | 75.9 |
| 550710007 | Wisconsin | Manitowoc | 85.0 | 87.0 | 78.0 | 79.8 | 75.9 | 77.7 | 75.6 | 77.4 |
| 550790010 | Wisconsin | Milwaukee | 69.3 | 70.0 | 65.6 | 66.2 | 64.1 | 64.8 | 63.9 | 64.5 |
| 550790026 | Wisconsin | Milwaukee | 76.0 | 77.0 | 71.9 | 72.9 | 70.3 | 71.3 | 70.1 | 71.0 |
| 550790041 | Wisconsin | Milwaukee | 81.3 | 83.0 | 77.0 | 78.6 | 75.2 | 76.8 | 74.9 | 76.5 |
| 550790044 | Wisconsin | Milwaukee | 71.0 | 71.0 | 69.9 | 69.9 | 68.9 | 68.9 | 68.7 | 68.7 |

| | | | 8-Hour Ozone Design Values (ppb) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 550790085 | Wisconsin | Milwaukee | 82.7 | 86.0 | 78.0 | 81.1 | 76.2 | 79.2 | 75.9 | 78.9 |
| 550870009 | Wisconsin | Outagamie | 74.0 | 75.0 | 67.9 | 68.8 | 66.2 | 67.1 | 65.8 | 66.7 |
| 550890008 | Wisconsin | Ozaukee | 81.3 | 85.0 | 76.3 | 79.8 | 74.6 | 77.9 | 74.2 | 77.6 |
| 550890009 | Wisconsin | Ozaukee | 83.3 | 88.0 | 77.6 | 81.9 | 75.5 | 79.8 | 75.2 | 79.4 |
| 551010017 | Wisconsin | Racine | 80.3 | 82.0 | 76.3 | 77.9 | 74.8 | 76.4 | 74.5 | 76.1 |
| 551050024 | Wisconsin | Rock | 74.0 | 76.0 | 67.2 | 69.1 | 65.3 | 67.1 | 64.8 | 66.6 |
| 551091002 | Wisconsin | St. Croix | 69.0 | 71.0 | 64.1 | 66.0 | 62.8 | 64.6 | 61.9 | 63.7 |
| 551110007 | Wisconsin | Sauk | 69.7 | 71.0 | 62.9 | 64.1 | 61.6 | 62.8 | 61.0 | 62.2 |
| 551170006 | Wisconsin | Sheboygan | 88.0 | 89.0 | 80.8 | 81.8 | 78.6 | 79.5 | 78.3 | 79.1 |
| 551270005 | Wisconsin | Walworth | 75.7 | 77.0 | 69.0 | 70.2 | 67.0 | 68.2 | 66.7 | 67.9 |
| 551310009 | Wisconsin | Washington | 72.3 | 75.0 | 67.1 | 69.7 | 65.2 | 67.7 | 64.9 | 67.3 |
| 551330017 | Wisconsin | Waukesha | 75.0 | 75.0 | 69.2 | 69.2 | 67.3 | 67.3 | 67.0 | 67.0 |
| 551330027 | Wisconsin | Waukesha | 71.5 | 72.0 | 66.0 | 66.5 | 64.2 | 64.6 | 63.9 | 64.3 |

| | | | Annual PM2.5 Design Values (µg/m³) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 10030010 | Alabama | Baldwin | 11.44 | 11.75 | 10.81 | 11.11 | 10.46 | 10.75 | 9.15 | 9.40 |
| 10270001 | Alabama | Clay | 13.21 | 13.32 | 12.00 | 12.11 | 11.32 | 11.43 | 9.95 | 10.06 |
| 10331002 | Alabama | Colbert | 12.67 | 12.88 | 12.13 | 12.33 | 11.65 | 11.83 | 9.68 | 9.82 |
| 10491003 | Alabama | DeKalb | 14.09 | 14.42 | 12.75 | 13.06 | 12.14 | 12.43 | 10.38 | 10.63 |
| 10530002 | Alabama | Escambia | 13.12 | 13.18 | 12.55 | 12.61 | 12.21 | 12.28 | 10.94 | 11.00 |
| 10550010 | Alabama | Etowah | 14.80 | 15.01 | 13.45 | 13.64 | 12.76 | 12.94 | 11.10 | 11.26 |
| 10690003 | Alabama | Houston | 12.86 | 12.86 | 12.10 | 12.10 | 11.73 | 11.73 | 10.60 | 10.60 |
| 10730023 | Alabama | Jefferson | 18.48 | 18.67 | 17.15 | 17.32 | 16.48 | 16.64 | 14.95 | 15.09 |
| 10731005 | Alabama | Jefferson | 15.36 | 15.60 | 14.27 | 14.50 | 13.67 | 13.89 | 12.13 | 12.33 |
| 10731009 | Alabama | Jefferson | 13.42 | 13.74 | 12.58 | 12.89 | 12.04 | 12.33 | 10.40 | 10.66 |
| 10731010 | Alabama | Jefferson | 15.76 | 15.92 | 14.37 | 14.53 | 13.66 | 13.82 | 12.04 | 12.17 |
| 10732003 | Alabama | Jefferson | 17.07 | 17.45 | 15.99 | 16.35 | 15.42 | 15.77 | 13.99 | 14.31 |
| 10732006 | Alabama | Jefferson | 15.00 | 15.13 | 13.90 | 14.02 | 13.31 | 13.42 | 11.87 | 11.97 |
| 10735002 | Alabama | Jefferson | 14.33 | 14.59 | 13.12 | 13.36 | 12.47 | 12.70 | 10.94 | 11.14 |
| 10735003 | Alabama | Jefferson | 14.43 | 14.58 | 13.34 | 13.48 | 12.69 | 12.83 | 10.97 | 11.09 |
| 10890014 | Alabama | Madison | 13.73 | 13.85 | 12.86 | 12.98 | 12.26 | 12.38 | 10.14 | 10.25 |
| 10970002 | Alabama | Mobile | 12.90 | 12.90 | 12.33 | 12.33 | 11.90 | 11.90 | 10.59 | 10.59 |
| 10970003 | Alabama | Mobile | 12.36 | 12.49 | 11.80 | 11.92 | 11.38 | 11.50 | 10.09 | 10.19 |
| 10972005 | Alabama | Mobile | 11.51 | 11.92 | 10.88 | 11.27 | 10.51 | 10.88 | 9.25 | 9.57 |
| 11010007 | Alabama | Montgomery | 14.14 | 14.22 | 13.27 | 13.33 | 12.75 | 12.80 | 11.41 | 11.46 |
| 11030011 | Alabama | Morgan | 13.23 | 13.47 | 12.47 | 12.69 | 11.91 | 12.11 | 9.98 | 10.14 |
| 11130001 | Alabama | Russell | 15.63 | 15.83 | 14.51 | 14.68 | 13.83 | 14.00 | 12.41 | 12.55 |
| 11170006 | Alabama | Shelby | 14.28 | 14.32 | 13.17 | 13.21 | 12.55 | 12.59 | 11.03 | 11.07 |
| 11190002 | Alabama | Sumter | 11.92 | 11.92 | 11.33 | 11.33 | 10.87 | 10.87 | 9.33 | 9.33 |
| 11210002 | Alabama | Talladega | 14.51 | 14.51 | 13.03 | 13.03 | 12.38 | 12.38 | 10.89 | 10.89 |
| 11250004 | Alabama | Tuscaloosa | 13.44 | 13.56 | 12.63 | 12.74 | 12.07 | 12.18 | 10.44 | 10.53 |
| 11270002 | Alabama | Walker | 13.77 | 14.05 | 12.90 | 13.16 | 12.28 | 12.53 | 10.48 | 10.70 |
| 50010011 | Arkansas | Arkansas | 12.45 | 12.54 | 12.24 | 12.33 | 11.80 | 11.89 | 10.27 | 10.34 |
| 50030005 | Arkansas | Ashley | 12.83 | 13.30 | 12.58 | 13.04 | 12.23 | 12.67 | 10.99 | 11.38 |
| 50350005 | Arkansas | Crittenden | 13.27 | 13.27 | 12.93 | 12.93 | 12.32 | 12.32 | 10.33 | 10.33 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 50450002 | Arkansas | Faulkner | 12.79 | 13.10 | 12.57 | 12.87 | 12.13 | 12.43 | 10.75 | 11.01 |
| 50510003 | Arkansas | Garland | 12.40 | 12.67 | 12.12 | 12.37 | 11.72 | 11.98 | 10.41 | 10.64 |
| 50930007 | Arkansas | Mississippi | 12.61 | 12.61 | 12.51 | 12.51 | 12.00 | 12.00 | 9.86 | 9.86 |
| 51070001 | Arkansas | Phillips | 12.08 | 12.33 | 11.84 | 12.08 | 11.33 | 11.56 | 9.58 | 9.76 |
| 51130002 | Arkansas | Polk | 11.65 | 12.04 | 11.26 | 11.64 | 10.96 | 11.33 | 9.90 | 10.24 |
| 51150003 | Arkansas | Pope | 12.79 | 13.14 | 12.52 | 12.86 | 12.14 | 12.46 | 10.88 | 11.18 |
| 51190007 | Arkansas | Pulaski | 13.17 | 13.27 | 12.84 | 12.93 | 12.37 | 12.46 | 10.92 | 10.99 |
| 51191004 | Arkansas | Pulaski | 14.05 | 14.23 | 13.71 | 13.89 | 13.24 | 13.41 | 11.79 | 11.94 |
| 51191005 | Arkansas | Pulaski | 13.59 | 13.62 | 13.24 | 13.28 | 12.78 | 12.81 | 11.35 | 11.38 |
| 51390006 | Arkansas | Union | 12.86 | 13.09 | 12.55 | 12.77 | 12.19 | 12.41 | 10.95 | 11.15 |
| 51450001 | Arkansas | White | 12.57 | 12.74 | 12.40 | 12.56 | 11.98 | 12.15 | 10.58 | 10.71 |
| 80010006 | Colorado | Adams | 10.06 | 10.16 | 9.63 | 9.73 | 9.44 | 9.54 | 9.54 | 9.63 |
| 80050005 | Colorado | Arapahoe | 7.96 | 8.10 | 7.64 | 7.77 | 7.48 | 7.61 | 7.54 | 7.68 |
| 80130003 | Colorado | Boulder | 8.32 | 8.54 | 7.91 | 8.13 | 7.80 | 8.01 | 7.84 | 8.05 |
| 80130012 | Colorado | Boulder | 6.96 | 7.06 | 6.67 | 6.77 | 6.58 | 6.67 | 6.62 | 6.72 |
| 80290004 | Colorado | Delta | 7.44 | 7.62 | 6.97 | 7.14 | 6.86 | 7.03 | 6.86 | 7.03 |
| 80310002 | Colorado | Denver | 9.37 | 9.74 | 8.97 | 9.32 | 8.79 | 9.14 | 8.89 | 9.24 |
| 80310023 | Colorado | Denver | 9.76 | 9.76 | 9.34 | 9.34 | 9.16 | 9.16 | 9.25 | 9.25 |
| 80390001 | Colorado | Elbert | 4.40 | 4.54 | 4.23 | 4.37 | 4.18 | 4.32 | 4.19 | 4.33 |
| 80410008 | Colorado | El Paso | 6.73 | 6.73 | 6.34 | 6.34 | 6.24 | 6.24 | 6.26 | 6.27 |
| 80410011 | Colorado | El Paso | 7.94 | 8.11 | 7.49 | 7.65 | 7.38 | 7.53 | 7.41 | 7.56 |
| 80690009 | Colorado | Larimer | 7.33 | 7.40 | 7.02 | 7.09 | 6.94 | 7.00 | 6.96 | 7.03 |
| 80770017 | Colorado | Mesa | 9.28 | 9.48 | 8.78 | 8.97 | 8.65 | 8.84 | 8.66 | 8.85 |
| 81010012 | Colorado | Pueblo | 7.45 | 7.65 | 7.08 | 7.28 | 7.00 | 7.19 | 6.99 | 7.19 |
| 81130004 | Colorado | San Miguel | 4.65 | 4.81 | 4.48 | 4.64 | 4.46 | 4.61 | 4.46 | 4.61 |
| 81230006 | Colorado | Weld | 8.19 | 8.35 | 7.73 | 7.89 | 7.62 | 7.78 | 7.65 | 7.80 |
| 81230008 | Colorado | Weld | 8.78 | 9.28 | 8.31 | 8.77 | 8.19 | 8.65 | 8.23 | 8.69 |
| 90010010 | Connecticut | Fairfield | 13.18 | 13.18 | 12.36 | 12.36 | 12.18 | 12.18 | 11.12 | 11.12 |
| 90011123 | Connecticut | Fairfield | 12.49 | 12.59 | 11.68 | 11.77 | 11.50 | 11.59 | 10.45 | 10.53 |
| 90013005 | Connecticut | Fairfield | 12.43 | 12.72 | 11.65 | 11.92 | 11.48 | 11.75 | 10.40 | 10.62 |

| | | | Annual PM2.5 Design Values (µg/m³) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 90019003 | Connecticut | Fairfield | 11.48 | 11.73 | 10.75 | 10.97 | 10.59 | 10.81 | 9.53 | 9.72 |
| 90031003 | Connecticut | Hartford | 11.03 | 11.36 | 10.28 | 10.58 | 10.11 | 10.40 | 9.28 | 9.55 |
| 90050005 | Connecticut | Litchfield | 8.01 | 8.01 | 7.47 | 7.47 | 7.36 | 7.36 | 6.47 | 6.47 |
| 90090026 | Connecticut | New Haven | 12.12 | 12.13 | 11.32 | 11.33 | 11.14 | 11.15 | 10.12 | 10.13 |
| 90090027 | Connecticut | New Haven | 12.45 | 12.57 | 11.60 | 11.71 | 11.41 | 11.52 | 10.38 | 10.48 |
| 90091123 | Connecticut | New Haven | 13.12 | 13.54 | 12.26 | 12.65 | 12.05 | 12.44 | 11.04 | 11.38 |
| 90092008 | Connecticut | New Haven | 11.17 | 11.22 | 10.41 | 10.45 | 10.24 | 10.28 | 9.25 | 9.27 |
| 90092123 | Connecticut | New Haven | 12.74 | 12.91 | 11.91 | 12.06 | 11.72 | 11.87 | 10.74 | 10.87 |
| 90113002 | Connecticut | New London | 10.96 | 11.33 | 10.18 | 10.52 | 10.03 | 10.36 | 9.26 | 9.56 |
| 100010002 | Delaware | Kent | 12.61 | 12.84 | 11.60 | 11.82 | 11.47 | 11.68 | 9.96 | 10.16 |
| 100010003 | Delaware | Kent | 12.52 | 12.66 | 11.58 | 11.72 | 11.43 | 11.57 | 9.97 | 10.10 |
| 100031003 | Delaware | New Castle | 13.73 | 14.33 | 12.71 | 13.26 | 12.52 | 13.06 | 11.02 | 11.48 |
| 100031007 | Delaware | New Castle | 12.92 | 13.41 | 11.83 | 12.29 | 11.69 | 12.15 | 10.15 | 10.55 |
| 100031012 | Delaware | New Castle | 13.69 | 13.88 | 12.58 | 12.75 | 12.42 | 12.59 | 10.90 | 11.05 |
| 100032004 | Delaware | New Castle | 14.87 | 15.11 | 13.81 | 14.03 | 13.61 | 13.83 | 12.08 | 12.28 |
| 100051002 | Delaware | Sussex | 13.39 | 13.45 | 12.25 | 12.31 | 12.11 | 12.16 | 10.60 | 10.64 |
| 110010041 | District Of Columbia | District of Columbia | 14.16 | 14.38 | 12.96 | 13.16 | 12.78 | 12.98 | 10.96 | 11.13 |
| 110010042 | District Of Columbia | District of Columbia | 14.41 | 14.52 | 13.14 | 13.24 | 12.97 | 13.07 | 11.17 | 11.26 |
| 110010043 | District Of Columbia | District of Columbia | 13.99 | 14.44 | 12.80 | 13.23 | 12.63 | 13.05 | 10.72 | 11.08 |
| 120010023 | Florida | Alachua | 9.32 | 9.51 | 8.49 | 8.66 | 8.26 | 8.42 | 7.28 | 7.42 |
| 120010024 | Florida | Alachua | 9.59 | 9.64 | 8.75 | 8.80 | 8.52 | 8.57 | 7.57 | 7.62 |
| 120051004 | Florida | Bay | 11.46 | 11.69 | 10.69 | 10.89 | 10.39 | 10.59 | 9.45 | 9.62 |
| 120090007 | Florida | Brevard | 8.32 | 8.64 | 7.63 | 7.93 | 7.46 | 7.74 | 6.82 | 7.08 |
| 120111002 | Florida | Broward | 8.22 | 8.30 | 7.77 | 7.85 | 7.64 | 7.72 | 7.27 | 7.35 |
| 120112004 | Florida | Broward | 8.18 | 8.28 | 7.68 | 7.77 | 7.55 | 7.64 | 7.17 | 7.25 |
| 120113002 | Florida | Broward | 8.21 | 8.21 | 7.76 | 7.76 | 7.63 | 7.63 | 7.26 | 7.26 |
| 120170005 | Florida | Citrus | 9.00 | 9.14 | 7.96 | 8.07 | 7.77 | 7.88 | 6.98 | 7.09 |
| 120310098 | Florida | Duval | 9.90 | 9.99 | 9.14 | 9.24 | 8.90 | 9.00 | 8.05 | 8.15 |

| | | | Annual PM2.5 Design Values ($\mu g/m^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 120310099 | Florida | Duval | 10.44 | 10.53 | 9.75 | 9.82 | 9.52 | 9.59 | 8.73 | 8.79 |
| 120330004 | Florida | Escambia | 11.72 | 11.91 | 11.20 | 11.37 | 10.94 | 11.11 | 9.87 | 10.02 |
| 120570030 | Florida | Hillsborough | 10.74 | 10.95 | 9.50 | 9.68 | 9.31 | 9.49 | 8.86 | 9.03 |
| 120573002 | Florida | Hillsborough | 10.52 | 10.75 | 9.34 | 9.55 | 9.16 | 9.37 | 8.74 | 8.93 |
| 120710005 | Florida | Lee | 8.36 | 8.41 | 7.51 | 7.56 | 7.39 | 7.43 | 6.87 | 6.91 |
| 120730012 | Florida | Leon | 12.56 | 12.71 | 11.56 | 11.69 | 11.25 | 11.38 | 10.30 | 10.41 |
| 120814012 | Florida | Manatee | 8.81 | 8.91 | 7.61 | 7.70 | 7.51 | 7.59 | 6.99 | 7.06 |
| 120830003 | Florida | Marion | 10.11 | 10.20 | 9.17 | 9.25 | 8.94 | 9.02 | 8.13 | 8.20 |
| 120861016 | Florida | Miami-Dade | 9.45 | 9.54 | 8.93 | 9.01 | 8.77 | 8.85 | 8.40 | 8.48 |
| 120866001 | Florida | Miami-Dade | 8.14 | 8.28 | 7.68 | 7.81 | 7.59 | 7.72 | 7.21 | 7.33 |
| 120951004 | Florida | Orange | 9.61 | 9.76 | 8.73 | 8.87 | 8.46 | 8.59 | 7.75 | 7.87 |
| 120952002 | Florida | Orange | 9.50 | 9.60 | 8.60 | 8.69 | 8.34 | 8.43 | 7.63 | 7.72 |
| 120990009 | Florida | Palm Beach | 7.84 | 7.84 | 7.28 | 7.28 | 7.14 | 7.14 | 6.71 | 6.71 |
| 120992005 | Florida | Palm Beach | 7.70 | 7.81 | 7.22 | 7.31 | 7.08 | 7.18 | 6.66 | 6.75 |
| 121030018 | Florida | Pinellas | 9.82 | 9.85 | 8.65 | 8.67 | 8.52 | 8.54 | 8.03 | 8.05 |
| 121031009 | Florida | Pinellas | 9.52 | 9.69 | 8.39 | 8.54 | 8.24 | 8.38 | 7.75 | 7.89 |
| 121056006 | Florida | Polk | 9.55 | 9.65 | 8.48 | 8.57 | 8.34 | 8.43 | 7.84 | 7.92 |
| 121111002 | Florida | St. Lucie | 8.34 | 8.47 | 7.66 | 7.78 | 7.54 | 7.65 | 6.96 | 7.06 |
| 121150013 | Florida | Sarasota | 8.77 | 8.86 | 7.69 | 7.77 | 7.58 | 7.67 | 7.04 | 7.11 |
| 121171002 | Florida | Seminole | 9.51 | 9.64 | 8.62 | 8.73 | 8.35 | 8.46 | 7.62 | 7.72 |
| 121275002 | Florida | Volusia | 9.27 | 9.34 | 8.47 | 8.53 | 8.22 | 8.28 | 7.37 | 7.41 |
| 130210007 | Georgia | Bibb | 16.47 | 16.78 | 15.33 | 15.61 | 14.52 | 14.79 | 13.17 | 13.41 |
| 130210012 | Georgia | Bibb | 13.87 | 14.17 | 12.90 | 13.18 | 12.07 | 12.33 | 10.78 | 11.01 |
| 130510017 | Georgia | Chatham | 13.70 | 13.87 | 12.79 | 12.94 | 12.38 | 12.52 | 11.32 | 11.45 |
| 130510091 | Georgia | Chatham | 13.88 | 14.11 | 12.98 | 13.19 | 12.55 | 12.75 | 11.50 | 11.68 |
| 130590002 | Georgia | Clarke | 14.90 | 14.90 | 13.83 | 13.83 | 12.94 | 12.94 | 11.51 | 11.51 |
| 130630091 | Georgia | Clayton | 16.47 | 16.71 | 15.07 | 15.29 | 14.12 | 14.32 | 12.73 | 12.91 |
| 130670003 | Georgia | Cobb | 16.09 | 16.19 | 14.63 | 14.72 | 13.86 | 13.94 | 12.41 | 12.49 |
| 130670004 | Georgia | Cobb | 15.36 | 15.50 | 13.96 | 14.08 | 13.10 | 13.21 | 11.69 | 11.79 |
| 130890002 | Georgia | DeKalb | 15.46 | 15.66 | 14.13 | 14.31 | 13.16 | 13.33 | 11.77 | 11.93 |

| | | | Annual PM2.5 Design Values ($\mu g/m^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 130892001 | Georgia | DeKalb | 15.33 | 15.56 | 13.97 | 14.19 | 13.07 | 13.28 | 11.65 | 11.83 |
| 130950007 | Georgia | Dougherty | 14.35 | 14.53 | 13.56 | 13.73 | 13.14 | 13.31 | 11.83 | 11.97 |
| 131150005 | Georgia | Floyd | 16.10 | 16.15 | 14.61 | 14.67 | 14.01 | 14.06 | 12.43 | 12.48 |
| 131210032 | Georgia | Fulton | 15.81 | 16.02 | 14.44 | 14.63 | 13.48 | 13.66 | 12.09 | 12.25 |
| 131210039 | Georgia | Fulton | 17.43 | 17.47 | 16.01 | 16.04 | 15.03 | 15.07 | 13.65 | 13.68 |
| 131270006 | Georgia | Glynn | 12.18 | 12.30 | 11.38 | 11.50 | 11.10 | 11.21 | 10.16 | 10.26 |
| 131350002 | Georgia | Gwinnett | 16.07 | 16.36 | 14.72 | 14.99 | 13.87 | 14.12 | 12.43 | 12.66 |
| 131390003 | Georgia | Hall | 14.12 | 14.37 | 12.97 | 13.21 | 12.21 | 12.44 | 10.73 | 10.94 |
| 131530001 | Georgia | Houston | 13.99 | 14.25 | 12.95 | 13.18 | 12.27 | 12.49 | 10.96 | 11.15 |
| 131850003 | Georgia | Lowndes | 12.49 | 12.83 | 11.70 | 12.01 | 11.38 | 11.68 | 10.45 | 10.72 |
| 132150001 | Georgia | Muscogee | 14.86 | 14.98 | 13.76 | 13.87 | 13.10 | 13.19 | 11.67 | 11.76 |
| 132150008 | Georgia | Muscogee | 15.16 | 15.16 | 14.07 | 14.07 | 13.40 | 13.40 | 12.04 | 12.04 |
| 132150011 | Georgia | Muscogee | 14.07 | 14.30 | 13.07 | 13.28 | 12.47 | 12.67 | 11.18 | 11.35 |
| 132230003 | Georgia | Paulding | 14.08 | 14.30 | 12.58 | 12.77 | 11.85 | 12.03 | 10.33 | 10.49 |
| 132450005 | Georgia | Richmond | 15.61 | 15.82 | 14.67 | 14.87 | 14.10 | 14.29 | 12.83 | 13.00 |
| 132450091 | Georgia | Richmond | 15.68 | 15.88 | 14.76 | 14.95 | 14.18 | 14.35 | 12.89 | 13.05 |
| 132950002 | Georgia | Walker | 15.49 | 15.75 | 14.39 | 14.63 | 13.76 | 13.99 | 11.81 | 12.00 |
| 133030001 | Georgia | Washington | 15.14 | 15.54 | 14.36 | 14.73 | 13.44 | 13.78 | 12.13 | 12.44 |
| 133190001 | Georgia | Wilkinson | 15.23 | 15.50 | 14.32 | 14.57 | 13.37 | 13.60 | 12.05 | 12.25 |
| 170010006 | Illinois | Adams | 12.50 | 12.87 | 12.21 | 12.57 | 11.70 | 12.04 | 10.56 | 10.85 |
| 170190004 | Illinois | Champaign | 12.50 | 12.89 | 12.25 | 12.63 | 11.70 | 12.07 | 9.94 | 10.29 |
| 170191001 | Illinois | Champaign | 12.53 | 12.92 | 12.32 | 12.70 | 11.75 | 12.13 | 9.98 | 10.38 |
| 170310022 | Illinois | Cook | 15.21 | 15.55 | 14.70 | 15.04 | 14.22 | 14.54 | 13.03 | 13.33 |
| 170310050 | Illinois | Cook | 14.81 | 15.22 | 14.32 | 14.71 | 13.82 | 14.21 | 12.71 | 13.08 |
| 170310052 | Illinois | Cook | 15.75 | 16.02 | 15.16 | 15.42 | 14.64 | 14.90 | 13.59 | 13.85 |
| 170310057 | Illinois | Cook | 15.03 | 15.34 | 14.50 | 14.79 | 13.98 | 14.27 | 12.90 | 13.19 |
| 170310076 | Illinois | Cook | 14.89 | 15.18 | 14.41 | 14.68 | 13.87 | 14.13 | 12.76 | 13.02 |
| 170312001 | Illinois | Cook | 14.77 | 15.14 | 14.28 | 14.63 | 13.80 | 14.15 | 12.72 | 13.05 |
| 170313301 | Illinois | Cook | 15.24 | 15.59 | 14.73 | 15.06 | 14.20 | 14.52 | 13.10 | 13.41 |
| 170314007 | Illinois | Cook | 12.78 | 13.15 | 12.45 | 12.80 | 11.92 | 12.26 | 10.84 | 11.16 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 170314201 | Illinois | Cook | 12.76 | 13.18 | 12.44 | 12.86 | 11.91 | 12.29 | 10.82 | 11.15 |
| 170316005 | Illinois | Cook | 15.48 | 16.07 | 14.92 | 15.48 | 14.40 | 14.94 | 13.34 | 13.85 |
| 170434002 | Illinois | DuPage | 13.82 | 14.01 | 13.51 | 13.69 | 12.95 | 13.13 | 11.87 | 12.03 |
| 170831001 | Illinois | Jersey | 12.89 | 13.20 | 13.05 | 13.37 | 12.41 | 12.72 | 10.62 | 10.88 |
| 170890003 | Illinois | Kane | 13.32 | 13.54 | 12.94 | 13.15 | 12.36 | 12.56 | 11.25 | 11.45 |
| 170890007 | Illinois | Kane | 14.34 | 14.34 | 13.95 | 13.95 | 13.39 | 13.39 | 12.31 | 12.31 |
| 170971007 | Illinois | Lake | 11.81 | 12.10 | 11.57 | 11.86 | 11.06 | 11.34 | 10.01 | 10.26 |
| 171110001 | Illinois | McHenry | 12.40 | 12.47 | 12.08 | 12.15 | 11.53 | 11.59 | 10.49 | 10.56 |
| 171132003 | Illinois | McLean | 12.39 | 12.39 | 12.26 | 12.26 | 11.61 | 11.61 | 10.19 | 10.19 |
| 171150013 | Illinois | Macon | 13.24 | 13.57 | 13.11 | 13.43 | 12.50 | 12.81 | 10.85 | 11.13 |
| 171191007 | Illinois | Madison | 16.72 | 17.01 | 16.56 | 16.85 | 15.90 | 16.18 | 14.22 | 14.48 |
| 171192009 | Illinois | Madison | 14.01 | 14.66 | 14.20 | 14.85 | 13.57 | 14.20 | 11.71 | 12.25 |
| 171193007 | Illinois | Madison | 14.32 | 14.45 | 14.48 | 14.62 | 13.87 | 14.00 | 12.04 | 12.14 |
| 171430037 | Illinois | Peoria | 13.34 | 13.66 | 13.43 | 13.76 | 12.47 | 12.77 | 11.28 | 11.55 |
| 171570001 | Illinois | Randolph | 13.11 | 13.64 | 13.07 | 13.58 | 12.44 | 12.94 | 10.58 | 11.00 |
| 171613002 | Illinois | Rock Island | 12.01 | 12.31 | 11.69 | 11.99 | 11.19 | 11.47 | 10.16 | 10.40 |
| 171630010 | Illinois | Saint Clair | 15.58 | 15.74 | 15.48 | 15.63 | 14.83 | 14.98 | 13.18 | 13.33 |
| 171634001 | Illinois | Saint Clair | 14.29 | 14.49 | 14.21 | 14.41 | 13.57 | 13.75 | 11.92 | 12.07 |
| 171670012 | Illinois | Sangamon | 13.13 | 13.29 | 13.37 | 13.55 | 12.79 | 12.95 | 11.15 | 11.26 |
| 171971002 | Illinois | Will | 13.63 | 14.05 | 13.33 | 13.74 | 12.79 | 13.19 | 11.61 | 11.97 |
| 171971011 | Illinois | Will | 11.52 | 11.78 | 11.26 | 11.51 | 10.77 | 11.00 | 9.45 | 9.63 |
| 172010013 | Illinois | Winnebago | 13.57 | 13.57 | 13.10 | 13.10 | 12.61 | 12.61 | 11.68 | 11.68 |
| 180030004 | Indiana | Allen | 13.67 | 14.08 | 13.18 | 13.58 | 12.81 | 13.20 | 11.31 | 11.67 |
| 180030014 | Indiana | Allen | 13.55 | 13.91 | 13.07 | 13.42 | 12.70 | 13.04 | 11.21 | 11.52 |
| 180190006 | Indiana | Clark | 16.40 | 16.60 | 15.96 | 16.16 | 15.46 | 15.65 | 12.37 | 12.49 |
| 180350006 | Indiana | Delaware | 13.66 | 13.81 | 13.43 | 13.58 | 13.00 | 13.14 | 10.65 | 10.76 |
| 180372001 | Indiana | Dubois | 15.18 | 15.68 | 15.07 | 15.57 | 14.50 | 14.98 | 11.11 | 11.51 |
| 180431004 | Indiana | Floyd | 14.80 | 14.94 | 14.50 | 14.64 | 14.04 | 14.17 | 10.87 | 10.99 |
| 180650003 | Indiana | Henry | 13.64 | 13.64 | 13.52 | 13.52 | 13.08 | 13.08 | 10.54 | 10.54 |
| 180670003 | Indiana | Howard | 13.93 | 14.29 | 13.66 | 14.01 | 13.18 | 13.52 | 11.08 | 11.39 |

| | | | Annual PM2.5 Design Values (µg/m³) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 180830004 | Indiana | Knox | 14.03 | 14.21 | 13.94 | 14.11 | 13.33 | 13.49 | 10.40 | 10.50 |
| 180890006 | Indiana | Lake | 14.27 | 14.51 | 13.83 | 14.06 | 13.35 | 13.57 | 12.15 | 12.36 |
| 180890027 | Indiana | Lake | 13.83 | 14.13 | 13.44 | 13.73 | 12.97 | 13.25 | 11.71 | 11.97 |
| 180891003 | Indiana | Lake | 14.02 | 14.25 | 13.61 | 13.84 | 13.15 | 13.37 | 11.92 | 12.13 |
| 180892004 | Indiana | Lake | 14.05 | 14.41 | 13.66 | 14.01 | 13.19 | 13.53 | 11.99 | 12.31 |
| 180892010 | Indiana | Lake | 13.89 | 14.10 | 13.47 | 13.67 | 12.99 | 13.20 | 11.81 | 12.01 |
| 180910011 | Indiana | LaPorte | 12.49 | 12.84 | 12.03 | 12.36 | 11.60 | 11.93 | 10.35 | 10.65 |
| 180910012 | Indiana | LaPorte | 12.69 | 13.07 | 12.23 | 12.60 | 11.79 | 12.15 | 10.48 | 10.81 |
| 180950009 | Indiana | Madison | 13.96 | 14.37 | 13.80 | 14.21 | 13.35 | 13.75 | 10.86 | 11.19 |
| 180970042 | Indiana | Marion | 14.24 | 14.51 | 14.26 | 14.53 | 13.78 | 14.04 | 10.88 | 11.11 |
| 180970078 | Indiana | Marion | 15.26 | 15.43 | 15.18 | 15.35 | 14.69 | 14.85 | 11.85 | 11.98 |
| 180970079 | Indiana | Marion | 14.71 | 14.99 | 14.61 | 14.89 | 14.12 | 14.39 | 11.36 | 11.59 |
| 180970081 | Indiana | Marion | 16.05 | 16.36 | 15.93 | 16.24 | 15.43 | 15.73 | 12.60 | 12.87 |
| 180970083 | Indiana | Marion | 15.90 | 16.27 | 15.77 | 16.15 | 15.27 | 15.63 | 12.44 | 12.75 |
| 181270020 | Indiana | Porter | 12.66 | 13.01 | 12.18 | 12.52 | 11.73 | 12.06 | 10.47 | 10.78 |
| 181270024 | Indiana | Porter | 13.21 | 13.39 | 12.73 | 12.91 | 12.26 | 12.44 | 10.99 | 11.12 |
| 181410014 | Indiana | St. Joseph | 13.28 | 13.65 | 12.79 | 13.14 | 12.45 | 12.79 | 11.39 | 11.71 |
| 181411008 | Indiana | St. Joseph | 13.69 | 13.69 | 13.17 | 13.17 | 12.83 | 12.83 | 11.79 | 11.79 |
| 181412004 | Indiana | St. Joseph | 12.82 | 13.22 | 12.36 | 12.74 | 12.02 | 12.40 | 10.98 | 11.34 |
| 181470009 | Indiana | Spencer | 14.32 | 14.55 | 14.21 | 14.45 | 13.65 | 13.87 | 10.25 | 10.38 |
| 181570008 | Indiana | Tippecanoe | 13.69 | 14.06 | 13.39 | 13.75 | 12.87 | 13.22 | 10.82 | 11.13 |
| 181630006 | Indiana | Vanderburgh | 14.69 | 14.89 | 14.55 | 14.75 | 14.02 | 14.21 | 11.39 | 11.56 |
| 181630012 | Indiana | Vanderburgh | 14.82 | 15.00 | 14.64 | 14.82 | 14.09 | 14.27 | 11.48 | 11.64 |
| 181630016 | Indiana | Vanderburgh | 14.99 | 15.14 | 14.84 | 14.99 | 14.30 | 14.45 | 11.67 | 11.80 |
| 181670018 | Indiana | Vigo | 13.99 | 14.17 | 13.51 | 13.68 | 12.95 | 13.12 | 10.49 | 10.62 |
| 181670023 | Indiana | Vigo | 13.45 | 13.66 | 13.04 | 13.25 | 12.48 | 12.68 | 9.99 | 10.14 |
| 190130008 | Iowa | Black Hawk | 11.16 | 11.52 | 10.68 | 11.03 | 10.37 | 10.71 | 9.65 | 9.96 |
| 190450021 | Iowa | Clinton | 12.52 | 12.63 | 12.08 | 12.19 | 11.57 | 11.67 | 10.64 | 10.72 |
| 191032001 | Iowa | Johnson | 12.08 | 12.26 | 11.64 | 11.81 | 11.28 | 11.44 | 10.43 | 10.58 |
| 191130037 | Iowa | Linn | 10.79 | 10.95 | 10.37 | 10.52 | 10.03 | 10.18 | 9.25 | 9.39 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 191370002 | Iowa | Montgomery | 10.02 | 10.33 | 9.55 | 9.85 | 9.32 | 9.61 | 8.65 | 8.91 |
| 191390015 | Iowa | Muscatine | 12.92 | 13.29 | 12.53 | 12.90 | 12.15 | 12.50 | 11.15 | 11.47 |
| 191471002 | Iowa | Palo Alto | 9.53 | 9.53 | 9.01 | 9.01 | 8.80 | 8.80 | 8.26 | 8.26 |
| 191530030 | Iowa | Polk | 10.41 | 10.54 | 9.87 | 10.00 | 9.59 | 9.71 | 8.91 | 9.03 |
| 191532510 | Iowa | Polk | 9.95 | 10.14 | 9.44 | 9.62 | 9.17 | 9.34 | 8.51 | 8.69 |
| 191532520 | Iowa | Polk | 10.64 | 10.64 | 10.08 | 10.08 | 9.79 | 9.79 | 9.13 | 9.13 |
| 191550009 | Iowa | Pottawattamie | 11.13 | 11.52 | 10.55 | 10.92 | 10.36 | 10.73 | 9.74 | 10.07 |
| 191630015 | Iowa | Scott | 11.86 | 12.06 | 11.56 | 11.75 | 11.06 | 11.25 | 10.04 | 10.21 |
| 191630018 | Iowa | Scott | 11.64 | 11.89 | 11.35 | 11.59 | 10.85 | 11.08 | 9.85 | 10.05 |
| 191630019 | Iowa | Scott | 14.42 | 14.42 | 14.00 | 14.00 | 13.50 | 13.50 | 12.51 | 12.51 |
| 191770006 | Iowa | Van Buren | 10.84 | 10.84 | 10.46 | 10.46 | 10.16 | 10.16 | 9.42 | 9.42 |
| 191930017 | Iowa | Woodbury | 10.32 | 10.53 | 9.81 | 10.01 | 9.69 | 9.89 | 9.18 | 9.37 |
| 191970004 | Iowa | Wright | 10.37 | 10.51 | 9.84 | 9.97 | 9.57 | 9.69 | 8.92 | 9.04 |
| 200910007 | Kansas | Johnson | 10.59 | 10.86 | 10.09 | 10.35 | 9.81 | 10.05 | 9.07 | 9.31 |
| 200910009 | Kansas | Johnson | 11.10 | 11.10 | 10.62 | 10.62 | 10.30 | 10.30 | 9.47 | 9.47 |
| 200910010 | Kansas | Johnson | 9.68 | 9.74 | 9.28 | 9.34 | 9.01 | 9.06 | 8.26 | 8.30 |
| 201070002 | Kansas | Linn | 10.47 | 10.62 | 10.16 | 10.31 | 9.86 | 10.00 | 9.01 | 9.12 |
| 201730008 | Kansas | Sedgwick | 10.26 | 10.85 | 9.72 | 10.28 | 9.49 | 10.03 | 8.90 | 9.42 |
| 201730009 | Kansas | Sedgwick | 10.29 | 10.95 | 9.75 | 10.36 | 9.51 | 10.11 | 8.92 | 9.48 |
| 201730010 | Kansas | Sedgwick | 10.36 | 10.96 | 9.81 | 10.38 | 9.57 | 10.13 | 8.99 | 9.51 |
| 201770010 | Kansas | Shawnee | 10.79 | 10.79 | 10.27 | 10.27 | 10.04 | 10.04 | 9.37 | 9.37 |
| 201770011 | Kansas | Shawnee | 10.93 | 10.93 | 10.42 | 10.42 | 10.19 | 10.19 | 9.53 | 9.53 |
| 201910002 | Kansas | Sumner | 9.89 | 10.31 | 9.44 | 9.84 | 9.22 | 9.61 | 8.61 | 8.98 |
| 202090021 | Kansas | Wyandotte | 12.73 | 13.37 | 12.09 | 12.69 | 11.78 | 12.36 | 10.98 | 11.54 |
| 202090022 | Kansas | Wyandotte | 10.93 | 11.25 | 10.41 | 10.70 | 10.11 | 10.41 | 9.36 | 9.65 |
| 210130002 | Kentucky | Bell | 14.28 | 14.64 | 13.28 | 13.61 | 12.70 | 13.01 | 10.46 | 10.70 |
| 210190017 | Kentucky | Boyd | 14.49 | 14.70 | 13.54 | 13.74 | 12.96 | 13.15 | 10.35 | 10.49 |
| 210290006 | Kentucky | Bullitt | 14.90 | 15.21 | 14.58 | 14.88 | 14.07 | 14.36 | 10.98 | 11.20 |
| 210370003 | Kentucky | Campbell | 13.67 | 13.67 | 13.30 | 13.30 | 12.81 | 12.81 | 9.86 | 9.86 |
| 210430500 | Kentucky | Carter | 12.22 | 12.61 | 11.38 | 11.74 | 10.87 | 11.21 | 8.50 | 8.76 |

| | | | Annual PM2.5 Design Values ($\mu g/m^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 210470006 | Kentucky | Christian | 13.20 | 13.55 | 13.44 | 13.78 | 12.90 | 13.24 | 9.61 | 9.84 |
| 210590005 | Kentucky | Daviess | 14.10 | 14.10 | 14.14 | 14.14 | 13.59 | 13.59 | 9.82 | 9.82 |
| 210670012 | Kentucky | Fayette | 14.33 | 14.53 | 13.74 | 13.93 | 13.22 | 13.40 | 10.36 | 10.48 |
| 210670014 | Kentucky | Fayette | 14.85 | 15.13 | 14.23 | 14.50 | 13.70 | 13.97 | 10.86 | 11.10 |
| 210730006 | Kentucky | Franklin | 13.37 | 13.52 | 12.88 | 13.03 | 12.39 | 12.53 | 9.52 | 9.60 |
| 210930006 | Kentucky | Hardin | 13.58 | 14.04 | 13.34 | 13.79 | 12.82 | 13.25 | 9.68 | 9.98 |
| 211010014 | Kentucky | Henderson | 13.93 | 14.28 | 13.69 | 14.03 | 13.17 | 13.50 | 10.38 | 10.63 |
| 211110043 | Kentucky | Jefferson | 15.53 | 15.75 | 15.19 | 15.41 | 14.71 | 14.93 | 11.51 | 11.69 |
| 211110044 | Kentucky | Jefferson | 15.31 | 15.47 | 14.93 | 15.09 | 14.45 | 14.59 | 11.34 | 11.43 |
| 211110048 | Kentucky | Jefferson | 15.25 | 15.32 | 14.87 | 14.93 | 14.38 | 14.45 | 11.25 | 11.30 |
| 211110051 | Kentucky | Jefferson | 14.70 | 15.17 | 14.43 | 14.89 | 13.95 | 14.40 | 10.71 | 11.05 |
| 211170007 | Kentucky | Kenton | 14.36 | 14.52 | 13.98 | 14.14 | 13.50 | 13.65 | 10.54 | 10.67 |
| 211250004 | Kentucky | Laurel | 12.55 | 12.55 | 11.77 | 11.77 | 11.25 | 11.25 | 9.01 | 9.01 |
| 211451004 | Kentucky | McCracken | 13.38 | 13.84 | 13.40 | 13.86 | 12.79 | 13.23 | 10.11 | 10.41 |
| 211510003 | Kentucky | Madison | 13.61 | 13.70 | 12.94 | 13.03 | 12.43 | 12.52 | 9.69 | 9.78 |
| 211930003 | Kentucky | Perry | 13.06 | 13.42 | 12.18 | 12.51 | 11.66 | 11.97 | 9.51 | 9.76 |
| 211950002 | Kentucky | Pike | 13.46 | 13.89 | 12.48 | 12.87 | 11.94 | 12.31 | 9.49 | 9.79 |
| 212270007 | Kentucky | Warren | 13.83 | 13.92 | 13.89 | 13.97 | 13.32 | 13.40 | 9.93 | 9.98 |
| 220171002 | Louisiana | Caddo | 12.53 | 12.53 | 12.01 | 12.01 | 11.68 | 11.68 | 10.55 | 10.55 |
| 220190009 | Louisiana | Calcasieu | 10.58 | 10.78 | 10.32 | 10.52 | 10.06 | 10.26 | 9.16 | 9.35 |
| 220190010 | Louisiana | Calcasieu | 11.07 | 11.24 | 10.83 | 10.99 | 10.55 | 10.71 | 9.66 | 9.80 |
| 220290003 | Louisiana | Concordia | 11.42 | 11.42 | 11.08 | 11.08 | 10.68 | 10.68 | 9.37 | 9.37 |
| 220330009 | Louisiana | East Baton Rouge | 13.38 | 13.57 | 12.85 | 13.04 | 12.43 | 12.60 | 11.49 | 11.65 |
| 220331001 | Louisiana | East Baton Rouge | 12.08 | 12.18 | 11.62 | 11.70 | 11.23 | 11.31 | 10.29 | 10.37 |
| 220470005 | Louisiana | Iberville | 12.90 | 12.98 | 12.43 | 12.50 | 11.91 | 11.98 | 11.00 | 11.06 |
| 220470009 | Louisiana | Iberville | 11.02 | 11.16 | 10.67 | 10.80 | 10.29 | 10.42 | 9.22 | 9.33 |
| 220511001 | Louisiana | Jefferson | 11.52 | 11.68 | 11.02 | 11.17 | 10.65 | 10.79 | 9.54 | 9.67 |
| 220550006 | Louisiana | Lafayette | 11.08 | 11.18 | 10.73 | 10.83 | 10.42 | 10.52 | 9.21 | 9.30 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 220730004 | Louisiana | Ouachita | 11.97 | 12.21 | 11.69 | 11.91 | 11.34 | 11.56 | 10.17 | 10.36 |
| 220790002 | Louisiana | Rapides | 11.03 | 11.04 | 10.75 | 10.77 | 10.45 | 10.47 | 9.29 | 9.31 |
| 221050001 | Louisiana | Tangipahoa | 12.03 | 12.39 | 11.50 | 11.85 | 11.09 | 11.43 | 9.89 | 10.19 |
| 221090001 | Louisiana | Terrebonne | 10.74 | 10.83 | 10.37 | 10.45 | 10.03 | 10.11 | 8.89 | 8.96 |
| 221210001 | Louisiana | West Baton Rouge | 13.51 | 13.68 | 12.98 | 13.15 | 12.55 | 12.72 | 11.62 | 11.77 |
| 230010011 | Maine | Androscoggin | 9.90 | 10.62 | 9.30 | 9.98 | 9.15 | 9.82 | 8.83 | 9.48 |
| 230030013 | Maine | Aroostook | 9.74 | 10.27 | 9.53 | 10.05 | 9.46 | 9.98 | 9.22 | 9.72 |
| 230031011 | Maine | Aroostook | 8.27 | 8.92 | 7.98 | 8.61 | 7.90 | 8.51 | 7.67 | 8.27 |
| 230050015 | Maine | Cumberland | 11.06 | 11.68 | 10.33 | 10.91 | 10.14 | 10.71 | 9.80 | 10.35 |
| 230050027 | Maine | Cumberland | 11.13 | 11.53 | 10.40 | 10.78 | 10.22 | 10.59 | 9.88 | 10.24 |
| 230090103 | Maine | Hancock | 5.76 | 6.17 | 5.39 | 5.77 | 5.33 | 5.71 | 5.04 | 5.40 |
| 230110016 | Maine | Kennebec | 9.99 | 10.70 | 9.37 | 10.04 | 9.23 | 9.88 | 8.91 | 9.54 |
| 230172011 | Maine | Oxford | 10.13 | 10.38 | 9.64 | 9.88 | 9.51 | 9.74 | 9.18 | 9.40 |
| 230190002 | Maine | Penobscot | 9.12 | 9.65 | 8.53 | 9.03 | 8.41 | 8.90 | 8.05 | 8.52 |
| 240030014 | Maryland | Anne Arundel | 11.91 | 11.91 | 10.78 | 10.78 | 10.76 | 10.76 | 9.20 | 9.20 |
| 240031003 | Maryland | Anne Arundel | 14.82 | 15.26 | 13.63 | 14.03 | 13.73 | 14.14 | 12.25 | 12.61 |
| 240032002 | Maryland | Anne Arundel | 14.57 | 14.57 | 13.38 | 13.38 | 13.50 | 13.50 | 12.02 | 12.02 |
| 240051007 | Maryland | Baltimore | 13.77 | 14.04 | 12.61 | 12.85 | 12.56 | 12.80 | 10.78 | 10.98 |
| 240053001 | Maryland | Baltimore | 14.76 | 15.05 | 13.50 | 13.78 | 13.56 | 13.83 | 11.94 | 12.19 |
| 240150003 | Maryland | Cecil | 12.68 | 12.82 | 11.59 | 11.72 | 11.45 | 11.58 | 9.90 | 10.00 |
| 240251001 | Maryland | Harford | 12.51 | 12.62 | 11.34 | 11.44 | 11.34 | 11.44 | 9.76 | 9.85 |
| 240313001 | Maryland | Montgomery | 12.47 | 12.70 | 11.41 | 11.62 | 11.28 | 11.49 | 9.57 | 9.75 |
| 240330030 | Maryland | Prince George's | 12.24 | 12.24 | 11.20 | 11.20 | 11.13 | 11.13 | 9.53 | 9.53 |
| 240338003 | Maryland | Prince George's | 13.03 | 13.23 | 11.78 | 11.98 | 11.70 | 11.89 | 10.03 | 10.21 |
| 240430009 | Maryland | Washington | 13.70 | 14.14 | 12.83 | 13.23 | 12.56 | 12.96 | 10.41 | 10.74 |
| 245100006 | Maryland | Baltimore (City) | 14.12 | 14.37 | 12.92 | 13.15 | 12.96 | 13.19 | 11.35 | 11.55 |
| 245100007 | Maryland | Baltimore (City) | 14.38 | 15.01 | 13.18 | 13.74 | 13.15 | 13.71 | 11.46 | 11.93 |
| 245100008 | Maryland | Baltimore (City) | 15.76 | 15.87 | 14.47 | 14.57 | 14.57 | 14.67 | 12.99 | 13.08 |
| 245100049 | Maryland | Baltimore (City) | 15.63 | 15.63 | 14.36 | 14.36 | 14.48 | 14.48 | 12.97 | 12.97 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 250035001 | Massachusetts | Berkshire | 10.65 | 11.15 | 10.05 | 10.52 | 9.90 | 10.37 | 9.07 | 9.51 |
| 250051004 | Massachusetts | Bristol | 9.58 | 10.16 | 8.78 | 9.33 | 8.71 | 9.25 | 8.07 | 8.57 |
| 250092006 | Massachusetts | Essex | 9.03 | 9.09 | 8.31 | 8.37 | 8.21 | 8.27 | 7.66 | 7.71 |
| 250095005 | Massachusetts | Essex | 9.10 | 9.32 | 8.41 | 8.60 | 8.29 | 8.49 | 7.77 | 7.95 |
| 250096001 | Massachusetts | Essex | 9.58 | 9.74 | 8.87 | 9.02 | 8.74 | 8.89 | 8.20 | 8.34 |
| 250130008 | Massachusetts | Hampden | 9.85 | 10.14 | 9.22 | 9.49 | 9.08 | 9.34 | 8.30 | 8.54 |
| 250130016 | Massachusetts | Hampden | 12.17 | 12.52 | 11.41 | 11.73 | 11.22 | 11.54 | 10.43 | 10.73 |
| 250132009 | Massachusetts | Hampden | 11.85 | 11.90 | 11.10 | 11.15 | 10.92 | 10.97 | 10.14 | 10.18 |
| 250230004 | Massachusetts | Plymouth | 9.87 | 10.14 | 9.09 | 9.34 | 8.97 | 9.22 | 8.34 | 8.57 |
| 250250002 | Massachusetts | Suffolk | 12.34 | 13.00 | 11.48 | 12.09 | 11.32 | 11.92 | 10.73 | 11.30 |
| 250250027 | Massachusetts | Suffolk | 11.86 | 12.27 | 10.99 | 11.38 | 10.84 | 11.22 | 10.24 | 10.61 |
| 250250042 | Massachusetts | Suffolk | 10.88 | 11.36 | 10.08 | 10.53 | 9.95 | 10.39 | 9.36 | 9.78 |
| 250250043 | Massachusetts | Suffolk | 13.07 | 13.88 | 12.16 | 12.92 | 11.98 | 12.73 | 11.39 | 12.11 |
| 250270016 | Massachusetts | Worcester | 10.55 | 10.70 | 9.80 | 9.94 | 9.64 | 9.78 | 8.92 | 9.04 |
| 250270023 | Massachusetts | Worcester | 11.29 | 11.32 | 10.50 | 10.52 | 10.33 | 10.35 | 9.62 | 9.63 |
| 260050003 | Michigan | Allegan | 11.84 | 11.99 | 11.44 | 11.58 | 11.01 | 11.14 | 9.64 | 9.74 |
| 260170014 | Michigan | Bay | 10.93 | 11.05 | 10.40 | 10.52 | 10.06 | 10.17 | 8.99 | 9.08 |
| 260210014 | Michigan | Berrien | 11.72 | 11.91 | 11.32 | 11.51 | 10.92 | 11.10 | 9.65 | 9.78 |
| 260490021 | Michigan | Genesee | 11.61 | 11.79 | 11.06 | 11.24 | 10.72 | 10.89 | 9.43 | 9.57 |
| 260650012 | Michigan | Ingham | 12.23 | 12.51 | 11.68 | 11.95 | 11.30 | 11.56 | 9.96 | 10.19 |
| 260770008 | Michigan | Kalamazoo | 12.84 | 13.06 | 12.30 | 12.50 | 11.92 | 12.11 | 10.58 | 10.76 |
| 260810020 | Michigan | Kent | 12.89 | 13.09 | 12.21 | 12.40 | 11.80 | 11.98 | 10.64 | 10.80 |
| 260990009 | Michigan | Macomb | 12.70 | 13.04 | 12.13 | 12.46 | 11.81 | 12.12 | 10.43 | 10.67 |
| 261130001 | Michigan | Missaukee | 8.26 | 8.36 | 8.04 | 8.13 | 7.78 | 7.87 | 7.13 | 7.21 |
| 261150005 | Michigan | Monroe | 13.92 | 14.13 | 13.29 | 13.50 | 12.88 | 13.07 | 11.13 | 11.29 |
| 261210040 | Michigan | Muskegon | 11.61 | 11.70 | 11.19 | 11.28 | 10.79 | 10.87 | 9.70 | 9.75 |
| 261250001 | Michigan | Oakland | 13.78 | 14.26 | 13.07 | 13.53 | 12.70 | 13.15 | 11.29 | 11.69 |
| 261390005 | Michigan | Ottawa | 12.55 | 12.67 | 11.94 | 12.05 | 11.53 | 11.63 | 10.31 | 10.39 |
| 261450018 | Michigan | Saginaw | 10.61 | 10.61 | 10.11 | 10.11 | 9.78 | 9.78 | 8.73 | 8.73 |
| 261470005 | Michigan | St. Clair | 13.34 | 13.75 | 12.85 | 13.25 | 12.53 | 12.92 | 11.15 | 11.47 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 261610005 | Michigan | Washtenaw | 12.30 | 12.30 | 11.77 | 11.77 | 11.42 | 11.42 | 9.97 | 9.97 |
| 261610008 | Michigan | Washtenaw | 13.88 | 14.29 | 13.21 | 13.60 | 12.83 | 13.22 | 11.42 | 11.74 |
| 261630001 | Michigan | Wayne | 14.52 | 15.11 | 13.72 | 14.29 | 13.33 | 13.88 | 11.87 | 12.35 |
| 261630015 | Michigan | Wayne | 15.88 | 16.40 | 15.05 | 15.55 | 14.64 | 15.12 | 13.01 | 13.42 |
| 261630016 | Michigan | Wayne | 14.57 | 15.17 | 13.83 | 14.40 | 13.46 | 14.02 | 12.01 | 12.50 |
| 261630019 | Michigan | Wayne | 14.32 | 14.77 | 13.64 | 14.07 | 13.29 | 13.71 | 11.86 | 12.21 |
| 261630025 | Michigan | Wayne | 13.39 | 13.88 | 12.73 | 13.20 | 12.35 | 12.80 | 10.85 | 11.21 |
| 261630033 | Michigan | Wayne | 17.50 | 18.16 | 16.57 | 17.19 | 16.12 | 16.72 | 14.43 | 14.94 |
| 261630036 | Michigan | Wayne | 14.67 | 15.44 | 13.92 | 14.65 | 13.53 | 14.23 | 11.96 | 12.54 |
| 270210001 | Minnesota | Cass | 5.70 | 5.80 | 5.48 | 5.58 | 5.40 | 5.50 | 5.18 | 5.28 |
| 270370470 | Minnesota | Dakota | 9.30 | 9.55 | 8.86 | 9.10 | 8.66 | 8.89 | 8.25 | 8.47 |
| 270530050 | Minnesota | Hennepin | 9.76 | 9.82 | 9.28 | 9.33 | 9.08 | 9.13 | 8.70 | 8.75 |
| 270530961 | Minnesota | Hennepin | 9.14 | 9.27 | 8.69 | 8.81 | 8.49 | 8.61 | 8.10 | 8.21 |
| 270530963 | Minnesota | Hennepin | 9.59 | 9.81 | 9.10 | 9.31 | 8.90 | 9.10 | 8.51 | 8.71 |
| 270530965 | Minnesota | Hennepin | 9.54 | 9.58 | 9.06 | 9.10 | 8.86 | 8.90 | 8.49 | 8.53 |
| 270531007 | Minnesota | Hennepin | 9.56 | 9.75 | 9.08 | 9.26 | 8.87 | 9.05 | 8.48 | 8.65 |
| 270532006 | Minnesota | Hennepin | 9.33 | 9.39 | 8.87 | 8.91 | 8.67 | 8.71 | 8.28 | 8.32 |
| 270953051 | Minnesota | Mille Lacs | 6.54 | 6.67 | 6.28 | 6.41 | 6.17 | 6.29 | 5.92 | 6.03 |
| 271095008 | Minnesota | Olmsted | 10.13 | 10.13 | 9.64 | 9.64 | 9.40 | 9.40 | 8.84 | 8.84 |
| 271230866 | Minnesota | Ramsey | 11.32 | 11.61 | 10.81 | 11.09 | 10.58 | 10.85 | 10.20 | 10.46 |
| 271230868 | Minnesota | Ramsey | 11.02 | 11.31 | 10.49 | 10.77 | 10.27 | 10.53 | 9.91 | 10.17 |
| 271230871 | Minnesota | Ramsey | 9.63 | 9.80 | 9.17 | 9.33 | 8.97 | 9.13 | 8.61 | 8.76 |
| 271377001 | Minnesota | Saint Louis | 6.10 | 6.15 | 5.93 | 5.98 | 5.76 | 5.81 | 5.56 | 5.60 |
| 271377550 | Minnesota | Saint Louis | 6.19 | 6.25 | 5.94 | 6.00 | 5.80 | 5.86 | 5.57 | 5.63 |
| 271377551 | Minnesota | Saint Louis | 7.51 | 7.62 | 7.19 | 7.29 | 7.02 | 7.13 | 6.79 | 6.88 |
| 271390505 | Minnesota | Scott | 9.00 | 9.16 | 8.57 | 8.71 | 8.37 | 8.51 | 7.95 | 8.08 |
| 271453052 | Minnesota | Stearns | 8.58 | 8.80 | 8.19 | 8.40 | 8.02 | 8.23 | 7.69 | 7.89 |
| 280010004 | Mississippi | Adams | 11.29 | 11.46 | 10.93 | 11.10 | 10.53 | 10.69 | 9.20 | 9.35 |
| 280110001 | Mississippi | Bolivar | 12.36 | 12.58 | 12.13 | 12.35 | 11.65 | 11.86 | 10.02 | 10.20 |
| 280330002 | Mississippi | DeSoto | 12.43 | 12.51 | 12.06 | 12.13 | 11.47 | 11.54 | 9.55 | 9.61 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 280350004 | Mississippi | Forrest | 13.62 | 13.99 | 12.84 | 13.19 | 12.40 | 12.74 | 11.00 | 11.30 |
| 280470008 | Mississippi | Harrison | 12.20 | 12.34 | 11.60 | 11.74 | 11.23 | 11.36 | 10.05 | 10.17 |
| 280490010 | Mississippi | Hinds | 12.56 | 12.66 | 11.98 | 12.07 | 11.50 | 11.59 | 10.13 | 10.21 |
| 280590006 | Mississippi | Jackson | 12.04 | 12.16 | 11.29 | 11.41 | 10.89 | 11.01 | 9.72 | 9.82 |
| 280670002 | Mississippi | Jones | 14.39 | 14.59 | 13.55 | 13.75 | 13.07 | 13.25 | 11.58 | 11.74 |
| 280750003 | Mississippi | Lauderdale | 13.07 | 13.09 | 12.44 | 12.45 | 11.92 | 11.93 | 10.34 | 10.35 |
| 280810005 | Mississippi | Lee | 12.57 | 12.83 | 12.15 | 12.40 | 11.57 | 11.81 | 9.65 | 9.83 |
| 280870001 | Mississippi | Lowndes | 12.79 | 13.11 | 12.27 | 12.57 | 11.69 | 11.98 | 9.95 | 10.18 |
| 281090001 | Mississippi | Pearl River | 12.14 | 12.14 | 11.60 | 11.60 | 11.22 | 11.22 | 9.99 | 9.99 |
| 281490004 | Mississippi | Warren | 12.32 | 12.32 | 11.90 | 11.90 | 11.43 | 11.43 | 10.07 | 10.07 |
| 290190004 | Missouri | Boone | 11.84 | 11.84 | 11.68 | 11.68 | 11.22 | 11.22 | 10.08 | 10.08 |
| 290210005 | Missouri | Buchanan | 12.80 | 12.80 | 12.28 | 12.28 | 12.01 | 12.01 | 11.29 | 11.29 |
| 290370003 | Missouri | Cass | 10.67 | 10.83 | 10.25 | 10.41 | 9.94 | 10.09 | 9.08 | 9.20 |
| 290390001 | Missouri | Cedar | 11.12 | 11.12 | 10.82 | 10.82 | 10.51 | 10.51 | 9.52 | 9.52 |
| 290470005 | Missouri | Clay | 11.03 | 11.25 | 10.51 | 10.73 | 10.23 | 10.44 | 9.39 | 9.56 |
| 290770032 | Missouri | Greene | 11.75 | 11.87 | 11.51 | 11.63 | 11.12 | 11.24 | 9.94 | 10.05 |
| 290950034 | Missouri | Jackson | 12.78 | 13.19 | 12.12 | 12.50 | 11.79 | 12.17 | 10.99 | 11.35 |
| 290990012 | Missouri | Jefferson | 13.79 | 13.97 | 13.72 | 13.90 | 13.15 | 13.33 | 11.60 | 11.77 |
| 291370001 | Missouri | Monroe | 10.87 | 10.87 | 10.69 | 10.69 | 10.21 | 10.21 | 9.02 | 9.02 |
| 291831002 | Missouri | Saint Charles | 13.29 | 13.70 | 13.50 | 13.92 | 12.89 | 13.29 | 11.03 | 11.38 |
| 291860006 | Missouri | Sainte Genevieve | 13.34 | 13.66 | 13.29 | 13.60 | 12.64 | 12.93 | 10.94 | 11.19 |
| 291890004 | Missouri | Saint Louis | 13.04 | 13.04 | 13.00 | 13.00 | 12.42 | 12.42 | 10.85 | 10.85 |
| 291892003 | Missouri | Saint Louis | 13.46 | 13.79 | 13.43 | 13.76 | 12.83 | 13.14 | 11.19 | 11.47 |
| 295100007 | Missouri | St. Louis City | 14.27 | 14.45 | 14.17 | 14.34 | 13.57 | 13.74 | 12.00 | 12.16 |
| 295100085 | Missouri | St. Louis City | 14.36 | 14.45 | 14.32 | 14.40 | 13.69 | 13.77 | 12.04 | 12.11 |
| 295100086 | Missouri | St. Louis City | 13.44 | 13.60 | 13.44 | 13.61 | 12.82 | 12.98 | 11.18 | 11.32 |
| 295100087 | Missouri | St. Louis City | 14.56 | 14.70 | 14.51 | 14.65 | 13.86 | 14.00 | 12.20 | 12.33 |
| 300870307 | Montana | Rosebud | 6.58 | 6.58 | 6.48 | 6.48 | 6.45 | 6.45 | 6.47 | 6.47 |
| 301111065 | Montana | Yellowstone | 8.14 | 8.18 | 7.89 | 7.92 | 7.84 | 7.87 | 7.85 | 7.88 |
| 310250002 | Nebraska | Cass | 9.99 | 9.99 | 9.46 | 9.46 | 9.25 | 9.25 | 8.64 | 8.64 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 310550019 | Nebraska | Douglas | 9.88 | 10.06 | 9.37 | 9.55 | 9.19 | 9.36 | 8.56 | 8.72 |
| 310550052 | Nebraska | Douglas | 9.85 | 10.18 | 9.35 | 9.66 | 9.15 | 9.45 | 8.54 | 8.83 |
| 310790004 | Nebraska | Hall | 7.95 | 7.95 | 7.56 | 7.56 | 7.40 | 7.40 | 7.00 | 7.00 |
| 311090022 | Nebraska | Lancaster | 8.90 | 9.28 | 8.43 | 8.79 | 8.22 | 8.57 | 7.67 | 8.01 |
| 311111002 | Nebraska | Lincoln | 7.57 | 7.57 | 7.28 | 7.28 | 7.19 | 7.19 | 6.97 | 6.97 |
| 311530007 | Nebraska | Sarpy | 9.79 | 9.86 | 9.27 | 9.34 | 9.08 | 9.14 | 8.45 | 8.52 |
| 311570003 | Nebraska | Scotts Bluff | 6.04 | 6.04 | 5.78 | 5.78 | 5.72 | 5.72 | 5.68 | 5.68 |
| 311770002 | Nebraska | Washington | 9.29 | 9.35 | 8.85 | 8.91 | 8.66 | 8.72 | 8.07 | 8.13 |
| 330012004 | New Hampshire | Belknap | 7.28 | 7.33 | 6.76 | 6.80 | 6.65 | 6.69 | 6.14 | 6.19 |
| 330050007 | New Hampshire | Cheshire | 11.53 | 11.61 | 10.81 | 10.88 | 10.63 | 10.70 | 9.97 | 10.03 |
| 330070014 | New Hampshire | Coos | 10.24 | 10.39 | 9.81 | 9.96 | 9.68 | 9.83 | 9.27 | 9.41 |
| 330090010 | New Hampshire | Grafton | 8.43 | 8.43 | 7.94 | 7.94 | 7.81 | 7.81 | 7.27 | 7.27 |
| 330110020 | New Hampshire | Hillsborough | 10.18 | 10.18 | 9.36 | 9.36 | 9.22 | 9.22 | 8.64 | 8.64 |
| 330111015 | New Hampshire | Hillsborough | 10.01 | 10.01 | 9.27 | 9.27 | 9.13 | 9.13 | 8.52 | 8.52 |
| 330115001 | New Hampshire | Hillsborough | 6.27 | 6.27 | 5.78 | 5.78 | 5.69 | 5.69 | 5.22 | 5.22 |
| 330131006 | New Hampshire | Merrimack | 9.72 | 9.73 | 8.95 | 8.96 | 8.80 | 8.82 | 8.23 | 8.24 |
| 330150014 | New Hampshire | Rockingham | 9.00 | 9.20 | 8.30 | 8.48 | 8.18 | 8.36 | 7.74 | 7.91 |
| 330190003 | New Hampshire | Sullivan | 9.86 | 10.17 | 9.27 | 9.56 | 9.12 | 9.40 | 8.52 | 8.77 |
| 340011006 | New Jersey | Atlantic | 11.47 | 11.47 | 10.73 | 10.73 | 10.59 | 10.59 | 9.33 | 9.33 |
| 340030003 | New Jersey | Bergen | 13.09 | 13.29 | 12.00 | 12.17 | 11.78 | 11.94 | 10.72 | 10.86 |
| 340070003 | New Jersey | Camden | 13.31 | 13.40 | 12.32 | 12.40 | 12.10 | 12.18 | 10.74 | 10.82 |
| 340071007 | New Jersey | Camden | 13.51 | 13.78 | 12.48 | 12.72 | 12.24 | 12.48 | 10.88 | 11.08 |
| 340130015 | New Jersey | Essex | 13.27 | 13.29 | 12.15 | 12.18 | 11.90 | 11.92 | 10.82 | 10.84 |
| 340155001 | New Jersey | Gloucester | 13.46 | 13.46 | 12.48 | 12.48 | 12.25 | 12.25 | 10.82 | 10.82 |
| 340171003 | New Jersey | Hudson | 14.24 | 14.66 | 13.15 | 13.54 | 12.91 | 13.28 | 11.84 | 12.17 |
| 340210008 | New Jersey | Mercer | 12.71 | 12.97 | 11.83 | 12.05 | 11.61 | 11.83 | 10.29 | 10.46 |
| 340218001 | New Jersey | Mercer | 11.14 | 11.66 | 10.34 | 10.81 | 10.14 | 10.61 | 8.87 | 9.26 |
| 340230006 | New Jersey | Middlesex | 12.15 | 12.52 | 11.31 | 11.65 | 11.10 | 11.44 | 9.88 | 10.17 |
| 340270004 | New Jersey | Morris | 11.50 | 11.92 | 10.62 | 11.00 | 10.43 | 10.80 | 9.24 | 9.56 |
| 340273001 | New Jersey | Morris | 10.21 | 10.59 | 9.49 | 9.83 | 9.33 | 9.67 | 8.15 | 8.44 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 340292002 | New Jersey | Ocean | 10.92 | 11.27 | 10.19 | 10.51 | 10.02 | 10.34 | 8.85 | 9.13 |
| 340310005 | New Jersey | Passaic | 12.88 | 13.09 | 11.76 | 11.93 | 11.53 | 11.71 | 10.44 | 10.57 |
| 340390004 | New Jersey | Union | 14.94 | 15.53 | 13.73 | 14.28 | 13.43 | 13.97 | 12.29 | 12.79 |
| 340390006 | New Jersey | Union | 13.32 | 13.64 | 12.16 | 12.45 | 11.90 | 12.17 | 10.82 | 11.06 |
| 340392003 | New Jersey | Union | 13.06 | 13.32 | 11.98 | 12.21 | 11.72 | 11.94 | 10.61 | 10.80 |
| 340410006 | New Jersey | Warren | 12.72 | 13.11 | 11.82 | 12.17 | 11.63 | 11.97 | 10.21 | 10.50 |
| 350010023 | New Mexico | Bernalillo | 7.03 | 7.13 | 6.59 | 6.68 | 6.50 | 6.59 | 6.45 | 6.54 |
| 350010024 | New Mexico | Bernalillo | 6.64 | 6.81 | 6.22 | 6.39 | 6.13 | 6.30 | 6.08 | 6.25 |
| 350050005 | New Mexico | Chaves | 6.54 | 6.58 | 6.29 | 6.33 | 6.24 | 6.28 | 6.09 | 6.13 |
| 350130017 | New Mexico | Dona Ana | 9.95 | 10.40 | 9.55 | 9.97 | 9.50 | 9.93 | 9.40 | 9.82 |
| 350130025 | New Mexico | Dona Ana | 6.31 | 6.35 | 6.03 | 6.07 | 5.99 | 6.03 | 5.88 | 5.93 |
| 350431003 | New Mexico | Sandoval | 5.00 | 5.02 | 4.69 | 4.71 | 4.63 | 4.65 | 4.58 | 4.61 |
| 350439011 | New Mexico | Sandoval | 7.99 | 8.34 | 7.74 | 8.08 | 7.69 | 8.02 | 7.65 | 7.97 |
| 350450006 | New Mexico | San Juan | 5.92 | 6.08 | 5.75 | 5.91 | 5.73 | 5.88 | 5.72 | 5.87 |
| 350490020 | New Mexico | Santa Fe | 4.76 | 4.81 | 4.59 | 4.64 | 4.55 | 4.60 | 4.52 | 4.57 |
| 360010005 | New York | Albany | 11.83 | 11.83 | 11.29 | 11.29 | 11.15 | 11.15 | 10.30 | 10.30 |
| 360050080 | New York | Bronx | 15.43 | 15.72 | 14.28 | 14.55 | 14.03 | 14.29 | 12.96 | 13.19 |
| 360050083 | New York | Bronx | 13.09 | 13.35 | 12.07 | 12.30 | 11.85 | 12.08 | 10.80 | 11.00 |
| 360050110 | New York | Bronx | 13.45 | 14.06 | 12.44 | 13.01 | 12.21 | 12.77 | 11.17 | 11.68 |
| 360130011 | New York | Chautauqua | 9.80 | 10.09 | 9.22 | 9.49 | 8.99 | 9.25 | 7.41 | 7.61 |
| 360290005 | New York | Erie | 12.62 | 12.79 | 11.98 | 12.15 | 11.76 | 11.92 | 10.38 | 10.52 |
| 360291007 | New York | Erie | 12.64 | 13.00 | 11.99 | 12.34 | 11.76 | 12.11 | 10.30 | 10.62 |
| 360310003 | New York | Essex | 5.94 | 5.98 | 5.71 | 5.75 | 5.62 | 5.66 | 4.98 | 5.02 |
| 360470122 | New York | Kings | 14.20 | 14.64 | 13.19 | 13.60 | 12.95 | 13.35 | 11.88 | 12.25 |
| 360551007 | New York | Monroe | 10.64 | 10.64 | 10.17 | 10.17 | 9.99 | 9.99 | 8.77 | 8.77 |
| 360590008 | New York | Nassau | 11.66 | 12.07 | 10.89 | 11.27 | 10.72 | 11.09 | 9.74 | 10.08 |
| 360610056 | New York | New York | 16.18 | 17.02 | 14.98 | 15.74 | 14.70 | 15.45 | 13.56 | 14.22 |
| 360610062 | New York | New York | 14.80 | 15.31 | 13.70 | 14.16 | 13.44 | 13.90 | 12.34 | 12.76 |
| 360610079 | New York | New York | 13.61 | 14.00 | 12.59 | 12.95 | 12.36 | 12.71 | 11.31 | 11.62 |
| 360610128 | New York | New York | 15.41 | 15.80 | 14.33 | 14.68 | 14.08 | 14.42 | 13.00 | 13.31 |

| | | | Annual PM2.5 Design Values (µg/m³) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 360632008 | New York | Niagara | 11.96 | 12.29 | 11.45 | 11.76 | 11.23 | 11.54 | 9.83 | 10.09 |
| 360671015 | New York | Onondaga | 10.08 | 10.46 | 9.61 | 9.97 | 9.46 | 9.81 | 8.18 | 8.47 |
| 360710002 | New York | Orange | 10.99 | 11.43 | 10.20 | 10.60 | 10.05 | 10.45 | 8.98 | 9.33 |
| 360810124 | New York | Queens | 12.18 | 12.69 | 11.30 | 11.78 | 11.10 | 11.57 | 10.13 | 10.56 |
| 360850055 | New York | Richmond | 13.31 | 13.37 | 12.23 | 12.29 | 11.97 | 12.03 | 10.90 | 10.95 |
| 360850067 | New York | Richmond | 11.59 | 11.82 | 10.66 | 10.88 | 10.44 | 10.64 | 9.51 | 9.70 |
| 360893001 | New York | St. Lawrence | 7.29 | 7.71 | 7.06 | 7.45 | 6.96 | 7.35 | 6.27 | 6.61 |
| 361010003 | New York | Steuben | 9.00 | 9.38 | 8.46 | 8.81 | 8.31 | 8.65 | 6.91 | 7.18 |
| 361030001 | New York | Suffolk | 11.52 | 11.52 | 10.78 | 10.78 | 10.62 | 10.62 | 9.58 | 9.58 |
| 361191002 | New York | Westchester | 11.73 | 11.94 | 10.85 | 11.03 | 10.67 | 10.84 | 9.61 | 9.76 |
| 370010002 | North Carolina | Alamance | 13.94 | 14.07 | 12.39 | 12.52 | 12.00 | 12.13 | 10.21 | 10.32 |
| 370210034 | North Carolina | Buncombe | 12.60 | 12.65 | 11.32 | 11.36 | 10.88 | 10.92 | 9.25 | 9.28 |
| 370330001 | North Carolina | Caswell | 13.19 | 13.33 | 11.66 | 11.78 | 11.31 | 11.43 | 9.49 | 9.59 |
| 370350004 | North Carolina | Catawba | 15.31 | 15.37 | 13.35 | 13.41 | 12.90 | 12.96 | 11.03 | 11.08 |
| 370370004 | North Carolina | Chatham | 11.99 | 12.15 | 10.72 | 10.87 | 10.34 | 10.48 | 8.70 | 8.82 |
| 370510009 | North Carolina | Cumberland | 13.73 | 13.85 | 12.62 | 12.73 | 12.22 | 12.33 | 10.75 | 10.85 |
| 370570002 | North Carolina | Davidson | 15.17 | 15.24 | 13.47 | 13.53 | 13.07 | 13.13 | 11.17 | 11.23 |
| 370610002 | North Carolina | Duplin | 11.30 | 11.54 | 10.33 | 10.56 | 10.04 | 10.25 | 8.66 | 8.85 |
| 370630001 | North Carolina | Durham | 13.57 | 13.67 | 12.23 | 12.32 | 11.84 | 11.93 | 10.16 | 10.25 |
| 370650004 | North Carolina | Edgecombe | 12.37 | 12.38 | 11.40 | 11.40 | 11.05 | 11.05 | 9.43 | 9.44 |
| 370670022 | North Carolina | Forsyth | 14.28 | 14.45 | 12.48 | 12.63 | 12.09 | 12.23 | 10.13 | 10.25 |
| 370710016 | North Carolina | Gaston | 14.26 | 14.40 | 12.39 | 12.51 | 11.97 | 12.09 | 10.31 | 10.41 |
| 370810013 | North Carolina | Guilford | 13.79 | 13.79 | 12.24 | 12.24 | 11.87 | 11.87 | 10.09 | 10.09 |
| 370870010 | North Carolina | Haywood | 12.98 | 13.00 | 11.84 | 11.86 | 11.39 | 11.40 | 10.02 | 10.04 |
| 370990006 | North Carolina | Jackson | 12.09 | 12.43 | 10.97 | 11.29 | 10.44 | 10.74 | 8.87 | 9.13 |
| 371070004 | North Carolina | Lenoir | 11.12 | 11.29 | 10.21 | 10.37 | 9.92 | 10.08 | 8.53 | 8.67 |
| 371110004 | North Carolina | McDowell | 14.24 | 14.35 | 12.73 | 12.83 | 12.31 | 12.40 | 10.58 | 10.66 |
| 371170001 | North Carolina | Martin | 10.86 | 11.12 | 9.95 | 10.20 | 9.69 | 9.93 | 8.27 | 8.47 |
| 371190010 | North Carolina | Mecklenburg | 15.31 | 15.31 | 13.42 | 13.42 | 13.03 | 13.03 | 11.42 | 11.42 |
| 371190041 | North Carolina | Mecklenburg | 14.74 | 14.94 | 12.92 | 13.10 | 12.52 | 12.69 | 10.88 | 11.04 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 371190042 | North Carolina | Mecklenburg | 14.80 | 14.93 | 12.98 | 13.09 | 12.58 | 12.68 | 10.94 | 11.04 |
| 371210001 | North Carolina | Mitchell | 12.75 | 13.00 | 11.34 | 11.56 | 10.93 | 11.14 | 9.13 | 9.30 |
| 371230001 | North Carolina | Montgomery | 12.24 | 12.35 | 10.95 | 11.05 | 10.55 | 10.64 | 8.95 | 9.03 |
| 371290002 | North Carolina | New Hanover | 9.96 | 10.18 | 9.20 | 9.40 | 8.95 | 9.15 | 7.74 | 7.91 |
| 371330005 | North Carolina | Onslow | 10.98 | 11.26 | 10.12 | 10.39 | 9.85 | 10.11 | 8.49 | 8.72 |
| 371350007 | North Carolina | Orange | 13.12 | 13.25 | 11.77 | 11.88 | 11.36 | 11.47 | 9.65 | 9.74 |
| 371470005 | North Carolina | Pitt | 11.59 | 11.90 | 10.65 | 10.94 | 10.35 | 10.63 | 8.89 | 9.13 |
| 371550005 | North Carolina | Robeson | 12.78 | 12.79 | 11.72 | 11.75 | 11.40 | 11.42 | 9.99 | 10.01 |
| 371590021 | North Carolina | Rowan | 14.02 | 14.02 | 12.48 | 12.48 | 12.11 | 12.11 | 10.39 | 10.39 |
| 371730002 | North Carolina | Swain | 12.65 | 12.82 | 11.51 | 11.67 | 10.94 | 11.09 | 9.28 | 9.41 |
| 371830014 | North Carolina | Wake | 13.54 | 13.57 | 12.25 | 12.29 | 11.85 | 11.88 | 10.20 | 10.22 |
| 371890003 | North Carolina | Watauga | 12.05 | 12.06 | 10.65 | 10.66 | 10.24 | 10.25 | 8.28 | 8.30 |
| 371910005 | North Carolina | Wayne | 12.96 | 13.14 | 11.99 | 12.16 | 11.62 | 11.78 | 10.11 | 10.25 |
| 380070002 | North Dakota | Billings | 4.61 | 4.68 | 4.47 | 4.54 | 4.45 | 4.52 | 4.43 | 4.50 |
| 380130002 | North Dakota | Burke | 5.90 | 5.90 | 5.76 | 5.76 | 5.74 | 5.74 | 5.72 | 5.72 |
| 380130003 | North Dakota | Burke | 5.78 | 5.78 | 5.62 | 5.62 | 5.60 | 5.60 | 5.58 | 5.58 |
| 380150003 | North Dakota | Burleigh | 6.61 | 6.71 | 6.21 | 6.30 | 6.15 | 6.24 | 6.10 | 6.18 |
| 380171004 | North Dakota | Cass | 7.72 | 7.75 | 7.36 | 7.40 | 7.25 | 7.28 | 7.07 | 7.10 |
| 380530002 | North Dakota | McKenzie | 5.01 | 5.09 | 4.88 | 4.96 | 4.85 | 4.94 | 4.84 | 4.92 |
| 380570004 | North Dakota | Mercer | 6.04 | 6.15 | 5.97 | 6.08 | 5.94 | 6.05 | 5.91 | 6.02 |
| 390090003 | Ohio | Athens | 12.39 | 12.67 | 11.40 | 11.66 | 10.89 | 11.15 | 8.57 | 8.77 |
| 390170016 | Ohio | Butler | 15.74 | 16.11 | 15.25 | 15.61 | 14.76 | 15.12 | 11.94 | 12.23 |
| 390170017 | Ohio | Butler | 15.36 | 15.36 | 14.93 | 14.93 | 14.48 | 14.48 | 11.98 | 11.98 |
| 390171004 | Ohio | Butler | 14.90 | 15.14 | 14.51 | 14.74 | 14.06 | 14.29 | 11.44 | 11.62 |
| 390230005 | Ohio | Clark | 14.64 | 14.77 | 14.08 | 14.21 | 13.65 | 13.78 | 11.26 | 11.37 |
| 390250022 | Ohio | Clermont | 14.15 | 14.15 | 13.69 | 13.69 | 13.20 | 13.20 | 10.32 | 10.32 |
| 390350027 | Ohio | Cuyahoga | 15.46 | 16.13 | 14.50 | 15.13 | 14.06 | 14.67 | 11.85 | 12.35 |
| 390350034 | Ohio | Cuyahoga | 13.76 | 14.07 | 12.93 | 13.23 | 12.54 | 12.82 | 10.51 | 10.76 |
| 390350038 | Ohio | Cuyahoga | 17.37 | 18.10 | 16.26 | 16.95 | 15.79 | 16.45 | 13.59 | 14.17 |
| 390350045 | Ohio | Cuyahoga | 16.47 | 16.98 | 15.42 | 15.91 | 14.96 | 15.43 | 12.74 | 13.15 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 390350060 | Ohio | Cuyahoga | 17.11 | 17.66 | 16.02 | 16.54 | 15.55 | 16.06 | 13.35 | 13.81 |
| 390350065 | Ohio | Cuyahoga | 15.97 | 16.44 | 14.96 | 15.40 | 14.51 | 14.94 | 12.30 | 12.65 |
| 390351002 | Ohio | Cuyahoga | 14.14 | 14.64 | 13.30 | 13.77 | 12.92 | 13.38 | 10.92 | 11.32 |
| 390490024 | Ohio | Franklin | 15.27 | 15.95 | 14.33 | 14.97 | 13.85 | 14.47 | 11.52 | 12.05 |
| 390490025 | Ohio | Franklin | 15.08 | 15.45 | 14.12 | 14.47 | 13.64 | 13.98 | 11.31 | 11.59 |
| 390490081 | Ohio | Franklin | 14.33 | 14.33 | 13.51 | 13.51 | 13.03 | 13.03 | 10.69 | 10.69 |
| 390570005 | Ohio | Greene | 13.36 | 13.55 | 12.83 | 13.02 | 12.41 | 12.59 | 9.98 | 10.14 |
| 390610006 | Ohio | Hamilton | 14.84 | 14.84 | 14.36 | 14.36 | 13.88 | 13.88 | 11.07 | 11.07 |
| 390610014 | Ohio | Hamilton | 17.29 | 17.53 | 16.69 | 16.93 | 16.14 | 16.37 | 13.15 | 13.32 |
| 390610040 | Ohio | Hamilton | 15.50 | 15.88 | 15.03 | 15.40 | 14.51 | 14.87 | 11.48 | 11.78 |
| 390610042 | Ohio | Hamilton | 16.85 | 17.25 | 16.33 | 16.71 | 15.80 | 16.18 | 12.82 | 13.14 |
| 390610043 | Ohio | Hamilton | 15.55 | 15.82 | 15.05 | 15.32 | 14.56 | 14.82 | 11.77 | 12.00 |
| 390617001 | Ohio | Hamilton | 16.17 | 16.56 | 15.65 | 16.03 | 15.12 | 15.49 | 12.13 | 12.46 |
| 390618001 | Ohio | Hamilton | 17.54 | 17.90 | 16.93 | 17.27 | 16.38 | 16.71 | 13.41 | 13.68 |
| 390810017 | Ohio | Jefferson | 15.41 | 15.46 | 13.95 | 13.99 | 13.53 | 13.58 | 11.20 | 11.25 |
| 390811001 | Ohio | Jefferson | 16.51 | 17.17 | 14.95 | 15.54 | 14.50 | 15.07 | 11.96 | 12.42 |
| 390851001 | Ohio | Lake | 13.02 | 13.02 | 12.33 | 12.33 | 11.96 | 11.96 | 10.03 | 10.03 |
| 390870010 | Ohio | Lawrence | 15.14 | 15.44 | 14.19 | 14.47 | 13.63 | 13.89 | 11.20 | 11.41 |
| 390930016 | Ohio | Lorain | 13.87 | 14.13 | 13.13 | 13.37 | 12.74 | 12.98 | 10.64 | 10.83 |
| 390933002 | Ohio | Lorain | 12.78 | 12.98 | 12.12 | 12.31 | 11.79 | 11.98 | 10.18 | 10.34 |
| 390950024 | Ohio | Lucas | 14.38 | 14.68 | 13.72 | 14.00 | 13.29 | 13.57 | 11.53 | 11.78 |
| 390950025 | Ohio | Lucas | 13.95 | 14.37 | 13.32 | 13.72 | 12.90 | 13.29 | 11.11 | 11.46 |
| 390950026 | Ohio | Lucas | 14.08 | 14.30 | 13.48 | 13.68 | 13.05 | 13.26 | 11.28 | 11.47 |
| 390990005 | Ohio | Mahoning | 14.68 | 14.99 | 13.80 | 14.10 | 13.38 | 13.66 | 11.30 | 11.53 |
| 390990014 | Ohio | Mahoning | 15.12 | 15.53 | 14.23 | 14.62 | 13.79 | 14.16 | 11.71 | 12.04 |
| 391130031 | Ohio | Montgomery | 14.58 | 14.58 | 14.09 | 14.09 | 13.66 | 13.66 | 11.23 | 11.23 |
| 391130032 | Ohio | Montgomery | 15.54 | 15.92 | 15.01 | 15.37 | 14.55 | 14.90 | 12.07 | 12.37 |
| 391330002 | Ohio | Portage | 13.37 | 13.56 | 12.62 | 12.79 | 12.23 | 12.39 | 10.19 | 10.33 |
| 391351001 | Ohio | Preble | 13.70 | 13.88 | 13.46 | 13.64 | 13.04 | 13.20 | 10.37 | 10.51 |
| 391450013 | Ohio | Scioto | 14.65 | 14.84 | 13.68 | 13.86 | 13.14 | 13.31 | 10.60 | 10.73 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 391510017 | Ohio | Stark | 16.15 | 16.59 | 14.99 | 15.40 | 14.60 | 15.00 | 12.26 | 12.60 |
| 391510020 | Ohio | Stark | 15.14 | 15.14 | 14.07 | 14.07 | 13.71 | 13.71 | 11.73 | 11.73 |
| 391530017 | Ohio | Summit | 15.17 | 15.61 | 14.28 | 14.71 | 13.91 | 14.32 | 11.91 | 12.27 |
| 391530023 | Ohio | Summit | 14.26 | 14.58 | 13.42 | 13.73 | 13.07 | 13.38 | 11.13 | 11.40 |
| 391550007 | Ohio | Trumbull | 14.53 | 14.73 | 13.75 | 13.94 | 13.32 | 13.51 | 11.27 | 11.44 |
| 400159008 | Oklahoma | Caddo | 9.22 | 9.77 | 8.69 | 9.21 | 8.57 | 9.08 | 8.07 | 8.54 |
| 400219002 | Oklahoma | Cherokee | 11.79 | 12.28 | 11.41 | 11.88 | 11.10 | 11.56 | 10.16 | 10.58 |
| 400719010 | Oklahoma | Kay | 10.26 | 10.62 | 9.96 | 10.32 | 9.76 | 10.11 | 9.19 | 9.52 |
| 400819005 | Oklahoma | Lincoln | 10.28 | 10.28 | 9.83 | 9.83 | 9.60 | 9.60 | 8.91 | 8.91 |
| 400970186 | Oklahoma | Mayes | 11.70 | 11.83 | 11.46 | 11.59 | 11.17 | 11.30 | 10.33 | 10.45 |
| 400979014 | Oklahoma | Mayes | 11.44 | 11.62 | 11.18 | 11.36 | 10.89 | 11.07 | 10.03 | 10.19 |
| 401010169 | Oklahoma | Muskogee | 11.89 | 12.10 | 11.61 | 11.81 | 11.32 | 11.52 | 10.46 | 10.66 |
| 401090035 | Oklahoma | Oklahoma | 10.07 | 10.23 | 9.47 | 9.62 | 9.25 | 9.40 | 8.65 | 8.79 |
| 401091037 | Oklahoma | Oklahoma | 9.86 | 10.07 | 9.29 | 9.48 | 9.07 | 9.26 | 8.46 | 8.64 |
| 401159004 | Oklahoma | Ottawa | 11.69 | 11.95 | 11.31 | 11.56 | 11.02 | 11.25 | 10.12 | 10.32 |
| 401210415 | Oklahoma | Pittsburg | 11.06 | 11.28 | 10.63 | 10.84 | 10.37 | 10.57 | 9.54 | 9.72 |
| 401359015 | Oklahoma | Sequoyah | 12.99 | 12.99 | 12.56 | 12.56 | 12.25 | 12.25 | 11.30 | 11.30 |
| 401430110 | Oklahoma | Tulsa | 11.52 | 11.52 | 11.13 | 11.13 | 10.86 | 10.86 | 10.07 | 10.07 |
| 401431127 | Oklahoma | Tulsa | 11.37 | 11.56 | 10.99 | 11.17 | 10.72 | 10.90 | 9.96 | 10.11 |
| 420010001 | Pennsylvania | Adams | 13.05 | 13.59 | 12.13 | 12.64 | 11.90 | 12.41 | 9.83 | 10.26 |
| 420030008 | Pennsylvania | Allegheny | 15.24 | 15.48 | 14.11 | 14.33 | 13.70 | 13.92 | 11.29 | 11.49 |
| 420030021 | Pennsylvania | Allegheny | 14.66 | 14.66 | 13.65 | 13.65 | 13.26 | 13.26 | 10.80 | 10.80 |
| 420030064 | Pennsylvania | Allegheny | 20.31 | 20.75 | 18.90 | 19.31 | 18.38 | 18.78 | 15.88 | 16.23 |
| 420030067 | Pennsylvania | Allegheny | 12.86 | 12.94 | 11.82 | 11.89 | 11.45 | 11.52 | 9.14 | 9.19 |
| 420030095 | Pennsylvania | Allegheny | 13.84 | 14.54 | 12.77 | 13.42 | 12.41 | 13.04 | 10.12 | 10.63 |
| 420030116 | Pennsylvania | Allegheny | 15.36 | 15.36 | 14.17 | 14.17 | 13.78 | 13.78 | 11.50 | 11.50 |
| 420031008 | Pennsylvania | Allegheny | 15.25 | 15.49 | 14.26 | 14.49 | 13.89 | 14.11 | 11.21 | 11.40 |
| 420031301 | Pennsylvania | Allegheny | 16.26 | 16.57 | 15.13 | 15.42 | 14.70 | 14.98 | 12.14 | 12.36 |
| 420033007 | Pennsylvania | Allegheny | 15.30 | 15.72 | 14.20 | 14.59 | 13.76 | 14.13 | 11.14 | 11.44 |
| 420039002 | Pennsylvania | Allegheny | 14.44 | 14.44 | 13.44 | 13.44 | 13.06 | 13.06 | 10.46 | 10.46 |

| | | | Annual PM2.5 Design Values (µg/m³) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 420070014 | Pennsylvania | Beaver | 16.38 | 16.45 | 15.23 | 15.30 | 14.87 | 14.93 | 12.65 | 12.72 |
| 420110011 | Pennsylvania | Berks | 15.82 | 16.19 | 14.77 | 15.11 | 14.57 | 14.91 | 12.78 | 13.08 |
| 420170012 | Pennsylvania | Bucks | 13.42 | 13.93 | 12.45 | 12.92 | 12.21 | 12.66 | 10.83 | 11.22 |
| 420210011 | Pennsylvania | Cambria | 15.40 | 15.55 | 14.88 | 15.02 | 14.53 | 14.67 | 11.33 | 11.41 |
| 420270100 | Pennsylvania | Centre | 12.78 | 13.42 | 11.95 | 12.55 | 11.70 | 12.30 | 9.51 | 10.02 |
| 420290100 | Pennsylvania | Chester | 15.22 | 15.22 | 14.03 | 14.03 | 13.84 | 13.84 | 12.13 | 12.13 |
| 420410101 | Pennsylvania | Cumberland | 14.45 | 15.12 | 13.48 | 14.12 | 13.26 | 13.89 | 11.26 | 11.79 |
| 420430401 | Pennsylvania | Dauphin | 15.13 | 15.78 | 13.98 | 14.59 | 13.75 | 14.35 | 11.53 | 12.05 |
| 420450002 | Pennsylvania | Delaware | 15.23 | 15.69 | 14.16 | 14.58 | 13.91 | 14.33 | 12.43 | 12.80 |
| 420490003 | Pennsylvania | Erie | 12.54 | 12.57 | 11.86 | 11.88 | 11.54 | 11.57 | 9.79 | 9.81 |
| 420692006 | Pennsylvania | Lackawanna | 11.73 | 12.17 | 10.77 | 11.17 | 10.60 | 11.00 | 9.13 | 9.47 |
| 420710007 | Pennsylvania | Lancaster | 16.55 | 17.46 | 15.18 | 16.01 | 14.98 | 15.79 | 12.94 | 13.64 |
| 420770004 | Pennsylvania | Lehigh | 14.50 | 14.50 | 13.48 | 13.48 | 13.28 | 13.28 | 11.81 | 11.81 |
| 420791101 | Pennsylvania | Luzerne | 12.76 | 12.76 | 11.76 | 11.76 | 11.59 | 11.59 | 10.13 | 10.13 |
| 420850100 | Pennsylvania | Mercer | 13.28 | 13.74 | 12.51 | 12.94 | 12.11 | 12.52 | 10.08 | 10.43 |
| 420950025 | Pennsylvania | Northampton | 13.68 | 14.07 | 12.69 | 13.06 | 12.48 | 12.85 | 11.05 | 11.38 |
| 420990301 | Pennsylvania | Perry | 12.81 | 12.81 | 11.98 | 11.98 | 11.78 | 11.78 | 9.97 | 9.97 |
| 421010047 | Pennsylvania | Philadelphia | 15.19 | 15.19 | 14.10 | 14.10 | 13.82 | 13.82 | 12.46 | 12.46 |
| 421250005 | Pennsylvania | Washington | 15.17 | 15.48 | 14.10 | 14.39 | 13.63 | 13.91 | 10.89 | 11.12 |
| 421250200 | Pennsylvania | Washington | 14.92 | 14.92 | 13.74 | 13.74 | 13.29 | 13.29 | 10.61 | 10.61 |
| 421255001 | Pennsylvania | Washington | 13.37 | 13.61 | 12.21 | 12.44 | 11.87 | 12.09 | 9.78 | 9.97 |
| 421290008 | Pennsylvania | Westmoreland | 15.49 | 15.68 | 14.49 | 14.67 | 14.05 | 14.23 | 11.13 | 11.28 |
| 421330008 | Pennsylvania | York | 16.52 | 17.25 | 15.25 | 15.93 | 15.06 | 15.73 | 12.86 | 13.43 |
| 440070022 | Rhode Island | Providence | 10.07 | 10.07 | 9.34 | 9.34 | 9.22 | 9.22 | 8.59 | 8.59 |
| 440070026 | Rhode Island | Providence | 12.14 | 12.41 | 11.29 | 11.54 | 11.13 | 11.38 | 10.47 | 10.70 |
| 440070028 | Rhode Island | Providence | 10.82 | 11.10 | 10.06 | 10.32 | 9.92 | 10.19 | 9.28 | 9.53 |
| 440071010 | Rhode Island | Providence | 9.93 | 10.23 | 9.20 | 9.48 | 9.08 | 9.35 | 8.43 | 8.68 |
| 450130007 | South Carolina | Beaufort | 11.52 | 11.71 | 10.66 | 10.84 | 10.29 | 10.47 | 9.13 | 9.28 |
| 450190048 | South Carolina | Charleston | 12.21 | 12.48 | 11.26 | 11.51 | 10.92 | 11.17 | 9.80 | 10.02 |
| 450190049 | South Carolina | Charleston | 11.60 | 11.83 | 10.79 | 11.00 | 10.44 | 10.65 | 9.25 | 9.43 |

| | | | Annual PM2.5 Design Values (μg/m³) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 450250001 | South Carolina | Chesterfield | 12.53 | 12.75 | 11.49 | 11.69 | 11.11 | 11.30 | 9.73 | 9.89 |
| 450370001 | South Carolina | Edgefield | 13.14 | 13.38 | 12.24 | 12.47 | 11.70 | 11.91 | 10.41 | 10.60 |
| 450410002 | South Carolina | Florence | 12.62 | 12.73 | 11.60 | 11.69 | 11.24 | 11.34 | 9.91 | 9.99 |
| 450430009 | South Carolina | Georgetown | 12.85 | 12.90 | 11.74 | 11.78 | 11.45 | 11.49 | 10.30 | 10.34 |
| 450450008 | South Carolina | Greenville | 15.65 | 15.92 | 14.09 | 14.34 | 13.55 | 13.79 | 12.02 | 12.23 |
| 450450009 | South Carolina | Greenville | 14.66 | 14.82 | 13.16 | 13.30 | 12.63 | 12.77 | 11.07 | 11.20 |
| 450470003 | South Carolina | Greenwood | 13.53 | 13.70 | 12.41 | 12.56 | 11.73 | 11.87 | 10.27 | 10.39 |
| 450510002 | South Carolina | Horry | 12.00 | 12.16 | 11.03 | 11.17 | 10.71 | 10.85 | 9.49 | 9.61 |
| 450630008 | South Carolina | Lexington | 14.64 | 15.07 | 13.49 | 13.88 | 12.97 | 13.35 | 11.63 | 11.97 |
| 450730001 | South Carolina | Oconee | 10.95 | 11.24 | 9.80 | 10.06 | 9.28 | 9.53 | 7.83 | 8.03 |
| 450790007 | South Carolina | Richland | 13.56 | 13.79 | 12.44 | 12.65 | 11.95 | 12.15 | 10.58 | 10.76 |
| 450790019 | South Carolina | Richland | 14.24 | 14.45 | 13.09 | 13.30 | 12.59 | 12.79 | 11.24 | 11.42 |
| 450830010 | South Carolina | Spartanburg | 14.17 | 14.33 | 12.62 | 12.76 | 12.14 | 12.28 | 10.58 | 10.70 |
| 460110002 | South Dakota | Brookings | 9.37 | 9.77 | 8.91 | 9.28 | 8.76 | 9.12 | 8.41 | 8.76 |
| 460130003 | South Dakota | Brown | 8.42 | 8.48 | 8.01 | 8.07 | 7.90 | 7.96 | 7.71 | 7.77 |
| 460290002 | South Dakota | Codington | 10.14 | 10.34 | 9.67 | 9.86 | 9.54 | 9.72 | 9.29 | 9.47 |
| 460330132 | South Dakota | Custer | 5.64 | 5.64 | 5.48 | 5.48 | 5.45 | 5.45 | 5.43 | 5.43 |
| 460710001 | South Dakota | Jackson | 5.39 | 5.45 | 5.24 | 5.29 | 5.21 | 5.26 | 5.14 | 5.20 |
| 460990006 | South Dakota | Minnehaha | 10.18 | 10.39 | 9.63 | 9.82 | 9.44 | 9.63 | 9.03 | 9.22 |
| 460990007 | South Dakota | Minnehaha | 9.58 | 9.82 | 9.07 | 9.28 | 8.89 | 9.10 | 8.48 | 8.68 |
| 461030016 | South Dakota | Pennington | 7.48 | 7.59 | 7.09 | 7.19 | 7.04 | 7.14 | 7.02 | 7.12 |
| 461030020 | South Dakota | Pennington | 8.77 | 8.83 | 8.34 | 8.40 | 8.29 | 8.34 | 8.27 | 8.32 |
| 461031001 | South Dakota | Pennington | 7.32 | 7.35 | 6.95 | 6.98 | 6.91 | 6.94 | 6.89 | 6.92 |
| 470090011 | Tennessee | Blount | 14.30 | 14.71 | 13.20 | 13.57 | 12.64 | 12.99 | 10.80 | 11.09 |
| 470370023 | Tennessee | Davidson | 14.18 | 14.27 | 14.02 | 14.11 | 13.45 | 13.53 | 10.73 | 10.79 |
| 470370025 | Tennessee | Davidson | 13.92 | 14.04 | 13.71 | 13.83 | 13.13 | 13.24 | 10.42 | 10.50 |
| 470370036 | Tennessee | Davidson | 12.97 | 12.98 | 12.82 | 12.82 | 12.24 | 12.25 | 9.53 | 9.55 |
| 470450004 | Tennessee | Dyer | 12.28 | 12.57 | 12.22 | 12.51 | 11.68 | 11.95 | 9.25 | 9.44 |
| 470650031 | Tennessee | Hamilton | 15.48 | 16.05 | 14.36 | 14.89 | 13.72 | 14.23 | 11.75 | 12.17 |
| 470651011 | Tennessee | Hamilton | 13.62 | 13.78 | 12.63 | 12.77 | 12.01 | 12.15 | 9.89 | 9.99 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 470654002 | Tennessee | Hamilton | 15.07 | 15.21 | 13.98 | 14.09 | 13.34 | 13.45 | 11.26 | 11.35 |
| 470930028 | Tennessee | Knox | 15.47 | 15.74 | 14.18 | 14.42 | 13.57 | 13.81 | 11.59 | 11.79 |
| 470931017 | Tennessee | Knox | 15.64 | 15.71 | 14.37 | 14.43 | 13.76 | 13.81 | 11.79 | 11.82 |
| 470931020 | Tennessee | Knox | 15.18 | 15.26 | 13.92 | 13.99 | 13.30 | 13.37 | 11.28 | 11.33 |
| 470990002 | Tennessee | Lawrence | 11.69 | 12.13 | 11.32 | 11.75 | 10.87 | 11.28 | 8.84 | 9.17 |
| 471050108 | Tennessee | Loudon | 15.49 | 15.72 | 14.26 | 14.47 | 13.69 | 13.89 | 11.80 | 11.97 |
| 471071002 | Tennessee | McMinn | 14.29 | 14.70 | 13.22 | 13.61 | 12.64 | 13.01 | 10.69 | 11.00 |
| 471192007 | Tennessee | Maury | 13.21 | 13.51 | 12.94 | 13.23 | 12.41 | 12.69 | 10.00 | 10.21 |
| 471251009 | Tennessee | Montgomery | 13.79 | 13.89 | 14.17 | 14.27 | 13.59 | 13.68 | 10.30 | 10.38 |
| 471410001 | Tennessee | Putnam | 13.37 | 13.37 | 12.76 | 12.76 | 12.20 | 12.20 | 9.74 | 9.74 |
| 471450004 | Tennessee | Roane | 14.49 | 14.77 | 13.32 | 13.58 | 12.75 | 13.01 | 10.74 | 10.95 |
| 471570014 | Tennessee | Shelby | 13.71 | 13.79 | 13.27 | 13.35 | 12.63 | 12.70 | 10.57 | 10.65 |
| 471570038 | Tennessee | Shelby | 13.43 | 13.57 | 13.00 | 13.14 | 12.36 | 12.49 | 10.31 | 10.39 |
| 471570047 | Tennessee | Shelby | 13.68 | 13.79 | 13.26 | 13.37 | 12.60 | 12.71 | 10.49 | 10.60 |
| 471571004 | Tennessee | Shelby | 12.04 | 12.08 | 11.75 | 11.79 | 11.16 | 11.20 | 9.10 | 9.15 |
| 471631007 | Tennessee | Sullivan | 14.16 | 14.46 | 12.95 | 13.23 | 12.47 | 12.74 | 10.44 | 10.66 |
| 471650007 | Tennessee | Sumner | 13.68 | 13.83 | 13.76 | 13.91 | 13.13 | 13.27 | 9.79 | 9.88 |
| 480370004 | Texas | Bowie | 12.85 | 12.95 | 12.30 | 12.39 | 12.03 | 12.11 | 10.93 | 11.00 |
| 481130069 | Texas | Dallas | 11.80 | 12.26 | 10.86 | 11.29 | 10.66 | 11.08 | 10.05 | 10.45 |
| 481130087 | Texas | Dallas | 11.15 | 11.61 | 10.21 | 10.63 | 10.02 | 10.43 | 9.40 | 9.79 |
| 481350003 | Texas | Ector | 7.78 | 7.99 | 7.44 | 7.64 | 7.38 | 7.57 | 7.12 | 7.31 |
| 481410037 | Texas | El Paso | 9.09 | 9.09 | 8.71 | 8.71 | 8.66 | 8.66 | 8.56 | 8.56 |
| 482010058 | Texas | Harris | 11.77 | 12.39 | 11.24 | 11.84 | 10.96 | 11.54 | 10.24 | 10.78 |
| 482011035 | Texas | Harris | 15.42 | 15.84 | 14.74 | 15.14 | 14.36 | 14.75 | 13.69 | 14.06 |
| 482030002 | Texas | Harrison | 11.69 | 11.79 | 11.05 | 11.14 | 10.82 | 10.90 | 9.72 | 9.80 |
| 482150043 | Texas | Hidalgo | 10.98 | 11.16 | 10.61 | 10.78 | 10.47 | 10.64 | 9.90 | 10.07 |
| 482450021 | Texas | Jefferson | 11.51 | 11.55 | 11.23 | 11.26 | 10.91 | 10.95 | 10.00 | 10.03 |
| 483550032 | Texas | Nueces | 10.42 | 10.87 | 9.99 | 10.42 | 9.66 | 10.08 | 8.90 | 9.29 |
| 483611001 | Texas | Orange | 11.51 | 11.72 | 11.19 | 11.40 | 10.92 | 11.12 | 9.97 | 10.16 |
| 484391002 | Texas | Tarrant | 11.41 | 11.79 | 10.51 | 10.86 | 10.31 | 10.66 | 9.70 | 10.03 |

| | | | Annual PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 484391006 | Texas | Tarrant | 12.23 | 12.81 | 11.28 | 11.81 | 11.07 | 11.60 | 10.46 | 10.96 |
| 500010002 | Vermont | Addison | 8.94 | 8.94 | 8.57 | 8.57 | 8.46 | 8.46 | 7.84 | 7.84 |
| 500010003 | Vermont | Addison | 8.91 | 8.91 | 8.54 | 8.54 | 8.43 | 8.43 | 7.82 | 7.82 |
| 500030004 | Vermont | Bennington | 8.52 | 9.00 | 8.10 | 8.55 | 7.99 | 8.43 | 7.29 | 7.69 |
| 500070012 | Vermont | Chittenden | 9.27 | 9.56 | 8.89 | 9.17 | 8.75 | 9.03 | 8.15 | 8.41 |
| 500070014 | Vermont | Chittenden | 10.02 | 10.02 | 9.61 | 9.61 | 9.46 | 9.46 | 8.84 | 8.84 |
| 500210002 | Vermont | Rutland | 11.08 | 11.13 | 10.58 | 10.63 | 10.43 | 10.48 | 9.82 | 9.86 |
| 510130020 | Virginia | Arlington | 14.27 | 14.62 | 13.07 | 13.40 | 12.87 | 13.20 | 11.01 | 11.30 |
| 510360002 | Virginia | Charles | 12.37 | 12.48 | 10.97 | 11.08 | 10.69 | 10.79 | 9.08 | 9.17 |
| 510410003 | Virginia | Chesterfield | 13.44 | 13.59 | 11.93 | 12.07 | 11.60 | 11.74 | 9.88 | 10.00 |
| 510590030 | Virginia | Fairfax | 13.33 | 13.59 | 12.18 | 12.43 | 11.97 | 12.22 | 10.15 | 10.37 |
| 510591005 | Virginia | Fairfax | 13.62 | 13.77 | 12.48 | 12.63 | 12.26 | 12.41 | 10.41 | 10.54 |
| 510595001 | Virginia | Fairfax | 13.88 | 14.12 | 12.79 | 13.02 | 12.56 | 12.79 | 10.70 | 10.90 |
| 510870014 | Virginia | Henrico | 13.51 | 13.83 | 11.98 | 12.27 | 11.66 | 11.94 | 9.91 | 10.15 |
| 510870015 | Virginia | Henrico | 12.93 | 12.99 | 11.64 | 11.70 | 11.30 | 11.36 | 9.45 | 9.50 |
| 511071005 | Virginia | Loudoun | 13.57 | 13.90 | 12.52 | 12.82 | 12.27 | 12.56 | 10.38 | 10.62 |
| 511390004 | Virginia | Page | 12.79 | 12.85 | 11.76 | 11.80 | 11.40 | 11.44 | 9.19 | 9.21 |
| 515200006 | Virginia | Bristol City | 13.93 | 14.00 | 12.61 | 12.66 | 12.09 | 12.14 | 9.95 | 9.99 |
| 516500004 | Virginia | Hampton City | 12.17 | 12.35 | 11.18 | 11.35 | 10.90 | 11.07 | 9.34 | 9.49 |
| 516800015 | Virginia | Lynchburg City | 12.84 | 13.00 | 11.60 | 11.74 | 11.22 | 11.36 | 9.31 | 9.42 |
| 517100024 | Virginia | Norfolk City | 12.78 | 13.01 | 11.81 | 12.02 | 11.52 | 11.73 | 9.93 | 10.11 |
| 517700014 | Virginia | Roanoke City | 14.27 | 14.48 | 12.97 | 13.17 | 12.50 | 12.70 | 10.40 | 10.57 |
| 517750010 | Virginia | Salem City | 14.69 | 14.69 | 13.42 | 13.42 | 12.96 | 12.96 | 10.91 | 10.91 |
| 518100008 | Virginia | Virginia Beach City | 12.40 | 12.57 | 11.46 | 11.62 | 11.19 | 11.35 | 9.62 | 9.76 |
| 540030003 | West Virginia | Berkeley | 15.93 | 16.19 | 14.95 | 15.20 | 14.64 | 14.88 | 12.44 | 12.62 |
| 540090005 | West Virginia | Brooke | 16.52 | 16.80 | 14.95 | 15.22 | 14.51 | 14.76 | 12.02 | 12.24 |
| 540090011 | West Virginia | Brooke | 16.04 | 16.37 | 14.49 | 14.79 | 14.05 | 14.34 | 11.56 | 11.81 |
| 540110006 | West Virginia | Cabell | 16.30 | 16.57 | 15.25 | 15.50 | 14.65 | 14.89 | 12.09 | 12.28 |
| 540291004 | West Virginia | Hancock | 15.76 | 16.64 | 14.34 | 15.15 | 13.93 | 14.72 | 11.48 | 12.15 |

| | | | Annual PM2.5 Design Values (μg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 540330003 | West Virginia | Harrison | 13.99 | 14.19 | 13.82 | 14.02 | 13.30 | 13.49 | 9.94 | 10.08 |
| 540390010 | West Virginia | Kanawha | 15.15 | 15.38 | 14.01 | 14.22 | 13.45 | 13.65 | 10.77 | 10.92 |
| 540390011 | West Virginia | Kanawha | 13.17 | 13.17 | 12.23 | 12.23 | 11.74 | 11.74 | 9.24 | 9.24 |
| 540391005 | West Virginia | Kanawha | 16.52 | 16.59 | 15.28 | 15.34 | 14.69 | 14.75 | 11.97 | 12.03 |
| 540490006 | West Virginia | Marion | 15.03 | 15.25 | 14.96 | 15.18 | 14.41 | 14.62 | 10.79 | 10.94 |
| 540511002 | West Virginia | Marshall | 15.19 | 15.33 | 13.96 | 14.09 | 13.44 | 13.56 | 10.74 | 10.85 |
| 540610003 | West Virginia | Monongalia | 14.35 | 14.47 | 13.72 | 13.84 | 13.14 | 13.26 | 10.01 | 10.13 |
| 540690010 | West Virginia | Ohio | 14.58 | 14.58 | 13.18 | 13.18 | 12.72 | 12.72 | 10.15 | 10.15 |
| 540810002 | West Virginia | Raleigh | 12.90 | 13.03 | 11.88 | 12.00 | 11.40 | 11.51 | 9.01 | 9.09 |
| 541071002 | West Virginia | Wood | 15.40 | 15.44 | 14.31 | 14.35 | 13.77 | 13.81 | 11.40 | 11.43 |
| 550030010 | Wisconsin | Ashland | 6.07 | 6.21 | 5.85 | 5.98 | 5.74 | 5.87 | 5.46 | 5.58 |
| 550090005 | Wisconsin | Brown | 11.39 | 11.86 | 11.03 | 11.47 | 10.75 | 11.19 | 10.25 | 10.68 |
| 550250047 | Wisconsin | Dane | 12.20 | 12.65 | 11.80 | 12.23 | 11.52 | 11.94 | 10.61 | 11.01 |
| 550270007 | Wisconsin | Dodge | 11.04 | 11.26 | 10.61 | 10.82 | 10.24 | 10.45 | 9.49 | 9.69 |
| 550410007 | Wisconsin | Forest | 7.41 | 7.41 | 7.17 | 7.17 | 6.98 | 6.98 | 6.59 | 6.59 |
| 550430009 | Wisconsin | Grant | 11.79 | 12.24 | 11.34 | 11.76 | 10.99 | 11.41 | 10.20 | 10.59 |
| 550590019 | Wisconsin | Kenosha | 11.98 | 12.93 | 11.72 | 12.65 | 11.22 | 12.11 | 10.17 | 10.99 |
| 550710007 | Wisconsin | Manitowoc | 10.20 | 10.89 | 9.92 | 10.58 | 9.63 | 10.27 | 9.06 | 9.66 |
| 550790010 | Wisconsin | Milwaukee | 13.32 | 13.94 | 12.98 | 13.57 | 12.48 | 13.06 | 11.51 | 12.06 |
| 550790026 | Wisconsin | Milwaukee | 12.88 | 13.83 | 12.52 | 13.44 | 12.05 | 12.94 | 11.10 | 11.92 |
| 550790043 | Wisconsin | Milwaukee | 14.08 | 14.62 | 13.71 | 14.24 | 13.20 | 13.71 | 12.22 | 12.70 |
| 550790059 | Wisconsin | Milwaukee | 13.68 | 14.87 | 13.33 | 14.48 | 12.83 | 13.94 | 11.88 | 12.91 |
| 550790099 | Wisconsin | Milwaukee | 13.54 | 14.40 | 13.18 | 14.02 | 12.70 | 13.51 | 11.75 | 12.50 |
| 550870009 | Wisconsin | Outagamie | 10.96 | 11.45 | 10.57 | 11.03 | 10.29 | 10.74 | 9.77 | 10.20 |
| 550890009 | Wisconsin | Ozaukee | 11.60 | 12.22 | 11.26 | 11.86 | 10.85 | 11.43 | 10.00 | 10.54 |
| 551091002 | Wisconsin | St. Croix | 10.09 | 10.09 | 9.63 | 9.63 | 9.42 | 9.42 | 9.01 | 9.01 |
| 551110007 | Wisconsin | Sauk | 10.22 | 10.57 | 9.81 | 10.14 | 9.49 | 9.81 | 8.75 | 9.05 |
| 551198001 | Wisconsin | Taylor | 8.24 | 8.43 | 7.91 | 8.10 | 7.74 | 7.92 | 7.33 | 7.50 |
| 551250001 | Wisconsin | Vilas | 6.78 | 6.87 | 6.54 | 6.64 | 6.39 | 6.48 | 6.04 | 6.12 |
| 551330027 | Wisconsin | Waukesha | 13.91 | 14.34 | 13.51 | 13.93 | 13.06 | 13.47 | 12.22 | 12.61 |

| | | | Annual PM2.5 Design Values (μg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 560050877 | Wyoming | Campbell | 6.29 | 6.29 | 6.16 | 6.16 | 6.14 | 6.14 | 6.15 | 6.15 |
| 560050892 | Wyoming | Campbell | 5.00 | 5.04 | 4.91 | 4.95 | 4.92 | 4.96 | 4.92 | 4.96 |
| 560050899 | Wyoming | Campbell | 5.37 | 5.49 | 5.25 | 5.37 | 5.24 | 5.37 | 5.25 | 5.37 |
| 560090819 | Wyoming | Converse | 3.52 | 3.60 | 3.41 | 3.48 | 3.40 | 3.47 | 3.41 | 3.48 |
| 560131003 | Wyoming | Fremont | 8.17 | 8.50 | 7.89 | 8.21 | 7.84 | 8.15 | 7.85 | 8.16 |
| 560210001 | Wyoming | Laramie | 4.48 | 4.69 | 4.28 | 4.48 | 4.22 | 4.42 | 4.23 | 4.42 |
| 560330002 | Wyoming | Sheridan | 9.70 | 9.84 | 9.41 | 9.54 | 9.34 | 9.47 | 9.35 | 9.48 |

| | | | 24-Hour PM2.5 Design Values ($\mu g/m^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 10030010 | Alabama | Baldwin | 26.2 | 27.5 | 24.9 | 26.1 | 24.1 | 25.2 | 20.3 | 21.1 |
| 10270001 | Alabama | Clay | 31.8 | 32.4 | 27.6 | 29.0 | 25.7 | 27.2 | 21.5 | 22.9 |
| 10331002 | Alabama | Colbert | 30.4 | 30.4 | 28.0 | 28.7 | 26.5 | 27.3 | 19.7 | 21.1 |
| 10491003 | Alabama | DeKalb | 32.0 | 32.6 | 27.2 | 27.8 | 25.3 | 25.7 | 21.2 | 21.5 |
| 10530002 | Alabama | Escambia | 29.0 | 29.7 | 27.0 | 27.8 | 26.1 | 26.8 | 22.7 | 23.2 |
| 10550010 | Alabama | Etowah | 35.1 | 35.7 | 29.4 | 29.5 | 27.8 | 27.8 | 23.2 | 23.3 |
| 10690003 | Alabama | Houston | 28.6 | 28.6 | 26.3 | 26.3 | 25.3 | 25.3 | 22.7 | 22.7 |
| 10730023 | Alabama | Jefferson | 44.0 | 44.2 | 40.0 | 40.7 | 38.8 | 39.6 | 35.6 | 36.8 |
| 10731005 | Alabama | Jefferson | 34.8 | 35.5 | 31.3 | 31.8 | 29.8 | 30.2 | 25.7 | 26.0 |
| 10731009 | Alabama | Jefferson | 34.5 | 34.9 | 31.5 | 32.5 | 29.9 | 31.2 | 25.0 | 26.5 |
| 10731010 | Alabama | Jefferson | 34.1 | 34.3 | 29.1 | 29.3 | 27.6 | 27.8 | 22.9 | 23.2 |
| 10732003 | Alabama | Jefferson | 40.3 | 40.8 | 38.1 | 38.9 | 37.2 | 37.9 | 34.4 | 35.0 |
| 10732006 | Alabama | Jefferson | 33.1 | 34.1 | 29.8 | 30.4 | 28.5 | 28.9 | 23.7 | 24.1 |
| 10735002 | Alabama | Jefferson | 33.0 | 34.8 | 29.4 | 30.7 | 27.6 | 28.9 | 22.2 | 24.0 |
| 10735003 | Alabama | Jefferson | 35.8 | 36.5 | 32.1 | 33.2 | 30.5 | 31.8 | 25.1 | 26.1 |
| 10890014 | Alabama | Madison | 33.5 | 34.1 | 30.3 | 30.5 | 28.4 | 28.6 | 21.7 | 22.4 |
| 10970002 | Alabama | Mobile | 30.0 | 30.0 | 28.3 | 28.3 | 26.8 | 26.8 | 23.7 | 23.7 |
| 10970003 | Alabama | Mobile | 28.5 | 29.4 | 27.2 | 27.9 | 25.8 | 26.5 | 22.5 | 23.1 |
| 10972005 | Alabama | Mobile | 26.4 | 27.9 | 24.7 | 26.2 | 23.5 | 24.9 | 19.4 | 20.5 |
| 11010007 | Alabama | Montgomery | 32.0 | 33.5 | 29.2 | 30.0 | 28.0 | 28.5 | 23.8 | 24.0 |
| 11030011 | Alabama | Morgan | 31.5 | 31.9 | 27.8 | 28.2 | 25.9 | 26.2 | 19.1 | 19.6 |
| 11130001 | Alabama | Russell | 35.5 | 36.9 | 32.8 | 33.8 | 31.4 | 32.3 | 28.4 | 29.4 |
| 11170006 | Alabama | Shelby | 32.0 | 32.8 | 28.8 | 29.0 | 27.4 | 27.4 | 22.8 | 23.4 |
| 11190002 | Alabama | Sumter | 28.9 | 28.9 | 26.6 | 26.6 | 25.1 | 25.1 | 20.7 | 20.7 |
| 11210002 | Alabama | Talladega | 33.4 | 33.4 | 28.2 | 28.2 | 26.5 | 26.5 | 22.5 | 22.5 |
| 11250004 | Alabama | Tuscaloosa | 29.8 | 30.1 | 27.3 | 28.1 | 26.2 | 27.1 | 22.2 | 23.3 |
| 11270002 | Alabama | Walker | 32.8 | 33.3 | 27.7 | 29.7 | 26.3 | 28.8 | 22.3 | 24.7 |
| 50010011 | Arkansas | Arkansas | 29.1 | 29.6 | 28.8 | 29.3 | 27.8 | 28.2 | 21.7 | 22.0 |
| 50030005 | Arkansas | Ashley | 28.9 | 29.9 | 28.4 | 29.2 | 27.3 | 28.0 | 23.8 | 24.5 |
| 50350005 | Arkansas | Crittenden | 35.0 | 35.0 | 34.3 | 34.3 | 32.7 | 32.7 | 22.3 | 22.3 |

| | | | 24-Hour PM2.5 Design Values (μg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 50450002 | Arkansas | Faulkner | 29.8 | 30.6 | 28.8 | 29.4 | 27.9 | 28.5 | 23.1 | 23.5 |
| 50510003 | Arkansas | Garland | 29.2 | 29.3 | 28.9 | 29.0 | 27.9 | 28.0 | 21.8 | 21.9 |
| 50930007 | Arkansas | Mississippi | 30.3 | 30.3 | 30.8 | 30.8 | 29.2 | 29.2 | 22.4 | 22.4 |
| 51070001 | Arkansas | Phillips | 29.1 | 30.2 | 28.8 | 29.8 | 27.6 | 28.5 | 21.6 | 23.3 |
| 51130002 | Arkansas | Polk | 26.1 | 27.7 | 25.3 | 26.8 | 24.3 | 25.5 | 19.1 | 19.2 |
| 51150003 | Arkansas | Pope | 28.3 | 29.1 | 27.5 | 28.0 | 26.6 | 27.0 | 24.3 | 24.5 |
| 51190007 | Arkansas | Pulaski | 31.1 | 31.4 | 30.8 | 31.3 | 29.8 | 30.4 | 24.8 | 25.1 |
| 51191004 | Arkansas | Pulaski | 31.9 | 32.4 | 30.9 | 31.3 | 29.9 | 30.3 | 26.0 | 26.8 |
| 51191005 | Arkansas | Pulaski | 31.9 | 32.3 | 31.1 | 31.4 | 30.0 | 30.4 | 26.4 | 26.8 |
| 51390006 | Arkansas | Union | 28.7 | 29.6 | 27.9 | 28.3 | 26.8 | 27.1 | 23.2 | 23.7 |
| 51450001 | Arkansas | White | 29.9 | 31.1 | 29.4 | 30.7 | 28.2 | 29.6 | 22.8 | 23.1 |
| 80010006 | Colorado | Adams | 25.3 | 29.2 | 23.9 | 27.8 | 23.4 | 27.3 | 23.8 | 27.7 |
| 80050005 | Colorado | Arapahoe | 21.2 | 22.2 | 20.2 | 21.1 | 19.8 | 20.7 | 19.8 | 20.7 |
| 80130003 | Colorado | Boulder | 21.1 | 22.3 | 19.9 | 21.0 | 19.5 | 20.6 | 19.7 | 20.8 |
| 80130012 | Colorado | Boulder | 18.7 | 19.7 | 17.5 | 18.5 | 17.2 | 18.1 | 17.2 | 18.2 |
| 80290004 | Colorado | Delta | 20.7 | 22.3 | 18.7 | 20.1 | 18.2 | 19.5 | 18.1 | 19.5 |
| 80310002 | Colorado | Denver | 26.4 | 27.6 | 25.6 | 26.7 | 25.3 | 26.4 | 25.7 | 26.8 |
| 80310023 | Colorado | Denver | 26.3 | 26.3 | 25.6 | 25.6 | 25.2 | 25.2 | 25.7 | 25.7 |
| 80390001 | Colorado | Elbert | 13.1 | 15.1 | 12.4 | 14.2 | 12.2 | 14.0 | 12.1 | 13.9 |
| 80410008 | Colorado | El Paso | 16.4 | 16.7 | 15.3 | 15.5 | 15.0 | 15.2 | 15.0 | 15.2 |
| 80410011 | Colorado | El Paso | 16.5 | 17.4 | 15.5 | 16.3 | 15.2 | 16.0 | 15.2 | 15.9 |
| 80690009 | Colorado | Larimer | 18.3 | 18.8 | 17.1 | 17.6 | 16.9 | 17.4 | 16.9 | 17.5 |
| 80770017 | Colorado | Mesa | 23.5 | 24.6 | 22.7 | 23.7 | 22.3 | 23.3 | 22.3 | 23.3 |
| 81010012 | Colorado | Pueblo | 15.4 | 15.8 | 14.4 | 14.8 | 14.1 | 14.5 | 14.1 | 14.5 |
| 81130004 | Colorado | San Miguel | 10.1 | 11.3 | 9.8 | 11.0 | 9.8 | 11.0 | 9.8 | 11.0 |
| 81230006 | Colorado | Weld | 22.9 | 23.9 | 21.4 | 22.5 | 21.2 | 22.3 | 21.5 | 22.6 |
| 81230008 | Colorado | Weld | 20.1 | 23.7 | 18.4 | 21.5 | 18.1 | 21.1 | 18.3 | 21.4 |
| 90010010 | Connecticut | Fairfield | 36.2 | 37.3 | 32.9 | 33.4 | 32.2 | 32.6 | 29.8 | 30.9 |
| 90011123 | Connecticut | Fairfield | 32.2 | 32.7 | 30.4 | 30.8 | 29.8 | 30.1 | 28.3 | 28.6 |
| 90013005 | Connecticut | Fairfield | 34.9 | 35.6 | 32.8 | 33.1 | 32.2 | 32.4 | 29.4 | 29.9 |

| | | | 24-Hour PM2.5 Design Values (µg/m³) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 90019003 | Connecticut | Fairfield | 34.2 | 36.7 | 30.9 | 32.7 | 30.2 | 31.9 | 26.2 | 26.6 |
| 90031003 | Connecticut | Hartford | 31.8 | 32.6 | 28.8 | 29.6 | 28.2 | 28.9 | 25.5 | 26.5 |
| 90050005 | Connecticut | Litchfield | 27.1 | 27.1 | 23.6 | 23.6 | 23.0 | 23.0 | 18.1 | 18.1 |
| 90090026 | Connecticut | New Haven | 35.6 | 37.9 | 32.3 | 33.7 | 31.6 | 32.8 | 28.3 | 29.0 |
| 90090027 | Connecticut | New Haven | 35.5 | 36.0 | 32.9 | 33.0 | 32.2 | 32.3 | 30.2 | 30.2 |
| 90091123 | Connecticut | New Haven | 38.3 | 40.3 | 35.7 | 36.6 | 34.9 | 35.8 | 32.3 | 32.7 |
| 90092008 | Connecticut | New Haven | 33.6 | 36.4 | 30.9 | 32.5 | 30.2 | 31.7 | 26.5 | 27.1 |
| 90092123 | Connecticut | New Haven | 34.4 | 34.7 | 31.2 | 32.0 | 30.5 | 31.3 | 28.6 | 29.8 |
| 90113002 | Connecticut | New London | 32.0 | 34.4 | 28.4 | 29.8 | 27.7 | 29.1 | 24.4 | 25.4 |
| 100010002 | Delaware | Kent | 32.1 | 32.2 | 28.0 | 28.8 | 27.6 | 28.4 | 25.0 | 26.0 |
| 100010003 | Delaware | Kent | 31.5 | 32.4 | 27.1 | 28.2 | 26.6 | 27.9 | 23.9 | 25.8 |
| 100031003 | Delaware | New Castle | 33.5 | 34.3 | 30.0 | 30.8 | 29.6 | 30.3 | 27.3 | 28.1 |
| 100031007 | Delaware | New Castle | 32.6 | 34.5 | 28.2 | 29.8 | 27.9 | 29.5 | 26.0 | 27.1 |
| 100031012 | Delaware | New Castle | 32.4 | 33.5 | 28.3 | 29.3 | 27.9 | 28.9 | 26.6 | 27.5 |
| 100032004 | Delaware | New Castle | 36.6 | 36.7 | 34.1 | 34.2 | 33.7 | 33.7 | 31.7 | 32.1 |
| 100051002 | Delaware | Sussex | 33.7 | 34.3 | 29.6 | 30.0 | 29.1 | 29.6 | 26.7 | 27.6 |
| 110010041 | District Of Columbia | District of Columbia | 36.3 | 37.8 | 34.0 | 35.6 | 33.6 | 35.3 | 31.2 | 32.9 |
| 110010042 | District Of Columbia | District of Columbia | 34.9 | 37.0 | 33.0 | 35.6 | 32.7 | 35.5 | 30.5 | 33.2 |
| 110010043 | District Of Columbia | District of Columbia | 34.1 | 34.8 | 32.5 | 33.5 | 32.3 | 33.4 | 30.0 | 31.3 |
| 120010023 | Florida | Alachua | 23.4 | 27.6 | 21.0 | 24.7 | 20.3 | 23.8 | 17.2 | 20.5 |
| 120010024 | Florida | Alachua | 21.9 | 25.0 | 19.5 | 22.2 | 18.8 | 21.5 | 16.1 | 18.0 |
| 120051004 | Florida | Bay | 28.4 | 29.2 | 26.2 | 26.7 | 25.2 | 25.8 | 23.0 | 23.7 |
| 120090007 | Florida | Brevard | 20.7 | 22.0 | 18.2 | 19.4 | 17.7 | 18.8 | 16.4 | 17.4 |
| 120111002 | Florida | Broward | 18.8 | 20.3 | 17.5 | 18.7 | 16.9 | 18.1 | 15.9 | 17.1 |
| 120112004 | Florida | Broward | 19.1 | 20.3 | 18.2 | 19.0 | 17.6 | 18.5 | 16.9 | 17.6 |
| 120113002 | Florida | Broward | 18.4 | 18.4 | 16.8 | 16.8 | 16.3 | 16.3 | 15.4 | 15.4 |
| 120170005 | Florida | Citrus | 21.7 | 21.9 | 19.1 | 19.3 | 18.3 | 18.4 | 16.0 | 16.2 |
| 120310098 | Florida | Duval | 24.6 | 25.8 | 22.2 | 23.1 | 21.7 | 22.4 | 20.1 | 20.8 |

| | | | 24-Hour PM2.5 Design Values (µg/m³) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 120310099 | Florida | Duval | 25.2 | 26.7 | 24.0 | 25.3 | 23.6 | 24.9 | 22.9 | 24.0 |
| 120330004 | Florida | Escambia | 28.8 | 30.6 | 27.5 | 29.2 | 26.8 | 28.1 | 24.2 | 25.0 |
| 120570030 | Florida | Hillsborough | 23.6 | 24.0 | 21.5 | 22.1 | 20.8 | 21.3 | 20.2 | 20.7 |
| 120573002 | Florida | Hillsborough | 23.2 | 23.9 | 20.9 | 21.2 | 20.2 | 20.6 | 19.3 | 19.7 |
| 120710005 | Florida | Lee | 17.8 | 18.2 | 16.0 | 16.2 | 15.3 | 15.5 | 14.2 | 14.4 |
| 120730012 | Florida | Leon | 29.0 | 31.5 | 26.3 | 28.2 | 25.5 | 27.2 | 23.0 | 24.4 |
| 120814012 | Florida | Manatee | 19.9 | 20.2 | 16.2 | 16.6 | 15.7 | 16.0 | 14.4 | 14.6 |
| 120830003 | Florida | Marion | 23.2 | 24.1 | 20.8 | 21.3 | 20.1 | 20.7 | 18.1 | 18.4 |
| 120861016 | Florida | Miami-Dade | 19.4 | 19.5 | 18.6 | 18.7 | 18.2 | 18.3 | 17.5 | 17.5 |
| 120866001 | Florida | Miami-Dade | 19.0 | 19.3 | 17.5 | 17.7 | 16.8 | 17.1 | 15.4 | 15.7 |
| 120951004 | Florida | Orange | 21.7 | 21.8 | 19.1 | 19.3 | 18.4 | 18.6 | 17.3 | 17.6 |
| 120952002 | Florida | Orange | 21.6 | 22.5 | 18.9 | 19.5 | 18.1 | 18.7 | 17.0 | 17.6 |
| 120990009 | Florida | Palm Beach | 18.9 | 18.9 | 18.2 | 18.2 | 17.6 | 17.6 | 16.5 | 16.5 |
| 120992005 | Florida | Palm Beach | 18.2 | 18.4 | 16.7 | 17.1 | 16.2 | 16.5 | 15.2 | 15.7 |
| 121030018 | Florida | Pinellas | 21.9 | 23.0 | 20.0 | 20.6 | 19.5 | 20.0 | 18.9 | 19.2 |
| 121031009 | Florida | Pinellas | 21.2 | 22.0 | 18.1 | 18.8 | 17.8 | 18.4 | 16.8 | 17.4 |
| 121056006 | Florida | Polk | 19.5 | 19.9 | 17.7 | 18.2 | 17.0 | 17.5 | 16.0 | 16.5 |
| 121111002 | Florida | St. Lucie | 18.7 | 19.5 | 16.9 | 17.6 | 16.2 | 16.9 | 14.3 | 14.9 |
| 121150013 | Florida | Sarasota | 19.8 | 20.3 | 17.2 | 17.6 | 16.5 | 16.9 | 14.9 | 15.3 |
| 121171002 | Florida | Seminole | 22.8 | 23.0 | 19.2 | 19.4 | 18.2 | 18.5 | 16.3 | 16.5 |
| 121275002 | Florida | Volusia | 22.6 | 25.8 | 19.2 | 21.7 | 18.1 | 20.4 | 15.4 | 16.8 |
| 130210007 | Georgia | Bibb | 33.5 | 33.6 | 30.2 | 30.7 | 28.5 | 29.5 | 26.4 | 28.0 |
| 130210012 | Georgia | Bibb | 30.7 | 31.4 | 28.3 | 28.9 | 26.1 | 26.5 | 22.6 | 23.6 |
| 130510017 | Georgia | Chatham | 28.4 | 28.9 | 26.5 | 26.7 | 25.5 | 25.7 | 23.4 | 23.8 |
| 130510091 | Georgia | Chatham | 27.9 | 28.6 | 25.9 | 26.6 | 24.9 | 25.4 | 23.3 | 23.6 |
| 130630091 | Georgia | Clayton | 35.8 | 37.7 | 32.2 | 33.4 | 31.2 | 31.9 | 28.4 | 28.9 |
| 130670003 | Georgia | Cobb | 35.0 | 36.3 | 31.1 | 31.8 | 29.6 | 29.7 | 26.8 | 27.0 |
| 130670004 | Georgia | Cobb | 34.1 | 35.7 | 29.5 | 30.7 | 27.0 | 28.2 | 24.6 | 25.7 |
| 130890002 | Georgia | DeKalb | 33.4 | 33.7 | 29.2 | 29.7 | 28.0 | 28.5 | 25.9 | 26.2 |
| 130892001 | Georgia | DeKalb | 33.9 | 35.4 | 31.0 | 32.3 | 29.7 | 31.1 | 28.0 | 29.5 |

| | | | 24-Hour PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 130950007 | Georgia | Dougherty | 34.1 | 35.2 | 31.6 | 32.6 | 30.4 | 31.7 | 27.6 | 28.9 |
| 131150005 | Georgia | Floyd | 35.1 | 36.4 | 31.2 | 32.4 | 29.9 | 31.3 | 27.0 | 28.2 |
| 131210032 | Georgia | Fulton | 34.1 | 35.0 | 30.8 | 31.8 | 29.4 | 30.7 | 27.7 | 29.3 |
| 131210039 | Georgia | Fulton | 37.6 | 37.6 | 34.3 | 34.3 | 31.7 | 31.7 | 30.1 | 30.1 |
| 131270006 | Georgia | Glynn | 26.1 | 26.7 | 24.5 | 24.9 | 23.5 | 23.9 | 21.4 | 21.7 |
| 131350002 | Georgia | Gwinnett | 32.8 | 35.0 | 29.2 | 29.9 | 28.1 | 28.7 | 25.6 | 26.6 |
| 131390003 | Georgia | Hall | 30.6 | 31.7 | 29.1 | 29.3 | 26.4 | 26.9 | 24.8 | 25.6 |
| 131530001 | Georgia | Houston | 29.6 | 30.6 | 26.7 | 28.9 | 24.8 | 27.4 | 21.9 | 25.4 |
| 131850003 | Georgia | Lowndes | 25.9 | 26.3 | 23.8 | 25.1 | 22.9 | 24.4 | 20.8 | 22.5 |
| 132150001 | Georgia | Muscogee | 31.3 | 32.9 | 29.1 | 29.8 | 28.0 | 28.3 | 26.0 | 26.2 |
| 132150008 | Georgia | Muscogee | 34.5 | 37.6 | 30.3 | 32.3 | 28.5 | 30.0 | 25.4 | 25.8 |
| 132150011 | Georgia | Muscogee | 30.4 | 30.9 | 27.7 | 28.1 | 26.4 | 26.7 | 24.7 | 24.9 |
| 132230003 | Georgia | Paulding | 33.0 | 33.3 | 27.5 | 28.0 | 25.7 | 26.4 | 22.6 | 23.3 |
| 132450005 | Georgia | Richmond | 32.7 | 33.4 | 31.3 | 31.9 | 30.5 | 31.1 | 29.5 | 30.1 |
| 132450091 | Georgia | Richmond | 31.9 | 32.6 | 30.2 | 30.5 | 28.9 | 29.2 | 26.9 | 27.9 |
| 132950002 | Georgia | Walker | 30.9 | 32.5 | 27.2 | 28.7 | 25.8 | 27.2 | 22.9 | 24.2 |
| 133030001 | Georgia | Washington | 30.8 | 31.4 | 29.0 | 29.8 | 25.1 | 25.5 | 22.2 | 22.5 |
| 133190001 | Georgia | Wilkinson | 33.1 | 33.7 | 31.0 | 31.5 | 28.9 | 29.8 | 26.4 | 28.0 |
| 170010006 | Illinois | Adams | 31.4 | 32.3 | 30.8 | 32.0 | 29.2 | 30.2 | 25.5 | 25.8 |
| 170190004 | Illinois | Champaign | 31.3 | 32.5 | 29.7 | 31.1 | 28.6 | 30.2 | 23.4 | 26.5 |
| 170191001 | Illinois | Champaign | 30.0 | 31.7 | 28.9 | 30.3 | 27.8 | 29.0 | 24.2 | 26.4 |
| 170310022 | Illinois | Cook | 36.6 | 38.6 | 34.9 | 36.6 | 34.3 | 36.0 | 33.2 | 35.0 |
| 170310050 | Illinois | Cook | 36.1 | 38.0 | 34.1 | 35.8 | 32.3 | 33.9 | 30.3 | 32.2 |
| 170310052 | Illinois | Cook | 40.2 | 41.4 | 38.5 | 39.7 | 37.3 | 38.2 | 36.6 | 37.4 |
| 170310057 | Illinois | Cook | 37.3 | 38.6 | 35.7 | 37.0 | 34.4 | 35.6 | 31.2 | 32.3 |
| 170310076 | Illinois | Cook | 38.0 | 39.1 | 36.3 | 37.3 | 34.8 | 35.5 | 32.3 | 32.7 |
| 170311016 | Illinois | Cook | 43.0 | 46.3 | 41.0 | 44.1 | 39.4 | 42.5 | 37.7 | 41.2 |
| 170312001 | Illinois | Cook | 37.7 | 40.6 | 35.6 | 38.2 | 34.4 | 37.1 | 31.6 | 34.5 |
| 170313103 | Illinois | Cook | 39.6 | 40.3 | 38.1 | 38.7 | 37.3 | 37.9 | 35.9 | 36.5 |
| 170313301 | Illinois | Cook | 40.2 | 43.3 | 38.2 | 41.0 | 36.8 | 39.7 | 34.9 | 37.3 |

| | | | 24-Hour PM2.5 Design Values ($\mu g/m^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 170314007 | Illinois | Cook | 34.3 | 36.4 | 33.6 | 35.7 | 32.2 | 34.0 | 30.4 | 32.9 |
| 170314201 | Illinois | Cook | 32.0 | 33.8 | 31.1 | 32.9 | 29.2 | 31.3 | 28.1 | 29.6 |
| 170316005 | Illinois | Cook | 39.1 | 41.8 | 37.4 | 39.8 | 36.5 | 39.1 | 35.6 | 38.2 |
| 170434002 | Illinois | DuPage | 34.6 | 35.9 | 33.7 | 35.2 | 32.9 | 34.6 | 32.1 | 33.7 |
| 170650002 | Illinois | Hamilton | 31.6 | 31.6 | 32.1 | 32.1 | 30.2 | 30.2 | 21.9 | 21.9 |
| 170831001 | Illinois | Jersey | 32.1 | 33.2 | 33.5 | 34.7 | 30.7 | 31.9 | 25.5 | 25.6 |
| 170890003 | Illinois | Kane | 33.8 | 35.4 | 32.7 | 34.3 | 31.0 | 32.2 | 29.5 | 30.3 |
| 170890007 | Illinois | Kane | 34.8 | 34.8 | 33.6 | 33.6 | 32.1 | 32.1 | 31.1 | 31.1 |
| 170971007 | Illinois | Lake | 33.0 | 35.0 | 33.2 | 35.2 | 31.1 | 33.4 | 26.2 | 28.6 |
| 170990007 | Illinois | La Salle | 28.9 | 29.9 | 27.8 | 28.8 | 26.4 | 27.3 | 24.5 | 25.3 |
| 171110001 | Illinois | McHenry | 31.5 | 32.6 | 30.8 | 31.8 | 29.7 | 30.7 | 28.5 | 29.4 |
| 171132003 | Illinois | McLean | 33.4 | 33.4 | 32.6 | 32.6 | 30.7 | 30.7 | 25.3 | 25.3 |
| 171150013 | Illinois | Macon | 33.2 | 34.4 | 33.0 | 34.7 | 31.3 | 32.7 | 24.1 | 25.3 |
| 171190023 | Illinois | Madison | 37.3 | 38.1 | 39.4 | 40.2 | 36.6 | 37.4 | 32.2 | 33.5 |
| 171191007 | Illinois | Madison | 39.1 | 40.1 | 40.0 | 40.6 | 38.0 | 38.7 | 34.3 | 37.0 |
| 171192009 | Illinois | Madison | 34.9 | 35.9 | 37.2 | 38.2 | 35.4 | 36.1 | 28.6 | 29.3 |
| 171193007 | Illinois | Madison | 34.0 | 34.6 | 36.5 | 37.3 | 34.6 | 35.2 | 27.2 | 28.2 |
| 171430037 | Illinois | Peoria | 32.7 | 34.1 | 34.2 | 35.2 | 30.6 | 32.2 | 28.1 | 29.2 |
| 171570001 | Illinois | Randolph | 28.9 | 29.9 | 29.9 | 31.0 | 27.9 | 28.9 | 25.5 | 26.8 |
| 171613002 | Illinois | Rock Island | 30.9 | 31.4 | 29.8 | 30.4 | 28.7 | 29.2 | 27.6 | 28.5 |
| 171630010 | Illinois | Saint Clair | 33.7 | 34.1 | 35.3 | 35.9 | 32.8 | 33.4 | 29.4 | 30.1 |
| 171634001 | Illinois | Saint Clair | 32.2 | 32.9 | 34.3 | 35.1 | 31.5 | 32.2 | 28.3 | 28.6 |
| 171670012 | Illinois | Sangamon | 33.4 | 34.1 | 34.0 | 34.9 | 32.0 | 32.6 | 27.8 | 28.5 |
| 171971002 | Illinois | Will | 36.4 | 37.1 | 35.1 | 35.8 | 33.6 | 34.4 | 29.6 | 31.1 |
| 171971011 | Illinois | Will | 30.7 | 31.7 | 29.3 | 30.2 | 27.6 | 28.4 | 21.3 | 21.9 |
| 172010013 | Illinois | Winnebago | 34.7 | 34.7 | 33.7 | 33.7 | 31.9 | 31.9 | 30.4 | 30.4 |
| 180030004 | Indiana | Allen | 33.1 | 34.6 | 32.2 | 33.6 | 31.5 | 32.9 | 29.8 | 31.1 |
| 180030014 | Indiana | Allen | 31.0 | 32.1 | 30.1 | 31.2 | 29.5 | 30.5 | 27.2 | 28.6 |
| 180190006 | Indiana | Clark | 37.5 | 39.4 | 38.1 | 40.2 | 36.1 | 37.9 | 28.6 | 29.5 |
| 180350006 | Indiana | Delaware | 32.0 | 33.6 | 32.8 | 34.3 | 31.5 | 32.9 | 26.1 | 26.3 |

| | | | 24-Hour PM2.5 Design Values (µg/m³) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 180372001 | Indiana | Dubois | 35.3 | 36.9 | 36.5 | 38.0 | 35.3 | 36.8 | 27.9 | 30.6 |
| 180390003 | Indiana | Elkhart | 34.4 | 36.3 | 33.8 | 35.6 | 32.7 | 34.4 | 29.0 | 30.5 |
| 180431004 | Indiana | Floyd | 33.2 | 34.5 | 34.3 | 35.7 | 32.7 | 34.1 | 23.8 | 25.3 |
| 180650003 | Indiana | Henry | 31.8 | 31.8 | 33.1 | 33.1 | 32.0 | 32.0 | 26.1 | 26.1 |
| 180670003 | Indiana | Howard | 32.2 | 32.9 | 32.3 | 33.0 | 30.9 | 31.7 | 24.7 | 25.8 |
| 180830004 | Indiana | Knox | 35.9 | 36.3 | 35.9 | 36.5 | 34.8 | 35.1 | 28.8 | 30.5 |
| 180890006 | Indiana | Lake | 34.9 | 35.5 | 33.3 | 33.8 | 32.6 | 33.2 | 31.3 | 32.1 |
| 180890022 | Indiana | Lake | 38.9 | 44.0 | 37.3 | 42.1 | 36.4 | 41.1 | 35.3 | 39.8 |
| 180890026 | Indiana | Lake | 38.4 | 41.3 | 36.3 | 39.3 | 34.9 | 38.0 | 32.7 | 35.8 |
| 180890027 | Indiana | Lake | 32.6 | 34.2 | 31.2 | 32.8 | 30.3 | 32.0 | 29.0 | 30.8 |
| 180890031 | Indiana | Lake | 34.0 | 34.0 | 33.2 | 33.2 | 31.6 | 31.6 | 27.0 | 27.0 |
| 180891003 | Indiana | Lake | 32.7 | 33.5 | 31.4 | 32.1 | 30.6 | 31.5 | 29.5 | 30.3 |
| 180892004 | Indiana | Lake | 32.9 | 33.9 | 31.2 | 32.0 | 30.6 | 31.6 | 29.3 | 30.6 |
| 180892010 | Indiana | Lake | 34.2 | 35.6 | 32.8 | 34.0 | 31.9 | 33.2 | 29.0 | 31.0 |
| 180910011 | Indiana | LaPorte | 33.6 | 33.6 | 31.8 | 31.8 | 30.3 | 30.3 | 26.6 | 26.6 |
| 180910012 | Indiana | LaPorte | 30.6 | 31.8 | 29.2 | 30.0 | 28.1 | 28.9 | 25.7 | 27.2 |
| 180950009 | Indiana | Madison | 32.8 | 34.0 | 34.2 | 35.4 | 33.1 | 34.1 | 26.5 | 26.8 |
| 180970042 | Indiana | Marion | 34.2 | 35.3 | 36.3 | 37.2 | 34.5 | 35.4 | 28.6 | 30.4 |
| 180970043 | Indiana | Marion | 38.4 | 39.9 | 40.5 | 42.0 | 38.8 | 40.3 | 33.2 | 34.4 |
| 180970066 | Indiana | Marion | 38.3 | 39.6 | 40.3 | 41.8 | 38.7 | 40.0 | 31.9 | 33.1 |
| 180970078 | Indiana | Marion | 36.6 | 37.6 | 38.7 | 39.7 | 37.1 | 38.0 | 32.4 | 33.7 |
| 180970079 | Indiana | Marion | 35.6 | 36.7 | 37.2 | 38.3 | 35.5 | 36.6 | 28.6 | 28.9 |
| 180970081 | Indiana | Marion | 38.2 | 39.2 | 40.1 | 41.1 | 38.7 | 39.7 | 30.9 | 31.0 |
| 180970083 | Indiana | Marion | 36.6 | 37.0 | 39.0 | 39.3 | 37.3 | 37.7 | 29.0 | 29.4 |
| 181270020 | Indiana | Porter | 32.5 | 34.6 | 30.9 | 33.4 | 29.4 | 31.9 | 25.7 | 27.1 |
| 181270024 | Indiana | Porter | 31.8 | 32.4 | 30.3 | 31.2 | 29.1 | 29.7 | 27.0 | 27.4 |
| 181410014 | Indiana | St. Joseph | 32.4 | 33.9 | 31.5 | 33.1 | 30.8 | 32.4 | 28.0 | 29.6 |
| 181411008 | Indiana | St. Joseph | 33.1 | 33.1 | 31.3 | 31.3 | 30.4 | 30.4 | 29.0 | 29.0 |
| 181412004 | Indiana | St. Joseph | 30.0 | 31.4 | 28.6 | 29.7 | 28.0 | 29.3 | 26.6 | 28.3 |
| 181470009 | Indiana | Spencer | 32.3 | 33.1 | 34.0 | 35.3 | 32.5 | 33.8 | 25.3 | 25.9 |

| | | | 24-Hour PM2.5 Design Values (μg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 181570008 | Indiana | Tippecanoe | 35.6 | 36.7 | 35.9 | 36.9 | 34.4 | 35.3 | 29.5 | 29.9 |
| 181630006 | Indiana | Vanderburgh | 34.8 | 35.5 | 34.3 | 35.0 | 33.3 | 33.9 | 27.0 | 27.7 |
| 181630012 | Indiana | Vanderburgh | 33.2 | 34.4 | 33.5 | 34.7 | 32.5 | 33.6 | 26.4 | 27.2 |
| 181630016 | Indiana | Vanderburgh | 32.6 | 33.7 | 32.2 | 33.5 | 31.2 | 32.3 | 27.8 | 28.9 |
| 181670018 | Indiana | Vigo | 35.1 | 35.1 | 35.3 | 35.3 | 33.9 | 33.9 | 32.9 | 32.9 |
| 181670023 | Indiana | Vigo | 34.8 | 36.1 | 35.1 | 36.5 | 33.7 | 35.0 | 30.8 | 32.1 |
| 190130008 | Iowa | Black Hawk | 30.1 | 30.2 | 28.3 | 28.4 | 27.8 | 28.0 | 27.0 | 27.3 |
| 190450021 | Iowa | Clinton | 33.9 | 35.9 | 33.4 | 35.1 | 31.1 | 32.8 | 30.3 | 31.6 |
| 191032001 | Iowa | Johnson | 34.6 | 35.2 | 33.2 | 33.9 | 32.6 | 33.2 | 31.1 | 32.7 |
| 191130037 | Iowa | Linn | 30.6 | 33.3 | 30.3 | 32.7 | 28.7 | 31.3 | 27.7 | 30.0 |
| 191370002 | Iowa | Montgomery | 27.5 | 27.7 | 26.1 | 26.4 | 25.2 | 25.3 | 22.5 | 23.2 |
| 191390015 | Iowa | Muscatine | 36.0 | 37.7 | 34.5 | 36.0 | 33.8 | 35.4 | 32.1 | 33.2 |
| 191471002 | Iowa | Palo Alto | 25.7 | 25.7 | 25.1 | 25.1 | 24.1 | 24.1 | 20.9 | 20.9 |
| 191530030 | Iowa | Polk | 28.4 | 29.0 | 27.5 | 27.8 | 26.6 | 27.1 | 24.4 | 25.1 |
| 191532510 | Iowa | Polk | 27.2 | 29.5 | 26.0 | 27.7 | 25.1 | 26.9 | 22.6 | 25.0 |
| 191532520 | Iowa | Polk | 31.4 | 31.4 | 29.1 | 29.1 | 28.6 | 28.6 | 26.9 | 26.9 |
| 191550009 | Iowa | Pottawattamie | 28.6 | 28.9 | 27.0 | 27.3 | 26.5 | 26.8 | 24.6 | 25.0 |
| 191630015 | Iowa | Scott | 31.0 | 32.1 | 30.3 | 31.6 | 29.2 | 29.7 | 28.7 | 29.3 |
| 191630018 | Iowa | Scott | 32.3 | 33.3 | 31.3 | 32.1 | 30.2 | 31.3 | 29.6 | 30.8 |
| 191630019 | Iowa | Scott | 37.1 | 37.1 | 36.8 | 36.8 | 34.0 | 34.0 | 31.9 | 31.9 |
| 191770006 | Iowa | Van Buren | 28.3 | 28.3 | 26.9 | 26.9 | 25.9 | 25.9 | 24.5 | 24.5 |
| 191930017 | Iowa | Woodbury | 26.4 | 28.4 | 24.6 | 26.2 | 24.3 | 26.1 | 23.2 | 25.1 |
| 191970004 | Iowa | Wright | 28.6 | 28.8 | 27.1 | 27.2 | 26.1 | 26.3 | 24.2 | 24.5 |
| 200910007 | Kansas | Johnson | 25.3 | 26.5 | 24.8 | 25.5 | 23.8 | 24.7 | 22.1 | 23.0 |
| 200910009 | Kansas | Johnson | 29.3 | 29.3 | 28.0 | 28.0 | 27.0 | 27.0 | 26.0 | 26.0 |
| 200910010 | Kansas | Johnson | 23.5 | 23.6 | 22.6 | 22.6 | 21.5 | 21.6 | 19.7 | 19.8 |
| 201070002 | Kansas | Linn | 25.3 | 26.2 | 24.8 | 25.6 | 23.8 | 24.4 | 21.1 | 21.5 |
| 201730008 | Kansas | Sedgwick | 23.7 | 25.3 | 23.3 | 24.9 | 22.0 | 23.5 | 20.0 | 21.4 |
| 201730009 | Kansas | Sedgwick | 25.0 | 26.4 | 23.2 | 24.3 | 22.7 | 24.0 | 22.4 | 23.7 |
| 201730010 | Kansas | Sedgwick | 25.3 | 27.0 | 24.1 | 25.6 | 23.3 | 24.8 | 22.7 | 24.1 |

| | | | 24-Hour PM2.5 Design Values (µg/m³) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 201770010 | Kansas | Shawnee | 29.1 | 29.1 | 28.1 | 28.1 | 26.7 | 26.7 | 25.1 | 25.1 |
| 201770011 | Kansas | Shawnee | 29.1 | 29.1 | 28.0 | 28.0 | 26.7 | 26.7 | 24.2 | 24.2 |
| 201910002 | Kansas | Sumner | 22.8 | 23.7 | 21.9 | 22.7 | 20.8 | 21.6 | 19.4 | 20.2 |
| 202090021 | Kansas | Wyandotte | 29.5 | 32.1 | 28.4 | 31.0 | 27.6 | 30.1 | 25.4 | 27.3 |
| 202090022 | Kansas | Wyandotte | 26.6 | 28.6 | 25.8 | 27.5 | 25.1 | 26.8 | 23.3 | 25.4 |
| 210130002 | Kentucky | Bell | 29.5 | 31.0 | 27.2 | 28.4 | 25.6 | 26.5 | 21.3 | 21.8 |
| 210190017 | Kentucky | Boyd | 33.1 | 34.4 | 30.7 | 31.9 | 29.1 | 30.3 | 20.5 | 21.3 |
| 210290006 | Kentucky | Bullitt | 34.6 | 35.8 | 35.0 | 36.3 | 33.1 | 34.2 | 24.0 | 24.6 |
| 210370003 | Kentucky | Campbell | 31.2 | 31.2 | 31.1 | 31.1 | 29.9 | 29.9 | 25.8 | 25.8 |
| 210430500 | Kentucky | Carter | 29.9 | 31.2 | 27.1 | 28.3 | 25.5 | 26.6 | 17.3 | 18.6 |
| 210470006 | Kentucky | Christian | 33.6 | 33.6 | 33.4 | 33.4 | 31.8 | 31.8 | 20.7 | 20.7 |
| 210590005 | Kentucky | Daviess | 33.8 | 33.8 | 37.0 | 37.0 | 34.9 | 34.9 | 21.7 | 21.7 |
| 210670012 | Kentucky | Fayette | 31.9 | 33.2 | 31.6 | 32.8 | 29.6 | 30.7 | 23.7 | 24.8 |
| 210670014 | Kentucky | Fayette | 32.7 | 33.2 | 32.5 | 33.0 | 30.4 | 30.8 | 23.8 | 24.6 |
| 210730006 | Kentucky | Franklin | 32.1 | 33.8 | 32.9 | 34.8 | 30.9 | 32.6 | 22.4 | 23.9 |
| 210930006 | Kentucky | Hardin | 32.8 | 35.1 | 33.0 | 35.4 | 31.2 | 33.5 | 20.4 | 22.9 |
| 211010014 | Kentucky | Henderson | 31.8 | 32.7 | 30.6 | 31.3 | 29.7 | 30.5 | 23.5 | 24.5 |
| 211110043 | Kentucky | Jefferson | 35.4 | 36.1 | 35.8 | 36.4 | 34.3 | 34.8 | 27.2 | 29.4 |
| 211110044 | Kentucky | Jefferson | 36.1 | 36.6 | 36.0 | 36.5 | 34.3 | 34.7 | 27.6 | 28.5 |
| 211110048 | Kentucky | Jefferson | 36.4 | 37.2 | 35.6 | 36.4 | 34.0 | 34.8 | 26.3 | 27.0 |
| 211110051 | Kentucky | Jefferson | 32.4 | 33.8 | 32.3 | 33.8 | 30.8 | 32.2 | 20.7 | 20.9 |
| 211170007 | Kentucky | Kenton | 34.7 | 35.4 | 34.7 | 35.3 | 33.4 | 34.0 | 25.3 | 25.7 |
| 211250004 | Kentucky | Laurel | 25.1 | 25.1 | 22.5 | 22.5 | 21.2 | 21.2 | 16.7 | 16.7 |
| 211451004 | Kentucky | McCracken | 33.6 | 35.9 | 34.4 | 36.8 | 32.5 | 34.8 | 23.1 | 23.6 |
| 211510003 | Kentucky | Madison | 30.1 | 30.9 | 27.3 | 27.8 | 25.6 | 26.3 | 19.5 | 21.5 |
| 211930003 | Kentucky | Perry | 28.5 | 29.8 | 25.3 | 26.4 | 23.7 | 24.7 | 17.7 | 18.5 |
| 211950002 | Kentucky | Pike | 30.5 | 31.4 | 27.3 | 28.1 | 25.9 | 26.7 | 19.2 | 20.2 |
| 212270007 | Kentucky | Warren | 33.1 | 35.1 | 33.7 | 36.3 | 31.6 | 34.0 | 21.6 | 24.2 |
| 220171002 | Louisiana | Caddo | 27.5 | 27.5 | 25.9 | 25.9 | 24.8 | 24.8 | 22.3 | 22.3 |
| 220190009 | Louisiana | Calcasieu | 24.2 | 25.8 | 23.9 | 25.5 | 23.1 | 24.7 | 19.9 | 21.4 |

| | | | 24-Hour PM2.5 Design Values ($\mu g/m^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 220190010 | Louisiana | Calcasieu | 26.3 | 27.2 | 25.8 | 26.6 | 24.9 | 25.7 | 21.3 | 22.1 |
| 220290003 | Louisiana | Concordia | 26.1 | 26.1 | 25.9 | 25.9 | 24.9 | 24.9 | 20.1 | 20.1 |
| 220330009 | Louisiana | East Baton Rouge | 29.3 | 30.5 | 27.8 | 28.8 | 26.5 | 27.6 | 25.0 | 26.1 |
| 220331001 | Louisiana | East Baton Rouge | 25.4 | 26.1 | 24.3 | 24.8 | 23.2 | 23.6 | 21.1 | 21.6 |
| 220470005 | Louisiana | Iberville | 28.6 | 29.3 | 27.1 | 27.7 | 25.5 | 26.1 | 24.9 | 25.7 |
| 220470009 | Louisiana | Iberville | 26.1 | 27.8 | 25.0 | 26.3 | 23.8 | 25.0 | 20.3 | 21.3 |
| 220511001 | Louisiana | Jefferson | 27.0 | 27.9 | 26.1 | 27.0 | 24.9 | 25.8 | 21.9 | 22.7 |
| 220550006 | Louisiana | Lafayette | 24.2 | 24.4 | 23.8 | 23.8 | 22.5 | 22.6 | 18.1 | 18.2 |
| 220730004 | Louisiana | Ouachita | 28.9 | 30.6 | 28.3 | 29.9 | 27.4 | 28.9 | 23.0 | 24.0 |
| 220790002 | Louisiana | Rapides | 30.2 | 34.3 | 29.8 | 33.8 | 28.5 | 32.4 | 22.8 | 25.9 |
| 221050001 | Louisiana | Tangipahoa | 29.6 | 30.3 | 27.7 | 28.1 | 26.2 | 26.7 | 23.5 | 24.6 |
| 221090001 | Louisiana | Terrebonne | 26.2 | 26.4 | 25.1 | 25.6 | 23.7 | 24.2 | 19.7 | 19.9 |
| 221210001 | Louisiana | West Baton Rouge | 29.0 | 29.8 | 27.5 | 28.2 | 26.3 | 27.0 | 25.0 | 26.0 |
| 230010011 | Maine | Androscoggin | 26.5 | 29.0 | 24.9 | 26.9 | 24.5 | 26.6 | 23.7 | 25.4 |
| 230030013 | Maine | Aroostook | 24.2 | 25.4 | 23.4 | 24.6 | 23.0 | 24.2 | 22.5 | 23.8 |
| 230031011 | Maine | Aroostook | 22.9 | 24.3 | 21.7 | 23.1 | 21.3 | 22.7 | 20.5 | 22.2 |
| 230050015 | Maine | Cumberland | 27.7 | 30.1 | 25.2 | 27.9 | 24.7 | 27.2 | 23.8 | 26.3 |
| 230050027 | Maine | Cumberland | 29.2 | 31.1 | 26.7 | 28.4 | 26.0 | 27.7 | 25.2 | 26.8 |
| 230090103 | Maine | Hancock | 19.4 | 19.7 | 15.9 | 16.1 | 15.8 | 16.0 | 13.9 | 14.0 |
| 230110016 | Maine | Kennebec | 26.2 | 28.1 | 24.4 | 26.2 | 23.9 | 25.6 | 23.0 | 24.6 |
| 230172011 | Maine | Oxford | 28.3 | 30.4 | 26.4 | 27.7 | 25.9 | 27.2 | 24.8 | 26.0 |
| 230190002 | Maine | Penobscot | 22.0 | 24.3 | 19.9 | 22.1 | 19.5 | 21.6 | 18.4 | 20.4 |
| 240030014 | Maryland | Anne Arundel | 33.2 | 33.2 | 29.6 | 29.6 | 29.6 | 29.6 | 27.1 | 27.1 |
| 240031003 | Maryland | Anne Arundel | 35.5 | 37.4 | 33.8 | 36.7 | 34.4 | 37.5 | 32.9 | 36.1 |
| 240032002 | Maryland | Anne Arundel | 36.1 | 36.1 | 33.7 | 33.7 | 33.9 | 33.9 | 32.3 | 32.3 |
| 240051007 | Maryland | Baltimore | 33.3 | 34.1 | 31.2 | 32.1 | 31.0 | 32.0 | 28.4 | 29.9 |
| 240053001 | Maryland | Baltimore | 35.8 | 37.0 | 33.0 | 33.8 | 33.0 | 33.9 | 31.1 | 31.9 |
| 240150003 | Maryland | Cecil | 30.8 | 32.5 | 28.0 | 29.5 | 27.7 | 29.1 | 25.1 | 25.9 |

| | | | 24-Hour PM2.5 Design Values ($\mu g/m^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 240251001 | Maryland | Harford | 31.2 | 31.4 | 26.3 | 26.4 | 26.1 | 26.2 | 23.4 | 23.8 |
| 240313001 | Maryland | Montgomery | 30.9 | 31.8 | 27.8 | 28.5 | 27.3 | 27.9 | 24.3 | 24.9 |
| 240330030 | Maryland | Prince George's | 31.7 | 31.7 | 28.7 | 28.7 | 28.3 | 28.3 | 23.8 | 23.8 |
| 240338003 | Maryland | Prince George's | 33.4 | 34.6 | 29.6 | 30.3 | 29.5 | 30.3 | 25.5 | 26.0 |
| 240430009 | Maryland | Washington | 33.4 | 35.5 | 32.2 | 34.5 | 31.5 | 33.7 | 27.6 | 28.9 |
| 245100006 | Maryland | Baltimore (City) | 33.3 | 33.8 | 30.5 | 30.8 | 30.5 | 30.7 | 28.6 | 29.0 |
| 245100007 | Maryland | Baltimore (City) | 34.7 | 36.1 | 31.0 | 31.7 | 30.8 | 31.2 | 28.6 | 29.1 |
| 245100008 | Maryland | Baltimore (City) | 37.2 | 37.3 | 34.6 | 34.8 | 34.5 | 34.7 | 33.2 | 33.6 |
| 245100035 | Maryland | Baltimore (City) | 37.7 | 39.2 | 34.7 | 35.5 | 34.5 | 35.3 | 33.4 | 34.2 |
| 245100040 | Maryland | Baltimore (City) | 39.0 | 40.9 | 36.3 | 38.3 | 36.1 | 38.0 | 35.0 | 36.8 |
| 245100049 | Maryland | Baltimore (City) | 38.1 | 38.1 | 35.5 | 35.5 | 35.3 | 35.3 | 34.3 | 34.3 |
| 250035001 | Massachusetts | Berkshire | 31.0 | 33.5 | 29.4 | 31.7 | 28.9 | 31.2 | 27.5 | 29.6 |
| 250051004 | Massachusetts | Bristol | 25.0 | 26.8 | 21.6 | 22.5 | 21.5 | 22.4 | 19.5 | 20.2 |
| 250092006 | Massachusetts | Essex | 28.7 | 33.4 | 26.0 | 30.4 | 25.6 | 30.0 | 23.9 | 27.6 |
| 250095005 | Massachusetts | Essex | 27.7 | 29.6 | 24.0 | 25.5 | 23.6 | 25.0 | 20.6 | 22.1 |
| 250096001 | Massachusetts | Essex | 27.8 | 27.9 | 25.3 | 25.7 | 24.9 | 25.2 | 23.1 | 23.5 |
| 250130008 | Massachusetts | Hampden | 27.4 | 27.9 | 25.0 | 25.4 | 24.5 | 24.9 | 22.6 | 23.1 |
| 250130016 | Massachusetts | Hampden | 32.3 | 33.5 | 30.5 | 31.6 | 29.8 | 30.9 | 28.3 | 29.2 |
| 250132009 | Massachusetts | Hampden | 33.1 | 33.3 | 31.1 | 31.5 | 30.3 | 30.8 | 29.0 | 29.4 |
| 250230004 | Massachusetts | Plymouth | 28.4 | 28.8 | 24.0 | 24.5 | 23.6 | 24.0 | 21.1 | 22.1 |
| 250250002 | Massachusetts | Suffolk | 29.4 | 29.7 | 27.3 | 27.7 | 27.0 | 27.4 | 26.2 | 26.7 |
| 250250027 | Massachusetts | Suffolk | 29.2 | 29.5 | 26.9 | 27.0 | 26.7 | 26.8 | 25.8 | 25.9 |
| 250250042 | Massachusetts | Suffolk | 28.6 | 29.1 | 26.3 | 26.8 | 25.9 | 26.3 | 25.3 | 25.8 |
| 250250043 | Massachusetts | Suffolk | 32.1 | 33.9 | 29.6 | 31.3 | 29.2 | 30.9 | 28.4 | 30.0 |
| 250270016 | Massachusetts | Worcester | 30.0 | 30.0 | 26.9 | 27.1 | 26.3 | 26.5 | 24.0 | 24.5 |
| 250270023 | Massachusetts | Worcester | 30.5 | 30.6 | 27.2 | 27.3 | 26.5 | 26.7 | 25.1 | 25.2 |
| 260050003 | Michigan | Allegan | 33.8 | 34.0 | 32.3 | 32.9 | 31.1 | 31.4 | 29.6 | 30.0 |
| 260170014 | Michigan | Bay | 31.6 | 32.1 | 30.2 | 30.7 | 29.2 | 29.8 | 27.3 | 28.1 |
| 260210014 | Michigan | Berrien | 31.3 | 32.3 | 29.7 | 30.4 | 28.7 | 29.4 | 26.0 | 27.0 |
| 260490021 | Michigan | Genesee | 30.4 | 32.0 | 28.7 | 30.1 | 28.0 | 29.5 | 27.0 | 28.3 |

| | | | 24-Hour PM2.5 Design Values ($\mu g/m^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 260650012 | Michigan | Ingham | 31.9 | 32.1 | 30.6 | 31.0 | 29.7 | 30.0 | 28.2 | 28.8 |
| 260770008 | Michigan | Kalamazoo | 31.1 | 32.8 | 29.5 | 31.1 | 28.7 | 30.3 | 26.4 | 27.8 |
| 260810020 | Michigan | Kent | 36.5 | 37.1 | 34.1 | 34.7 | 32.7 | 33.2 | 30.6 | 31.1 |
| 260990009 | Michigan | Macomb | 35.3 | 35.9 | 33.8 | 34.2 | 33.0 | 33.5 | 31.6 | 32.7 |
| 261130001 | Michigan | Missaukee | 24.8 | 25.2 | 24.1 | 24.4 | 22.6 | 22.8 | 19.8 | 19.9 |
| 261150005 | Michigan | Monroe | 38.8 | 39.6 | 37.0 | 38.0 | 35.6 | 36.3 | 31.2 | 31.6 |
| 261210040 | Michigan | Muskegon | 34.7 | 36.6 | 32.9 | 34.7 | 31.3 | 32.9 | 28.5 | 29.4 |
| 261250001 | Michigan | Oakland | 39.9 | 40.4 | 37.9 | 38.4 | 36.9 | 37.2 | 35.1 | 36.2 |
| 261390005 | Michigan | Ottawa | 34.2 | 34.7 | 32.7 | 33.3 | 31.9 | 32.3 | 30.7 | 31.2 |
| 261450018 | Michigan | Saginaw | 30.6 | 30.6 | 29.3 | 29.3 | 28.2 | 28.2 | 26.0 | 26.0 |
| 261470005 | Michigan | St. Clair | 39.6 | 40.6 | 38.4 | 39.4 | 37.6 | 38.7 | 34.7 | 35.4 |
| 261610005 | Michigan | Washtenaw | 33.6 | 33.6 | 32.0 | 32.0 | 30.7 | 30.7 | 28.0 | 28.0 |
| 261610008 | Michigan | Washtenaw | 39.4 | 40.8 | 38.1 | 39.8 | 37.0 | 38.7 | 35.6 | 36.2 |
| 261630001 | Michigan | Wayne | 37.8 | 40.1 | 35.4 | 37.8 | 34.2 | 36.3 | 32.8 | 34.9 |
| 261630015 | Michigan | Wayne | 40.1 | 40.6 | 38.5 | 39.1 | 37.1 | 37.6 | 34.0 | 34.7 |
| 261630016 | Michigan | Wayne | 42.9 | 45.4 | 40.6 | 43.0 | 39.7 | 42.1 | 38.2 | 40.8 |
| 261630019 | Michigan | Wayne | 40.9 | 41.4 | 38.6 | 39.1 | 37.7 | 38.3 | 37.0 | 37.5 |
| 261630025 | Michigan | Wayne | 35.1 | 36.8 | 33.1 | 34.6 | 31.9 | 33.1 | 29.5 | 30.5 |
| 261630033 | Michigan | Wayne | 43.8 | 44.2 | 42.1 | 42.6 | 41.1 | 41.7 | 39.1 | 39.4 |
| 261630036 | Michigan | Wayne | 37.1 | 37.9 | 36.3 | 36.9 | 35.5 | 36.2 | 34.4 | 35.5 |
| 261630039 | Michigan | Wayne | 37.0 | 37.0 | 35.0 | 35.0 | 34.2 | 34.2 | 32.6 | 32.6 |
| 270210001 | Minnesota | Cass | 18.0 | 19.1 | 17.0 | 18.0 | 16.5 | 17.5 | 15.5 | 16.5 |
| 270370470 | Minnesota | Dakota | 25.4 | 25.6 | 24.6 | 24.9 | 23.5 | 23.7 | 22.0 | 22.2 |
| 270530050 | Minnesota | Hennepin | 27.2 | 28.0 | 25.7 | 26.4 | 24.9 | 25.7 | 23.1 | 23.8 |
| 270530961 | Minnesota | Hennepin | 25.5 | 26.2 | 24.1 | 24.7 | 23.6 | 24.1 | 22.4 | 22.9 |
| 270530963 | Minnesota | Hennepin | 26.0 | 27.8 | 24.6 | 26.2 | 23.8 | 25.5 | 22.4 | 24.0 |
| 270530965 | Minnesota | Hennepin | 24.7 | 25.5 | 23.0 | 23.8 | 22.6 | 23.4 | 21.7 | 22.5 |
| 270531007 | Minnesota | Hennepin | 25.4 | 25.7 | 24.1 | 24.4 | 23.4 | 23.7 | 22.1 | 22.4 |
| 270532006 | Minnesota | Hennepin | 26.7 | 27.5 | 25.5 | 26.3 | 24.8 | 25.4 | 23.2 | 23.9 |
| 270953051 | Minnesota | Mille Lacs | 22.0 | 22.2 | 21.4 | 21.8 | 20.9 | 21.2 | 19.4 | 19.6 |

| | | | 24-Hour PM2.5 Design Values (μg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 271230866 | Minnesota | Ramsey | 28.0 | 29.4 | 26.7 | 28.0 | 26.3 | 27.6 | 25.3 | 26.6 |
| 271230868 | Minnesota | Ramsey | 28.3 | 30.5 | 27.0 | 29.0 | 26.2 | 28.2 | 24.6 | 26.7 |
| 271230871 | Minnesota | Ramsey | 26.3 | 26.8 | 25.2 | 25.9 | 24.2 | 24.8 | 22.9 | 23.5 |
| 271377001 | Minnesota | Saint Louis | 20.3 | 21.2 | 19.4 | 20.3 | 18.7 | 19.6 | 17.6 | 18.6 |
| 271377550 | Minnesota | Saint Louis | 19.5 | 20.1 | 18.9 | 19.3 | 18.0 | 18.3 | 16.3 | 16.6 |
| 271377551 | Minnesota | Saint Louis | 23.5 | 23.8 | 22.0 | 22.1 | 21.3 | 21.4 | 19.4 | 19.5 |
| 271390505 | Minnesota | Scott | 24.9 | 25.8 | 23.9 | 24.6 | 23.2 | 24.0 | 21.5 | 22.7 |
| 271453052 | Minnesota | Stearns | 20.9 | 20.9 | 19.6 | 19.6 | 19.0 | 19.0 | 18.3 | 18.3 |
| 280010004 | Mississippi | Adams | 27.4 | 27.8 | 27.0 | 27.3 | 25.8 | 26.2 | 19.9 | 20.3 |
| 280110001 | Mississippi | Bolivar | 28.9 | 29.9 | 28.8 | 29.6 | 27.5 | 28.4 | 22.0 | 23.0 |
| 280330002 | Mississippi | DeSoto | 30.8 | 31.3 | 29.7 | 29.8 | 28.0 | 28.1 | 20.5 | 21.7 |
| 280350004 | Mississippi | Forrest | 30.4 | 31.1 | 29.0 | 29.4 | 27.9 | 28.2 | 24.9 | 25.5 |
| 280470008 | Mississippi | Harrison | 30.5 | 31.5 | 29.1 | 29.8 | 27.7 | 28.4 | 23.6 | 24.2 |
| 280490010 | Mississippi | Hinds | 28.8 | 29.1 | 27.1 | 27.2 | 26.0 | 26.0 | 21.1 | 21.2 |
| 280590006 | Mississippi | Jackson | 28.2 | 29.4 | 26.7 | 27.8 | 25.3 | 26.3 | 21.8 | 22.7 |
| 280670002 | Mississippi | Jones | 31.2 | 31.6 | 29.9 | 30.6 | 28.9 | 29.6 | 25.3 | 26.0 |
| 280750003 | Mississippi | Lauderdale | 29.8 | 29.8 | 29.6 | 29.9 | 28.3 | 28.5 | 22.8 | 23.0 |
| 280810005 | Mississippi | Lee | 32.1 | 33.4 | 30.0 | 31.0 | 28.3 | 29.2 | 21.9 | 22.5 |
| 280870001 | Mississippi | Lowndes | 32.4 | 33.0 | 28.6 | 29.1 | 26.9 | 27.7 | 21.7 | 22.9 |
| 281090001 | Mississippi | Pearl River | 28.5 | 28.5 | 27.1 | 27.1 | 25.9 | 25.9 | 22.6 | 22.6 |
| 281490004 | Mississippi | Warren | 30.2 | 30.2 | 29.9 | 29.9 | 28.8 | 28.8 | 23.0 | 23.0 |
| 290190004 | Missouri | Boone | 30.2 | 30.2 | 29.9 | 29.9 | 28.5 | 28.5 | 25.3 | 25.3 |
| 290210005 | Missouri | Buchanan | 30.1 | 30.1 | 28.6 | 28.6 | 27.7 | 27.7 | 25.5 | 25.5 |
| 290370003 | Missouri | Cass | 25.6 | 26.1 | 25.0 | 25.5 | 24.1 | 24.6 | 21.3 | 21.5 |
| 290390001 | Missouri | Cedar | 28.7 | 28.7 | 28.5 | 28.5 | 27.0 | 27.0 | 22.4 | 22.4 |
| 290470005 | Missouri | Clay | 28.0 | 28.6 | 26.7 | 27.3 | 25.7 | 26.3 | 24.6 | 25.5 |
| 290770032 | Missouri | Greene | 28.2 | 29.4 | 29.1 | 30.2 | 26.9 | 28.0 | 22.1 | 22.9 |
| 290950034 | Missouri | Jackson | 28.9 | 30.9 | 27.4 | 29.3 | 26.7 | 28.6 | 24.9 | 26.6 |
| 290990012 | Missouri | Jefferson | 33.4 | 34.2 | 35.7 | 36.5 | 32.6 | 33.6 | 29.7 | 30.2 |
| 291370001 | Missouri | Monroe | 27.8 | 27.8 | 26.9 | 26.9 | 25.6 | 25.6 | 22.7 | 22.7 |

| | | | 24-Hour PM2.5 Design Values (μg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 291831002 | Missouri | Saint Charles | 33.1 | 34.7 | 35.5 | 37.1 | 33.6 | 35.3 | 28.6 | 29.9 |
| 291860006 | Missouri | Sainte Genevieve | 31.4 | 32.0 | 32.1 | 33.1 | 29.7 | 30.6 | 25.3 | 26.9 |
| 291890004 | Missouri | Saint Louis | 32.0 | 32.0 | 34.3 | 34.3 | 31.7 | 31.7 | 26.0 | 26.0 |
| 291892003 | Missouri | Saint Louis | 33.2 | 33.8 | 33.7 | 34.4 | 32.3 | 33.1 | 31.0 | 31.6 |
| 295100007 | Missouri | St. Louis City | 33.1 | 33.5 | 36.0 | 36.3 | 33.3 | 33.6 | 29.1 | 30.2 |
| 295100085 | Missouri | St. Louis City | 33.2 | 33.8 | 35.3 | 35.7 | 32.9 | 33.3 | 29.8 | 30.4 |
| 295100086 | Missouri | St. Louis City | 32.5 | 32.6 | 34.3 | 34.5 | 32.0 | 32.2 | 29.4 | 29.5 |
| 295100087 | Missouri | St. Louis City | 34.3 | 34.7 | 36.4 | 36.9 | 33.7 | 34.1 | 30.8 | 31.3 |
| 300870307 | Montana | Rosebud | 19.7 | 19.7 | 19.2 | 19.2 | 19.1 | 19.1 | 19.1 | 19.1 |
| 301111065 | Montana | Yellowstone | 19.3 | 19.4 | 18.6 | 18.8 | 18.5 | 18.8 | 18.5 | 18.8 |
| 310550019 | Nebraska | Douglas | 26.6 | 28.8 | 26.1 | 28.6 | 25.5 | 27.9 | 23.1 | 24.8 |
| 310550052 | Nebraska | Douglas | 25.7 | 26.8 | 24.4 | 25.4 | 24.0 | 24.9 | 22.3 | 23.4 |
| 310790004 | Nebraska | Hall | 19.1 | 19.1 | 17.7 | 17.7 | 17.2 | 17.2 | 16.3 | 16.3 |
| 311090022 | Nebraska | Lancaster | 24.7 | 26.6 | 23.3 | 25.0 | 22.9 | 24.7 | 21.7 | 23.8 |
| 311111002 | Nebraska | Lincoln | 23.7 | 23.7 | 21.9 | 21.9 | 21.6 | 21.6 | 21.2 | 21.2 |
| 311530007 | Nebraska | Sarpy | 24.1 | 24.4 | 23.9 | 24.2 | 23.3 | 23.6 | 21.0 | 21.2 |
| 311570003 | Nebraska | Scotts Bluff | 16.6 | 16.6 | 15.9 | 15.9 | 15.7 | 15.7 | 15.3 | 15.3 |
| 311770002 | Nebraska | Washington | 24.1 | 24.8 | 23.2 | 24.1 | 22.7 | 23.5 | 21.0 | 21.6 |
| 330012004 | New Hampshire | Belknap | 20.5 | 21.4 | 17.6 | 18.3 | 17.1 | 17.8 | 14.4 | 14.9 |
| 330050007 | New Hampshire | Cheshire | 30.2 | 31.0 | 28.2 | 28.7 | 27.7 | 28.1 | 26.4 | 26.8 |
| 330070014 | New Hampshire | Coos | 26.5 | 26.9 | 24.7 | 25.1 | 24.2 | 24.6 | 22.3 | 22.6 |
| 330090010 | New Hampshire | Grafton | 23.0 | 23.0 | 20.3 | 20.3 | 19.8 | 19.8 | 18.1 | 18.1 |
| 330110020 | New Hampshire | Hillsborough | 28.6 | 28.6 | 26.5 | 26.5 | 26.1 | 26.1 | 25.2 | 25.2 |
| 330111015 | New Hampshire | Hillsborough | 27.3 | 27.3 | 25.7 | 25.7 | 25.3 | 25.3 | 24.5 | 24.5 |
| 330115001 | New Hampshire | Hillsborough | 25.9 | 25.9 | 22.4 | 22.4 | 21.9 | 21.9 | 17.1 | 17.1 |
| 330131006 | New Hampshire | Merrimack | 25.6 | 26.1 | 22.9 | 23.1 | 22.5 | 22.7 | 20.4 | 20.7 |
| 330150014 | New Hampshire | Rockingham | 26.3 | 27.8 | 23.6 | 24.9 | 23.2 | 24.5 | 21.9 | 22.9 |
| 330190003 | New Hampshire | Sullivan | 28.9 | 30.8 | 24.8 | 26.8 | 24.1 | 26.0 | 21.0 | 22.8 |
| 340030003 | New Jersey | Bergen | 37.0 | 37.7 | 33.6 | 34.1 | 33.0 | 33.5 | 31.5 | 32.1 |
| 340070003 | New Jersey | Camden | 36.5 | 38.6 | 32.7 | 34.3 | 31.9 | 33.6 | 27.2 | 28.9 |

| | | | 24-Hour PM2.5 Design Values (µg/m³) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 340071007 | New Jersey | Camden | 37.3 | 38.8 | 34.1 | 35.1 | 33.3 | 34.3 | 30.0 | 31.0 |
| 340130015 | New Jersey | Essex | 38.3 | 38.4 | 33.9 | 34.4 | 33.1 | 33.7 | 30.3 | 31.8 |
| 340155001 | New Jersey | Gloucester | 32.1 | 32.1 | 28.2 | 28.2 | 27.7 | 27.7 | 25.1 | 25.1 |
| 340171003 | New Jersey | Hudson | 39.0 | 40.5 | 35.7 | 36.1 | 34.9 | 35.3 | 32.9 | 33.9 |
| 340172002 | New Jersey | Hudson | 41.4 | 41.4 | 38.2 | 38.2 | 37.5 | 37.5 | 36.6 | 36.6 |
| 340210008 | New Jersey | Mercer | 34.7 | 35.8 | 30.9 | 31.4 | 30.2 | 30.5 | 26.0 | 26.6 |
| 340218001 | New Jersey | Mercer | 30.1 | 30.1 | 26.3 | 26.3 | 25.6 | 25.6 | 21.0 | 21.0 |
| 340230006 | New Jersey | Middlesex | 34.8 | 38.1 | 31.0 | 34.0 | 30.3 | 33.2 | 26.1 | 27.2 |
| 340270004 | New Jersey | Morris | 32.3 | 33.6 | 29.2 | 30.3 | 28.6 | 29.5 | 25.2 | 26.5 |
| 340273001 | New Jersey | Morris | 31.5 | 32.9 | 27.8 | 29.1 | 27.0 | 28.2 | 21.2 | 21.3 |
| 340292002 | New Jersey | Ocean | 31.5 | 33.9 | 28.0 | 29.7 | 27.2 | 28.9 | 20.8 | 22.0 |
| 340310005 | New Jersey | Passaic | 36.3 | 37.1 | 32.6 | 33.5 | 31.9 | 32.9 | 28.1 | 29.5 |
| 340390004 | New Jersey | Union | 40.4 | 41.4 | 36.7 | 37.2 | 35.6 | 36.2 | 33.9 | 34.8 |
| 340390006 | New Jersey | Union | 37.3 | 37.7 | 34.8 | 35.1 | 34.2 | 34.4 | 33.2 | 33.5 |
| 340392003 | New Jersey | Union | 36.8 | 37.4 | 33.7 | 34.1 | 32.8 | 33.2 | 30.5 | 31.7 |
| 340410006 | New Jersey | Warren | 34.0 | 34.7 | 32.0 | 32.8 | 31.6 | 32.3 | 29.1 | 30.3 |
| 350010023 | New Mexico | Bernalillo | 18.6 | 18.8 | 17.6 | 17.8 | 17.4 | 17.7 | 17.1 | 17.3 |
| 350010024 | New Mexico | Bernalillo | 16.4 | 17.1 | 15.5 | 16.3 | 15.4 | 16.1 | 15.0 | 15.8 |
| 350050005 | New Mexico | Chaves | 15.6 | 16.5 | 14.9 | 15.6 | 14.7 | 15.3 | 14.0 | 14.3 |
| 350130017 | New Mexico | Dona Ana | 32.9 | 35.5 | 31.1 | 33.5 | 30.8 | 33.2 | 30.5 | 32.9 |
| 350130025 | New Mexico | Dona Ana | 13.8 | 14.1 | 13.1 | 13.5 | 12.9 | 13.3 | 12.3 | 12.8 |
| 350431003 | New Mexico | Sandoval | 10.3 | 10.9 | 9.6 | 10.2 | 9.5 | 10.0 | 9.2 | 9.7 |
| 350439011 | New Mexico | Sandoval | 15.6 | 16.2 | 15.2 | 15.8 | 15.0 | 15.7 | 14.9 | 15.5 |
| 350450006 | New Mexico | San Juan | 12.4 | 12.6 | 12.1 | 12.3 | 12.0 | 12.2 | 12.0 | 12.2 |
| 350490020 | New Mexico | Santa Fe | 9.7 | 10.2 | 9.4 | 9.8 | 9.3 | 9.7 | 9.2 | 9.6 |
| 360010005 | New York | Albany | 34.2 | 34.2 | 32.9 | 32.9 | 32.4 | 32.4 | 30.9 | 30.9 |
| 360050080 | New York | Bronx | 38.8 | 40.2 | 35.9 | 36.2 | 35.2 | 35.4 | 33.5 | 33.9 |
| 360050083 | New York | Bronx | 34.7 | 35.3 | 32.1 | 32.9 | 31.5 | 32.3 | 30.3 | 31.1 |
| 360050110 | New York | Bronx | 36.1 | 36.6 | 33.6 | 34.6 | 33.1 | 34.0 | 32.3 | 33.2 |
| 360130011 | New York | Chautauqua | 29.1 | 30.1 | 26.9 | 27.7 | 25.7 | 26.5 | 20.8 | 21.5 |

| | | | 24-Hour PM2.5 Design Values ($\mu g/m^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 360290005 | New York | Erie | 35.3 | 37.0 | 33.1 | 34.8 | 32.8 | 34.3 | 31.8 | 33.4 |
| 360291007 | New York | Erie | 33.6 | 35.2 | 31.9 | 33.8 | 31.5 | 33.5 | 30.0 | 32.4 |
| 360310003 | New York | Essex | 22.4 | 22.8 | 21.0 | 21.3 | 20.4 | 20.6 | 17.3 | 17.6 |
| 360470122 | New York | Kings | 36.9 | 38.0 | 33.5 | 34.3 | 32.6 | 33.4 | 30.7 | 30.8 |
| 360551007 | New York | Monroe | 32.2 | 33.0 | 30.4 | 31.2 | 29.9 | 30.6 | 27.4 | 28.1 |
| 360590008 | New York | Nassau | 34.0 | 35.0 | 30.4 | 31.0 | 29.4 | 29.9 | 25.4 | 25.5 |
| 360610056 | New York | New York | 39.7 | 40.6 | 37.1 | 38.0 | 36.5 | 37.3 | 35.3 | 36.0 |
| 360610062 | New York | New York | 38.8 | 41.6 | 35.3 | 37.0 | 34.6 | 36.3 | 33.2 | 33.6 |
| 360610079 | New York | New York | 37.9 | 40.2 | 34.2 | 36.4 | 33.4 | 35.4 | 31.4 | 33.3 |
| 360610128 | New York | New York | 39.4 | 41.8 | 36.2 | 38.0 | 35.4 | 37.0 | 33.0 | 33.1 |
| 360632008 | New York | Niagara | 33.6 | 33.7 | 31.7 | 31.9 | 30.5 | 30.7 | 28.5 | 28.5 |
| 360671015 | New York | Onondaga | 27.3 | 28.5 | 25.4 | 26.2 | 24.8 | 25.4 | 20.2 | 21.2 |
| 360710002 | New York | Orange | 28.9 | 29.4 | 26.3 | 26.9 | 25.7 | 26.3 | 23.2 | 23.8 |
| 360810124 | New York | Queens | 35.5 | 35.5 | 33.0 | 33.0 | 32.2 | 32.2 | 31.1 | 31.1 |
| 360850055 | New York | Richmond | 34.9 | 37.0 | 32.0 | 34.3 | 31.2 | 33.3 | 29.5 | 31.2 |
| 360850067 | New York | Richmond | 32.1 | 32.9 | 28.8 | 29.5 | 27.9 | 28.5 | 25.0 | 25.5 |
| 360893001 | New York | St. Lawrence | 22.1 | 22.5 | 20.7 | 21.3 | 20.2 | 20.9 | 18.6 | 19.7 |
| 361010003 | New York | Steuben | 27.8 | 28.2 | 25.2 | 25.6 | 24.6 | 25.0 | 20.1 | 21.1 |
| 361030001 | New York | Suffolk | 34.6 | 34.6 | 30.5 | 30.5 | 29.4 | 29.4 | 23.9 | 23.9 |
| 361191002 | New York | Westchester | 33.5 | 34.3 | 30.4 | 30.8 | 29.7 | 29.9 | 26.4 | 26.9 |
| 370010002 | North Carolina | Alamance | 31.7 | 32.1 | 27.0 | 27.5 | 26.2 | 26.7 | 21.8 | 22.2 |
| 370210034 | North Carolina | Buncombe | 30.0 | 30.2 | 26.1 | 26.5 | 25.4 | 25.8 | 20.4 | 21.2 |
| 370330001 | North Carolina | Caswell | 29.4 | 29.5 | 25.8 | 26.1 | 24.9 | 25.2 | 19.9 | 20.1 |
| 370350004 | North Carolina | Catawba | 34.5 | 35.5 | 27.5 | 28.1 | 26.9 | 27.5 | 23.1 | 23.2 |
| 370370004 | North Carolina | Chatham | 26.9 | 27.4 | 24.1 | 24.8 | 23.1 | 23.8 | 19.8 | 20.5 |
| 370510009 | North Carolina | Cumberland | 30.7 | 31.2 | 27.7 | 28.4 | 26.6 | 27.3 | 24.0 | 24.6 |
| 370570002 | North Carolina | Davidson | 31.3 | 32.1 | 27.0 | 27.4 | 26.3 | 26.7 | 23.0 | 23.4 |
| 370610002 | North Carolina | Duplin | 28.3 | 29.6 | 25.0 | 26.1 | 24.2 | 25.4 | 20.6 | 21.6 |
| 370630001 | North Carolina | Durham | 31.0 | 32.0 | 26.3 | 26.7 | 25.3 | 25.7 | 22.3 | 22.5 |
| 370650004 | North Carolina | Edgecombe | 26.7 | 26.9 | 24.8 | 24.9 | 23.8 | 23.9 | 21.3 | 21.9 |

| | | | 24-Hour PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 370670022 | North Carolina | Forsyth | 31.9 | 32.2 | 28.1 | 28.4 | 27.2 | 27.5 | 25.4 | 25.7 |
| 370710016 | North Carolina | Gaston | 30.8 | 30.9 | 24.3 | 24.5 | 23.8 | 23.9 | 20.1 | 20.4 |
| 370810013 | North Carolina | Guilford | 30.6 | 30.6 | 27.2 | 27.2 | 26.2 | 26.2 | 23.4 | 23.4 |
| 370870010 | North Carolina | Haywood | 27.7 | 28.5 | 24.6 | 25.3 | 23.5 | 24.0 | 20.8 | 21.2 |
| 370990006 | North Carolina | Jackson | 25.5 | 26.8 | 22.1 | 22.9 | 20.5 | 21.4 | 17.2 | 18.2 |
| 371070004 | North Carolina | Lenoir | 25.2 | 25.5 | 22.6 | 23.1 | 21.9 | 22.4 | 20.2 | 20.6 |
| 371110004 | North Carolina | McDowell | 31.5 | 32.0 | 26.0 | 26.5 | 25.1 | 25.6 | 21.5 | 21.8 |
| 371170001 | North Carolina | Martin | 24.8 | 26.2 | 23.2 | 24.1 | 22.4 | 23.3 | 20.6 | 21.5 |
| 371190010 | North Carolina | Mecklenburg | 32.3 | 32.3 | 28.2 | 28.2 | 27.5 | 27.5 | 24.7 | 24.7 |
| 371190041 | North Carolina | Mecklenburg | 31.7 | 32.1 | 26.7 | 27.2 | 25.9 | 26.4 | 23.1 | 23.3 |
| 371190042 | North Carolina | Mecklenburg | 30.7 | 31.4 | 24.9 | 25.7 | 24.0 | 24.7 | 21.6 | 22.3 |
| 371210001 | North Carolina | Mitchell | 30.2 | 31.6 | 25.3 | 27.1 | 24.3 | 26.0 | 20.6 | 22.0 |
| 371230001 | North Carolina | Montgomery | 28.2 | 29.0 | 24.5 | 25.1 | 23.6 | 24.2 | 19.6 | 20.1 |
| 371290002 | North Carolina | New Hanover | 24.0 | 25.4 | 21.2 | 22.4 | 20.5 | 21.6 | 17.5 | 18.3 |
| 371330005 | North Carolina | Onslow | 24.6 | 25.1 | 22.6 | 23.1 | 21.9 | 22.3 | 19.4 | 19.8 |
| 371350007 | North Carolina | Orange | 29.3 | 29.8 | 25.1 | 25.6 | 24.1 | 24.5 | 19.9 | 20.3 |
| 371470005 | North Carolina | Pitt | 26.2 | 26.9 | 23.9 | 24.3 | 23.1 | 23.6 | 21.8 | 22.2 |
| 371550005 | North Carolina | Robeson | 29.9 | 30.4 | 26.1 | 26.2 | 25.2 | 25.4 | 20.9 | 21.1 |
| 371590021 | North Carolina | Rowan | 30.2 | 30.2 | 25.4 | 25.4 | 25.1 | 25.1 | 21.9 | 21.9 |
| 371730002 | North Carolina | Swain | 27.3 | 28.3 | 23.6 | 24.3 | 22.1 | 22.8 | 19.7 | 20.8 |
| 371830014 | North Carolina | Wake | 31.6 | 32.2 | 27.6 | 27.8 | 26.5 | 26.9 | 24.1 | 24.5 |
| 371890003 | North Carolina | Watauga | 30.4 | 30.5 | 25.9 | 26.0 | 25.3 | 25.4 | 19.6 | 19.9 |
| 371910005 | North Carolina | Wayne | 29.7 | 30.4 | 26.6 | 27.4 | 25.5 | 26.3 | 21.6 | 22.5 |
| 380070002 | North Dakota | Billings | 13.0 | 13.6 | 12.6 | 13.1 | 12.6 | 12.9 | 12.4 | 12.8 |
| 380130003 | North Dakota | Burke | 16.7 | 16.7 | 16.2 | 16.2 | 16.1 | 16.1 | 16.0 | 16.0 |
| 380150003 | North Dakota | Burleigh | 17.6 | 18.7 | 16.4 | 17.3 | 16.2 | 17.1 | 15.8 | 16.7 |
| 380171004 | North Dakota | Cass | 21.2 | 22.5 | 20.5 | 21.7 | 19.8 | 21.0 | 18.2 | 19.6 |
| 380530002 | North Dakota | McKenzie | 11.9 | 13.0 | 11.4 | 12.5 | 11.4 | 12.4 | 11.2 | 12.2 |
| 380570004 | North Dakota | Mercer | 16.9 | 17.9 | 17.2 | 18.2 | 17.1 | 18.1 | 17.0 | 18.0 |
| 390090003 | Ohio | Athens | 32.3 | 33.2 | 28.9 | 29.4 | 27.3 | 27.6 | 19.7 | 20.5 |

| | | | 24-Hour PM2.5 Design Values ($\mu g/m^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 390170003 | Ohio | Butler | 39.2 | 41.1 | 40.3 | 42.3 | 38.3 | 40.3 | 29.1 | 31.4 |
| 390170016 | Ohio | Butler | 37.1 | 37.7 | 37.5 | 37.8 | 35.7 | 36.2 | 27.9 | 28.3 |
| 390170017 | Ohio | Butler | 37.9 | 37.9 | 38.5 | 38.5 | 36.8 | 36.8 | 28.4 | 28.4 |
| 390171004 | Ohio | Butler | 37.1 | 38.1 | 37.8 | 38.6 | 36.1 | 37.0 | 27.4 | 28.3 |
| 390230005 | Ohio | Clark | 35.3 | 36.4 | 33.6 | 34.7 | 32.1 | 33.1 | 26.6 | 27.5 |
| 390250022 | Ohio | Clermont | 34.4 | 34.4 | 34.4 | 34.4 | 32.9 | 32.9 | 24.8 | 24.8 |
| 390350027 | Ohio | Cuyahoga | 36.6 | 38.8 | 34.5 | 36.6 | 34.0 | 36.2 | 32.1 | 35.0 |
| 390350034 | Ohio | Cuyahoga | 36.5 | 37.9 | 33.7 | 35.7 | 33.2 | 35.4 | 29.9 | 33.3 |
| 390350038 | Ohio | Cuyahoga | 44.2 | 47.0 | 41.2 | 44.0 | 40.0 | 42.6 | 35.7 | 38.2 |
| 390350045 | Ohio | Cuyahoga | 38.5 | 41.5 | 36.0 | 39.0 | 35.0 | 38.2 | 29.4 | 33.2 |
| 390350060 | Ohio | Cuyahoga | 42.1 | 45.7 | 39.4 | 42.8 | 38.7 | 41.8 | 36.3 | 38.0 |
| 390350065 | Ohio | Cuyahoga | 38.6 | 41.0 | 36.5 | 38.9 | 35.4 | 38.1 | 30.2 | 33.9 |
| 390351002 | Ohio | Cuyahoga | 34.6 | 34.6 | 32.9 | 32.9 | 32.2 | 32.2 | 29.7 | 29.7 |
| 390490024 | Ohio | Franklin | 38.5 | 39.7 | 36.6 | 37.6 | 35.2 | 36.5 | 32.3 | 33.9 |
| 390490025 | Ohio | Franklin | 38.4 | 39.1 | 36.1 | 36.4 | 34.8 | 35.2 | 30.6 | 32.6 |
| 390490081 | Ohio | Franklin | 34.1 | 34.1 | 30.9 | 30.9 | 29.2 | 29.2 | 24.6 | 24.6 |
| 390570005 | Ohio | Greene | 33.0 | 33.0 | 32.1 | 32.1 | 30.9 | 30.9 | 26.2 | 26.2 |
| 390610006 | Ohio | Hamilton | 37.6 | 37.6 | 38.0 | 38.0 | 36.5 | 36.5 | 27.2 | 27.2 |
| 390610014 | Ohio | Hamilton | 38.2 | 39.4 | 37.5 | 38.5 | 36.1 | 37.1 | 25.4 | 27.1 |
| 390610040 | Ohio | Hamilton | 36.7 | 37.7 | 35.8 | 36.8 | 34.3 | 35.3 | 24.9 | 25.2 |
| 390610042 | Ohio | Hamilton | 37.3 | 38.2 | 37.2 | 38.0 | 35.9 | 36.7 | 29.3 | 30.0 |
| 390610043 | Ohio | Hamilton | 35.9 | 36.2 | 36.0 | 36.4 | 34.7 | 35.0 | 27.9 | 28.4 |
| 390617001 | Ohio | Hamilton | 38.8 | 39.6 | 37.7 | 38.1 | 36.2 | 36.6 | 30.1 | 31.9 |
| 390618001 | Ohio | Hamilton | 40.6 | 40.9 | 39.6 | 40.3 | 38.2 | 39.0 | 31.0 | 32.3 |
| 390810017 | Ohio | Jefferson | 40.7 | 42.4 | 35.3 | 36.8 | 34.0 | 35.5 | 29.1 | 30.5 |
| 390811001 | Ohio | Jefferson | 41.9 | 45.5 | 36.5 | 39.9 | 35.3 | 38.8 | 30.0 | 33.3 |
| 390851001 | Ohio | Lake | 37.1 | 37.1 | 35.0 | 35.0 | 34.4 | 34.4 | 29.5 | 29.5 |
| 390870010 | Ohio | Lawrence | 33.7 | 34.8 | 30.3 | 31.5 | 28.8 | 29.8 | 22.0 | 22.5 |
| 390933002 | Ohio | Lorain | 31.5 | 32.1 | 30.0 | 30.6 | 29.1 | 29.7 | 24.5 | 24.8 |
| 390950024 | Ohio | Lucas | 36.3 | 38.6 | 34.2 | 36.5 | 33.5 | 35.7 | 32.0 | 34.4 |

| | | | 24-Hour PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 390950025 | Ohio | Lucas | 35.1 | 36.8 | 33.4 | 34.5 | 32.6 | 33.8 | 31.1 | 32.5 |
| 390950026 | Ohio | Lucas | 34.9 | 36.7 | 33.6 | 35.6 | 32.6 | 34.5 | 30.2 | 32.3 |
| 390990005 | Ohio | Mahoning | 35.1 | 35.7 | 32.2 | 32.7 | 30.7 | 31.3 | 27.0 | 28.8 |
| 390990014 | Ohio | Mahoning | 36.8 | 38.2 | 34.2 | 35.8 | 33.1 | 34.6 | 30.3 | 31.9 |
| 391130031 | Ohio | Montgomery | 35.7 | 37.1 | 34.3 | 35.6 | 33.1 | 34.2 | 29.8 | 30.9 |
| 391130032 | Ohio | Montgomery | 37.8 | 40.0 | 36.3 | 38.5 | 34.9 | 36.9 | 31.1 | 33.3 |
| 391330002 | Ohio | Portage | 34.3 | 34.5 | 32.9 | 33.1 | 31.7 | 31.9 | 25.9 | 26.3 |
| 391351001 | Ohio | Preble | 32.8 | 33.9 | 34.3 | 35.5 | 33.2 | 34.4 | 26.5 | 26.6 |
| 391450013 | Ohio | Scioto | 34.5 | 36.1 | 31.6 | 33.1 | 30.1 | 31.6 | 22.3 | 23.2 |
| 391510017 | Ohio | Stark | 36.9 | 37.6 | 34.4 | 35.3 | 33.6 | 34.7 | 28.6 | 29.6 |
| 391530017 | Ohio | Summit | 38.0 | 39.6 | 35.6 | 37.2 | 34.6 | 36.4 | 31.4 | 34.2 |
| 391530023 | Ohio | Summit | 35.8 | 37.5 | 33.5 | 35.1 | 32.6 | 34.3 | 28.4 | 30.4 |
| 391550007 | Ohio | Trumbull | 36.2 | 37.8 | 33.9 | 35.6 | 33.0 | 34.5 | 30.2 | 32.1 |
| 400159008 | Oklahoma | Caddo | 23.9 | 26.0 | 22.1 | 23.9 | 21.7 | 23.3 | 19.6 | 20.6 |
| 400219002 | Oklahoma | Cherokee | 27.5 | 28.0 | 25.9 | 26.2 | 25.1 | 25.5 | 23.0 | 23.8 |
| 400710602 | Oklahoma | Kay | 31.8 | 31.8 | 30.8 | 30.8 | 29.9 | 29.9 | 28.0 | 28.0 |
| 400719010 | Oklahoma | Kay | 27.9 | 32.2 | 26.7 | 30.7 | 26.0 | 30.0 | 24.4 | 28.7 |
| 400819005 | Oklahoma | Lincoln | 27.8 | 27.8 | 26.4 | 26.4 | 25.7 | 25.7 | 22.7 | 22.7 |
| 400970186 | Oklahoma | Mayes | 28.7 | 29.1 | 27.7 | 28.1 | 26.8 | 27.2 | 25.4 | 25.9 |
| 400979014 | Oklahoma | Mayes | 26.1 | 26.3 | 25.1 | 25.2 | 24.1 | 24.3 | 21.3 | 21.4 |
| 401010169 | Oklahoma | Muskogee | 29.5 | 30.5 | 28.6 | 29.5 | 28.0 | 28.7 | 25.8 | 26.3 |
| 401090035 | Oklahoma | Oklahoma | 23.4 | 24.0 | 21.8 | 22.4 | 21.3 | 21.9 | 20.5 | 21.0 |
| 401091037 | Oklahoma | Oklahoma | 27.1 | 28.2 | 25.0 | 26.3 | 24.2 | 25.5 | 22.6 | 23.9 |
| 401159004 | Oklahoma | Ottawa | 29.1 | 29.6 | 27.8 | 28.4 | 26.7 | 27.5 | 23.4 | 24.5 |
| 401210415 | Oklahoma | Pittsburg | 26.3 | 27.2 | 25.1 | 26.1 | 24.4 | 25.4 | 21.9 | 23.3 |
| 401359015 | Oklahoma | Sequoyah | 31.4 | 31.4 | 30.4 | 30.4 | 29.9 | 29.9 | 26.7 | 26.7 |
| 401430110 | Oklahoma | Tulsa | 28.4 | 28.4 | 27.5 | 27.5 | 26.7 | 26.7 | 24.6 | 24.6 |
| 401431127 | Oklahoma | Tulsa | 30.3 | 31.0 | 29.6 | 30.3 | 28.7 | 29.3 | 26.5 | 27.9 |
| 420010001 | Pennsylvania | Adams | 34.9 | 36.2 | 32.1 | 32.8 | 31.5 | 32.3 | 28.4 | 29.7 |
| 420030008 | Pennsylvania | Allegheny | 39.4 | 39.9 | 35.9 | 36.3 | 34.7 | 35.1 | 28.5 | 28.8 |

| | | | 24-Hour PM2.5 Design Values (µg/m³) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 420030021 | Pennsylvania | Allegheny | 35.1 | 35.1 | 32.2 | 32.2 | 31.4 | 31.4 | 25.9 | 25.9 |
| 420030064 | Pennsylvania | Allegheny | 64.2 | 68.2 | 58.8 | 62.3 | 57.2 | 60.4 | 55.8 | 58.9 |
| 420030067 | Pennsylvania | Allegheny | 37.2 | 39.4 | 33.0 | 34.7 | 31.5 | 33.1 | 21.5 | 22.5 |
| 420030093 | Pennsylvania | Allegheny | 45.6 | 51.5 | 41.1 | 46.2 | 39.7 | 44.5 | 31.4 | 35.2 |
| 420030095 | Pennsylvania | Allegheny | 38.7 | 40.7 | 34.3 | 36.6 | 33.0 | 35.2 | 26.5 | 29.1 |
| 420030116 | Pennsylvania | Allegheny | 42.5 | 42.5 | 37.1 | 37.1 | 35.5 | 35.5 | 28.6 | 28.6 |
| 420030133 | Pennsylvania | Allegheny | 39.2 | 39.2 | 34.5 | 34.5 | 33.1 | 33.1 | 24.3 | 24.3 |
| 420031008 | Pennsylvania | Allegheny | 41.3 | 42.8 | 38.0 | 39.3 | 36.7 | 37.8 | 27.2 | 27.9 |
| 420031301 | Pennsylvania | Allegheny | 40.3 | 42.4 | 36.6 | 38.6 | 35.5 | 37.4 | 30.1 | 31.0 |
| 420033007 | Pennsylvania | Allegheny | 37.5 | 43.1 | 33.8 | 38.5 | 32.6 | 36.9 | 25.6 | 28.4 |
| 420039002 | Pennsylvania | Allegheny | 37.8 | 37.8 | 34.3 | 34.3 | 33.0 | 33.0 | 24.7 | 24.7 |
| 420070014 | Pennsylvania | Beaver | 43.4 | 44.6 | 37.7 | 39.1 | 36.6 | 38.0 | 30.0 | 30.8 |
| 420110011 | Pennsylvania | Berks | 37.7 | 39.1 | 35.8 | 37.0 | 35.4 | 36.6 | 33.3 | 34.4 |
| 420170012 | Pennsylvania | Bucks | 34.0 | 34.8 | 31.6 | 32.1 | 30.8 | 31.3 | 28.7 | 28.8 |
| 420210011 | Pennsylvania | Cambria | 39.0 | 39.4 | 40.3 | 40.7 | 39.4 | 39.8 | 25.6 | 26.0 |
| 420270100 | Pennsylvania | Centre | 36.2 | 37.6 | 33.9 | 35.0 | 33.2 | 34.1 | 28.8 | 29.3 |
| 420290100 | Pennsylvania | Chester | 36.7 | 36.7 | 33.0 | 33.0 | 32.5 | 32.5 | 30.0 | 30.0 |
| 420410101 | Pennsylvania | Cumberland | 38.0 | 40.2 | 35.3 | 37.0 | 35.0 | 36.7 | 33.0 | 34.6 |
| 420430401 | Pennsylvania | Dauphin | 38.0 | 39.0 | 35.7 | 37.1 | 35.3 | 36.8 | 33.6 | 35.1 |
| 420450002 | Pennsylvania | Delaware | 35.2 | 35.9 | 33.0 | 33.3 | 32.3 | 32.7 | 28.7 | 29.6 |
| 420490003 | Pennsylvania | Erie | 34.4 | 34.4 | 32.7 | 32.7 | 32.0 | 32.0 | 29.4 | 29.4 |
| 420692006 | Pennsylvania | Lackawanna | 31.5 | 32.6 | 28.8 | 29.7 | 28.1 | 29.0 | 25.4 | 26.2 |
| 420710007 | Pennsylvania | Lancaster | 40.8 | 44.0 | 37.7 | 40.1 | 37.5 | 39.7 | 36.0 | 38.2 |
| 420770004 | Pennsylvania | Lehigh | 36.4 | 36.4 | 34.6 | 34.6 | 34.1 | 34.1 | 32.6 | 32.6 |
| 420791101 | Pennsylvania | Luzerne | 32.4 | 32.4 | 28.9 | 28.9 | 28.1 | 28.1 | 26.2 | 26.2 |
| 420850100 | Pennsylvania | Mercer | 36.3 | 36.3 | 33.5 | 33.5 | 32.2 | 32.2 | 29.7 | 29.7 |
| 420950025 | Pennsylvania | Northampton | 36.7 | 37.4 | 33.8 | 34.3 | 33.1 | 33.5 | 31.4 | 31.7 |
| 420990301 | Pennsylvania | Perry | 30.4 | 30.4 | 28.9 | 28.9 | 28.7 | 28.7 | 26.1 | 26.1 |
| 421010004 | Pennsylvania | Philadelphia | 36.5 | 36.7 | 33.6 | 34.1 | 32.8 | 33.4 | 31.5 | 32.1 |
| 421010024 | Pennsylvania | Philadelphia | 35.9 | 35.9 | 32.9 | 32.9 | 32.1 | 32.1 | 29.0 | 29.0 |

| | | | 24-Hour PM2.5 Design Values (µg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 421010047 | Pennsylvania | Philadelphia | 37.3 | 37.7 | 33.3 | 33.7 | 32.5 | 32.9 | 29.1 | 29.5 |
| 421250005 | Pennsylvania | Washington | 35.5 | 36.3 | 31.6 | 32.3 | 30.7 | 31.4 | 23.7 | 24.7 |
| 421250200 | Pennsylvania | Washington | 33.4 | 33.5 | 29.2 | 29.2 | 28.4 | 28.5 | 23.3 | 23.7 |
| 421255001 | Pennsylvania | Washington | 38.1 | 39.9 | 33.9 | 35.5 | 32.7 | 34.1 | 26.0 | 27.0 |
| 421290008 | Pennsylvania | Westmoreland | 37.1 | 37.5 | 33.4 | 33.7 | 32.3 | 32.6 | 23.9 | 24.9 |
| 421330008 | Pennsylvania | York | 38.2 | 40.7 | 35.9 | 38.8 | 35.5 | 38.4 | 32.8 | 35.4 |
| 440070022 | Rhode Island | Providence | 29.4 | 29.4 | 26.9 | 26.9 | 26.5 | 26.5 | 24.4 | 24.4 |
| 440070026 | Rhode Island | Providence | 30.6 | 32.2 | 28.0 | 29.0 | 27.5 | 28.5 | 26.0 | 26.8 |
| 440070028 | Rhode Island | Providence | 28.2 | 28.4 | 25.6 | 25.7 | 25.2 | 25.3 | 23.3 | 23.4 |
| 440071010 | Rhode Island | Providence | 28.8 | 29.7 | 26.6 | 27.0 | 26.2 | 26.6 | 24.3 | 24.5 |
| 450130007 | South Carolina | Beaufort | 30.2 | 32.6 | 26.8 | 28.6 | 25.4 | 27.0 | 21.5 | 22.1 |
| 450190048 | South Carolina | Charleston | 27.8 | 28.0 | 25.2 | 25.5 | 24.2 | 24.4 | 23.0 | 23.1 |
| 450190049 | South Carolina | Charleston | 27.9 | 27.9 | 26.2 | 26.3 | 24.9 | 25.0 | 22.6 | 22.7 |
| 450250001 | South Carolina | Chesterfield | 28.7 | 29.9 | 25.5 | 26.5 | 24.8 | 25.8 | 21.3 | 22.1 |
| 450370001 | South Carolina | Edgefield | 32.2 | 33.7 | 29.5 | 31.0 | 27.2 | 29.0 | 23.4 | 25.1 |
| 450410002 | South Carolina | Florence | 28.8 | 28.9 | 26.0 | 26.0 | 24.9 | 24.9 | 21.9 | 21.9 |
| 450430009 | South Carolina | Georgetown | 29.2 | 29.5 | 26.5 | 26.9 | 25.5 | 26.0 | 22.6 | 23.2 |
| 450450008 | South Carolina | Greenville | 32.1 | 32.4 | 29.4 | 29.4 | 28.1 | 28.2 | 26.6 | 26.8 |
| 450450009 | South Carolina | Greenville | 32.5 | 33.5 | 29.0 | 29.3 | 27.7 | 28.0 | 25.1 | 25.4 |
| 450470003 | South Carolina | Greenwood | 30.0 | 31.0 | 26.6 | 26.9 | 24.5 | 25.4 | 21.9 | 22.2 |
| 450510002 | South Carolina | Horry | 28.6 | 29.2 | 26.1 | 26.7 | 25.2 | 25.8 | 21.7 | 22.1 |
| 450630008 | South Carolina | Lexington | 32.8 | 33.4 | 29.8 | 30.6 | 28.7 | 29.4 | 25.8 | 26.7 |
| 450730001 | South Carolina | Oconee | 28.4 | 29.3 | 25.2 | 26.2 | 23.1 | 23.8 | 19.5 | 20.2 |
| 450790007 | South Carolina | Richland | 31.3 | 32.0 | 27.8 | 28.2 | 26.5 | 26.8 | 23.6 | 24.1 |
| 450790019 | South Carolina | Richland | 33.2 | 33.8 | 30.2 | 31.0 | 28.8 | 29.5 | 26.3 | 27.0 |
| 450830010 | South Carolina | Spartanburg | 32.4 | 32.4 | 26.9 | 26.9 | 26.1 | 26.1 | 23.0 | 23.0 |
| 460110002 | South Dakota | Brookings | 23.5 | 24.9 | 22.4 | 23.7 | 21.6 | 22.9 | 19.9 | 21.1 |
| 460130003 | South Dakota | Brown | 18.7 | 19.2 | 17.8 | 18.0 | 17.2 | 17.5 | 16.2 | 16.7 |
| 460290002 | South Dakota | Codington | 23.6 | 24.0 | 23.0 | 23.4 | 22.2 | 22.6 | 20.5 | 20.7 |
| 460330132 | South Dakota | Custer | 14.3 | 14.3 | 13.9 | 13.9 | 13.9 | 13.9 | 13.6 | 13.6 |

| | | | 24-Hour PM2.5 Design Values ($\mu g/m^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 460710001 | South Dakota | Jackson | 12.7 | 13.4 | 12.2 | 12.9 | 12.1 | 12.8 | 11.6 | 12.2 |
| 460990006 | South Dakota | Minnehaha | 24.1 | 25.5 | 23.1 | 24.5 | 22.3 | 23.6 | 20.6 | 21.7 |
| 460990007 | South Dakota | Minnehaha | 23.9 | 25.1 | 22.4 | 23.3 | 21.8 | 22.7 | 20.0 | 21.0 |
| 461030016 | South Dakota | Pennington | 17.2 | 17.2 | 16.1 | 16.2 | 15.9 | 16.0 | 15.7 | 15.8 |
| 461030020 | South Dakota | Pennington | 18.5 | 19.2 | 17.6 | 18.2 | 17.5 | 18.0 | 17.4 | 17.9 |
| 461031001 | South Dakota | Pennington | 15.9 | 16.6 | 15.0 | 15.8 | 14.8 | 15.6 | 14.6 | 15.5 |
| 470090011 | Tennessee | Blount | 32.5 | 34.2 | 30.4 | 32.0 | 29.1 | 30.6 | 22.5 | 23.7 |
| 470370023 | Tennessee | Davidson | 33.5 | 34.3 | 34.4 | 35.1 | 32.9 | 33.5 | 23.7 | 24.7 |
| 470370025 | Tennessee | Davidson | 30.9 | 31.5 | 31.5 | 32.1 | 29.9 | 30.5 | 21.8 | 22.7 |
| 470370036 | Tennessee | Davidson | 32.7 | 33.5 | 33.9 | 34.8 | 32.2 | 33.0 | 21.5 | 22.0 |
| 470450004 | Tennessee | Dyer | 31.9 | 33.3 | 32.9 | 34.4 | 31.0 | 32.3 | 22.7 | 23.9 |
| 470650031 | Tennessee | Hamilton | 33.2 | 35.2 | 29.7 | 30.7 | 28.4 | 29.0 | 25.8 | 26.2 |
| 470651011 | Tennessee | Hamilton | 29.7 | 31.3 | 26.7 | 28.1 | 25.5 | 26.6 | 20.7 | 22.2 |
| 470654002 | Tennessee | Hamilton | 33.5 | 34.3 | 29.2 | 30.5 | 27.9 | 29.1 | 25.5 | 26.8 |
| 470930028 | Tennessee | Knox | 36.6 | 36.6 | 33.9 | 33.9 | 32.4 | 32.4 | 26.1 | 26.1 |
| 470931017 | Tennessee | Knox | 33.4 | 33.9 | 31.2 | 31.6 | 30.0 | 30.4 | 25.8 | 25.8 |
| 470990002 | Tennessee | Lawrence | 28.4 | 31.7 | 27.3 | 31.0 | 26.1 | 29.5 | 18.7 | 20.6 |
| 471050108 | Tennessee | Loudon | 32.2 | 33.3 | 30.4 | 31.3 | 28.8 | 29.7 | 23.4 | 24.1 |
| 471071002 | Tennessee | McMinn | 32.4 | 33.9 | 30.1 | 31.5 | 28.4 | 29.8 | 21.9 | 23.2 |
| 471192007 | Tennessee | Maury | 30.8 | 31.7 | 30.8 | 31.9 | 29.4 | 30.5 | 20.9 | 21.9 |
| 471251009 | Tennessee | Montgomery | 36.3 | 37.5 | 36.6 | 37.9 | 35.2 | 36.4 | 26.8 | 27.7 |
| 471410001 | Tennessee | Putnam | 32.6 | 32.6 | 31.0 | 31.0 | 29.0 | 29.0 | 20.0 | 20.0 |
| 471450004 | Tennessee | Roane | 30.2 | 31.4 | 27.8 | 28.9 | 26.6 | 27.6 | 21.6 | 22.5 |
| 471570014 | Tennessee | Shelby | 32.2 | 33.5 | 31.0 | 31.8 | 29.3 | 30.3 | 21.9 | 23.9 |
| 471570038 | Tennessee | Shelby | 32.5 | 33.5 | 32.0 | 33.0 | 30.3 | 31.2 | 22.0 | 23.7 |
| 471570047 | Tennessee | Shelby | 33.5 | 33.8 | 32.4 | 32.9 | 30.9 | 31.2 | 22.9 | 24.7 |
| 471571004 | Tennessee | Shelby | 29.8 | 30.4 | 29.6 | 30.4 | 28.2 | 28.8 | 19.9 | 21.1 |
| 471631007 | Tennessee | Sullivan | 31.1 | 32.0 | 28.0 | 28.8 | 27.2 | 28.0 | 22.6 | 23.3 |
| 471650007 | Tennessee | Sumner | 33.6 | 34.5 | 35.1 | 36.0 | 33.1 | 34.0 | 20.5 | 22.5 |
| 480370004 | Texas | Bowie | 29.4 | 30.0 | 28.3 | 28.6 | 27.2 | 27.7 | 22.9 | 23.2 |

| | | | 24-Hour PM2.5 Design Values ($\mu g/m^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 481130069 | Texas | Dallas | 25.7 | 27.7 | 24.3 | 25.8 | 23.9 | 25.2 | 22.7 | 23.6 |
| 481130087 | Texas | Dallas | 24.2 | 27.0 | 21.7 | 24.3 | 21.0 | 23.5 | 19.2 | 21.8 |
| 481350003 | Texas | Ector | 17.8 | 18.2 | 18.8 | 19.2 | 17.1 | 17.6 | 15.7 | 16.2 |
| 481410037 | Texas | El Paso | 22.9 | 22.9 | 22.0 | 22.0 | 21.9 | 21.9 | 21.5 | 21.5 |
| 482010058 | Texas | Harris | 25.4 | 26.3 | 24.5 | 25.2 | 23.6 | 24.2 | 21.0 | 21.2 |
| 482011035 | Texas | Harris | 30.8 | 31.4 | 29.9 | 30.2 | 28.7 | 29.1 | 26.9 | 27.1 |
| 482030002 | Texas | Harrison | 25.9 | 26.2 | 24.6 | 24.9 | 24.0 | 24.4 | 20.8 | 21.3 |
| 482150043 | Texas | Hidalgo | 26.4 | 27.9 | 26.4 | 28.2 | 25.8 | 27.6 | 23.8 | 25.4 |
| 482450021 | Texas | Jefferson | 26.0 | 26.8 | 25.4 | 26.3 | 24.4 | 25.3 | 20.2 | 20.9 |
| 483550032 | Texas | Nueces | 27.5 | 30.2 | 27.0 | 29.9 | 25.9 | 28.7 | 22.5 | 25.2 |
| 483611001 | Texas | Orange | 27.7 | 28.7 | 27.2 | 28.0 | 26.2 | 27.0 | 21.4 | 22.2 |
| 484391002 | Texas | Tarrant | 25.3 | 26.8 | 23.3 | 24.9 | 22.9 | 24.5 | 21.5 | 23.1 |
| 484391006 | Texas | Tarrant | 25.7 | 27.9 | 24.0 | 26.1 | 23.7 | 25.7 | 22.9 | 25.0 |
| 500010002 | Vermont | Addison | 28.2 | 28.2 | 26.1 | 26.1 | 25.6 | 25.6 | 23.1 | 23.1 |
| 500010003 | Vermont | Addison | 31.7 | 31.7 | 29.4 | 29.4 | 28.8 | 28.8 | 25.6 | 25.6 |
| 500030004 | Vermont | Bennington | 26.4 | 28.5 | 24.2 | 26.3 | 23.6 | 25.6 | 22.1 | 24.0 |
| 500070012 | Vermont | Chittenden | 29.8 | 30.3 | 27.5 | 27.8 | 26.7 | 27.0 | 22.3 | 23.8 |
| 500070014 | Vermont | Chittenden | 30.1 | 30.1 | 28.3 | 28.3 | 27.6 | 27.6 | 25.9 | 25.9 |
| 500210002 | Vermont | Rutland | 30.6 | 31.3 | 29.1 | 29.4 | 28.6 | 28.8 | 27.9 | 28.0 |
| 510130020 | Virginia | Arlington | 34.1 | 36.3 | 30.9 | 33.5 | 30.1 | 32.9 | 27.7 | 30.5 |
| 510360002 | Virginia | Charles | 31.7 | 32.1 | 27.3 | 27.8 | 26.5 | 27.0 | 22.0 | 22.3 |
| 510410003 | Virginia | Chesterfield | 31.2 | 32.6 | 25.7 | 27.0 | 24.9 | 26.1 | 21.1 | 22.2 |
| 510590030 | Virginia | Fairfax | 34.4 | 35.0 | 30.9 | 31.7 | 30.5 | 31.4 | 26.6 | 27.4 |
| 510591005 | Virginia | Fairfax | 33.7 | 35.2 | 30.4 | 32.8 | 30.0 | 32.6 | 25.8 | 29.3 |
| 510595001 | Virginia | Fairfax | 33.3 | 33.7 | 30.8 | 31.2 | 30.1 | 30.5 | 27.1 | 27.5 |
| 510870014 | Virginia | Henrico | 31.9 | 32.9 | 27.1 | 28.2 | 26.3 | 27.3 | 21.9 | 22.7 |
| 510870015 | Virginia | Henrico | 29.1 | 29.6 | 25.6 | 26.2 | 24.9 | 25.5 | 19.6 | 20.5 |
| 511071005 | Virginia | Loudoun | 34.4 | 35.7 | 30.9 | 32.3 | 30.6 | 32.0 | 24.8 | 26.2 |
| 511390004 | Virginia | Page | 30.0 | 30.9 | 28.1 | 29.0 | 27.2 | 28.1 | 20.4 | 22.2 |
| 515200006 | Virginia | Bristol City | 30.2 | 30.5 | 26.2 | 26.5 | 25.3 | 25.5 | 20.5 | 20.6 |

| | | | 24-Hour PM2.5 Design Values (μg/m$^3$) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 516500004 | Virginia | Hampton City | 29.0 | 29.2 | 26.8 | 27.6 | 25.9 | 26.6 | 23.0 | 24.3 |
| 516800015 | Virginia | Lynchburg City | 30.7 | 31.1 | 26.6 | 26.9 | 25.6 | 25.9 | 19.5 | 19.9 |
| 517100024 | Virginia | Norfolk City | 29.6 | 29.9 | 27.3 | 27.6 | 26.4 | 26.7 | 23.7 | 24.0 |
| 517700014 | Virginia | Roanoke City | 32.7 | 33.2 | 28.5 | 28.7 | 27.2 | 27.6 | 23.4 | 24.4 |
| 517750010 | Virginia | Salem City | 34.0 | 34.0 | 29.4 | 29.4 | 28.4 | 28.4 | 24.3 | 24.3 |
| 518100008 | Virginia | Virginia Beach City | 30.0 | 30.2 | 27.7 | 27.8 | 26.8 | 26.9 | 24.5 | 24.5 |
| 540030003 | West Virginia | Berkeley | 34.5 | 35.8 | 32.0 | 32.7 | 31.6 | 32.2 | 29.3 | 30.0 |
| 540090005 | West Virginia | Brooke | 39.4 | 41.5 | 33.9 | 36.1 | 33.0 | 35.2 | 28.9 | 30.6 |
| 540090011 | West Virginia | Brooke | 43.9 | 44.9 | 39.9 | 40.8 | 39.2 | 40.1 | 36.4 | 37.1 |
| 540110006 | West Virginia | Cabell | 35.1 | 36.6 | 32.1 | 33.6 | 30.8 | 32.2 | 23.3 | 24.6 |
| 540291004 | West Virginia | Hancock | 40.6 | 41.2 | 34.3 | 34.6 | 32.7 | 33.2 | 26.0 | 26.6 |
| 540330003 | West Virginia | Harrison | 33.5 | 34.6 | 33.0 | 34.0 | 31.3 | 32.3 | 20.2 | 20.5 |
| 540390010 | West Virginia | Kanawha | 34.7 | 35.5 | 32.2 | 32.9 | 30.9 | 31.6 | 22.2 | 22.9 |
| 540390011 | West Virginia | Kanawha | 33.1 | 33.1 | 30.8 | 30.8 | 29.6 | 29.6 | 21.5 | 21.5 |
| 540391005 | West Virginia | Kanawha | 36.9 | 37.7 | 34.3 | 35.1 | 33.0 | 33.7 | 24.5 | 25.5 |
| 540490006 | West Virginia | Marion | 33.6 | 33.7 | 34.3 | 34.4 | 32.8 | 32.8 | 20.1 | 20.2 |
| 540511002 | West Virginia | Marshall | 33.9 | 34.8 | 30.0 | 30.9 | 28.7 | 29.6 | 22.9 | 23.9 |
| 540610003 | West Virginia | Monongalia | 35.6 | 36.2 | 33.7 | 34.3 | 31.2 | 31.7 | 20.4 | 21.2 |
| 540690010 | West Virginia | Ohio | 32.0 | 32.0 | 27.9 | 27.9 | 26.9 | 26.9 | 24.0 | 24.0 |
| 540810002 | West Virginia | Raleigh | 30.6 | 31.3 | 27.8 | 28.3 | 26.7 | 27.2 | 19.6 | 19.9 |
| 540890001 | West Virginia | Summers | 31.2 | 31.2 | 27.9 | 27.9 | 26.6 | 26.6 | 19.2 | 19.2 |
| 541071002 | West Virginia | Wood | 35.4 | 36.7 | 32.7 | 33.9 | 31.1 | 32.2 | 23.0 | 23.4 |
| 550030010 | Wisconsin | Ashland | 18.6 | 20.5 | 17.8 | 19.4 | 17.1 | 18.8 | 15.1 | 16.4 |
| 550090005 | Wisconsin | Brown | 36.5 | 37.0 | 35.0 | 35.4 | 34.7 | 35.1 | 34.5 | 34.8 |
| 550090009 | Wisconsin | Brown | 35.8 | 35.8 | 34.4 | 34.4 | 34.2 | 34.2 | 34.2 | 34.2 |
| 550250047 | Wisconsin | Dane | 35.5 | 36.9 | 35.1 | 36.1 | 34.2 | 35.3 | 31.7 | 32.9 |
| 550270007 | Wisconsin | Dodge | 31.8 | 33.1 | 30.8 | 32.3 | 29.6 | 30.9 | 28.6 | 29.7 |
| 550410007 | Wisconsin | Forest | 25.2 | 25.2 | 23.9 | 23.9 | 23.2 | 23.2 | 21.3 | 21.3 |
| 550430009 | Wisconsin | Grant | 34.3 | 35.0 | 32.5 | 33.0 | 31.7 | 32.1 | 30.7 | 31.4 |

| | | | 24-Hour PM2.5 Design Values (µg/m³) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Monitor ID | State | County | 2003 - 2007 Average Ambient Values | 2003 - 2007 Maximum Ambient Values | 2012 Base Case Average Values | 2012 Base Case Maximum Values | 2014 Base Case Average Values | 2014 Base Case Maximum Values | 2014 Remedy Average Values | 2014 Remedy Maximum Values |
| 550590019 | Wisconsin | Kenosha | 32.7 | 34.0 | 32.2 | 33.5 | 31.4 | 32.6 | 29.9 | 31.0 |
| 550710007 | Wisconsin | Manitowoc | 29.7 | 31.6 | 29.0 | 30.8 | 28.3 | 30.1 | 27.7 | 29.3 |
| 550790010 | Wisconsin | Milwaukee | 38.6 | 40.0 | 37.7 | 39.0 | 37.0 | 38.3 | 36.3 | 37.5 |
| 550790026 | Wisconsin | Milwaukee | 37.3 | 41.3 | 36.3 | 40.1 | 35.3 | 39.2 | 34.4 | 38.3 |
| 550790043 | Wisconsin | Milwaukee | 39.9 | 40.8 | 38.8 | 39.7 | 37.3 | 38.4 | 36.3 | 37.7 |
| 550790059 | Wisconsin | Milwaukee | 35.5 | 37.0 | 34.8 | 36.3 | 33.5 | 35.1 | 31.6 | 33.4 |
| 550790099 | Wisconsin | Milwaukee | 37.7 | 38.7 | 36.8 | 37.7 | 35.5 | 37.0 | 33.3 | 35.9 |
| 550870009 | Wisconsin | Outagamie | 32.8 | 34.4 | 31.2 | 32.8 | 30.9 | 32.5 | 30.7 | 32.3 |
| 550890009 | Wisconsin | Ozaukee | 32.5 | 34.0 | 31.8 | 33.2 | 30.9 | 32.4 | 30.0 | 31.6 |
| 551091002 | Wisconsin | St. Croix | 26.6 | 26.6 | 25.5 | 25.5 | 24.7 | 24.7 | 23.7 | 23.7 |
| 551110007 | Wisconsin | Sauk | 28.6 | 28.8 | 27.5 | 27.7 | 26.7 | 27.1 | 26.3 | 26.8 |
| 551198001 | Wisconsin | Taylor | 25.3 | 26.0 | 23.9 | 24.7 | 23.3 | 24.0 | 22.7 | 23.1 |
| 551250001 | Wisconsin | Vilas | 22.6 | 23.8 | 21.4 | 22.6 | 20.7 | 21.8 | 19.2 | 20.0 |
| 551330027 | Wisconsin | Waukesha | 35.4 | 36.2 | 34.9 | 35.6 | 33.3 | 33.9 | 31.6 | 31.8 |
| 560050877 | Wyoming | Campbell | 18.6 | 18.6 | 18.0 | 18.0 | 17.9 | 17.9 | 17.9 | 17.9 |
| 560050892 | Wyoming | Campbell | 12.1 | 12.2 | 11.9 | 12.0 | 11.9 | 12.0 | 11.9 | 12.0 |
| 560050899 | Wyoming | Campbell | 12.7 | 13.5 | 12.5 | 13.2 | 12.5 | 13.2 | 12.5 | 13.3 |
| 560090819 | Wyoming | Converse | 10.0 | 10.5 | 9.7 | 10.3 | 9.7 | 10.2 | 9.7 | 10.2 |
| 560131003 | Wyoming | Fremont | 29.8 | 31.9 | 28.3 | 30.5 | 28.0 | 30.2 | 28.1 | 30.3 |
| 560210001 | Wyoming | Laramie | 11.9 | 12.7 | 11.5 | 12.2 | 11.4 | 12.1 | 11.3 | 12.0 |
| 560330002 | Wyoming | Sheridan | 30.8 | 32.5 | 29.8 | 31.3 | 29.6 | 31.0 | 29.6 | 31.0 |

## Differences in 8-Hour Ozone Average Design Values (ppb) by Site: 2014 Remedy Scenario Compared to the 2012 Base Case and the 2014 Base Case

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 10030010 | Alabama | Baldwin | -3.9 | -2.2 |
| 10270001 | Alabama | Clay | -4.2 | -0.6 |
| 10331002 | Alabama | Colbert | -2.0 | -0.2 |
| 10510001 | Alabama | Elmore | -2.7 | -0.3 |
| 10550011 | Alabama | Etowah | -3.3 | -0.4 |
| 10690004 | Alabama | Houston | -3.0 | -0.3 |
| 10730023 | Alabama | Jefferson | -2.7 | -0.2 |
| 10731003 | Alabama | Jefferson | -2.8 | -0.2 |
| 10731005 | Alabama | Jefferson | -3.1 | -0.2 |
| 10731009 | Alabama | Jefferson | -2.6 | -0.2 |
| 10731010 | Alabama | Jefferson | -2.8 | -0.2 |
| 10732006 | Alabama | Jefferson | -2.9 | -0.2 |
| 10735002 | Alabama | Jefferson | -2.7 | -0.2 |
| 10735003 | Alabama | Jefferson | -2.7 | -0.3 |
| 10736002 | Alabama | Jefferson | -2.8 | -0.2 |
| 10790002 | Alabama | Lawrence | -2.7 | -0.1 |
| 10890014 | Alabama | Madison | -3.4 | -0.1 |
| 10970003 | Alabama | Mobile | -3.4 | -1.7 |
| 10972005 | Alabama | Mobile | -3.7 | -1.9 |
| 11011002 | Alabama | Montgomery | -2.6 | -0.2 |
| 11030011 | Alabama | Morgan | -2.5 | -0.2 |
| 11130002 | Alabama | Russell | -3.6 | -0.4 |
| 11170004 | Alabama | Shelby | -3.2 | -0.2 |
| 11190002 | Alabama | Sumter | -1.9 | -0.1 |
| 11210003 | Alabama | Talladega | -3.0 | -0.3 |
| 11250010 | Alabama | Tuscaloosa | -2.8 | -0.1 |
| 50350005 | Arkansas | Crittenden | -2.9 | -0.1 |
| 51190007 | Arkansas | Pulaski | -3.6 | -1.2 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 51191002 | Arkansas | Pulaski | -3.7 | -1.1 |
| 51191005 | Arkansas | Pulaski | -3.4 | -1.1 |
| 80013001 | Colorado | Adams | -0.6 | 0.0 |
| 80050002 | Colorado | Arapahoe | -0.9 | 0.0 |
| 80130011 | Colorado | Boulder | -1.1 | 0.1 |
| 80310002 | Colorado | Denver | -0.5 | 0.0 |
| 80310014 | Colorado | Denver | -0.7 | 0.0 |
| 80350004 | Colorado | Douglas | -1.2 | 0.1 |
| 80590002 | Colorado | Jefferson | -0.6 | 0.1 |
| 80590005 | Colorado | Jefferson | -0.8 | 0.1 |
| 80590006 | Colorado | Jefferson | -1.1 | 0.1 |
| 80590011 | Colorado | Jefferson | -0.7 | 0.0 |
| 80691004 | Colorado | Larimer | -1.0 | 0.1 |
| 81230009 | Colorado | Weld | -1.0 | 0.1 |
| 90010017 | Connecticut | Fairfield | -1.8 | -0.1 |
| 90011123 | Connecticut | Fairfield | -2.2 | -0.1 |
| 90013007 | Connecticut | Fairfield | -2.0 | -0.2 |
| 90019003 | Connecticut | Fairfield | -1.8 | -0.1 |
| 90031003 | Connecticut | Hartford | -2.3 | 0.0 |
| 90050005 | Connecticut | Litchfield | -2.5 | 0.0 |
| 90070007 | Connecticut | Middlesex | -2.3 | -0.1 |
| 90090027 | Connecticut | New Haven | -1.9 | -0.1 |
| 90093002 | Connecticut | New Haven | -2.3 | -0.1 |
| 90110008 | Connecticut | New London | -2.2 | -0.1 |
| 90131001 | Connecticut | Tolland | -2.6 | -0.1 |
| 100010002 | Delaware | Kent | -2.1 | -0.1 |
| 100031007 | Delaware | New Castle | -1.9 | -0.1 |
| 100031010 | Delaware | New Castle | -1.8 | 0.0 |
| 100031013 | Delaware | New Castle | -1.9 | -0.1 |
| 100051002 | Delaware | Sussex | -2.2 | -0.1 |
| 100051003 | Delaware | Sussex | -1.9 | 0.0 |
| 110010025 | District Of Columbia | District of Columbia | -1.7 | 0.0 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 110010041 | District Of Columbia | District of Columbia | -1.9 | -0.2 |
| 110010043 | District Of Columbia | District of Columbia | -1.9 | -0.1 |
| 120010025 | Florida | Alachua | -5.8 | -3.3 |
| 120030002 | Florida | Baker | -3.8 | -1.4 |
| 120050006 | Florida | Bay | -5.2 | -2.8 |
| 120090007 | Florida | Brevard | -3.9 | -0.8 |
| 120094001 | Florida | Brevard | -4.3 | -0.9 |
| 120110031 | Florida | Broward | -0.4 | -0.1 |
| 120112003 | Florida | Broward | -1.2 | -0.2 |
| 120118002 | Florida | Broward | -1.0 | -0.2 |
| 120210004 | Florida | Collier | -2.6 | -0.3 |
| 120230002 | Florida | Columbia | -3.7 | -1.1 |
| 120310077 | Florida | Duval | -3.7 | -1.7 |
| 120310100 | Florida | Duval | -4.1 | -1.8 |
| 120330004 | Florida | Escambia | -6.3 | -4.7 |
| 120330018 | Florida | Escambia | -7.3 | -5.6 |
| 120330024 | Florida | Escambia | -7.2 | -5.5 |
| 120570081 | Florida | Hillsborough | -2.4 | -0.6 |
| 120570110 | Florida | Hillsborough | -2.2 | -0.6 |
| 120571035 | Florida | Hillsborough | -2.2 | -0.6 |
| 120571065 | Florida | Hillsborough | -2.8 | -0.9 |
| 120573002 | Florida | Hillsborough | -1.9 | -0.3 |
| 120574004 | Florida | Hillsborough | -2.1 | -0.4 |
| 120690002 | Florida | Lake | -3.8 | -0.7 |
| 120712002 | Florida | Lee | -2.5 | -0.4 |
| 120713002 | Florida | Lee | -2.7 | -0.5 |
| 120730012 | Florida | Leon | -3.2 | -0.7 |
| 120730013 | Florida | Leon | -3.4 | -0.7 |
| 120813002 | Florida | Manatee | -2.6 | -0.7 |
| 120814012 | Florida | Manatee | -2.7 | -0.8 |
| 120814013 | Florida | Manatee | -2.4 | -0.8 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 120830003 | Florida | Marion | -4.3 | -1.7 |
| 120830004 | Florida | Marion | -4.6 | -2.4 |
| 120860027 | Florida | Miami-Dade | -0.5 | -0.3 |
| 120860029 | Florida | Miami-Dade | -0.8 | -0.2 |
| 120950008 | Florida | Orange | -4.1 | -0.9 |
| 120952002 | Florida | Orange | -3.6 | -0.6 |
| 120972002 | Florida | Osceola | -3.5 | -0.7 |
| 120990020 | Florida | Palm Beach | -1.9 | -0.1 |
| 121010005 | Florida | Pasco | -3.1 | -1.4 |
| 121012001 | Florida | Pasco | -2.8 | -0.9 |
| 121030004 | Florida | Pinellas | -2.5 | -0.8 |
| 121030018 | Florida | Pinellas | -2.2 | -0.7 |
| 121035002 | Florida | Pinellas | -2.4 | -0.7 |
| 121056005 | Florida | Polk | -2.8 | -1.0 |
| 121056006 | Florida | Polk | -3.1 | -1.1 |
| 121111002 | Florida | St. Lucie | -2.6 | -0.4 |
| 121130015 | Florida | Santa Rosa | -7.3 | -5.5 |
| 121151005 | Florida | Sarasota | -2.6 | -0.7 |
| 121151006 | Florida | Sarasota | -2.5 | -0.7 |
| 121152002 | Florida | Sarasota | -2.6 | -0.8 |
| 121171002 | Florida | Seminole | -4.2 | -0.6 |
| 121272001 | Florida | Volusia | -4.6 | -0.8 |
| 121275002 | Florida | Volusia | -4.4 | -0.6 |
| 121290001 | Florida | Wakulla | -2.8 | -0.7 |
| 130210012 | Georgia | Bibb | -5.3 | -0.3 |
| 130210013 | Georgia | Bibb | -5.7 | -0.3 |
| 130510021 | Georgia | Chatham | -2.8 | -0.5 |
| 130550001 | Georgia | Chattooga | -3.7 | -0.2 |
| 130590002 | Georgia | Clarke | -4.4 | -0.2 |
| 130670003 | Georgia | Cobb | -4.1 | -0.2 |
| 130730001 | Georgia | Columbia | -3.1 | -0.3 |
| 130770002 | Georgia | Coweta | -5.6 | -1.0 |
| 130850001 | Georgia | Dawson | -3.9 | -0.2 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 130890002 | Georgia | DeKalb | -3.5 | -0.1 |
| 130893001 | Georgia | DeKalb | -3.2 | -0.2 |
| 130970004 | Georgia | Douglas | -4.8 | -0.2 |
| 131130001 | Georgia | Fayette | -3.5 | -0.2 |
| 131210055 | Georgia | Fulton | -3.7 | -0.2 |
| 131270006 | Georgia | Glynn | -4.0 | -1.9 |
| 131350002 | Georgia | Gwinnett | -4.0 | -0.2 |
| 131510002 | Georgia | Henry | -4.2 | -0.2 |
| 132130003 | Georgia | Murray | -4.0 | -0.7 |
| 132150008 | Georgia | Muscogee | -4.0 | -0.4 |
| 132151003 | Georgia | Muscogee | -3.7 | -0.3 |
| 132230003 | Georgia | Paulding | -4.3 | -0.2 |
| 132450091 | Georgia | Richmond | -3.4 | -0.4 |
| 132470001 | Georgia | Rockdale | -4.5 | -0.2 |
| 132611001 | Georgia | Sumter | -3.5 | -0.4 |
| 170010006 | Illinois | Adams | -2.2 | -0.8 |
| 170190004 | Illinois | Champaign | -1.7 | -0.3 |
| 170230001 | Illinois | Clark | -1.8 | -0.4 |
| 170310001 | Illinois | Cook | -1.2 | -0.1 |
| 170310032 | Illinois | Cook | -1.2 | -0.2 |
| 170310064 | Illinois | Cook | -1.2 | -0.2 |
| 170310072 | Illinois | Cook | -1.2 | -0.2 |
| 170310076 | Illinois | Cook | -1.0 | -0.2 |
| 170311003 | Illinois | Cook | -1.1 | -0.2 |
| 170311601 | Illinois | Cook | -1.3 | -0.1 |
| 170314002 | Illinois | Cook | -0.7 | -0.2 |
| 170314007 | Illinois | Cook | -1.0 | -0.1 |
| 170314201 | Illinois | Cook | -1.0 | -0.1 |
| 170317002 | Illinois | Cook | -1.3 | -0.3 |
| 170436001 | Illinois | DuPage | -1.0 | -0.1 |
| 170491001 | Illinois | Effingham | -1.7 | -0.2 |
| 170650002 | Illinois | Hamilton | -1.6 | 0.1 |
| 170831001 | Illinois | Jersey | -2.5 | -0.5 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 170890005 | Illinois | Kane | -1.6 | -0.2 |
| 170971002 | Illinois | Lake | -1.4 | -0.3 |
| 170971007 | Illinois | Lake | -1.5 | -0.3 |
| 171110001 | Illinois | McHenry | -1.8 | -0.2 |
| 171132003 | Illinois | McLean | -2.2 | -0.3 |
| 171150013 | Illinois | Macon | -2.0 | -0.5 |
| 171170002 | Illinois | Macoupin | -2.7 | -0.6 |
| 171190008 | Illinois | Madison | -2.8 | -0.7 |
| 171191009 | Illinois | Madison | -2.7 | -0.6 |
| 171193007 | Illinois | Madison | -2.8 | -0.7 |
| 171430024 | Illinois | Peoria | -2.2 | -0.2 |
| 171431001 | Illinois | Peoria | -2.4 | -0.2 |
| 171570001 | Illinois | Randolph | -1.8 | -0.1 |
| 171613002 | Illinois | Rock Island | -2.4 | -1.1 |
| 171630010 | Illinois | Saint Clair | -2.2 | -0.6 |
| 171670010 | Illinois | Sangamon | -2.1 | -0.4 |
| 171971011 | Illinois | Will | -1.6 | -0.1 |
| 172010009 | Illinois | Winnebago | -2.1 | -0.2 |
| 172012001 | Illinois | Winnebago | -2.1 | -0.2 |
| 180030002 | Indiana | Allen | -2.4 | -0.2 |
| 180030004 | Indiana | Allen | -2.3 | -0.2 |
| 180110001 | Indiana | Boone | -2.7 | -0.4 |
| 180150002 | Indiana | Carroll | -2.2 | -0.3 |
| 180190008 | Indiana | Clark | -2.8 | -0.8 |
| 180350010 | Indiana | Delaware | -2.8 | -0.4 |
| 180390007 | Indiana | Elkhart | -2.6 | -0.4 |
| 180431004 | Indiana | Floyd | -2.5 | -0.7 |
| 180550001 | Indiana | Greene | -2.2 | -0.5 |
| 180570005 | Indiana | Hamilton | -3.0 | -0.5 |
| 180590003 | Indiana | Hancock | -2.8 | -0.5 |
| 180630004 | Indiana | Hendricks | -2.4 | -0.4 |
| 180690002 | Indiana | Huntington | -2.2 | -0.1 |
| 180710001 | Indiana | Jackson | -2.3 | -0.5 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 180810002 | Indiana | Johnson | -2.7 | -0.6 |
| 180890022 | Indiana | Lake | -1.4 | -0.3 |
| 180890030 | Indiana | Lake | -1.4 | -0.4 |
| 180892008 | Indiana | Lake | -1.3 | -0.3 |
| 180910005 | Indiana | LaPorte | -1.8 | -0.3 |
| 180910010 | Indiana | LaPorte | -2.0 | -0.3 |
| 180950010 | Indiana | Madison | -2.9 | -0.5 |
| 180970042 | Indiana | Marion | -2.4 | -0.7 |
| 180970050 | Indiana | Marion | -2.5 | -0.5 |
| 180970057 | Indiana | Marion | -2.3 | -0.5 |
| 180970073 | Indiana | Marion | -2.4 | -0.5 |
| 181090005 | Indiana | Morgan | -2.9 | -0.7 |
| 181230009 | Indiana | Perry | -2.5 | -0.1 |
| 181270024 | Indiana | Porter | -1.6 | -0.3 |
| 181270026 | Indiana | Porter | -1.8 | -0.4 |
| 181290003 | Indiana | Posey | -2.0 | 0.0 |
| 181410010 | Indiana | St. Joseph | -2.4 | -0.5 |
| 181410015 | Indiana | St. Joseph | -2.4 | -0.4 |
| 181411007 | Indiana | St. Joseph | -2.6 | -0.5 |
| 181450001 | Indiana | Shelby | -2.5 | -0.7 |
| 181630012 | Indiana | Vanderburgh | -2.0 | 0.2 |
| 181630013 | Indiana | Vanderburgh | -1.9 | 0.1 |
| 181670018 | Indiana | Vigo | -2.1 | -0.6 |
| 181670024 | Indiana | Vigo | -2.5 | -0.9 |
| 181730008 | Indiana | Warrick | -1.6 | 0.3 |
| 181730009 | Indiana | Warrick | -2.0 | -0.1 |
| 181730011 | Indiana | Warrick | -1.6 | 0.3 |
| 190450021 | Iowa | Clinton | -2.3 | -0.8 |
| 190851101 | Iowa | Harrison | -3.1 | -1.8 |
| 191130028 | Iowa | Linn | -2.0 | -0.6 |
| 191130033 | Iowa | Linn | -2.6 | -1.1 |
| 191530058 | Iowa | Polk | -2.1 | -0.5 |
| 191630014 | Iowa | Scott | -2.5 | -0.9 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 191632011 | Iowa | Scott | -2.7 | -1.1 |
| 191690011 | Iowa | Story | -2.3 | -0.9 |
| 200450004 | Kansas | Douglas | -3.4 | -1.9 |
| 200910010 | Kansas | Johnson | -3.7 | -2.2 |
| 201030003 | Kansas | Leavenworth | -3.0 | -1.5 |
| 201070002 | Kansas | Linn | -5.3 | -4.1 |
| 201730001 | Kansas | Sedgwick | -2.5 | -0.8 |
| 201730010 | Kansas | Sedgwick | -2.7 | -0.8 |
| 201910002 | Kansas | Sumner | -2.6 | -0.6 |
| 202090021 | Kansas | Wyandotte | -3.0 | -1.7 |
| 210130002 | Kentucky | Bell | -2.9 | -0.2 |
| 210150003 | Kentucky | Boone | -2.6 | -0.8 |
| 210190017 | Kentucky | Boyd | -1.7 | -0.2 |
| 210290006 | Kentucky | Bullitt | -2.5 | -0.7 |
| 210370003 | Kentucky | Campbell | -2.2 | -0.7 |
| 210430500 | Kentucky | Carter | -1.8 | -0.2 |
| 210470006 | Kentucky | Christian | -2.6 | -0.3 |
| 210590005 | Kentucky | Daviess | -2.0 | 0.0 |
| 210610501 | Kentucky | Edmonson | -2.3 | -0.1 |
| 210670001 | Kentucky | Fayette | -2.2 | -0.3 |
| 210670012 | Kentucky | Fayette | -2.4 | -0.3 |
| 210890007 | Kentucky | Greenup | -1.7 | -0.2 |
| 210910012 | Kentucky | Hancock | -2.1 | 0.0 |
| 210930006 | Kentucky | Hardin | -2.4 | -0.4 |
| 211010014 | Kentucky | Henderson | -1.8 | 0.2 |
| 211110027 | Kentucky | Jefferson | -2.6 | -0.6 |
| 211110051 | Kentucky | Jefferson | -2.5 | -0.9 |
| 211111021 | Kentucky | Jefferson | -2.2 | -0.6 |
| 211130001 | Kentucky | Jessamine | -2.3 | -0.3 |
| 211170007 | Kentucky | Kenton | -2.3 | -0.7 |
| 211390003 | Kentucky | Livingston | -1.9 | 0.0 |
| 211451024 | Kentucky | McCracken | -1.9 | -0.2 |
| 211490001 | Kentucky | McLean | -1.9 | 0.2 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 211850004 | Kentucky | Oldham | -3.2 | -0.7 |
| 211950002 | Kentucky | Pike | -1.9 | 0.0 |
| 211990003 | Kentucky | Pulaski | -4.8 | -0.5 |
| 212130004 | Kentucky | Simpson | -2.7 | -0.1 |
| 212210013 | Kentucky | Trigg | -2.0 | 0.0 |
| 212270008 | Kentucky | Warren | -2.2 | -0.2 |
| 220050004 | Louisiana | Ascension | -1.9 | -0.3 |
| 220110002 | Louisiana | Beauregard | -1.6 | -0.7 |
| 220150008 | Louisiana | Bossier | -2.7 | -0.3 |
| 220170001 | Louisiana | Caddo | -2.8 | -0.4 |
| 220190002 | Louisiana | Calcasieu | -1.8 | -0.6 |
| 220190008 | Louisiana | Calcasieu | -1.3 | -0.4 |
| 220190009 | Louisiana | Calcasieu | -2.1 | -0.7 |
| 220330003 | Louisiana | East Baton Rouge | -1.8 | -0.4 |
| 220330009 | Louisiana | East Baton Rouge | -1.6 | -0.4 |
| 220330013 | Louisiana | East Baton Rouge | -1.6 | -0.2 |
| 220331001 | Louisiana | East Baton Rouge | -1.4 | -0.2 |
| 220430001 | Louisiana | Grant | -4.9 | -3.1 |
| 220470007 | Louisiana | Iberville | -2.0 | -0.5 |
| 220470009 | Louisiana | Iberville | -1.8 | -0.5 |
| 220470012 | Louisiana | Iberville | -1.8 | -0.4 |
| 220511001 | Louisiana | Jefferson | -2.0 | -0.4 |
| 220550005 | Louisiana | Lafayette | -2.7 | -0.7 |
| 220550007 | Louisiana | Lafayette | -2.1 | -0.6 |
| 220570004 | Louisiana | Lafourche | -1.9 | -0.5 |
| 220630002 | Louisiana | Livingston | -1.8 | -0.2 |
| 220710012 | Louisiana | Orleans | -1.6 | -0.4 |
| 220730004 | Louisiana | Ouachita | -2.7 | -0.7 |
| 220770001 | Louisiana | Pointe Coupee | -1.6 | -0.2 |
| 220870002 | Louisiana | St. Bernard | -1.4 | -0.3 |
| 220890003 | Louisiana | St. Charles | -1.7 | -0.4 |
| 220930002 | Louisiana | St. James | -1.6 | -0.4 |
| 220950002 | Louisiana | St. John the Baptist | -1.5 | -0.4 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 221010003 | Louisiana | St. Mary | -2.2 | -0.5 |
| 221210001 | Louisiana | West Baton Rouge | -1.6 | -0.3 |
| 230050027 | Maine | Cumberland | -1.7 | 0.0 |
| 230052003 | Maine | Cumberland | -2.1 | 0.0 |
| 230090102 | Maine | Hancock | -1.9 | 0.0 |
| 230090103 | Maine | Hancock | -1.8 | 0.0 |
| 230090301 | Maine | Hancock | -1.7 | 0.0 |
| 230112005 | Maine | Kennebec | -1.8 | 0.0 |
| 230130004 | Maine | Knox | -2.0 | 0.0 |
| 230173001 | Maine | Oxford | -1.6 | 0.1 |
| 230194008 | Maine | Penobscot | -1.7 | 0.0 |
| 230230004 | Maine | Sagadahoc | -1.9 | 0.0 |
| 230310038 | Maine | York | -2.2 | 0.0 |
| 230312002 | Maine | York | -2.1 | 0.0 |
| 230313002 | Maine | York | -2.1 | 0.0 |
| 240030014 | Maryland | Anne Arundel | -2.7 | -0.1 |
| 240051007 | Maryland | Baltimore | -1.7 | -0.1 |
| 240053001 | Maryland | Baltimore | -1.7 | -0.1 |
| 240090011 | Maryland | Calvert | -2.2 | -0.1 |
| 240130001 | Maryland | Carroll | -2.6 | -0.1 |
| 240150003 | Maryland | Cecil | -2.3 | -0.1 |
| 240170010 | Maryland | Charles | -2.7 | -0.1 |
| 240210037 | Maryland | Frederick | -2.5 | 0.0 |
| 240230002 | Maryland | Garrett | -2.3 | -0.8 |
| 240251001 | Maryland | Harford | -2.0 | -0.1 |
| 240259001 | Maryland | Harford | -1.9 | -0.1 |
| 240290002 | Maryland | Kent | -2.0 | -0.1 |
| 240313001 | Maryland | Montgomery | -2.0 | -0.1 |
| 240330030 | Maryland | Prince George's | -2.3 | -0.1 |
| 240338003 | Maryland | Prince George's | -2.7 | -0.2 |
| 240430009 | Maryland | Washington | -2.4 | -0.1 |
| 250010002 | Massachusetts | Barnstable | -2.0 | 0.0 |
| 250034002 | Massachusetts | Berkshire | -2.2 | -0.1 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 250051002 | Massachusetts | Bristol | -2.0 | -0.1 |
| 250070001 | Massachusetts | Dukes | -1.9 | 0.0 |
| 250092006 | Massachusetts | Essex | -1.8 | 0.1 |
| 250094004 | Massachusetts | Essex | -2.1 | 0.1 |
| 250095005 | Massachusetts | Essex | -2.2 | 0.0 |
| 250130008 | Massachusetts | Hampden | -2.6 | -0.1 |
| 250150103 | Massachusetts | Hampshire | -2.2 | 0.0 |
| 250154002 | Massachusetts | Hampshire | -2.4 | 0.0 |
| 250170009 | Massachusetts | Middlesex | -2.4 | 0.0 |
| 250171102 | Massachusetts | Middlesex | -2.3 | -0.1 |
| 250213003 | Massachusetts | Norfolk | -2.3 | 0.0 |
| 250250041 | Massachusetts | Suffolk | -2.0 | 0.0 |
| 250250042 | Massachusetts | Suffolk | -1.6 | 0.0 |
| 250270015 | Massachusetts | Worcester | -2.4 | -0.1 |
| 260050003 | Michigan | Allegan | -2.6 | -0.5 |
| 260190003 | Michigan | Benzie | -2.4 | -0.4 |
| 260210014 | Michigan | Berrien | -2.3 | -0.4 |
| 260270003 | Michigan | Cass | -2.7 | -0.6 |
| 260370001 | Michigan | Clinton | -2.5 | -0.3 |
| 260490021 | Michigan | Genesee | -2.4 | -0.3 |
| 260492001 | Michigan | Genesee | -2.3 | -0.3 |
| 260630007 | Michigan | Huron | -1.9 | -0.2 |
| 260650012 | Michigan | Ingham | -2.6 | -0.3 |
| 260770008 | Michigan | Kalamazoo | -2.4 | -0.4 |
| 260810020 | Michigan | Kent | -2.7 | -0.5 |
| 260810022 | Michigan | Kent | -2.8 | -0.5 |
| 260890001 | Michigan | Leelanau | -2.1 | -0.4 |
| 260910007 | Michigan | Lenawee | -2.2 | -0.5 |
| 260990009 | Michigan | Macomb | -1.8 | -0.3 |
| 260991003 | Michigan | Macomb | -1.5 | -0.1 |
| 261050007 | Michigan | Mason | -2.5 | -0.6 |
| 261130001 | Michigan | Missaukee | -2.3 | -0.6 |
| 261210039 | Michigan | Muskegon | -2.4 | -0.4 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 261250001 | Michigan | Oakland | -1.4 | -0.3 |
| 261390005 | Michigan | Ottawa | -2.6 | -0.5 |
| 261470005 | Michigan | St. Clair | -2.3 | -0.3 |
| 261530001 | Michigan | Schoolcraft | -2.2 | -0.3 |
| 261610008 | Michigan | Washtenaw | -1.7 | -0.3 |
| 261630001 | Michigan | Wayne | -1.6 | -0.3 |
| 261630016 | Michigan | Wayne | -1.7 | -0.3 |
| 261630019 | Michigan | Wayne | -1.7 | -0.3 |
| 270031002 | Minnesota | Anoka | -1.2 | -0.7 |
| 280330002 | Mississippi | DeSoto | -3.0 | -0.3 |
| 280450001 | Mississippi | Hancock | -3.3 | -1.3 |
| 280470008 | Mississippi | Harrison | -5.4 | -3.5 |
| 280470009 | Mississippi | Harrison | -3.7 | -2.3 |
| 280490010 | Mississippi | Hinds | -3.1 | -0.3 |
| 280590006 | Mississippi | Jackson | -4.6 | -2.9 |
| 280590007 | Mississippi | Jackson | -5.3 | -3.8 |
| 280750003 | Mississippi | Lauderdale | -3.1 | -0.2 |
| 280810005 | Mississippi | Lee | -3.0 | -0.1 |
| 290370003 | Missouri | Cass | -4.4 | -3.1 |
| 290390001 | Missouri | Cedar | -3.9 | -2.2 |
| 290470003 | Missouri | Clay | -4.1 | -2.3 |
| 290470005 | Missouri | Clay | -3.9 | -2.2 |
| 290470006 | Missouri | Clay | -3.8 | -2.0 |
| 290490001 | Missouri | Clinton | -4.0 | -2.1 |
| 290770036 | Missouri | Greene | -2.7 | -1.1 |
| 290990012 | Missouri | Jefferson | -2.2 | -0.3 |
| 291130003 | Missouri | Lincoln | -2.6 | -0.4 |
| 291370001 | Missouri | Monroe | -2.4 | -0.9 |
| 291570001 | Missouri | Perry | -2.0 | -0.1 |
| 291650023 | Missouri | Platte | -3.2 | -1.7 |
| 291831002 | Missouri | Saint Charles | -2.7 | -0.7 |
| 291831004 | Missouri | Saint Charles | -2.6 | -0.4 |
| 291860005 | Missouri | Sainte Genevieve | -2.5 | -0.5 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 291890004 | Missouri | Saint Louis | -1.9 | -0.4 |
| 291890005 | Missouri | Saint Louis | -2.5 | -0.4 |
| 291890006 | Missouri | Saint Louis | -2.1 | -0.4 |
| 291890014 | Missouri | Saint Louis | -2.3 | -0.4 |
| 295100085 | Missouri | St. Louis City | -2.1 | -0.6 |
| 295100086 | Missouri | St. Louis City | -2.2 | -0.6 |
| 310550028 | Nebraska | Douglas | -2.0 | -1.1 |
| 310550032 | Nebraska | Douglas | -2.1 | -1.0 |
| 310550035 | Nebraska | Douglas | -2.2 | -1.1 |
| 311090016 | Nebraska | Lancaster | -1.8 | -0.7 |
| 330012004 | New Hampshire | Belknap | -2.2 | 0.0 |
| 330050007 | New Hampshire | Cheshire | -2.1 | -0.1 |
| 330074001 | New Hampshire | Coos | -2.0 | 0.0 |
| 330074002 | New Hampshire | Coos | -1.6 | 0.0 |
| 330090010 | New Hampshire | Grafton | -2.0 | 0.0 |
| 330110020 | New Hampshire | Hillsborough | -2.2 | 0.0 |
| 330111011 | New Hampshire | Hillsborough | -2.5 | 0.0 |
| 330115001 | New Hampshire | Hillsborough | -2.3 | 0.0 |
| 330131007 | New Hampshire | Merrimack | -2.2 | -0.1 |
| 330150014 | New Hampshire | Rockingham | -2.1 | 0.0 |
| 330150016 | New Hampshire | Rockingham | -2.1 | 0.0 |
| 330190003 | New Hampshire | Sullivan | -2.0 | 0.0 |
| 340010005 | New Jersey | Atlantic | -2.1 | -0.1 |
| 340030005 | New Jersey | Bergen | -1.5 | -0.1 |
| 340070003 | New Jersey | Camden | -1.4 | 0.0 |
| 340071001 | New Jersey | Camden | -2.3 | -0.1 |
| 340110007 | New Jersey | Cumberland | -2.2 | -0.1 |
| 340150002 | New Jersey | Gloucester | -1.9 | -0.1 |
| 340170006 | New Jersey | Hudson | -1.6 | -0.1 |
| 340190001 | New Jersey | Hunterdon | -2.8 | -0.1 |
| 340210005 | New Jersey | Mercer | -2.1 | 0.0 |
| 340230011 | New Jersey | Middlesex | -2.4 | 0.0 |
| 340250005 | New Jersey | Monmouth | -2.1 | -0.1 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 340273001 | New Jersey | Morris | -2.4 | -0.1 |
| 340290006 | New Jersey | Ocean | -2.6 | -0.1 |
| 340315001 | New Jersey | Passaic | -1.8 | 0.0 |
| 350130008 | New Mexico | Dona Ana | -0.4 | 0.0 |
| 350130017 | New Mexico | Dona Ana | -0.6 | 0.0 |
| 350130021 | New Mexico | Dona Ana | -0.6 | 0.0 |
| 350130022 | New Mexico | Dona Ana | -0.7 | -0.1 |
| 350450009 | New Mexico | San Juan | -0.5 | 0.0 |
| 350451005 | New Mexico | San Juan | -0.5 | 0.0 |
| 360010012 | New York | Albany | -2.0 | 0.0 |
| 360050110 | New York | Bronx | -1.4 | -0.1 |
| 360050133 | New York | Bronx | -1.2 | -0.2 |
| 360130006 | New York | Chautauqua | -2.1 | -0.2 |
| 360130011 | New York | Chautauqua | -2.0 | -0.3 |
| 360150003 | New York | Chemung | -1.8 | -0.2 |
| 360270007 | New York | Dutchess | -2.0 | -0.1 |
| 360290002 | New York | Erie | -2.1 | -0.2 |
| 360410005 | New York | Hamilton | -1.6 | -0.2 |
| 360430005 | New York | Herkimer | -1.3 | -0.2 |
| 360450002 | New York | Jefferson | -1.6 | 0.0 |
| 360530006 | New York | Madison | -1.7 | -0.1 |
| 360551007 | New York | Monroe | -1.7 | -0.2 |
| 360631006 | New York | Niagara | -1.5 | -0.1 |
| 360650004 | New York | Oneida | -1.7 | -0.1 |
| 360671015 | New York | Onondaga | -1.7 | -0.1 |
| 360715001 | New York | Orange | -2.3 | 0.0 |
| 360750003 | New York | Oswego | -1.7 | -0.2 |
| 360790005 | New York | Putnam | -2.2 | -0.1 |
| 360810098 | New York | Queens | -1.4 | -0.2 |
| 360810124 | New York | Queens | -1.4 | -0.1 |
| 360830004 | New York | Rensselaer | -2.0 | 0.0 |
| 360850067 | New York | Richmond | -1.9 | -0.1 |
| 360910004 | New York | Saratoga | -2.1 | 0.0 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 360930003 | New York | Schenectady | -1.9 | 0.0 |
| 361030002 | New York | Suffolk | -1.5 | -0.1 |
| 361030004 | New York | Suffolk | -2.0 | -0.2 |
| 361030009 | New York | Suffolk | -1.5 | -0.1 |
| 361111005 | New York | Ulster | -2.2 | -0.1 |
| 361173001 | New York | Wayne | -1.5 | -0.1 |
| 361192004 | New York | Westchester | -1.3 | -0.1 |
| 370030004 | North Carolina | Alexander | -2.4 | -0.1 |
| 370110002 | North Carolina | Avery | -2.5 | -0.2 |
| 370210030 | North Carolina | Buncombe | -2.8 | -0.2 |
| 370270003 | North Carolina | Caldwell | -2.8 | -0.2 |
| 370330001 | North Carolina | Caswell | -3.0 | -0.2 |
| 370370004 | North Carolina | Chatham | -2.8 | -0.2 |
| 370510008 | North Carolina | Cumberland | -3.1 | -0.2 |
| 370511003 | North Carolina | Cumberland | -3.1 | -0.2 |
| 370590002 | North Carolina | Davie | -2.9 | -0.3 |
| 370630013 | North Carolina | Durham | -3.1 | -0.1 |
| 370650099 | North Carolina | Edgecombe | -3.0 | -0.3 |
| 370670022 | North Carolina | Forsyth | -2.6 | -0.2 |
| 370670028 | North Carolina | Forsyth | -2.5 | -0.2 |
| 370670030 | North Carolina | Forsyth | -2.7 | -0.3 |
| 370671008 | North Carolina | Forsyth | -2.9 | -0.3 |
| 370690001 | North Carolina | Franklin | -3.4 | -0.1 |
| 370750001 | North Carolina | Graham | -3.4 | -0.4 |
| 370770001 | North Carolina | Granville | -3.3 | -0.1 |
| 370810011 | North Carolina | Guilford | -3.1 | -0.1 |
| 370810013 | North Carolina | Guilford | -3.4 | -0.2 |
| 370870004 | North Carolina | Haywood | -2.6 | -0.2 |
| 370870035 | North Carolina | Haywood | -3.1 | -0.2 |
| 370870036 | North Carolina | Haywood | -2.7 | -0.2 |
| 370990005 | North Carolina | Jackson | -2.9 | -0.3 |
| 371010002 | North Carolina | Johnston | -3.2 | -0.2 |
| 371070004 | North Carolina | Lenoir | -3.0 | -0.7 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 371090004 | North Carolina | Lincoln | -2.5 | -0.2 |
| 371170001 | North Carolina | Martin | -1.7 | 0.0 |
| 371190041 | North Carolina | Mecklenburg | -2.8 | -0.2 |
| 371191005 | North Carolina | Mecklenburg | -2.5 | -0.2 |
| 371191009 | North Carolina | Mecklenburg | -3.1 | -0.2 |
| 371290002 | North Carolina | New Hanover | -2.1 | -0.2 |
| 371450003 | North Carolina | Person | -1.9 | 0.1 |
| 371470099 | North Carolina | Pitt | -3.1 | -0.6 |
| 371570099 | North Carolina | Rockingham | -3.0 | -0.3 |
| 371590021 | North Carolina | Rowan | -3.2 | -0.2 |
| 371590022 | North Carolina | Rowan | -3.2 | -0.2 |
| 371730002 | North Carolina | Swain | -2.9 | -0.3 |
| 371790003 | North Carolina | Union | -2.9 | -0.1 |
| 371830014 | North Carolina | Wake | -3.2 | -0.1 |
| 371830016 | North Carolina | Wake | -3.2 | -0.1 |
| 371990003 | North Carolina | Yancey | -2.9 | -0.3 |
| 390030002 | Ohio | Allen | -2.3 | -0.1 |
| 390071001 | Ohio | Ashtabula | -2.5 | -0.4 |
| 390170004 | Ohio | Butler | -2.6 | -0.6 |
| 390171004 | Ohio | Butler | -2.7 | -0.5 |
| 390230001 | Ohio | Clark | -2.6 | -0.4 |
| 390230003 | Ohio | Clark | -2.3 | -0.3 |
| 390250022 | Ohio | Clermont | -2.9 | -0.9 |
| 390271002 | Ohio | Clinton | -3.1 | -0.8 |
| 390350034 | Ohio | Cuyahoga | -1.9 | -0.3 |
| 390350064 | Ohio | Cuyahoga | -2.0 | -0.3 |
| 390355002 | Ohio | Cuyahoga | -2.1 | -0.3 |
| 390410002 | Ohio | Delaware | -2.7 | -0.2 |
| 390490028 | Ohio | Franklin | -2.3 | -0.3 |
| 390490029 | Ohio | Franklin | -2.7 | -0.3 |
| 390490037 | Ohio | Franklin | -2.4 | -0.3 |
| 390490081 | Ohio | Franklin | -2.6 | -0.3 |
| 390550004 | Ohio | Geauga | -2.5 | -0.4 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 390570006 | Ohio | Greene | -2.6 | -0.5 |
| 390610006 | Ohio | Hamilton | -2.6 | -0.6 |
| 390610010 | Ohio | Hamilton | -2.4 | -0.8 |
| 390610040 | Ohio | Hamilton | -2.4 | -0.7 |
| 390810017 | Ohio | Jefferson | -2.0 | -0.6 |
| 390830002 | Ohio | Knox | -2.7 | -0.3 |
| 390850003 | Ohio | Lake | -2.4 | -0.4 |
| 390853002 | Ohio | Lake | -2.3 | -0.4 |
| 390870006 | Ohio | Lawrence | -1.6 | -0.2 |
| 390870011 | Ohio | Lawrence | -1.5 | -0.1 |
| 390890005 | Ohio | Licking | -2.8 | -0.3 |
| 390930018 | Ohio | Lorain | -2.2 | -0.4 |
| 390950024 | Ohio | Lucas | -2.0 | -0.4 |
| 390950027 | Ohio | Lucas | -2.0 | -0.4 |
| 390950034 | Ohio | Lucas | -2.3 | -0.5 |
| 390950081 | Ohio | Lucas | -2.2 | -0.4 |
| 390970007 | Ohio | Madison | -2.6 | -0.4 |
| 390990013 | Ohio | Mahoning | -2.3 | -0.6 |
| 391030003 | Ohio | Medina | -2.6 | -0.4 |
| 391090005 | Ohio | Miami | -2.5 | -0.3 |
| 391130037 | Ohio | Montgomery | -2.3 | -0.4 |
| 391331001 | Ohio | Portage | -2.6 | -0.3 |
| 391351001 | Ohio | Preble | -2.6 | -0.6 |
| 391510016 | Ohio | Stark | -2.4 | -0.3 |
| 391510022 | Ohio | Stark | -2.3 | -0.4 |
| 391514005 | Ohio | Stark | -2.3 | -0.3 |
| 391530020 | Ohio | Summit | -2.7 | -0.3 |
| 391550009 | Ohio | Trumbull | -2.5 | -0.5 |
| 391550011 | Ohio | Trumbull | -2.4 | -0.6 |
| 391650007 | Ohio | Warren | -3.0 | -0.6 |
| 391670004 | Ohio | Washington | -2.9 | -1.5 |
| 391730003 | Ohio | Wood | -2.2 | -0.4 |
| 400170101 | Oklahoma | Canadian | -3.2 | -0.6 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 400219002 | Oklahoma | Cherokee | -6.4 | -4.8 |
| 400270049 | Oklahoma | Cleveland | -3.3 | -0.9 |
| 400310647 | Oklahoma | Comanche | -3.0 | -0.5 |
| 400370144 | Oklahoma | Creek | -4.1 | -2.0 |
| 400719010 | Oklahoma | Kay | -5.0 | -2.9 |
| 400871073 | Oklahoma | McClain | -3.2 | -0.8 |
| 400979014 | Oklahoma | Mayes | -5.7 | -4.3 |
| 401090033 | Oklahoma | Oklahoma | -2.9 | -0.9 |
| 401090096 | Oklahoma | Oklahoma | -3.5 | -1.3 |
| 401091037 | Oklahoma | Oklahoma | -3.4 | -0.5 |
| 401159004 | Oklahoma | Ottawa | -4.9 | -3.4 |
| 401210415 | Oklahoma | Pittsburg | -3.3 | -1.6 |
| 401430137 | Oklahoma | Tulsa | -4.2 | -1.8 |
| 401430174 | Oklahoma | Tulsa | -3.9 | -2.0 |
| 401430178 | Oklahoma | Tulsa | -3.9 | -2.0 |
| 401431127 | Oklahoma | Tulsa | -4.0 | -1.7 |
| 420010002 | Pennsylvania | Adams | -2.2 | -0.1 |
| 420030008 | Pennsylvania | Allegheny | -1.5 | -0.4 |
| 420030010 | Pennsylvania | Allegheny | -1.6 | -0.5 |
| 420030067 | Pennsylvania | Allegheny | -1.7 | -0.4 |
| 420031005 | Pennsylvania | Allegheny | -2.3 | -0.8 |
| 420050001 | Pennsylvania | Armstrong | -2.4 | -0.7 |
| 420070002 | Pennsylvania | Beaver | -2.0 | -0.6 |
| 420070005 | Pennsylvania | Beaver | -1.9 | -0.5 |
| 420070014 | Pennsylvania | Beaver | -1.7 | -0.5 |
| 420110009 | Pennsylvania | Berks | -2.2 | -0.3 |
| 420130801 | Pennsylvania | Blair | -2.0 | -0.5 |
| 420170012 | Pennsylvania | Bucks | -2.0 | -0.1 |
| 420210011 | Pennsylvania | Cambria | -2.2 | -0.5 |
| 420270100 | Pennsylvania | Centre | -2.3 | -0.3 |
| 420290100 | Pennsylvania | Chester | -2.2 | -0.1 |
| 420334000 | Pennsylvania | Clearfield | -2.2 | -0.6 |
| 420430401 | Pennsylvania | Dauphin | -2.3 | -0.6 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 420431100 | Pennsylvania | Dauphin | -2.3 | -0.5 |
| 420450002 | Pennsylvania | Delaware | -1.7 | 0.0 |
| 420490003 | Pennsylvania | Erie | -2.1 | -0.2 |
| 420550001 | Pennsylvania | Franklin | -2.3 | -0.1 |
| 420590002 | Pennsylvania | Greene | -3.2 | -2.1 |
| 420630004 | Pennsylvania | Indiana | -2.3 | -0.7 |
| 420690101 | Pennsylvania | Lackawanna | -2.1 | -0.2 |
| 420692006 | Pennsylvania | Lackawanna | -2.2 | -0.2 |
| 420710007 | Pennsylvania | Lancaster | -2.3 | -0.3 |
| 420730015 | Pennsylvania | Lawrence | -2.1 | -0.6 |
| 420770004 | Pennsylvania | Lehigh | -2.2 | 0.0 |
| 420791100 | Pennsylvania | Luzerne | -2.0 | -0.2 |
| 420791101 | Pennsylvania | Luzerne | -2.2 | -0.2 |
| 420810100 | Pennsylvania | Lycoming | -2.2 | -0.2 |
| 420850100 | Pennsylvania | Mercer | -2.3 | -0.6 |
| 420910013 | Pennsylvania | Montgomery | -1.7 | -0.1 |
| 420950025 | Pennsylvania | Northampton | -2.2 | 0.0 |
| 420958000 | Pennsylvania | Northampton | -2.2 | 0.0 |
| 420990301 | Pennsylvania | Perry | -2.4 | -0.3 |
| 421010004 | Pennsylvania | Philadelphia | -1.2 | 0.0 |
| 421010014 | Pennsylvania | Philadelphia | -1.1 | 0.0 |
| 421010024 | Pennsylvania | Philadelphia | -1.7 | 0.0 |
| 421010136 | Pennsylvania | Philadelphia | -1.3 | -0.1 |
| 421174000 | Pennsylvania | Tioga | -2.1 | -0.2 |
| 421250005 | Pennsylvania | Washington | -1.5 | -0.3 |
| 421250200 | Pennsylvania | Washington | -1.6 | -0.3 |
| 421255001 | Pennsylvania | Washington | -2.0 | -0.5 |
| 421290006 | Pennsylvania | Westmoreland | -1.9 | -0.6 |
| 421290008 | Pennsylvania | Westmoreland | -2.0 | -0.5 |
| 421330008 | Pennsylvania | York | -2.3 | -0.4 |
| 440030002 | Rhode Island | Kent | -2.2 | -0.1 |
| 440071010 | Rhode Island | Providence | -2.2 | 0.0 |
| 440090007 | Rhode Island | Washington | -2.1 | -0.1 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 450010001 | South Carolina | Abbeville | -3.4 | -0.4 |
| 450030003 | South Carolina | Aiken | -3.4 | -0.3 |
| 450070003 | South Carolina | Anderson | -3.2 | -0.3 |
| 450110001 | South Carolina | Barnwell | -3.3 | -0.2 |
| 450150002 | South Carolina | Berkeley | -2.2 | -0.4 |
| 450190046 | South Carolina | Charleston | -2.7 | -0.5 |
| 450210002 | South Carolina | Cherokee | -2.8 | -0.1 |
| 450230002 | South Carolina | Chester | -2.7 | -0.1 |
| 450250001 | South Carolina | Chesterfield | -2.6 | -0.2 |
| 450290002 | South Carolina | Colleton | -3.2 | -0.6 |
| 450310003 | South Carolina | Darlington | -2.8 | -0.4 |
| 450370001 | South Carolina | Edgefield | -3.2 | -0.3 |
| 450730001 | South Carolina | Oconee | -3.3 | -0.3 |
| 450770002 | South Carolina | Pickens | -3.5 | -0.3 |
| 450790007 | South Carolina | Richland | -3.8 | -0.4 |
| 450790021 | South Carolina | Richland | -3.3 | -0.3 |
| 450791001 | South Carolina | Richland | -3.8 | -0.3 |
| 450830009 | South Carolina | Spartanburg | -3.0 | -0.1 |
| 450870001 | South Carolina | Union | -2.8 | -0.2 |
| 450890001 | South Carolina | Williamsburg | -2.4 | -0.3 |
| 450910006 | South Carolina | York | -2.8 | -0.1 |
| 470010101 | Tennessee | Anderson | -3.1 | -0.1 |
| 470090101 | Tennessee | Blount | -3.6 | -0.2 |
| 470090102 | Tennessee | Blount | -2.9 | -0.3 |
| 470370011 | Tennessee | Davidson | -2.5 | -0.2 |
| 470370026 | Tennessee | Davidson | -2.9 | -0.2 |
| 470651011 | Tennessee | Hamilton | -4.1 | -0.3 |
| 470654003 | Tennessee | Hamilton | -4.0 | -0.2 |
| 470890002 | Tennessee | Jefferson | -3.5 | -0.2 |
| 470930021 | Tennessee | Knox | -3.3 | -0.1 |
| 470931020 | Tennessee | Knox | -3.4 | -0.1 |
| 471050109 | Tennessee | Loudon | -3.2 | -0.1 |
| 471210104 | Tennessee | Meigs | -4.0 | -0.2 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 471490101 | Tennessee | Rutherford | -3.1 | -0.2 |
| 471550101 | Tennessee | Sevier | -3.1 | -0.2 |
| 471550102 | Tennessee | Sevier | -3.4 | -0.4 |
| 471570021 | Tennessee | Shelby | -2.8 | -0.3 |
| 471571004 | Tennessee | Shelby | -3.0 | -0.3 |
| 471632002 | Tennessee | Sullivan | -1.9 | -0.1 |
| 471632003 | Tennessee | Sullivan | -1.8 | -0.1 |
| 471650007 | Tennessee | Sumner | -3.2 | -0.3 |
| 471650101 | Tennessee | Sumner | -3.2 | -0.3 |
| 471870106 | Tennessee | Williamson | -3.1 | -0.2 |
| 471890103 | Tennessee | Wilson | -3.4 | -0.4 |
| 480290032 | Texas | Bexar | -2.7 | -0.4 |
| 480290052 | Texas | Bexar | -2.7 | -0.5 |
| 480391004 | Texas | Brazoria | -2.2 | -0.4 |
| 480391016 | Texas | Brazoria | -1.9 | -0.3 |
| 480850005 | Texas | Collin | -3.2 | -0.2 |
| 481130069 | Texas | Dallas | -2.7 | -0.3 |
| 481130075 | Texas | Dallas | -2.9 | -0.3 |
| 481130087 | Texas | Dallas | -2.5 | -0.2 |
| 481133003 | Texas | Dallas | -2.5 | -0.3 |
| 481210034 | Texas | Denton | -3.6 | -0.3 |
| 481390015 | Texas | Ellis | -3.3 | -0.4 |
| 481410029 | Texas | El Paso | -0.4 | 0.0 |
| 481410037 | Texas | El Paso | -0.7 | 0.0 |
| 481410044 | Texas | El Paso | -0.6 | 0.0 |
| 481410055 | Texas | El Paso | -0.7 | 0.0 |
| 481410057 | Texas | El Paso | -0.5 | 0.0 |
| 481410058 | Texas | El Paso | -0.6 | 0.0 |
| 481670014 | Texas | Galveston | -1.8 | -0.3 |
| 481830001 | Texas | Gregg | -1.9 | -0.4 |
| 482010024 | Texas | Harris | -1.4 | -0.3 |
| 482010026 | Texas | Harris | -1.8 | -0.3 |
| 482010029 | Texas | Harris | -2.4 | -0.3 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 482010046 | Texas | Harris | -1.3 | -0.3 |
| 482010047 | Texas | Harris | -1.2 | -0.2 |
| 482010051 | Texas | Harris | -2.1 | -0.3 |
| 482010055 | Texas | Harris | -2.3 | -0.4 |
| 482010062 | Texas | Harris | -1.9 | -0.4 |
| 482010066 | Texas | Harris | -1.3 | -0.2 |
| 482010070 | Texas | Harris | -1.3 | -0.2 |
| 482010075 | Texas | Harris | -1.3 | -0.3 |
| 482011015 | Texas | Harris | -1.9 | -0.3 |
| 482011034 | Texas | Harris | -1.3 | -0.4 |
| 482011035 | Texas | Harris | -1.3 | -0.4 |
| 482011039 | Texas | Harris | -2.0 | -0.4 |
| 482011050 | Texas | Harris | -1.8 | -0.4 |
| 482030002 | Texas | Harrison | -2.8 | -0.4 |
| 482210001 | Texas | Hood | -3.7 | -0.4 |
| 482311006 | Texas | Hunt | -2.4 | -0.3 |
| 482450009 | Texas | Jefferson | -2.3 | -0.7 |
| 482450011 | Texas | Jefferson | -2.2 | -0.6 |
| 482450018 | Texas | Jefferson | -2.3 | -0.7 |
| 482450022 | Texas | Jefferson | -2.4 | -0.7 |
| 482450101 | Texas | Jefferson | -2.2 | -0.6 |
| 482450628 | Texas | Jefferson | -2.1 | -0.5 |
| 482510003 | Texas | Johnson | -3.6 | -0.4 |
| 482570005 | Texas | Kaufman | -2.6 | -0.4 |
| 483390078 | Texas | Montgomery | -2.4 | -0.1 |
| 483550025 | Texas | Nueces | -1.3 | -0.2 |
| 483611001 | Texas | Orange | -2.3 | -0.8 |
| 483611100 | Texas | Orange | -1.8 | -0.5 |
| 483670081 | Texas | Parker | -3.7 | -0.3 |
| 483970001 | Texas | Rockwall | -2.8 | -0.4 |
| 484230007 | Texas | Smith | -2.4 | -0.3 |
| 484390075 | Texas | Tarrant | -3.6 | -0.3 |
| 484391002 | Texas | Tarrant | -3.2 | -0.2 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 484392003 | Texas | Tarrant | -3.4 | -0.3 |
| 484393009 | Texas | Tarrant | -3.4 | -0.3 |
| 484393011 | Texas | Tarrant | -2.9 | -0.3 |
| 484530014 | Texas | Travis | -2.9 | -0.4 |
| 484530020 | Texas | Travis | -3.0 | -0.5 |
| 484530613 | Texas | Travis | -2.1 | -0.4 |
| 500030004 | Vermont | Bennington | -2.1 | -0.1 |
| 500070007 | Vermont | Chittenden | -1.6 | 0.0 |
| 510130020 | Virginia | Arlington | -1.9 | -0.1 |
| 510330001 | Virginia | Caroline | -2.6 | 0.0 |
| 510360002 | Virginia | Charles | -2.1 | -0.1 |
| 510410004 | Virginia | Chesterfield | -2.0 | -0.1 |
| 510590005 | Virginia | Fairfax | -2.3 | -0.1 |
| 510590018 | Virginia | Fairfax | -2.1 | -0.2 |
| 510590030 | Virginia | Fairfax | -1.9 | -0.1 |
| 510591005 | Virginia | Fairfax | -1.9 | -0.1 |
| 510595001 | Virginia | Fairfax | -2.0 | -0.1 |
| 510610002 | Virginia | Fauquier | -2.3 | 0.0 |
| 510690010 | Virginia | Frederick | -2.0 | 0.0 |
| 510850003 | Virginia | Hanover | -2.3 | 0.0 |
| 510870014 | Virginia | Henrico | -2.3 | -0.1 |
| 511071005 | Virginia | Loudoun | -2.3 | -0.1 |
| 511130003 | Virginia | Madison | -2.3 | -0.1 |
| 511390004 | Virginia | Page | -2.1 | -0.1 |
| 511530009 | Virginia | Prince William | -2.3 | 0.0 |
| 511611004 | Virginia | Roanoke | -2.7 | -0.2 |
| 511630003 | Virginia | Rockbridge | -2.5 | -0.2 |
| 511790001 | Virginia | Stafford | -2.6 | -0.1 |
| 511970002 | Virginia | Wythe | -2.7 | -0.2 |
| 515100009 | Virginia | Alexandria City | -1.9 | -0.2 |
| 516500004 | Virginia | Hampton City | -1.3 | -0.1 |
| 518000004 | Virginia | Suffolk City | -1.2 | -0.1 |
| 518000005 | Virginia | Suffolk City | -2.2 | -0.1 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 540030003 | West Virginia | Berkeley | -2.2 | 0.0 |
| 540110006 | West Virginia | Cabell | -1.8 | -0.2 |
| 540291004 | West Virginia | Hancock | -1.9 | -0.7 |
| 540390010 | West Virginia | Kanawha | -1.9 | -0.2 |
| 540610003 | West Virginia | Monongalia | -3.1 | -1.9 |
| 540690010 | West Virginia | Ohio | -2.5 | -1.2 |
| 541071002 | West Virginia | Wood | -2.2 | -0.9 |
| 550090026 | Wisconsin | Brown | -2.1 | -0.4 |
| 550210015 | Wisconsin | Columbia | -2.2 | -0.6 |
| 550250041 | Wisconsin | Dane | -2.1 | -0.5 |
| 550270007 | Wisconsin | Dodge | -2.3 | -0.4 |
| 550290004 | Wisconsin | Door | -2.7 | -0.4 |
| 550370001 | Wisconsin | Florence | -1.8 | -0.4 |
| 550390006 | Wisconsin | Fond du Lac | -2.1 | -0.3 |
| 550410007 | Wisconsin | Forest | -2.1 | -0.6 |
| 550550002 | Wisconsin | Jefferson | -2.4 | -0.4 |
| 550590019 | Wisconsin | Kenosha | -1.7 | -0.3 |
| 550610002 | Wisconsin | Kewaunee | -2.4 | -0.4 |
| 550710007 | Wisconsin | Manitowoc | -2.4 | -0.3 |
| 550790010 | Wisconsin | Milwaukee | -1.7 | -0.2 |
| 550790026 | Wisconsin | Milwaukee | -1.8 | -0.2 |
| 550790041 | Wisconsin | Milwaukee | -2.1 | -0.3 |
| 550790044 | Wisconsin | Milwaukee | -1.2 | -0.2 |
| 550790085 | Wisconsin | Milwaukee | -2.1 | -0.3 |
| 550870009 | Wisconsin | Outagamie | -2.1 | -0.4 |
| 550890008 | Wisconsin | Ozaukee | -2.1 | -0.4 |
| 550890009 | Wisconsin | Ozaukee | -2.4 | -0.3 |
| 551010017 | Wisconsin | Racine | -1.8 | -0.3 |
| 551050024 | Wisconsin | Rock | -2.4 | -0.5 |
| 551091002 | Wisconsin | St. Croix | -2.2 | -0.9 |
| 551110007 | Wisconsin | Sauk | -1.9 | -0.6 |
| 551170006 | Wisconsin | Sheboygan | -2.5 | -0.3 |
| 551270005 | Wisconsin | Walworth | -2.3 | -0.3 |

| 8-Hour Ozone (ppb) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 551310009 | Wisconsin | Washington | -2.2 | -0.3 |
| 551330017 | Wisconsin | Waukesha | -2.2 | -0.3 |
| 551330027 | Wisconsin | Waukesha | -2.1 | -0.3 |

## Differences in Annual PM2.5 Design Values (μg/m³) by Site: 2014 Remedy Scenario Compared to the 2012 Base Case and the 2014 Base Case

| Annual PM2.5 (μg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 10030010 | Alabama | Baldwin | -1.66 | -1.31 |
| 10270001 | Alabama | Clay | -2.05 | -1.37 |
| 10331002 | Alabama | Colbert | -2.45 | -1.97 |
| 10491003 | Alabama | DeKalb | -2.37 | -1.76 |
| 10530002 | Alabama | Escambia | -1.61 | -1.27 |
| 10550010 | Alabama | Etowah | -2.35 | -1.66 |
| 10690003 | Alabama | Houston | -1.50 | -1.13 |
| 10730023 | Alabama | Jefferson | -2.20 | -1.53 |
| 10731005 | Alabama | Jefferson | -2.14 | -1.54 |
| 10731009 | Alabama | Jefferson | -2.18 | -1.64 |
| 10731010 | Alabama | Jefferson | -2.33 | -1.62 |
| 10732003 | Alabama | Jefferson | -2.00 | -1.43 |
| 10732006 | Alabama | Jefferson | -2.03 | -1.44 |
| 10735002 | Alabama | Jefferson | -2.18 | -1.53 |
| 10735003 | Alabama | Jefferson | -2.37 | -1.72 |
| 10890014 | Alabama | Madison | -2.72 | -2.12 |
| 10970002 | Alabama | Mobile | -1.74 | -1.31 |
| 10970003 | Alabama | Mobile | -1.71 | -1.29 |
| 10972005 | Alabama | Mobile | -1.63 | -1.26 |
| 11010007 | Alabama | Montgomery | -1.86 | -1.34 |
| 11030011 | Alabama | Morgan | -2.49 | -1.93 |
| 11130001 | Alabama | Russell | -2.10 | -1.42 |
| 11170006 | Alabama | Shelby | -2.14 | -1.52 |
| 11190002 | Alabama | Sumter | -2.00 | -1.54 |
| 11210002 | Alabama | Talladega | -2.14 | -1.49 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 11250004 | Alabama | Tuscaloosa | -2.19 | -1.63 |
| 11270002 | Alabama | Walker | -2.42 | -1.80 |
| 50010011 | Arkansas | Arkansas | -1.97 | -1.53 |
| 50030005 | Arkansas | Ashley | -1.59 | -1.24 |
| 50350005 | Arkansas | Crittenden | -2.60 | -1.99 |
| 50450002 | Arkansas | Faulkner | -1.82 | -1.38 |
| 50510003 | Arkansas | Garland | -1.71 | -1.31 |
| 50930007 | Arkansas | Mississippi | -2.65 | -2.14 |
| 51070001 | Arkansas | Phillips | -2.26 | -1.75 |
| 51130002 | Arkansas | Polk | -1.36 | -1.06 |
| 51150003 | Arkansas | Pope | -1.64 | -1.26 |
| 51190007 | Arkansas | Pulaski | -1.92 | -1.45 |
| 51191004 | Arkansas | Pulaski | -1.92 | -1.45 |
| 51191005 | Arkansas | Pulaski | -1.89 | -1.43 |
| 51390006 | Arkansas | Union | -1.60 | -1.24 |
| 51450001 | Arkansas | White | -1.82 | -1.40 |
| 80010006 | Colorado | Adams | -0.09 | 0.10 |
| 80050005 | Colorado | Arapahoe | -0.10 | 0.06 |
| 80130003 | Colorado | Boulder | -0.07 | 0.04 |
| 80130012 | Colorado | Boulder | -0.05 | 0.04 |
| 80290004 | Colorado | Delta | -0.11 | 0.00 |
| 80310002 | Colorado | Denver | -0.08 | 0.10 |
| 80310023 | Colorado | Denver | -0.09 | 0.09 |
| 80390001 | Colorado | Elbert | -0.04 | 0.01 |
| 80410008 | Colorado | El Paso | -0.08 | 0.02 |
| 80410011 | Colorado | El Paso | -0.08 | 0.03 |
| 80690009 | Colorado | Larimer | -0.06 | 0.02 |
| 80770017 | Colorado | Mesa | -0.12 | 0.01 |
| 81010012 | Colorado | Pueblo | -0.09 | -0.01 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 81130004 | Colorado | San Miguel | -0.02 | 0.00 |
| 81230006 | Colorado | Weld | -0.08 | 0.03 |
| 81230008 | Colorado | Weld | -0.08 | 0.04 |
| 90010010 | Connecticut | Fairfield | -1.24 | -1.06 |
| 90011123 | Connecticut | Fairfield | -1.23 | -1.05 |
| 90013005 | Connecticut | Fairfield | -1.25 | -1.08 |
| 90019003 | Connecticut | Fairfield | -1.22 | -1.06 |
| 90031003 | Connecticut | Hartford | -1.00 | -0.83 |
| 90050005 | Connecticut | Litchfield | -1.00 | -0.89 |
| 90090026 | Connecticut | New Haven | -1.20 | -1.02 |
| 90090027 | Connecticut | New Haven | -1.22 | -1.03 |
| 90091123 | Connecticut | New Haven | -1.22 | -1.01 |
| 90092008 | Connecticut | New Haven | -1.16 | -0.99 |
| 90092123 | Connecticut | New Haven | -1.17 | -0.98 |
| 90113002 | Connecticut | New London | -0.92 | -0.77 |
| 100010002 | Delaware | Kent | -1.64 | -1.51 |
| 100010003 | Delaware | Kent | -1.61 | -1.46 |
| 100031003 | Delaware | New Castle | -1.69 | -1.50 |
| 100031007 | Delaware | New Castle | -1.68 | -1.54 |
| 100031012 | Delaware | New Castle | -1.68 | -1.52 |
| 100032004 | Delaware | New Castle | -1.73 | -1.53 |
| 100051002 | Delaware | Sussex | -1.65 | -1.51 |
| 110010041 | District Of Columbia | District of Columbia | -2.00 | -1.82 |
| 110010042 | District Of Columbia | District of Columbia | -1.97 | -1.80 |
| 110010043 | District Of Columbia | District of Columbia | -2.08 | -1.91 |
| 120010023 | Florida | Alachua | -1.21 | -0.98 |
| 120010024 | Florida | Alachua | -1.18 | -0.95 |

| Annual PM2.5 (µg/m$^3$) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 120051004 | Florida | Bay | -1.24 | -0.94 |
| 120090007 | Florida | Brevard | -0.81 | -0.64 |
| 120111002 | Florida | Broward | -0.50 | -0.37 |
| 120112004 | Florida | Broward | -0.51 | -0.38 |
| 120113002 | Florida | Broward | -0.50 | -0.37 |
| 120170005 | Florida | Citrus | -0.98 | -0.79 |
| 120310098 | Florida | Duval | -1.09 | -0.85 |
| 120310099 | Florida | Duval | -1.02 | -0.79 |
| 120330004 | Florida | Escambia | -1.33 | -1.07 |
| 120570030 | Florida | Hillsborough | -0.64 | -0.45 |
| 120573002 | Florida | Hillsborough | -0.60 | -0.42 |
| 120710005 | Florida | Lee | -0.64 | -0.52 |
| 120730012 | Florida | Leon | -1.26 | -0.95 |
| 120814012 | Florida | Manatee | -0.62 | -0.52 |
| 120830003 | Florida | Marion | -1.04 | -0.81 |
| 120861016 | Florida | Miami-Dade | -0.53 | -0.37 |
| 120866001 | Florida | Miami-Dade | -0.47 | -0.38 |
| 120951004 | Florida | Orange | -0.98 | -0.71 |
| 120952002 | Florida | Orange | -0.97 | -0.71 |
| 120990009 | Florida | Palm Beach | -0.57 | -0.43 |
| 120992005 | Florida | Palm Beach | -0.56 | -0.42 |
| 121030018 | Florida | Pinellas | -0.62 | -0.49 |
| 121031009 | Florida | Pinellas | -0.64 | -0.49 |
| 121056006 | Florida | Polk | -0.64 | -0.50 |
| 121111002 | Florida | St. Lucie | -0.70 | -0.58 |
| 121150013 | Florida | Sarasota | -0.65 | -0.54 |
| 121171002 | Florida | Seminole | -1.00 | -0.73 |
| 121275002 | Florida | Volusia | -1.10 | -0.85 |
| 130210007 | Georgia | Bibb | -2.16 | -1.35 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 130210012 | Georgia | Bibb | -2.12 | -1.29 |
| 130510017 | Georgia | Chatham | -1.47 | -1.06 |
| 130510091 | Georgia | Chatham | -1.48 | -1.05 |
| 130590002 | Georgia | Clarke | -2.32 | -1.43 |
| 130630091 | Georgia | Clayton | -2.34 | -1.39 |
| 130670003 | Georgia | Cobb | -2.22 | -1.45 |
| 130670004 | Georgia | Cobb | -2.27 | -1.41 |
| 130890002 | Georgia | DeKalb | -2.36 | -1.39 |
| 130892001 | Georgia | DeKalb | -2.32 | -1.42 |
| 130950007 | Georgia | Dougherty | -1.73 | -1.31 |
| 131150005 | Georgia | Floyd | -2.18 | -1.58 |
| 131210032 | Georgia | Fulton | -2.35 | -1.39 |
| 131210039 | Georgia | Fulton | -2.36 | -1.38 |
| 131270006 | Georgia | Glynn | -1.22 | -0.94 |
| 131350002 | Georgia | Gwinnett | -2.29 | -1.44 |
| 131390003 | Georgia | Hall | -2.24 | -1.48 |
| 131530001 | Georgia | Houston | -1.99 | -1.31 |
| 131850003 | Georgia | Lowndes | -1.25 | -0.93 |
| 132150001 | Georgia | Muscogee | -2.09 | -1.43 |
| 132150008 | Georgia | Muscogee | -2.03 | -1.36 |
| 132150011 | Georgia | Muscogee | -1.89 | -1.29 |
| 132230003 | Georgia | Paulding | -2.25 | -1.52 |
| 132450005 | Georgia | Richmond | -1.84 | -1.27 |
| 132450091 | Georgia | Richmond | -1.87 | -1.29 |
| 132950002 | Georgia | Walker | -2.58 | -1.95 |
| 133030001 | Georgia | Washington | -2.23 | -1.31 |
| 133190001 | Georgia | Wilkinson | -2.27 | -1.32 |
| 170010006 | Illinois | Adams | -1.65 | -1.14 |
| 170190004 | Illinois | Champaign | -2.31 | -1.76 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 170191001 | Illinois | Champaign | -2.34 | -1.77 |
| 170310022 | Illinois | Cook | -1.67 | -1.19 |
| 170310050 | Illinois | Cook | -1.61 | -1.11 |
| 170310052 | Illinois | Cook | -1.57 | -1.05 |
| 170310057 | Illinois | Cook | -1.60 | -1.08 |
| 170310076 | Illinois | Cook | -1.65 | -1.11 |
| 170312001 | Illinois | Cook | -1.56 | -1.08 |
| 170313301 | Illinois | Cook | -1.63 | -1.10 |
| 170314007 | Illinois | Cook | -1.61 | -1.08 |
| 170314201 | Illinois | Cook | -1.62 | -1.09 |
| 170316005 | Illinois | Cook | -1.58 | -1.06 |
| 170434002 | Illinois | DuPage | -1.64 | -1.08 |
| 170831001 | Illinois | Jersey | -2.43 | -1.79 |
| 170890003 | Illinois | Kane | -1.69 | -1.11 |
| 170890007 | Illinois | Kane | -1.64 | -1.08 |
| 170971007 | Illinois | Lake | -1.56 | -1.05 |
| 171110001 | Illinois | McHenry | -1.59 | -1.04 |
| 171132003 | Illinois | McLean | -2.07 | -1.42 |
| 171150013 | Illinois | Macon | -2.26 | -1.65 |
| 171191007 | Illinois | Madison | -2.34 | -1.68 |
| 171192009 | Illinois | Madison | -2.49 | -1.86 |
| 171193007 | Illinois | Madison | -2.44 | -1.83 |
| 171430037 | Illinois | Peoria | -2.15 | -1.19 |
| 171570001 | Illinois | Randolph | -2.49 | -1.86 |
| 171613002 | Illinois | Rock Island | -1.53 | -1.03 |
| 171630010 | Illinois | Saint Clair | -2.30 | -1.65 |
| 171634001 | Illinois | Saint Clair | -2.29 | -1.65 |
| 171670012 | Illinois | Sangamon | -2.22 | -1.64 |
| 171971002 | Illinois | Will | -1.72 | -1.18 |

| Annual PM2.5 (μg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 171971011 | Illinois | Will | -1.81 | -1.32 |
| 172010013 | Illinois | Winnebago | -1.42 | -0.93 |
| 180030004 | Indiana | Allen | -1.87 | -1.50 |
| 180030014 | Indiana | Allen | -1.86 | -1.49 |
| 180190006 | Indiana | Clark | -3.59 | -3.09 |
| 180350006 | Indiana | Delaware | -2.78 | -2.35 |
| 180372001 | Indiana | Dubois | -3.96 | -3.39 |
| 180431004 | Indiana | Floyd | -3.63 | -3.17 |
| 180650003 | Indiana | Henry | -2.98 | -2.54 |
| 180670003 | Indiana | Howard | -2.58 | -2.10 |
| 180830004 | Indiana | Knox | -3.54 | -2.93 |
| 180890006 | Indiana | Lake | -1.68 | -1.20 |
| 180890027 | Indiana | Lake | -1.73 | -1.26 |
| 180891003 | Indiana | Lake | -1.69 | -1.23 |
| 180892004 | Indiana | Lake | -1.67 | -1.20 |
| 180892010 | Indiana | Lake | -1.66 | -1.18 |
| 180910011 | Indiana | LaPorte | -1.68 | -1.25 |
| 180910012 | Indiana | LaPorte | -1.75 | -1.31 |
| 180950009 | Indiana | Madison | -2.94 | -2.49 |
| 180970042 | Indiana | Marion | -3.38 | -2.90 |
| 180970078 | Indiana | Marion | -3.33 | -2.84 |
| 180970079 | Indiana | Marion | -3.25 | -2.76 |
| 180970081 | Indiana | Marion | -3.33 | -2.83 |
| 180970083 | Indiana | Marion | -3.33 | -2.83 |
| 181270020 | Indiana | Porter | -1.71 | -1.26 |
| 181270024 | Indiana | Porter | -1.74 | -1.27 |
| 181410014 | Indiana | St. Joseph | -1.40 | -1.06 |
| 181411008 | Indiana | St. Joseph | -1.38 | -1.04 |
| 181412004 | Indiana | St. Joseph | -1.38 | -1.04 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 181470009 | Indiana | Spencer | -3.96 | -3.40 |
| 181570008 | Indiana | Tippecanoe | -2.57 | -2.05 |
| 181630006 | Indiana | Vanderburgh | -3.16 | -2.63 |
| 181630012 | Indiana | Vanderburgh | -3.16 | -2.61 |
| 181630016 | Indiana | Vanderburgh | -3.17 | -2.63 |
| 181670018 | Indiana | Vigo | -3.02 | -2.46 |
| 181670023 | Indiana | Vigo | -3.05 | -2.49 |
| 190130008 | Iowa | Black Hawk | -1.03 | -0.72 |
| 190450021 | Iowa | Clinton | -1.44 | -0.93 |
| 191032001 | Iowa | Johnson | -1.21 | -0.85 |
| 191130037 | Iowa | Linn | -1.12 | -0.78 |
| 191370002 | Iowa | Montgomery | -0.90 | -0.67 |
| 191390015 | Iowa | Muscatine | -1.38 | -1.00 |
| 191471002 | Iowa | Palo Alto | -0.75 | -0.54 |
| 191530030 | Iowa | Polk | -0.96 | -0.68 |
| 191532510 | Iowa | Polk | -0.93 | -0.66 |
| 191532520 | Iowa | Polk | -0.95 | -0.66 |
| 191550009 | Iowa | Pottawattamie | -0.81 | -0.62 |
| 191630015 | Iowa | Scott | -1.52 | -1.02 |
| 191630018 | Iowa | Scott | -1.50 | -1.00 |
| 191630019 | Iowa | Scott | -1.49 | -0.99 |
| 191770006 | Iowa | Van Buren | -1.04 | -0.74 |
| 191930017 | Iowa | Woodbury | -0.63 | -0.51 |
| 191970004 | Iowa | Wright | -0.92 | -0.65 |
| 200910007 | Kansas | Johnson | -1.02 | -0.74 |
| 200910009 | Kansas | Johnson | -1.15 | -0.83 |
| 200910010 | Kansas | Johnson | -1.02 | -0.75 |
| 201070002 | Kansas | Linn | -1.15 | -0.85 |
| 201730008 | Kansas | Sedgwick | -0.82 | -0.59 |

| Annual PM2.5 (μg/m$^3$) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 201730009 | Kansas | Sedgwick | -0.83 | -0.59 |
| 201730010 | Kansas | Sedgwick | -0.82 | -0.58 |
| 201770010 | Kansas | Shawnee | -0.90 | -0.67 |
| 201770011 | Kansas | Shawnee | -0.89 | -0.66 |
| 201910002 | Kansas | Sumner | -0.83 | -0.61 |
| 202090021 | Kansas | Wyandotte | -1.11 | -0.80 |
| 202090022 | Kansas | Wyandotte | -1.05 | -0.75 |
| 210130002 | Kentucky | Bell | -2.82 | -2.24 |
| 210190017 | Kentucky | Boyd | -3.19 | -2.61 |
| 210290006 | Kentucky | Bullitt | -3.60 | -3.09 |
| 210370003 | Kentucky | Campbell | -3.44 | -2.95 |
| 210430500 | Kentucky | Carter | -2.88 | -2.37 |
| 210470006 | Kentucky | Christian | -3.83 | -3.29 |
| 210590005 | Kentucky | Daviess | -4.32 | -3.77 |
| 210670012 | Kentucky | Fayette | -3.38 | -2.86 |
| 210670014 | Kentucky | Fayette | -3.37 | -2.84 |
| 210730006 | Kentucky | Franklin | -3.36 | -2.87 |
| 210930006 | Kentucky | Hardin | -3.66 | -3.14 |
| 211010014 | Kentucky | Henderson | -3.31 | -2.79 |
| 211110043 | Kentucky | Jefferson | -3.68 | -3.20 |
| 211110044 | Kentucky | Jefferson | -3.59 | -3.11 |
| 211110048 | Kentucky | Jefferson | -3.62 | -3.13 |
| 211110051 | Kentucky | Jefferson | -3.72 | -3.24 |
| 211170007 | Kentucky | Kenton | -3.44 | -2.96 |
| 211250004 | Kentucky | Laurel | -2.76 | -2.24 |
| 211451004 | Kentucky | McCracken | -3.29 | -2.68 |
| 211510003 | Kentucky | Madison | -3.25 | -2.74 |
| 211930003 | Kentucky | Perry | -2.67 | -2.15 |
| 211950002 | Kentucky | Pike | -2.99 | -2.45 |

| Annual PM2.5 (µg/m$^3$) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 212270007 | Kentucky | Warren | -3.96 | -3.39 |
| 220171002 | Louisiana | Caddo | -1.46 | -1.13 |
| 220190009 | Louisiana | Calcasieu | -1.16 | -0.90 |
| 220190010 | Louisiana | Calcasieu | -1.17 | -0.89 |
| 220290003 | Louisiana | Concordia | -1.71 | -1.31 |
| 220330009 | Louisiana | East Baton Rouge | -1.36 | -0.94 |
| 220331001 | Louisiana | East Baton Rouge | -1.33 | -0.94 |
| 220470005 | Louisiana | Iberville | -1.43 | -0.91 |
| 220470009 | Louisiana | Iberville | -1.45 | -1.07 |
| 220511001 | Louisiana | Jefferson | -1.48 | -1.11 |
| 220550006 | Louisiana | Lafayette | -1.52 | -1.21 |
| 220730004 | Louisiana | Ouachita | -1.52 | -1.17 |
| 220790002 | Louisiana | Rapides | -1.46 | -1.16 |
| 221050001 | Louisiana | Tangipahoa | -1.61 | -1.20 |
| 221090001 | Louisiana | Terrebonne | -1.48 | -1.14 |
| 221210001 | Louisiana | West Baton Rouge | -1.36 | -0.93 |
| 230010011 | Maine | Androscoggin | -0.47 | -0.32 |
| 230030013 | Maine | Aroostook | -0.31 | -0.24 |
| 230031011 | Maine | Aroostook | -0.31 | -0.23 |
| 230050015 | Maine | Cumberland | -0.53 | -0.34 |
| 230050027 | Maine | Cumberland | -0.52 | -0.34 |
| 230090103 | Maine | Hancock | -0.35 | -0.29 |
| 230110016 | Maine | Kennebec | -0.46 | -0.32 |
| 230172011 | Maine | Oxford | -0.46 | -0.33 |
| 230190002 | Maine | Penobscot | -0.48 | -0.36 |
| 240030014 | Maryland | Anne Arundel | -1.58 | -1.56 |
| 240031003 | Maryland | Anne Arundel | -1.38 | -1.48 |
| 240032002 | Maryland | Anne Arundel | -1.36 | -1.48 |
| 240051007 | Maryland | Baltimore | -1.83 | -1.78 |

| Annual PM2.5 (μg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 240053001 | Maryland | Baltimore | -1.56 | -1.62 |
| 240150003 | Maryland | Cecil | -1.69 | -1.55 |
| 240251001 | Maryland | Harford | -1.58 | -1.58 |
| 240313001 | Maryland | Montgomery | -1.84 | -1.71 |
| 240330030 | Maryland | Prince George's | -1.67 | -1.60 |
| 240338003 | Maryland | Prince George's | -1.75 | -1.67 |
| 240430009 | Maryland | Washington | -2.42 | -2.15 |
| 245100006 | Maryland | Baltimore (City) | -1.57 | -1.61 |
| 245100007 | Maryland | Baltimore (City) | -1.72 | -1.69 |
| 245100008 | Maryland | Baltimore (City) | -1.48 | -1.58 |
| 245100049 | Maryland | Baltimore (City) | -1.39 | -1.51 |
| 250035001 | Massachusetts | Berkshire | -0.98 | -0.83 |
| 250051004 | Massachusetts | Bristol | -0.71 | -0.64 |
| 250092006 | Massachusetts | Essex | -0.65 | -0.55 |
| 250095005 | Massachusetts | Essex | -0.64 | -0.52 |
| 250096001 | Massachusetts | Essex | -0.67 | -0.54 |
| 250130008 | Massachusetts | Hampden | -0.92 | -0.78 |
| 250130016 | Massachusetts | Hampden | -0.98 | -0.79 |
| 250132009 | Massachusetts | Hampden | -0.96 | -0.78 |
| 250230004 | Massachusetts | Plymouth | -0.75 | -0.63 |
| 250250002 | Massachusetts | Suffolk | -0.75 | -0.59 |
| 250250027 | Massachusetts | Suffolk | -0.75 | -0.60 |
| 250250042 | Massachusetts | Suffolk | -0.72 | -0.59 |
| 250250043 | Massachusetts | Suffolk | -0.77 | -0.59 |
| 250270016 | Massachusetts | Worcester | -0.88 | -0.72 |
| 250270023 | Massachusetts | Worcester | -0.88 | -0.71 |
| 260050003 | Michigan | Allegan | -1.80 | -1.37 |
| 260170014 | Michigan | Bay | -1.41 | -1.07 |
| 260210014 | Michigan | Berrien | -1.67 | -1.27 |

| Annual PM2.5 (μg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 260490021 | Michigan | Genesee | -1.63 | -1.29 |
| 260650012 | Michigan | Ingham | -1.72 | -1.34 |
| 260770008 | Michigan | Kalamazoo | -1.72 | -1.34 |
| 260810020 | Michigan | Kent | -1.57 | -1.16 |
| 260990009 | Michigan | Macomb | -1.70 | -1.38 |
| 261130001 | Michigan | Missaukee | -0.91 | -0.65 |
| 261150005 | Michigan | Monroe | -2.16 | -1.75 |
| 261210040 | Michigan | Muskegon | -1.49 | -1.09 |
| 261250001 | Michigan | Oakland | -1.78 | -1.41 |
| 261390005 | Michigan | Ottawa | -1.63 | -1.22 |
| 261450018 | Michigan | Saginaw | -1.38 | -1.05 |
| 261470005 | Michigan | St. Clair | -1.70 | -1.38 |
| 261610005 | Michigan | Washtenaw | -1.80 | -1.45 |
| 261610008 | Michigan | Washtenaw | -1.79 | -1.41 |
| 261630001 | Michigan | Wayne | -1.85 | -1.46 |
| 261630015 | Michigan | Wayne | -2.04 | -1.63 |
| 261630016 | Michigan | Wayne | -1.82 | -1.45 |
| 261630019 | Michigan | Wayne | -1.78 | -1.43 |
| 261630025 | Michigan | Wayne | -1.88 | -1.50 |
| 261630033 | Michigan | Wayne | -2.14 | -1.69 |
| 261630036 | Michigan | Wayne | -1.96 | -1.57 |
| 270210001 | Minnesota | Cass | -0.30 | -0.22 |
| 270370470 | Minnesota | Dakota | -0.61 | -0.41 |
| 270530050 | Minnesota | Hennepin | -0.58 | -0.38 |
| 270530961 | Minnesota | Hennepin | -0.59 | -0.39 |
| 270530963 | Minnesota | Hennepin | -0.59 | -0.39 |
| 270530965 | Minnesota | Hennepin | -0.57 | -0.37 |
| 270531007 | Minnesota | Hennepin | -0.60 | -0.39 |
| 270532006 | Minnesota | Hennepin | -0.59 | -0.39 |

| Annual PM2.5 (μg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 270953051 | Minnesota | Mille Lacs | -0.36 | -0.25 |
| 271095008 | Minnesota | Olmsted | -0.80 | -0.56 |
| 271230866 | Minnesota | Ramsey | -0.61 | -0.38 |
| 271230868 | Minnesota | Ramsey | -0.58 | -0.36 |
| 271230871 | Minnesota | Ramsey | -0.56 | -0.36 |
| 271377001 | Minnesota | Saint Louis | -0.37 | -0.20 |
| 271377550 | Minnesota | Saint Louis | -0.37 | -0.23 |
| 271377551 | Minnesota | Saint Louis | -0.40 | -0.23 |
| 271390505 | Minnesota | Scott | -0.62 | -0.42 |
| 271453052 | Minnesota | Stearns | -0.50 | -0.33 |
| 280010004 | Mississippi | Adams | -1.73 | -1.33 |
| 280110001 | Mississippi | Bolivar | -2.11 | -1.63 |
| 280330002 | Mississippi | DeSoto | -2.51 | -1.92 |
| 280350004 | Mississippi | Forrest | -1.84 | -1.40 |
| 280470008 | Mississippi | Harrison | -1.55 | -1.18 |
| 280490010 | Mississippi | Hinds | -1.85 | -1.37 |
| 280590006 | Mississippi | Jackson | -1.57 | -1.17 |
| 280670002 | Mississippi | Jones | -1.97 | -1.49 |
| 280750003 | Mississippi | Lauderdale | -2.10 | -1.58 |
| 280810005 | Mississippi | Lee | -2.50 | -1.92 |
| 280870001 | Mississippi | Lowndes | -2.32 | -1.74 |
| 281090001 | Mississippi | Pearl River | -1.61 | -1.23 |
| 281490004 | Mississippi | Warren | -1.83 | -1.36 |
| 290190004 | Missouri | Boone | -1.60 | -1.14 |
| 290210005 | Missouri | Buchanan | -0.99 | -0.72 |
| 290370003 | Missouri | Cass | -1.17 | -0.86 |
| 290390001 | Missouri | Cedar | -1.30 | -0.99 |
| 290470005 | Missouri | Clay | -1.12 | -0.84 |
| 290770032 | Missouri | Greene | -1.57 | -1.18 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 290950034 | Missouri | Jackson | -1.13 | -0.80 |
| 290990012 | Missouri | Jefferson | -2.12 | -1.55 |
| 291370001 | Missouri | Monroe | -1.67 | -1.19 |
| 291831002 | Missouri | Saint Charles | -2.47 | -1.86 |
| 291860006 | Missouri | Sainte Genevieve | -2.35 | -1.70 |
| 291890004 | Missouri | Saint Louis | -2.15 | -1.57 |
| 291892003 | Missouri | Saint Louis | -2.24 | -1.64 |
| 295100007 | Missouri | St. Louis City | -2.17 | -1.57 |
| 295100085 | Missouri | St. Louis City | -2.28 | -1.65 |
| 295100086 | Missouri | St. Louis City | -2.26 | -1.64 |
| 295100087 | Missouri | St. Louis City | -2.31 | -1.66 |
| 300870307 | Montana | Rosebud | -0.01 | 0.02 |
| 301111065 | Montana | Yellowstone | -0.04 | 0.01 |
| 310250002 | Nebraska | Cass | -0.82 | -0.61 |
| 310550019 | Nebraska | Douglas | -0.81 | -0.63 |
| 310550052 | Nebraska | Douglas | -0.81 | -0.61 |
| 310790004 | Nebraska | Hall | -0.56 | -0.40 |
| 311090022 | Nebraska | Lancaster | -0.76 | -0.55 |
| 311111002 | Nebraska | Lincoln | -0.31 | -0.22 |
| 311530007 | Nebraska | Sarpy | -0.82 | -0.63 |
| 311570003 | Nebraska | Scotts Bluff | -0.10 | -0.04 |
| 311770002 | Nebraska | Washington | -0.78 | -0.59 |
| 330012004 | New Hampshire | Belknap | -0.62 | -0.51 |
| 330050007 | New Hampshire | Cheshire | -0.84 | -0.66 |
| 330070014 | New Hampshire | Coos | -0.54 | -0.41 |
| 330090010 | New Hampshire | Grafton | -0.67 | -0.54 |
| 330110020 | New Hampshire | Hillsborough | -0.72 | -0.58 |
| 330111015 | New Hampshire | Hillsborough | -0.75 | -0.61 |
| 330115001 | New Hampshire | Hillsborough | -0.56 | -0.47 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 330131006 | New Hampshire | Merrimack | -0.72 | -0.57 |
| 330150014 | New Hampshire | Rockingham | -0.56 | -0.44 |
| 330190003 | New Hampshire | Sullivan | -0.75 | -0.60 |
| 340011006 | New Jersey | Atlantic | -1.40 | -1.26 |
| 340030003 | New Jersey | Bergen | -1.28 | -1.06 |
| 340070003 | New Jersey | Camden | -1.58 | -1.36 |
| 340071007 | New Jersey | Camden | -1.60 | -1.36 |
| 340130015 | New Jersey | Essex | -1.33 | -1.08 |
| 340155001 | New Jersey | Gloucester | -1.66 | -1.43 |
| 340171003 | New Jersey | Hudson | -1.31 | -1.07 |
| 340210008 | New Jersey | Mercer | -1.54 | -1.32 |
| 340218001 | New Jersey | Mercer | -1.47 | -1.27 |
| 340230006 | New Jersey | Middlesex | -1.43 | -1.22 |
| 340270004 | New Jersey | Morris | -1.38 | -1.19 |
| 340273001 | New Jersey | Morris | -1.34 | -1.18 |
| 340292002 | New Jersey | Ocean | -1.34 | -1.17 |
| 340310005 | New Jersey | Passaic | -1.32 | -1.09 |
| 340390004 | New Jersey | Union | -1.44 | -1.14 |
| 340390006 | New Jersey | Union | -1.34 | -1.08 |
| 340392003 | New Jersey | Union | -1.37 | -1.11 |
| 340410006 | New Jersey | Warren | -1.61 | -1.42 |
| 350010023 | New Mexico | Bernalillo | -0.14 | -0.05 |
| 350010024 | New Mexico | Bernalillo | -0.14 | -0.05 |
| 350050005 | New Mexico | Chaves | -0.20 | -0.15 |
| 350130017 | New Mexico | Dona Ana | -0.15 | -0.10 |
| 350130025 | New Mexico | Dona Ana | -0.15 | -0.11 |
| 350431003 | New Mexico | Sandoval | -0.11 | -0.05 |
| 350439011 | New Mexico | Sandoval | -0.09 | -0.04 |
| 350450006 | New Mexico | San Juan | -0.03 | -0.01 |

| Annual PM2.5 (μg/m3) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 350490020 | New Mexico | Santa Fe | -0.07 | -0.03 |
| 360010005 | New York | Albany | -0.99 | -0.85 |
| 360050080 | New York | Bronx | -1.32 | -1.07 |
| 360050083 | New York | Bronx | -1.27 | -1.05 |
| 360050110 | New York | Bronx | -1.27 | -1.04 |
| 360130011 | New York | Chautauqua | -1.81 | -1.58 |
| 360290005 | New York | Erie | -1.60 | -1.38 |
| 360291007 | New York | Erie | -1.69 | -1.46 |
| 360310003 | New York | Essex | -0.73 | -0.64 |
| 360470122 | New York | Kings | -1.31 | -1.07 |
| 360551007 | New York | Monroe | -1.40 | -1.22 |
| 360590008 | New York | Nassau | -1.15 | -0.98 |
| 360610056 | New York | New York | -1.42 | -1.14 |
| 360610062 | New York | New York | -1.36 | -1.10 |
| 360610079 | New York | New York | -1.28 | -1.05 |
| 360610128 | New York | New York | -1.33 | -1.08 |
| 360632008 | New York | Niagara | -1.62 | -1.40 |
| 360671015 | New York | Onondaga | -1.43 | -1.28 |
| 360710002 | New York | Orange | -1.22 | -1.07 |
| 360810124 | New York | Queens | -1.17 | -0.97 |
| 360850055 | New York | Richmond | -1.33 | -1.07 |
| 360850067 | New York | Richmond | -1.15 | -0.93 |
| 360893001 | New York | St. Lawrence | -0.79 | -0.69 |
| 361010003 | New York | Steuben | -1.55 | -1.40 |
| 361030001 | New York | Suffolk | -1.20 | -1.04 |
| 361191002 | New York | Westchester | -1.24 | -1.06 |
| 370010002 | North Carolina | Alamance | -2.18 | -1.79 |
| 370210034 | North Carolina | Buncombe | -2.07 | -1.63 |
| 370330001 | North Carolina | Caswell | -2.17 | -1.82 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 370350004 | North Carolina | Catawba | -2.32 | -1.87 |
| 370370004 | North Carolina | Chatham | -2.02 | -1.64 |
| 370510009 | North Carolina | Cumberland | -1.87 | -1.47 |
| 370570002 | North Carolina | Davidson | -2.30 | -1.90 |
| 370610002 | North Carolina | Duplin | -1.67 | -1.38 |
| 370630001 | North Carolina | Durham | -2.07 | -1.68 |
| 370650004 | North Carolina | Edgecombe | -1.97 | -1.62 |
| 370670022 | North Carolina | Forsyth | -2.35 | -1.96 |
| 370710016 | North Carolina | Gaston | -2.08 | -1.66 |
| 370810013 | North Carolina | Guilford | -2.15 | -1.78 |
| 370870010 | North Carolina | Haywood | -1.82 | -1.37 |
| 370990006 | North Carolina | Jackson | -2.10 | -1.57 |
| 371070004 | North Carolina | Lenoir | -1.68 | -1.39 |
| 371110004 | North Carolina | McDowell | -2.15 | -1.73 |
| 371170001 | North Carolina | Martin | -1.68 | -1.42 |
| 371190010 | North Carolina | Mecklenburg | -2.00 | -1.61 |
| 371190041 | North Carolina | Mecklenburg | -2.04 | -1.64 |
| 371190042 | North Carolina | Mecklenburg | -2.04 | -1.64 |
| 371210001 | North Carolina | Mitchell | -2.21 | -1.80 |
| 371230001 | North Carolina | Montgomery | -2.00 | -1.60 |
| 371290002 | North Carolina | New Hanover | -1.46 | -1.21 |
| 371330005 | North Carolina | Onslow | -1.63 | -1.36 |
| 371350007 | North Carolina | Orange | -2.12 | -1.71 |
| 371470005 | North Carolina | Pitt | -1.76 | -1.46 |
| 371550005 | North Carolina | Robeson | -1.73 | -1.41 |
| 371590021 | North Carolina | Rowan | -2.09 | -1.72 |
| 371730002 | North Carolina | Swain | -2.23 | -1.66 |
| 371830014 | North Carolina | Wake | -2.05 | -1.65 |
| 371890003 | North Carolina | Watauga | -2.37 | -1.96 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 371910005 | North Carolina | Wayne | -1.88 | -1.51 |
| 380070002 | North Dakota | Billings | -0.04 | -0.02 |
| 380130002 | North Dakota | Burke | -0.04 | -0.02 |
| 380130003 | North Dakota | Burke | -0.04 | -0.02 |
| 380150003 | North Dakota | Burleigh | -0.11 | -0.05 |
| 380171004 | North Dakota | Cass | -0.29 | -0.18 |
| 380530002 | North Dakota | McKenzie | -0.04 | -0.01 |
| 380570004 | North Dakota | Mercer | -0.06 | -0.03 |
| 390090003 | Ohio | Athens | -2.83 | -2.32 |
| 390170016 | Ohio | Butler | -3.31 | -2.82 |
| 390170017 | Ohio | Butler | -2.95 | -2.50 |
| 390171004 | Ohio | Butler | -3.07 | -2.62 |
| 390230005 | Ohio | Clark | -2.82 | -2.39 |
| 390250022 | Ohio | Clermont | -3.37 | -2.88 |
| 390350027 | Ohio | Cuyahoga | -2.65 | -2.21 |
| 390350034 | Ohio | Cuyahoga | -2.42 | -2.03 |
| 390350038 | Ohio | Cuyahoga | -2.67 | -2.20 |
| 390350045 | Ohio | Cuyahoga | -2.68 | -2.22 |
| 390350060 | Ohio | Cuyahoga | -2.67 | -2.20 |
| 390350065 | Ohio | Cuyahoga | -2.66 | -2.21 |
| 390351002 | Ohio | Cuyahoga | -2.38 | -2.00 |
| 390490024 | Ohio | Franklin | -2.81 | -2.33 |
| 390490025 | Ohio | Franklin | -2.81 | -2.33 |
| 390490081 | Ohio | Franklin | -2.82 | -2.34 |
| 390570005 | Ohio | Greene | -2.85 | -2.43 |
| 390610006 | Ohio | Hamilton | -3.29 | -2.81 |
| 390610014 | Ohio | Hamilton | -3.54 | -2.99 |
| 390610040 | Ohio | Hamilton | -3.55 | -3.03 |
| 390610042 | Ohio | Hamilton | -3.51 | -2.98 |

| Annual PM2.5 (µg/m$^3$) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 390610043 | Ohio | Hamilton | -3.28 | -2.79 |
| 390617001 | Ohio | Hamilton | -3.52 | -2.99 |
| 390618001 | Ohio | Hamilton | -3.52 | -2.97 |
| 390810017 | Ohio | Jefferson | -2.75 | -2.33 |
| 390811001 | Ohio | Jefferson | -2.99 | -2.54 |
| 390851001 | Ohio | Lake | -2.30 | -1.93 |
| 390870010 | Ohio | Lawrence | -2.99 | -2.43 |
| 390930016 | Ohio | Lorain | -2.49 | -2.10 |
| 390933002 | Ohio | Lorain | -1.94 | -1.61 |
| 390950024 | Ohio | Lucas | -2.19 | -1.76 |
| 390950025 | Ohio | Lucas | -2.21 | -1.79 |
| 390950026 | Ohio | Lucas | -2.20 | -1.77 |
| 390990005 | Ohio | Mahoning | -2.50 | -2.08 |
| 390990014 | Ohio | Mahoning | -2.52 | -2.08 |
| 391130031 | Ohio | Montgomery | -2.86 | -2.43 |
| 391130032 | Ohio | Montgomery | -2.94 | -2.48 |
| 391330002 | Ohio | Portage | -2.43 | -2.04 |
| 391351001 | Ohio | Preble | -3.09 | -2.67 |
| 391450013 | Ohio | Scioto | -3.08 | -2.54 |
| 391510017 | Ohio | Stark | -2.73 | -2.34 |
| 391510020 | Ohio | Stark | -2.34 | -1.98 |
| 391530017 | Ohio | Summit | -2.37 | -2.00 |
| 391530023 | Ohio | Summit | -2.29 | -1.94 |
| 391550007 | Ohio | Trumbull | -2.48 | -2.05 |
| 400159008 | Oklahoma | Caddo | -0.62 | -0.50 |
| 400219002 | Oklahoma | Cherokee | -1.25 | -0.94 |
| 400719010 | Oklahoma | Kay | -0.77 | -0.57 |
| 400819005 | Oklahoma | Lincoln | -0.92 | -0.69 |
| 400970186 | Oklahoma | Mayes | -1.13 | -0.84 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 400979014 | Oklahoma | Mayes | -1.15 | -0.86 |
| 401010169 | Oklahoma | Muskogee | -1.15 | -0.86 |
| 401090035 | Oklahoma | Oklahoma | -0.82 | -0.60 |
| 401091037 | Oklahoma | Oklahoma | -0.83 | -0.61 |
| 401159004 | Oklahoma | Ottawa | -1.19 | -0.90 |
| 401210415 | Oklahoma | Pittsburg | -1.09 | -0.83 |
| 401359015 | Oklahoma | Sequoyah | -1.26 | -0.95 |
| 401430110 | Oklahoma | Tulsa | -1.06 | -0.79 |
| 401431127 | Oklahoma | Tulsa | -1.03 | -0.76 |
| 420010001 | Pennsylvania | Adams | -2.30 | -2.07 |
| 420030008 | Pennsylvania | Allegheny | -2.82 | -2.41 |
| 420030021 | Pennsylvania | Allegheny | -2.85 | -2.46 |
| 420030064 | Pennsylvania | Allegheny | -3.02 | -2.50 |
| 420030067 | Pennsylvania | Allegheny | -2.68 | -2.31 |
| 420030095 | Pennsylvania | Allegheny | -2.65 | -2.29 |
| 420030116 | Pennsylvania | Allegheny | -2.67 | -2.28 |
| 420031008 | Pennsylvania | Allegheny | -3.05 | -2.68 |
| 420031301 | Pennsylvania | Allegheny | -2.99 | -2.56 |
| 420033007 | Pennsylvania | Allegheny | -3.06 | -2.62 |
| 420039002 | Pennsylvania | Allegheny | -2.98 | -2.60 |
| 420070014 | Pennsylvania | Beaver | -2.58 | -2.22 |
| 420110011 | Pennsylvania | Berks | -1.99 | -1.79 |
| 420170012 | Pennsylvania | Bucks | -1.62 | -1.38 |
| 420210011 | Pennsylvania | Cambria | -3.55 | -3.20 |
| 420270100 | Pennsylvania | Centre | -2.44 | -2.19 |
| 420290100 | Pennsylvania | Chester | -1.90 | -1.71 |
| 420410101 | Pennsylvania | Cumberland | -2.22 | -2.00 |
| 420430401 | Pennsylvania | Dauphin | -2.45 | -2.22 |
| 420450002 | Pennsylvania | Delaware | -1.73 | -1.48 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 420490003 | Pennsylvania | Erie | -2.07 | -1.75 |
| 420692006 | Pennsylvania | Lackawanna | -1.64 | -1.47 |
| 420710007 | Pennsylvania | Lancaster | -2.24 | -2.04 |
| 420770004 | Pennsylvania | Lehigh | -1.67 | -1.47 |
| 420791101 | Pennsylvania | Luzerne | -1.63 | -1.46 |
| 420850100 | Pennsylvania | Mercer | -2.43 | -2.03 |
| 420950025 | Pennsylvania | Northampton | -1.64 | -1.43 |
| 420990301 | Pennsylvania | Perry | -2.01 | -1.81 |
| 421010047 | Pennsylvania | Philadelphia | -1.64 | -1.36 |
| 421250005 | Pennsylvania | Washington | -3.21 | -2.74 |
| 421250200 | Pennsylvania | Washington | -3.13 | -2.68 |
| 421255001 | Pennsylvania | Washington | -2.43 | -2.09 |
| 421290008 | Pennsylvania | Westmoreland | -3.36 | -2.92 |
| 421330008 | Pennsylvania | York | -2.39 | -2.20 |
| 440070022 | Rhode Island | Providence | -0.75 | -0.63 |
| 440070026 | Rhode Island | Providence | -0.82 | -0.66 |
| 440070028 | Rhode Island | Providence | -0.78 | -0.64 |
| 440071010 | Rhode Island | Providence | -0.77 | -0.65 |
| 450130007 | South Carolina | Beaufort | -1.53 | -1.16 |
| 450190048 | South Carolina | Charleston | -1.46 | -1.12 |
| 450190049 | South Carolina | Charleston | -1.54 | -1.19 |
| 450250001 | South Carolina | Chesterfield | -1.76 | -1.38 |
| 450370001 | South Carolina | Edgefield | -1.83 | -1.29 |
| 450410002 | South Carolina | Florence | -1.69 | -1.33 |
| 450430009 | South Carolina | Georgetown | -1.44 | -1.15 |
| 450450008 | South Carolina | Greenville | -2.07 | -1.53 |
| 450450009 | South Carolina | Greenville | -2.09 | -1.56 |
| 450470003 | South Carolina | Greenwood | -2.14 | -1.46 |
| 450510002 | South Carolina | Horry | -1.54 | -1.22 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 450630008 | South Carolina | Lexington | -1.86 | -1.34 |
| 450730001 | South Carolina | Oconee | -1.97 | -1.45 |
| 450790007 | South Carolina | Richland | -1.86 | -1.37 |
| 450790019 | South Carolina | Richland | -1.85 | -1.35 |
| 450830010 | South Carolina | Spartanburg | -2.04 | -1.56 |
| 460110002 | South Dakota | Brookings | -0.50 | -0.35 |
| 460130003 | South Dakota | Brown | -0.30 | -0.19 |
| 460290002 | South Dakota | Codington | -0.38 | -0.25 |
| 460330132 | South Dakota | Custer | -0.05 | -0.02 |
| 460710001 | South Dakota | Jackson | -0.10 | -0.07 |
| 460990006 | South Dakota | Minnehaha | -0.60 | -0.41 |
| 460990007 | South Dakota | Minnehaha | -0.59 | -0.41 |
| 461030016 | South Dakota | Pennington | -0.07 | -0.02 |
| 461030020 | South Dakota | Pennington | -0.07 | -0.02 |
| 461031001 | South Dakota | Pennington | -0.06 | -0.02 |
| 470090011 | Tennessee | Blount | -2.40 | -1.84 |
| 470370023 | Tennessee | Davidson | -3.29 | -2.72 |
| 470370025 | Tennessee | Davidson | -3.29 | -2.71 |
| 470370036 | Tennessee | Davidson | -3.29 | -2.71 |
| 470450004 | Tennessee | Dyer | -2.97 | -2.43 |
| 470650031 | Tennessee | Hamilton | -2.61 | -1.97 |
| 470651011 | Tennessee | Hamilton | -2.74 | -2.12 |
| 470654002 | Tennessee | Hamilton | -2.72 | -2.08 |
| 470930028 | Tennessee | Knox | -2.59 | -1.98 |
| 470931017 | Tennessee | Knox | -2.58 | -1.97 |
| 470931020 | Tennessee | Knox | -2.64 | -2.02 |
| 470990002 | Tennessee | Lawrence | -2.48 | -2.03 |
| 471050108 | Tennessee | Loudon | -2.46 | -1.89 |
| 471071002 | Tennessee | McMinn | -2.53 | -1.95 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 471192007 | Tennessee | Maury | -2.94 | -2.41 |
| 471251009 | Tennessee | Montgomery | -3.87 | -3.29 |
| 471410001 | Tennessee | Putnam | -3.02 | -2.46 |
| 471450004 | Tennessee | Roane | -2.58 | -2.01 |
| 471570014 | Tennessee | Shelby | -2.70 | -2.06 |
| 471570038 | Tennessee | Shelby | -2.69 | -2.05 |
| 471570047 | Tennessee | Shelby | -2.77 | -2.11 |
| 471571004 | Tennessee | Shelby | -2.65 | -2.06 |
| 471631007 | Tennessee | Sullivan | -2.51 | -2.03 |
| 471650007 | Tennessee | Sumner | -3.97 | -3.34 |
| 480370004 | Texas | Bowie | -1.37 | -1.10 |
| 481130069 | Texas | Dallas | -0.81 | -0.61 |
| 481130087 | Texas | Dallas | -0.81 | -0.62 |
| 481350003 | Texas | Ector | -0.32 | -0.26 |
| 481410037 | Texas | El Paso | -0.15 | -0.10 |
| 482010058 | Texas | Harris | -1.00 | -0.72 |
| 482011035 | Texas | Harris | -1.05 | -0.67 |
| 482030002 | Texas | Harrison | -1.33 | -1.10 |
| 482150043 | Texas | Hidalgo | -0.71 | -0.57 |
| 482450021 | Texas | Jefferson | -1.23 | -0.91 |
| 483550032 | Texas | Nueces | -1.09 | -0.76 |
| 483611001 | Texas | Orange | -1.22 | -0.95 |
| 484391002 | Texas | Tarrant | -0.81 | -0.61 |
| 484391006 | Texas | Tarrant | -0.82 | -0.61 |
| 500010002 | Vermont | Addison | -0.73 | -0.62 |
| 500010003 | Vermont | Addison | -0.72 | -0.61 |
| 500030004 | Vermont | Bennington | -0.81 | -0.70 |
| 500070012 | Vermont | Chittenden | -0.74 | -0.60 |
| 500070014 | Vermont | Chittenden | -0.77 | -0.62 |

| Annual PM2.5 (µg/m$^3$) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 500210002 | Vermont | Rutland | -0.76 | -0.61 |
| 510130020 | Virginia | Arlington | -2.06 | -1.86 |
| 510360002 | Virginia | Charles | -1.89 | -1.61 |
| 510410003 | Virginia | Chesterfield | -2.05 | -1.72 |
| 510590030 | Virginia | Fairfax | -2.03 | -1.82 |
| 510591005 | Virginia | Fairfax | -2.07 | -1.85 |
| 510595001 | Virginia | Fairfax | -2.09 | -1.86 |
| 510870014 | Virginia | Henrico | -2.07 | -1.75 |
| 510870015 | Virginia | Henrico | -2.19 | -1.85 |
| 511071005 | Virginia | Loudoun | -2.14 | -1.89 |
| 511390004 | Virginia | Page | -2.57 | -2.21 |
| 515200006 | Virginia | Bristol City | -2.66 | -2.14 |
| 516500004 | Virginia | Hampton City | -1.84 | -1.56 |
| 516800015 | Virginia | Lynchburg City | -2.29 | -1.91 |
| 517100024 | Virginia | Norfolk City | -1.88 | -1.59 |
| 517700014 | Virginia | Roanoke City | -2.57 | -2.10 |
| 517750010 | Virginia | Salem City | -2.51 | -2.05 |
| 518100008 | Virginia | Virginia Beach City | -1.84 | -1.57 |
| 540030003 | West Virginia | Berkeley | -2.51 | -2.20 |
| 540090005 | West Virginia | Brooke | -2.93 | -2.49 |
| 540090011 | West Virginia | Brooke | -2.93 | -2.49 |
| 540110006 | West Virginia | Cabell | -3.16 | -2.56 |
| 540291004 | West Virginia | Hancock | -2.86 | -2.45 |
| 540330003 | West Virginia | Harrison | -3.88 | -3.36 |
| 540390010 | West Virginia | Kanawha | -3.24 | -2.68 |
| 540390011 | West Virginia | Kanawha | -2.99 | -2.50 |
| 540391005 | West Virginia | Kanawha | -3.31 | -2.72 |
| 540490006 | West Virginia | Marion | -4.17 | -3.62 |
| 540511002 | West Virginia | Marshall | -3.22 | -2.70 |

| Annual PM2.5 (µg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 540610003 | West Virginia | Monongalia | -3.71 | -3.13 |
| 540690010 | West Virginia | Ohio | -3.03 | -2.57 |
| 540810002 | West Virginia | Raleigh | -2.87 | -2.39 |
| 541071002 | West Virginia | Wood | -2.91 | -2.37 |
| 550030010 | Wisconsin | Ashland | -0.39 | -0.28 |
| 550090005 | Wisconsin | Brown | -0.78 | -0.50 |
| 550250047 | Wisconsin | Dane | -1.19 | -0.91 |
| 550270007 | Wisconsin | Dodge | -1.12 | -0.75 |
| 550410007 | Wisconsin | Forest | -0.58 | -0.39 |
| 550430009 | Wisconsin | Grant | -1.14 | -0.79 |
| 550590019 | Wisconsin | Kenosha | -1.55 | -1.05 |
| 550710007 | Wisconsin | Manitowoc | -0.86 | -0.57 |
| 550790010 | Wisconsin | Milwaukee | -1.47 | -0.97 |
| 550790026 | Wisconsin | Milwaukee | -1.42 | -0.95 |
| 550790043 | Wisconsin | Milwaukee | -1.49 | -0.98 |
| 550790059 | Wisconsin | Milwaukee | -1.45 | -0.95 |
| 550790099 | Wisconsin | Milwaukee | -1.43 | -0.95 |
| 550870009 | Wisconsin | Outagamie | -0.80 | -0.52 |
| 550890009 | Wisconsin | Ozaukee | -1.26 | -0.85 |
| 551091002 | Wisconsin | St. Croix | -0.62 | -0.41 |
| 551110007 | Wisconsin | Sauk | -1.06 | -0.74 |
| 551198001 | Wisconsin | Taylor | -0.58 | -0.41 |
| 551250001 | Wisconsin | Vilas | -0.50 | -0.35 |
| 551330027 | Wisconsin | Waukesha | -1.29 | -0.84 |
| 560050877 | Wyoming | Campbell | -0.01 | 0.01 |
| 560050892 | Wyoming | Campbell | 0.01 | 0.00 |
| 560050899 | Wyoming | Campbell | 0.00 | 0.01 |
| 560090819 | Wyoming | Converse | 0.00 | 0.01 |
| 560131003 | Wyoming | Fremont | -0.04 | 0.01 |

| Annual PM2.5 (μg/m³) | | | Difference: 2014 Remedy - 2012 Base Case | Difference: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 560210001 | Wyoming | Laramie | -0.05 | 0.01 |
| 560330002 | Wyoming | Sheridan | -0.06 | 0.01 |

# Differences in 24-Hour PM2.5 Design Values (µg/m$^3$) by Site: 2014 Remedy Scenario Compared to the 2012 Base Case and the 2014 Base Case

| 24-Hour PM2.5 (µg/m$^3$) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 10030010 | Alabama | Baldwin | -4.6 | -3.8 |
| 10270001 | Alabama | Clay | -6.1 | -4.2 |
| 10331002 | Alabama | Colbert | -8.3 | -6.8 |
| 10491003 | Alabama | DeKalb | -6.0 | -4.1 |
| 10530002 | Alabama | Escambia | -4.3 | -3.4 |
| 10550010 | Alabama | Etowah | -6.2 | -4.6 |
| 10690003 | Alabama | Houston | -3.6 | -2.6 |
| 10730023 | Alabama | Jefferson | -4.4 | -3.2 |
| 10731005 | Alabama | Jefferson | -5.6 | -4.1 |
| 10731009 | Alabama | Jefferson | -6.5 | -4.9 |
| 10731010 | Alabama | Jefferson | -6.2 | -4.7 |
| 10732003 | Alabama | Jefferson | -3.7 | -2.8 |
| 10732006 | Alabama | Jefferson | -6.1 | -4.8 |
| 10735002 | Alabama | Jefferson | -7.2 | -5.4 |
| 10735003 | Alabama | Jefferson | -7.0 | -5.4 |
| 10890014 | Alabama | Madison | -8.6 | -6.7 |
| 10970002 | Alabama | Mobile | -4.6 | -3.1 |
| 10970003 | Alabama | Mobile | -4.7 | -3.3 |
| 10972005 | Alabama | Mobile | -5.3 | -4.1 |
| 11010007 | Alabama | Montgomery | -5.4 | -4.2 |
| 11030011 | Alabama | Morgan | -8.7 | -6.8 |
| 11130001 | Alabama | Russell | -4.4 | -3.0 |
| 11170006 | Alabama | Shelby | -6.0 | -4.6 |
| 11190002 | Alabama | Sumter | -5.9 | -4.4 |
| 11210002 | Alabama | Talladega | -5.7 | -4.0 |
| 11250004 | Alabama | Tuscaloosa | -5.1 | -4.0 |
| 11270002 | Alabama | Walker | -5.4 | -4.0 |
| 50010011 | Arkansas | Arkansas | -7.1 | -6.1 |
| 50030005 | Arkansas | Ashley | -4.6 | -3.5 |

| 24-Hour PM2.5 (µg/m$^3$) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 50350005 | Arkansas | Crittenden | -12.0 | -10.4 |
| 50450002 | Arkansas | Faulkner | -5.7 | -4.8 |
| 50510003 | Arkansas | Garland | -7.1 | -6.1 |
| 50930007 | Arkansas | Mississippi | -8.4 | -6.8 |
| 51070001 | Arkansas | Phillips | -7.2 | -6.0 |
| 51130002 | Arkansas | Polk | -6.2 | -5.2 |
| 51150003 | Arkansas | Pope | -3.2 | -2.3 |
| 51190007 | Arkansas | Pulaski | -6.0 | -5.0 |
| 51191004 | Arkansas | Pulaski | -4.9 | -3.9 |
| 51191005 | Arkansas | Pulaski | -4.7 | -3.6 |
| 51390006 | Arkansas | Union | -4.7 | -3.6 |
| 51450001 | Arkansas | White | -6.6 | -5.4 |
| 80010006 | Colorado | Adams | -0.1 | 0.4 |
| 80050005 | Colorado | Arapahoe | -0.4 | 0.0 |
| 80130003 | Colorado | Boulder | -0.2 | 0.2 |
| 80130012 | Colorado | Boulder | -0.3 | 0.0 |
| 80290004 | Colorado | Delta | -0.6 | -0.1 |
| 80310002 | Colorado | Denver | 0.1 | 0.4 |
| 80310023 | Colorado | Denver | 0.1 | 0.5 |
| 80390001 | Colorado | Elbert | -0.3 | -0.1 |
| 80410008 | Colorado | El Paso | -0.3 | 0.0 |
| 80410011 | Colorado | El Paso | -0.3 | 0.0 |
| 80690009 | Colorado | Larimer | -0.2 | 0.0 |
| 80770017 | Colorado | Mesa | -0.4 | 0.0 |
| 81010012 | Colorado | Pueblo | -0.3 | 0.0 |
| 81130004 | Colorado | San Miguel | 0.0 | 0.0 |
| 81230006 | Colorado | Weld | 0.1 | 0.3 |
| 81230008 | Colorado | Weld | -0.1 | 0.2 |
| 90010010 | Connecticut | Fairfield | -3.1 | -2.4 |
| 90011123 | Connecticut | Fairfield | -2.1 | -1.5 |
| 90013005 | Connecticut | Fairfield | -3.4 | -2.8 |
| 90019003 | Connecticut | Fairfield | -4.7 | -4.0 |
| 90031003 | Connecticut | Hartford | -3.3 | -2.7 |

| 24-Hour PM2.5 ($\mu g/m^3$) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 90050005 | Connecticut | Litchfield | -5.5 | -4.9 |
| 90090026 | Connecticut | New Haven | -4.0 | -3.3 |
| 90090027 | Connecticut | New Haven | -2.7 | -2.0 |
| 90091123 | Connecticut | New Haven | -3.4 | -2.6 |
| 90092008 | Connecticut | New Haven | -4.4 | -3.7 |
| 90092123 | Connecticut | New Haven | -2.6 | -1.9 |
| 90113002 | Connecticut | New London | -4.0 | -3.3 |
| 100010002 | Delaware | Kent | -3.0 | -2.6 |
| 100010003 | Delaware | Kent | -3.2 | -2.7 |
| 100031003 | Delaware | New Castle | -2.7 | -2.3 |
| 100031007 | Delaware | New Castle | -2.2 | -1.9 |
| 100031012 | Delaware | New Castle | -1.7 | -1.3 |
| 100032004 | Delaware | New Castle | -2.4 | -2.0 |
| 100051002 | Delaware | Sussex | -2.9 | -2.4 |
| 110010041 | District Of Columbia | District of Columbia | -2.8 | -2.4 |
| 110010042 | District Of Columbia | District of Columbia | -2.5 | -2.2 |
| 110010043 | District Of Columbia | District of Columbia | -2.5 | -2.3 |
| 120010023 | Florida | Alachua | -3.8 | -3.1 |
| 120010024 | Florida | Alachua | -3.4 | -2.7 |
| 120051004 | Florida | Bay | -3.2 | -2.2 |
| 120090007 | Florida | Brevard | -1.8 | -1.3 |
| 120111002 | Florida | Broward | -1.6 | -1.0 |
| 120112004 | Florida | Broward | -1.3 | -0.7 |
| 120113002 | Florida | Broward | -1.4 | -0.9 |
| 120170005 | Florida | Citrus | -3.1 | -2.3 |
| 120310098 | Florida | Duval | -2.1 | -1.6 |
| 120310099 | Florida | Duval | -1.1 | -0.7 |
| 120330004 | Florida | Escambia | -3.3 | -2.6 |
| 120570030 | Florida | Hillsborough | -1.3 | -0.6 |
| 120573002 | Florida | Hillsborough | -1.6 | -0.9 |

| 24-Hour PM2.5 (µg/m$^3$) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 120710005 | Florida | Lee | -1.8 | -1.1 |
| 120730012 | Florida | Leon | -3.3 | -2.5 |
| 120814012 | Florida | Manatee | -1.8 | -1.3 |
| 120830003 | Florida | Marion | -2.7 | -2.0 |
| 120861016 | Florida | Miami-Dade | -1.1 | -0.7 |
| 120866001 | Florida | Miami-Dade | -2.1 | -1.4 |
| 120951004 | Florida | Orange | -1.8 | -1.1 |
| 120952002 | Florida | Orange | -1.9 | -1.1 |
| 120990009 | Florida | Palm Beach | -1.7 | -1.1 |
| 120992005 | Florida | Palm Beach | -1.5 | -1.0 |
| 121030018 | Florida | Pinellas | -1.1 | -0.6 |
| 121031009 | Florida | Pinellas | -1.3 | -1.0 |
| 121056006 | Florida | Polk | -1.7 | -1.0 |
| 121111002 | Florida | St. Lucie | -2.6 | -1.9 |
| 121150013 | Florida | Sarasota | -2.3 | -1.6 |
| 121171002 | Florida | Seminole | -2.9 | -1.9 |
| 121275002 | Florida | Volusia | -3.8 | -2.7 |
| 130210007 | Georgia | Bibb | -3.8 | -2.1 |
| 130210012 | Georgia | Bibb | -5.7 | -3.5 |
| 130510017 | Georgia | Chatham | -3.1 | -2.1 |
| 130510091 | Georgia | Chatham | -2.6 | -1.6 |
| 130630091 | Georgia | Clayton | -3.8 | -2.8 |
| 130670003 | Georgia | Cobb | -4.3 | -2.8 |
| 130670004 | Georgia | Cobb | -4.9 | -2.4 |
| 130890002 | Georgia | DeKalb | -3.3 | -2.1 |
| 130892001 | Georgia | DeKalb | -3.0 | -1.7 |
| 130950007 | Georgia | Dougherty | -4.0 | -2.8 |
| 131150005 | Georgia | Floyd | -4.2 | -2.9 |
| 131210032 | Georgia | Fulton | -3.1 | -1.7 |
| 131210039 | Georgia | Fulton | -4.2 | -1.6 |
| 131270006 | Georgia | Glynn | -3.1 | -2.1 |
| 131350002 | Georgia | Gwinnett | -3.6 | -2.5 |
| 131390003 | Georgia | Hall | -4.3 | -1.6 |

| 24-Hour PM2.5 (µg/m³) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 131530001 | Georgia | Houston | -4.8 | -2.9 |
| 131850003 | Georgia | Lowndes | -3.0 | -2.1 |
| 132150001 | Georgia | Muscogee | -3.1 | -2.0 |
| 132150008 | Georgia | Muscogee | -4.9 | -3.1 |
| 132150011 | Georgia | Muscogee | -3.0 | -1.7 |
| 132230003 | Georgia | Paulding | -4.9 | -3.1 |
| 132450005 | Georgia | Richmond | -1.8 | -1.0 |
| 132450091 | Georgia | Richmond | -3.3 | -2.0 |
| 132950002 | Georgia | Walker | -4.3 | -2.9 |
| 133030001 | Georgia | Washington | -6.8 | -2.9 |
| 133190001 | Georgia | Wilkinson | -4.6 | -2.5 |
| 170010006 | Illinois | Adams | -5.3 | -3.7 |
| 170190004 | Illinois | Champaign | -6.3 | -5.2 |
| 170191001 | Illinois | Champaign | -4.7 | -3.6 |
| 170310022 | Illinois | Cook | -1.7 | -1.1 |
| 170310050 | Illinois | Cook | -3.8 | -2.0 |
| 170310052 | Illinois | Cook | -1.9 | -0.7 |
| 170310057 | Illinois | Cook | -4.5 | -3.2 |
| 170310076 | Illinois | Cook | -4.0 | -2.5 |
| 170311016 | Illinois | Cook | -3.3 | -1.7 |
| 170312001 | Illinois | Cook | -4.0 | -2.8 |
| 170313103 | Illinois | Cook | -2.2 | -1.4 |
| 170313301 | Illinois | Cook | -3.3 | -1.9 |
| 170314007 | Illinois | Cook | -3.2 | -1.8 |
| 170314201 | Illinois | Cook | -3.0 | -1.1 |
| 170316005 | Illinois | Cook | -1.8 | -0.9 |
| 170434002 | Illinois | DuPage | -1.6 | -0.8 |
| 170650002 | Illinois | Hamilton | -10.2 | -8.3 |
| 170831001 | Illinois | Jersey | -8.0 | -5.2 |
| 170890003 | Illinois | Kane | -3.2 | -1.5 |
| 170890007 | Illinois | Kane | -2.5 | -1.0 |
| 170971007 | Illinois | Lake | -7.0 | -4.9 |
| 170990007 | Illinois | La Salle | -3.3 | -1.9 |

| 24-Hour PM2.5 (µg/m³) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 171110001 | Illinois | McHenry | -2.3 | -1.2 |
| 171132003 | Illinois | McLean | -7.3 | -5.4 |
| 171150013 | Illinois | Macon | -8.9 | -7.2 |
| 171190023 | Illinois | Madison | -7.2 | -4.4 |
| 171191007 | Illinois | Madison | -5.7 | -3.7 |
| 171192009 | Illinois | Madison | -8.6 | -6.8 |
| 171193007 | Illinois | Madison | -9.3 | -7.4 |
| 171430037 | Illinois | Peoria | -6.1 | -2.5 |
| 171570001 | Illinois | Randolph | -4.4 | -2.4 |
| 171613002 | Illinois | Rock Island | -2.2 | -1.1 |
| 171630010 | Illinois | Saint Clair | -5.9 | -3.4 |
| 171634001 | Illinois | Saint Clair | -6.0 | -3.2 |
| 171670012 | Illinois | Sangamon | -6.2 | -4.2 |
| 171971002 | Illinois | Will | -5.5 | -4.0 |
| 171971011 | Illinois | Will | -8.0 | -6.3 |
| 172010013 | Illinois | Winnebago | -3.3 | -1.5 |
| 180030004 | Indiana | Allen | -2.4 | -1.7 |
| 180030014 | Indiana | Allen | -2.9 | -2.3 |
| 180190006 | Indiana | Clark | -9.5 | -7.5 |
| 180350006 | Indiana | Delaware | -6.7 | -5.4 |
| 180372001 | Indiana | Dubois | -8.6 | -7.4 |
| 180390003 | Indiana | Elkhart | -4.8 | -3.7 |
| 180431004 | Indiana | Floyd | -10.5 | -8.9 |
| 180650003 | Indiana | Henry | -7.0 | -5.9 |
| 180670003 | Indiana | Howard | -7.6 | -6.2 |
| 180830004 | Indiana | Knox | -7.1 | -6.0 |
| 180890006 | Indiana | Lake | -2.0 | -1.3 |
| 180890022 | Indiana | Lake | -2.0 | -1.1 |
| 180890026 | Indiana | Lake | -3.6 | -2.2 |
| 180890027 | Indiana | Lake | -2.2 | -1.3 |
| 180890031 | Indiana | Lake | -6.2 | -4.6 |
| 180891003 | Indiana | Lake | -1.9 | -1.1 |
| 180892004 | Indiana | Lake | -1.9 | -1.3 |

| 24-Hour PM2.5 (µg/m³) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 180892010 | Indiana | Lake | -3.8 | -2.9 |
| 180910011 | Indiana | LaPorte | -5.2 | -3.7 |
| 180910012 | Indiana | LaPorte | -3.5 | -2.4 |
| 180950009 | Indiana | Madison | -7.7 | -6.6 |
| 180970042 | Indiana | Marion | -7.7 | -5.9 |
| 180970043 | Indiana | Marion | -7.3 | -5.6 |
| 180970066 | Indiana | Marion | -8.4 | -6.8 |
| 180970078 | Indiana | Marion | -6.3 | -4.7 |
| 180970079 | Indiana | Marion | -8.6 | -6.9 |
| 180970081 | Indiana | Marion | -9.2 | -7.8 |
| 180970083 | Indiana | Marion | -10.0 | -8.3 |
| 181270020 | Indiana | Porter | -5.2 | -3.7 |
| 181270024 | Indiana | Porter | -3.3 | -2.1 |
| 181410014 | Indiana | St. Joseph | -3.5 | -2.8 |
| 181411008 | Indiana | St. Joseph | -2.3 | -1.4 |
| 181412004 | Indiana | St. Joseph | -2.0 | -1.4 |
| 181470009 | Indiana | Spencer | -8.7 | -7.2 |
| 181570008 | Indiana | Tippecanoe | -6.4 | -4.9 |
| 181630006 | Indiana | Vanderburgh | -7.3 | -6.3 |
| 181630012 | Indiana | Vanderburgh | -7.1 | -6.1 |
| 181630016 | Indiana | Vanderburgh | -4.4 | -3.4 |
| 181670018 | Indiana | Vigo | -2.4 | -1.0 |
| 181670023 | Indiana | Vigo | -4.3 | -2.9 |
| 190130008 | Iowa | Black Hawk | -1.3 | -0.8 |
| 190450021 | Iowa | Clinton | -3.1 | -0.8 |
| 191032001 | Iowa | Johnson | -2.1 | -1.5 |
| 191130037 | Iowa | Linn | -2.6 | -1.0 |
| 191370002 | Iowa | Montgomery | -3.6 | -2.7 |
| 191390015 | Iowa | Muscatine | -2.4 | -1.7 |
| 191471002 | Iowa | Palo Alto | -4.2 | -3.2 |
| 191530030 | Iowa | Polk | -3.1 | -2.2 |
| 191532510 | Iowa | Polk | -3.4 | -2.5 |
| 191532520 | Iowa | Polk | -2.2 | -1.7 |

| 24-Hour PM2.5 (µg/m³) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 191550009 | Iowa | Pottawattamie | -2.4 | -1.9 |
| 191630015 | Iowa | Scott | -1.6 | -0.5 |
| 191630018 | Iowa | Scott | -1.7 | -0.6 |
| 191630019 | Iowa | Scott | -4.9 | -2.1 |
| 191770006 | Iowa | Van Buren | -2.4 | -1.4 |
| 191930017 | Iowa | Woodbury | -1.4 | -1.1 |
| 191970004 | Iowa | Wright | -2.9 | -1.9 |
| 200910007 | Kansas | Johnson | -2.7 | -1.7 |
| 200910009 | Kansas | Johnson | -2.0 | -1.0 |
| 200910010 | Kansas | Johnson | -2.9 | -1.8 |
| 201070002 | Kansas | Linn | -3.7 | -2.7 |
| 201730008 | Kansas | Sedgwick | -3.3 | -2.0 |
| 201730009 | Kansas | Sedgwick | -0.8 | -0.3 |
| 201730010 | Kansas | Sedgwick | -1.4 | -0.6 |
| 201770010 | Kansas | Shawnee | -3.0 | -1.6 |
| 201770011 | Kansas | Shawnee | -3.8 | -2.5 |
| 201910002 | Kansas | Sumner | -2.5 | -1.4 |
| 202090021 | Kansas | Wyandotte | -3.0 | -2.2 |
| 202090022 | Kansas | Wyandotte | -2.5 | -1.8 |
| 210130002 | Kentucky | Bell | -5.9 | -4.3 |
| 210190017 | Kentucky | Boyd | -10.2 | -8.6 |
| 210290006 | Kentucky | Bullitt | -11.0 | -9.1 |
| 210370003 | Kentucky | Campbell | -5.3 | -4.1 |
| 210430500 | Kentucky | Carter | -9.8 | -8.2 |
| 210470006 | Kentucky | Christian | -12.7 | -11.1 |
| 210590005 | Kentucky | Daviess | -15.3 | -13.2 |
| 210670012 | Kentucky | Fayette | -7.9 | -5.9 |
| 210670014 | Kentucky | Fayette | -8.7 | -6.6 |
| 210730006 | Kentucky | Franklin | -10.5 | -8.5 |
| 210930006 | Kentucky | Hardin | -12.6 | -10.8 |
| 211010014 | Kentucky | Henderson | -7.1 | -6.2 |
| 211110043 | Kentucky | Jefferson | -8.6 | -7.1 |
| 211110044 | Kentucky | Jefferson | -8.4 | -6.7 |

| 24-Hour PM2.5 ($\mu g/m^3$) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 211110048 | Kentucky | Jefferson | -9.3 | -7.7 |
| 211110051 | Kentucky | Jefferson | -11.6 | -10.1 |
| 211170007 | Kentucky | Kenton | -9.4 | -8.1 |
| 211250004 | Kentucky | Laurel | -5.8 | -4.5 |
| 211451004 | Kentucky | McCracken | -11.3 | -9.4 |
| 211510003 | Kentucky | Madison | -7.8 | -6.1 |
| 211930003 | Kentucky | Perry | -7.6 | -6.0 |
| 211950002 | Kentucky | Pike | -8.1 | -6.7 |
| 212270007 | Kentucky | Warren | -12.1 | -10.0 |
| 220171002 | Louisiana | Caddo | -3.6 | -2.5 |
| 220190009 | Louisiana | Calcasieu | -4.0 | -3.2 |
| 220190010 | Louisiana | Calcasieu | -4.5 | -3.6 |
| 220290003 | Louisiana | Concordia | -5.8 | -4.8 |
| 220330009 | Louisiana | East Baton Rouge | -2.8 | -1.5 |
| 220331001 | Louisiana | East Baton Rouge | -3.2 | -2.1 |
| 220470005 | Louisiana | Iberville | -2.2 | -0.6 |
| 220470009 | Louisiana | Iberville | -4.7 | -3.5 |
| 220511001 | Louisiana | Jefferson | -4.2 | -3.0 |
| 220550006 | Louisiana | Lafayette | -5.7 | -4.4 |
| 220730004 | Louisiana | Ouachita | -5.3 | -4.4 |
| 220790002 | Louisiana | Rapides | -7.0 | -5.7 |
| 221050001 | Louisiana | Tangipahoa | -4.2 | -2.7 |
| 221090001 | Louisiana | Terrebonne | -5.4 | -4.0 |
| 221210001 | Louisiana | West Baton Rouge | -2.5 | -1.3 |
| 230010011 | Maine | Androscoggin | -1.2 | -0.8 |
| 230030013 | Maine | Aroostook | -0.9 | -0.5 |
| 230031011 | Maine | Aroostook | -1.2 | -0.8 |
| 230050015 | Maine | Cumberland | -1.4 | -0.9 |
| 230050027 | Maine | Cumberland | -1.5 | -0.8 |
| 230090103 | Maine | Hancock | -2.0 | -1.9 |
| 230110016 | Maine | Kennebec | -1.4 | -0.9 |
| 230172011 | Maine | Oxford | -1.6 | -1.1 |
| 230190002 | Maine | Penobscot | -1.5 | -1.1 |

| 24-Hour PM2.5 (µg/m³) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 240030014 | Maryland | Anne Arundel | -2.5 | -2.5 |
| 240031003 | Maryland | Anne Arundel | -0.9 | -1.5 |
| 240032002 | Maryland | Anne Arundel | -1.4 | -1.6 |
| 240051007 | Maryland | Baltimore | -2.8 | -2.6 |
| 240053001 | Maryland | Baltimore | -1.9 | -1.9 |
| 240150003 | Maryland | Cecil | -2.9 | -2.6 |
| 240251001 | Maryland | Harford | -2.9 | -2.7 |
| 240313001 | Maryland | Montgomery | -3.5 | -3.0 |
| 240330030 | Maryland | Prince George's | -4.9 | -4.5 |
| 240338003 | Maryland | Prince George's | -4.1 | -4.0 |
| 240430009 | Maryland | Washington | -4.6 | -3.9 |
| 245100006 | Maryland | Baltimore (City) | -1.9 | -1.9 |
| 245100007 | Maryland | Baltimore (City) | -2.4 | -2.2 |
| 245100008 | Maryland | Baltimore (City) | -1.4 | -1.3 |
| 245100035 | Maryland | Baltimore (City) | -1.3 | -1.1 |
| 245100040 | Maryland | Baltimore (City) | -1.3 | -1.1 |
| 245100049 | Maryland | Baltimore (City) | -1.2 | -1.0 |
| 250035001 | Massachusetts | Berkshire | -1.9 | -1.4 |
| 250051004 | Massachusetts | Bristol | -2.1 | -2.0 |
| 250092006 | Massachusetts | Essex | -2.1 | -1.7 |
| 250095005 | Massachusetts | Essex | -3.4 | -3.0 |
| 250096001 | Massachusetts | Essex | -2.2 | -1.8 |
| 250130008 | Massachusetts | Hampden | -2.4 | -1.9 |
| 250130016 | Massachusetts | Hampden | -2.2 | -1.5 |
| 250132009 | Massachusetts | Hampden | -2.1 | -1.3 |
| 250230004 | Massachusetts | Plymouth | -2.9 | -2.5 |
| 250250002 | Massachusetts | Suffolk | -1.1 | -0.8 |
| 250250027 | Massachusetts | Suffolk | -1.1 | -0.9 |
| 250250042 | Massachusetts | Suffolk | -1.0 | -0.6 |
| 250250043 | Massachusetts | Suffolk | -1.2 | -0.8 |
| 250270016 | Massachusetts | Worcester | -2.9 | -2.3 |
| 250270023 | Massachusetts | Worcester | -2.1 | -1.4 |
| 260050003 | Michigan | Allegan | -2.7 | -1.5 |

| 24-Hour PM2.5 (µg/m³) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 260170014 | Michigan | Bay | -2.9 | -1.9 |
| 260210014 | Michigan | Berrien | -3.7 | -2.7 |
| 260490021 | Michigan | Genesee | -1.7 | -1.0 |
| 260650012 | Michigan | Ingham | -2.4 | -1.5 |
| 260770008 | Michigan | Kalamazoo | -3.1 | -2.3 |
| 260810020 | Michigan | Kent | -3.5 | -2.1 |
| 260990009 | Michigan | Macomb | -2.2 | -1.4 |
| 261130001 | Michigan | Missaukee | -4.3 | -2.8 |
| 261150005 | Michigan | Monroe | -5.8 | -4.4 |
| 261210040 | Michigan | Muskegon | -4.4 | -2.8 |
| 261250001 | Michigan | Oakland | -2.8 | -1.8 |
| 261390005 | Michigan | Ottawa | -2.0 | -1.2 |
| 261450018 | Michigan | Saginaw | -3.3 | -2.2 |
| 261470005 | Michigan | St. Clair | -3.7 | -2.9 |
| 261610005 | Michigan | Washtenaw | -4.0 | -2.7 |
| 261610008 | Michigan | Washtenaw | -2.5 | -1.4 |
| 261630001 | Michigan | Wayne | -2.6 | -1.4 |
| 261630015 | Michigan | Wayne | -4.5 | -3.1 |
| 261630016 | Michigan | Wayne | -2.4 | -1.5 |
| 261630019 | Michigan | Wayne | -1.6 | -0.7 |
| 261630025 | Michigan | Wayne | -3.6 | -2.4 |
| 261630033 | Michigan | Wayne | -3.0 | -2.0 |
| 261630036 | Michigan | Wayne | -1.9 | -1.1 |
| 261630039 | Michigan | Wayne | -2.4 | -1.6 |
| 270210001 | Minnesota | Cass | -1.5 | -1.0 |
| 270370470 | Minnesota | Dakota | -2.6 | -1.5 |
| 270530050 | Minnesota | Hennepin | -2.6 | -1.8 |
| 270530961 | Minnesota | Hennepin | -1.7 | -1.2 |
| 270530963 | Minnesota | Hennepin | -2.2 | -1.4 |
| 270530965 | Minnesota | Hennepin | -1.3 | -0.9 |
| 270531007 | Minnesota | Hennepin | -2.0 | -1.3 |
| 270532006 | Minnesota | Hennepin | -2.3 | -1.6 |
| 270953051 | Minnesota | Mille Lacs | -2.0 | -1.5 |

| 24-Hour PM2.5 (µg/m$^3$) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 271230866 | Minnesota | Ramsey | -1.4 | -1.0 |
| 271230868 | Minnesota | Ramsey | -2.4 | -1.6 |
| 271230871 | Minnesota | Ramsey | -2.3 | -1.3 |
| 271377001 | Minnesota | Saint Louis | -1.8 | -1.1 |
| 271377550 | Minnesota | Saint Louis | -2.6 | -1.7 |
| 271377551 | Minnesota | Saint Louis | -2.6 | -1.9 |
| 271390505 | Minnesota | Scott | -2.4 | -1.7 |
| 271453052 | Minnesota | Stearns | -1.3 | -0.7 |
| 280010004 | Mississippi | Adams | -7.1 | -5.9 |
| 280110001 | Mississippi | Bolivar | -6.8 | -5.5 |
| 280330002 | Mississippi | DeSoto | -9.2 | -7.5 |
| 280350004 | Mississippi | Forrest | -4.1 | -3.0 |
| 280470008 | Mississippi | Harrison | -5.5 | -4.1 |
| 280490010 | Mississippi | Hinds | -6.0 | -4.9 |
| 280590006 | Mississippi | Jackson | -4.9 | -3.5 |
| 280670002 | Mississippi | Jones | -4.6 | -3.6 |
| 280750003 | Mississippi | Lauderdale | -6.8 | -5.5 |
| 280810005 | Mississippi | Lee | -8.1 | -6.4 |
| 280870001 | Mississippi | Lowndes | -6.9 | -5.2 |
| 281090001 | Mississippi | Pearl River | -4.5 | -3.3 |
| 281490004 | Mississippi | Warren | -6.9 | -5.8 |
| 290190004 | Missouri | Boone | -4.6 | -3.2 |
| 290210005 | Missouri | Buchanan | -3.1 | -2.2 |
| 290370003 | Missouri | Cass | -3.7 | -2.8 |
| 290390001 | Missouri | Cedar | -6.1 | -4.6 |
| 290470005 | Missouri | Clay | -2.1 | -1.1 |
| 290770032 | Missouri | Greene | -7.0 | -4.8 |
| 290950034 | Missouri | Jackson | -2.5 | -1.8 |
| 290990012 | Missouri | Jefferson | -6.0 | -2.9 |
| 291370001 | Missouri | Monroe | -4.2 | -2.9 |
| 291831002 | Missouri | Saint Charles | -6.9 | -5.0 |
| 291860006 | Missouri | Sainte Genevieve | -6.8 | -4.4 |
| 291890004 | Missouri | Saint Louis | -8.3 | -5.7 |

| 24-Hour PM2.5 (µg/m$^3$) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| **Monitor ID** | **State** | **County** | | |
| 291892003 | Missouri | Saint Louis | -2.7 | -1.3 |
| 295100007 | Missouri | St. Louis City | -6.9 | -4.2 |
| 295100085 | Missouri | St. Louis City | -5.5 | -3.1 |
| 295100086 | Missouri | St. Louis City | -4.9 | -2.6 |
| 295100087 | Missouri | St. Louis City | -5.6 | -2.9 |
| 300870307 | Montana | Rosebud | -0.1 | 0.0 |
| 301111065 | Montana | Yellowstone | -0.1 | 0.0 |
| 310550019 | Nebraska | Douglas | -3.0 | -2.4 |
| 310550052 | Nebraska | Douglas | -2.1 | -1.7 |
| 310790004 | Nebraska | Hall | -1.4 | -0.9 |
| 311090022 | Nebraska | Lancaster | -1.6 | -1.2 |
| 311111002 | Nebraska | Lincoln | -0.7 | -0.4 |
| 311530007 | Nebraska | Sarpy | -2.9 | -2.3 |
| 311570003 | Nebraska | Scotts Bluff | -0.6 | -0.4 |
| 311770002 | Nebraska | Washington | -2.2 | -1.7 |
| 330012004 | New Hampshire | Belknap | -3.2 | -2.7 |
| 330050007 | New Hampshire | Cheshire | -1.8 | -1.3 |
| 330070014 | New Hampshire | Coos | -2.4 | -1.9 |
| 330090010 | New Hampshire | Grafton | -2.2 | -1.7 |
| 330110020 | New Hampshire | Hillsborough | -1.3 | -0.9 |
| 330111015 | New Hampshire | Hillsborough | -1.2 | -0.8 |
| 330115001 | New Hampshire | Hillsborough | -5.3 | -4.8 |
| 330131006 | New Hampshire | Merrimack | -2.5 | -2.1 |
| 330150014 | New Hampshire | Rockingham | -1.7 | -1.3 |
| 330190003 | New Hampshire | Sullivan | -3.8 | -3.1 |
| 340030003 | New Jersey | Bergen | -2.1 | -1.5 |
| 340070003 | New Jersey | Camden | -5.5 | -4.7 |
| 340071007 | New Jersey | Camden | -4.1 | -3.3 |
| 340130015 | New Jersey | Essex | -3.6 | -2.8 |
| 340155001 | New Jersey | Gloucester | -3.1 | -2.6 |
| 340171003 | New Jersey | Hudson | -2.8 | -2.0 |
| 340172002 | New Jersey | Hudson | -1.6 | -0.9 |
| 340210008 | New Jersey | Mercer | -4.9 | -4.2 |

| 24-Hour PM2.5 (μg/m³) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 340218001 | New Jersey | Mercer | -5.3 | -4.6 |
| 340230006 | New Jersey | Middlesex | -4.9 | -4.2 |
| 340270004 | New Jersey | Morris | -4.0 | -3.4 |
| 340273001 | New Jersey | Morris | -6.6 | -5.8 |
| 340292002 | New Jersey | Ocean | -7.2 | -6.4 |
| 340310005 | New Jersey | Passaic | -4.5 | -3.8 |
| 340390004 | New Jersey | Union | -2.8 | -1.7 |
| 340390006 | New Jersey | Union | -1.6 | -1.0 |
| 340392003 | New Jersey | Union | -3.2 | -2.3 |
| 340410006 | New Jersey | Warren | -2.9 | -2.5 |
| 350010023 | New Mexico | Bernalillo | -0.5 | -0.3 |
| 350010024 | New Mexico | Bernalillo | -0.5 | -0.4 |
| 350050005 | New Mexico | Chaves | -0.9 | -0.7 |
| 350130017 | New Mexico | Dona Ana | -0.6 | -0.3 |
| 350130025 | New Mexico | Dona Ana | -0.8 | -0.6 |
| 350431003 | New Mexico | Sandoval | -0.4 | -0.3 |
| 350439011 | New Mexico | Sandoval | -0.3 | -0.1 |
| 350450006 | New Mexico | San Juan | -0.1 | 0.0 |
| 350490020 | New Mexico | Santa Fe | -0.2 | -0.1 |
| 360010005 | New York | Albany | -2.0 | -1.5 |
| 360050080 | New York | Bronx | -2.4 | -1.7 |
| 360050083 | New York | Bronx | -1.8 | -1.2 |
| 360050110 | New York | Bronx | -1.3 | -0.8 |
| 360130011 | New York | Chautauqua | -6.1 | -4.9 |
| 360290005 | New York | Erie | -1.3 | -1.0 |
| 360291007 | New York | Erie | -1.9 | -1.5 |
| 360310003 | New York | Essex | -3.7 | -3.1 |
| 360470122 | New York | Kings | -2.8 | -1.9 |
| 360551007 | New York | Monroe | -3.0 | -2.5 |
| 360590008 | New York | Nassau | -5.0 | -4.0 |
| 360610056 | New York | New York | -1.8 | -1.2 |
| 360610062 | New York | New York | -2.1 | -1.4 |
| 360610079 | New York | New York | -2.8 | -2.0 |

| 24-Hour PM2.5 ($\mu g/m^3$) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 360610128 | New York | New York | -3.2 | -2.4 |
| 360632008 | New York | Niagara | -3.2 | -2.0 |
| 360671015 | New York | Onondaga | -5.2 | -4.6 |
| 360710002 | New York | Orange | -3.1 | -2.5 |
| 360810124 | New York | Queens | -1.9 | -1.1 |
| 360850055 | New York | Richmond | -2.5 | -1.7 |
| 360850067 | New York | Richmond | -3.8 | -2.9 |
| 360893001 | New York | St. Lawrence | -2.1 | -1.6 |
| 361010003 | New York | Steuben | -5.1 | -4.5 |
| 361030001 | New York | Suffolk | -6.6 | -5.5 |
| 361191002 | New York | Westchester | -4.0 | -3.3 |
| 370010002 | North Carolina | Alamance | -5.2 | -4.4 |
| 370210034 | North Carolina | Buncombe | -5.7 | -5.0 |
| 370330001 | North Carolina | Caswell | -5.9 | -5.0 |
| 370350004 | North Carolina | Catawba | -4.4 | -3.8 |
| 370370004 | North Carolina | Chatham | -4.3 | -3.3 |
| 370510009 | North Carolina | Cumberland | -3.7 | -2.6 |
| 370570002 | North Carolina | Davidson | -4.0 | -3.3 |
| 370610002 | North Carolina | Duplin | -4.4 | -3.6 |
| 370630001 | North Carolina | Durham | -4.0 | -3.0 |
| 370650004 | North Carolina | Edgecombe | -3.5 | -2.5 |
| 370670022 | North Carolina | Forsyth | -2.7 | -1.8 |
| 370710016 | North Carolina | Gaston | -4.2 | -3.7 |
| 370810013 | North Carolina | Guilford | -3.8 | -2.8 |
| 370870010 | North Carolina | Haywood | -3.8 | -2.7 |
| 370990006 | North Carolina | Jackson | -4.9 | -3.3 |
| 371070004 | North Carolina | Lenoir | -2.4 | -1.7 |
| 371110004 | North Carolina | McDowell | -4.5 | -3.6 |
| 371170001 | North Carolina | Martin | -2.6 | -1.8 |
| 371190010 | North Carolina | Mecklenburg | -3.5 | -2.8 |
| 371190041 | North Carolina | Mecklenburg | -3.6 | -2.8 |
| 371190042 | North Carolina | Mecklenburg | -3.3 | -2.4 |
| 371210001 | North Carolina | Mitchell | -4.7 | -3.7 |

| 24-Hour PM2.5 (µg/m³) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 371230001 | North Carolina | Montgomery | -4.9 | -4.0 |
| 371290002 | North Carolina | New Hanover | -3.7 | -3.0 |
| 371330005 | North Carolina | Onslow | -3.2 | -2.5 |
| 371350007 | North Carolina | Orange | -5.2 | -4.2 |
| 371470005 | North Carolina | Pitt | -2.1 | -1.3 |
| 371550005 | North Carolina | Robeson | -5.2 | -4.3 |
| 371590021 | North Carolina | Rowan | -3.5 | -3.2 |
| 371730002 | North Carolina | Swain | -3.9 | -2.4 |
| 371830014 | North Carolina | Wake | -3.5 | -2.4 |
| 371890003 | North Carolina | Watauga | -6.3 | -5.7 |
| 371910005 | North Carolina | Wayne | -5.0 | -3.9 |
| 380070002 | North Dakota | Billings | -0.2 | -0.2 |
| 380130003 | North Dakota | Burke | -0.2 | -0.1 |
| 380150003 | North Dakota | Burleigh | -0.6 | -0.4 |
| 380171004 | North Dakota | Cass | -2.3 | -1.6 |
| 380530002 | North Dakota | McKenzie | -0.2 | -0.2 |
| 380570004 | North Dakota | Mercer | -0.2 | -0.1 |
| 390090003 | Ohio | Athens | -9.2 | -7.6 |
| 390170003 | Ohio | Butler | -11.2 | -9.2 |
| 390170016 | Ohio | Butler | -9.6 | -7.8 |
| 390170017 | Ohio | Butler | -10.1 | -8.4 |
| 390171004 | Ohio | Butler | -10.4 | -8.7 |
| 390230005 | Ohio | Clark | -7.0 | -5.5 |
| 390250022 | Ohio | Clermont | -9.6 | -8.1 |
| 390350027 | Ohio | Cuyahoga | -2.4 | -1.9 |
| 390350034 | Ohio | Cuyahoga | -3.8 | -3.3 |
| 390350038 | Ohio | Cuyahoga | -5.5 | -4.3 |
| 390350045 | Ohio | Cuyahoga | -6.6 | -5.6 |
| 390350060 | Ohio | Cuyahoga | -3.1 | -2.4 |
| 390350065 | Ohio | Cuyahoga | -6.3 | -5.2 |
| 390351002 | Ohio | Cuyahoga | -3.2 | -2.5 |
| 390490024 | Ohio | Franklin | -4.3 | -2.9 |
| 390490025 | Ohio | Franklin | -5.5 | -4.2 |

| 24-Hour PM2.5 (µg/m$^3$) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 390490081 | Ohio | Franklin | -6.3 | -4.6 |
| 390570005 | Ohio | Greene | -5.9 | -4.7 |
| 390610006 | Ohio | Hamilton | -10.8 | -9.3 |
| 390610014 | Ohio | Hamilton | -12.1 | -10.7 |
| 390610040 | Ohio | Hamilton | -10.9 | -9.4 |
| 390610042 | Ohio | Hamilton | -7.9 | -6.6 |
| 390610043 | Ohio | Hamilton | -8.1 | -6.8 |
| 390617001 | Ohio | Hamilton | -7.6 | -6.1 |
| 390618001 | Ohio | Hamilton | -8.6 | -7.2 |
| 390810017 | Ohio | Jefferson | -6.2 | -4.9 |
| 390811001 | Ohio | Jefferson | -6.5 | -5.3 |
| 390851001 | Ohio | Lake | -5.5 | -4.9 |
| 390870010 | Ohio | Lawrence | -8.3 | -6.8 |
| 390933002 | Ohio | Lorain | -5.5 | -4.6 |
| 390950024 | Ohio | Lucas | -2.2 | -1.5 |
| 390950025 | Ohio | Lucas | -2.3 | -1.5 |
| 390950026 | Ohio | Lucas | -3.4 | -2.4 |
| 390990005 | Ohio | Mahoning | -5.2 | -3.7 |
| 390990014 | Ohio | Mahoning | -3.9 | -2.8 |
| 391130031 | Ohio | Montgomery | -4.5 | -3.3 |
| 391130032 | Ohio | Montgomery | -5.2 | -3.8 |
| 391330002 | Ohio | Portage | -7.0 | -5.8 |
| 391351001 | Ohio | Preble | -7.8 | -6.7 |
| 391450013 | Ohio | Scioto | -9.3 | -7.8 |
| 391510017 | Ohio | Stark | -5.8 | -5.0 |
| 391530017 | Ohio | Summit | -4.2 | -3.2 |
| 391530023 | Ohio | Summit | -5.1 | -4.2 |
| 391550007 | Ohio | Trumbull | -3.7 | -2.8 |
| 400159008 | Oklahoma | Caddo | -2.5 | -2.1 |
| 400219002 | Oklahoma | Cherokee | -2.9 | -2.1 |
| 400710602 | Oklahoma | Kay | -2.8 | -1.9 |
| 400719010 | Oklahoma | Kay | -2.3 | -1.6 |
| 400819005 | Oklahoma | Lincoln | -3.7 | -3.0 |

| 24-Hour PM2.5 ($\mu g/m^3$) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 400970186 | Oklahoma | Mayes | -2.3 | -1.4 |
| 400979014 | Oklahoma | Mayes | -3.8 | -2.8 |
| 401010169 | Oklahoma | Muskogee | -2.8 | -2.2 |
| 401090035 | Oklahoma | Oklahoma | -1.3 | -0.8 |
| 401091037 | Oklahoma | Oklahoma | -2.4 | -1.6 |
| 401159004 | Oklahoma | Ottawa | -4.4 | -3.3 |
| 401210415 | Oklahoma | Pittsburg | -3.2 | -2.5 |
| 401359015 | Oklahoma | Sequoyah | -3.7 | -3.2 |
| 401430110 | Oklahoma | Tulsa | -2.9 | -2.1 |
| 401431127 | Oklahoma | Tulsa | -3.1 | -2.2 |
| 420010001 | Pennsylvania | Adams | -3.7 | -3.1 |
| 420030008 | Pennsylvania | Allegheny | -7.4 | -6.2 |
| 420030021 | Pennsylvania | Allegheny | -6.3 | -5.5 |
| 420030064 | Pennsylvania | Allegheny | -3.0 | -1.4 |
| 420030067 | Pennsylvania | Allegheny | -11.5 | -10.0 |
| 420030093 | Pennsylvania | Allegheny | -9.7 | -8.3 |
| 420030095 | Pennsylvania | Allegheny | -7.8 | -6.5 |
| 420030116 | Pennsylvania | Allegheny | -8.5 | -6.9 |
| 420030133 | Pennsylvania | Allegheny | -10.2 | -8.8 |
| 420031008 | Pennsylvania | Allegheny | -10.8 | -9.5 |
| 420031301 | Pennsylvania | Allegheny | -6.5 | -5.4 |
| 420033007 | Pennsylvania | Allegheny | -8.2 | -7.0 |
| 420039002 | Pennsylvania | Allegheny | -9.6 | -8.3 |
| 420070014 | Pennsylvania | Beaver | -7.7 | -6.6 |
| 420110011 | Pennsylvania | Berks | -2.5 | -2.1 |
| 420170012 | Pennsylvania | Bucks | -2.9 | -2.1 |
| 420210011 | Pennsylvania | Cambria | -14.7 | -13.8 |
| 420270100 | Pennsylvania | Centre | -5.1 | -4.4 |
| 420290100 | Pennsylvania | Chester | -3.0 | -2.5 |
| 420410101 | Pennsylvania | Cumberland | -2.3 | -2.0 |
| 420430401 | Pennsylvania | Dauphin | -2.1 | -1.7 |
| 420450002 | Pennsylvania | Delaware | -4.3 | -3.6 |
| 420490003 | Pennsylvania | Erie | -3.3 | -2.6 |

| 24-Hour PM2.5 (µg/m$^3$) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 420692006 | Pennsylvania | Lackawanna | -3.4 | -2.7 |
| 420710007 | Pennsylvania | Lancaster | -1.7 | -1.5 |
| 420770004 | Pennsylvania | Lehigh | -2.0 | -1.5 |
| 420791101 | Pennsylvania | Luzerne | -2.7 | -1.9 |
| 420850100 | Pennsylvania | Mercer | -3.8 | -2.5 |
| 420950025 | Pennsylvania | Northampton | -2.4 | -1.7 |
| 420990301 | Pennsylvania | Perry | -2.8 | -2.6 |
| 421010004 | Pennsylvania | Philadelphia | -2.1 | -1.3 |
| 421010024 | Pennsylvania | Philadelphia | -3.9 | -3.1 |
| 421010047 | Pennsylvania | Philadelphia | -4.2 | -3.4 |
| 421250005 | Pennsylvania | Washington | -7.9 | -7.0 |
| 421250200 | Pennsylvania | Washington | -5.9 | -5.1 |
| 421255001 | Pennsylvania | Washington | -7.9 | -6.7 |
| 421290008 | Pennsylvania | Westmoreland | -9.5 | -8.4 |
| 421330008 | Pennsylvania | York | -3.1 | -2.7 |
| 440070022 | Rhode Island | Providence | -2.5 | -2.1 |
| 440070026 | Rhode Island | Providence | -2.0 | -1.5 |
| 440070028 | Rhode Island | Providence | -2.3 | -1.9 |
| 440071010 | Rhode Island | Providence | -2.3 | -1.9 |
| 450130007 | South Carolina | Beaufort | -5.3 | -3.9 |
| 450190048 | South Carolina | Charleston | -2.2 | -1.2 |
| 450190049 | South Carolina | Charleston | -3.6 | -2.3 |
| 450250001 | South Carolina | Chesterfield | -4.2 | -3.5 |
| 450370001 | South Carolina | Edgefield | -6.1 | -3.8 |
| 450410002 | South Carolina | Florence | -4.1 | -3.0 |
| 450430009 | South Carolina | Georgetown | -3.9 | -2.9 |
| 450450008 | South Carolina | Greenville | -2.8 | -1.5 |
| 450450009 | South Carolina | Greenville | -3.9 | -2.6 |
| 450470003 | South Carolina | Greenwood | -4.7 | -2.6 |
| 450510002 | South Carolina | Horry | -4.4 | -3.5 |
| 450630008 | South Carolina | Lexington | -4.0 | -2.9 |
| 450730001 | South Carolina | Oconee | -5.7 | -3.6 |
| 450790007 | South Carolina | Richland | -4.2 | -2.9 |

| 24-Hour PM2.5 (µg/m³) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 450790019 | South Carolina | Richland | -3.9 | -2.5 |
| 450830010 | South Carolina | Spartanburg | -3.9 | -3.1 |
| 460110002 | South Dakota | Brookings | -2.5 | -1.7 |
| 460130003 | South Dakota | Brown | -1.6 | -1.0 |
| 460290002 | South Dakota | Codington | -2.5 | -1.7 |
| 460330132 | South Dakota | Custer | -0.3 | -0.3 |
| 460710001 | South Dakota | Jackson | -0.6 | -0.5 |
| 460990006 | South Dakota | Minnehaha | -2.5 | -1.7 |
| 460990007 | South Dakota | Minnehaha | -2.4 | -1.8 |
| 461030016 | South Dakota | Pennington | -0.4 | -0.2 |
| 461030020 | South Dakota | Pennington | -0.2 | -0.1 |
| 461031001 | South Dakota | Pennington | -0.4 | -0.2 |
| 470090011 | Tennessee | Blount | -7.9 | -6.6 |
| 470370023 | Tennessee | Davidson | -10.7 | -9.2 |
| 470370025 | Tennessee | Davidson | -9.7 | -8.1 |
| 470370036 | Tennessee | Davidson | -12.4 | -10.7 |
| 470450004 | Tennessee | Dyer | -10.2 | -8.3 |
| 470650031 | Tennessee | Hamilton | -3.9 | -2.6 |
| 470651011 | Tennessee | Hamilton | -6.0 | -4.8 |
| 470654002 | Tennessee | Hamilton | -3.7 | -2.4 |
| 470930028 | Tennessee | Knox | -7.8 | -6.3 |
| 470931017 | Tennessee | Knox | -5.4 | -4.2 |
| 470990002 | Tennessee | Lawrence | -8.6 | -7.4 |
| 471050108 | Tennessee | Loudon | -7.0 | -5.4 |
| 471071002 | Tennessee | McMinn | -8.2 | -6.5 |
| 471192007 | Tennessee | Maury | -9.9 | -8.5 |
| 471251009 | Tennessee | Montgomery | -9.8 | -8.4 |
| 471410001 | Tennessee | Putnam | -11.0 | -9.0 |
| 471450004 | Tennessee | Roane | -6.2 | -5.0 |
| 471570014 | Tennessee | Shelby | -9.1 | -7.4 |
| 471570038 | Tennessee | Shelby | -10.0 | -8.3 |
| 471570047 | Tennessee | Shelby | -9.5 | -8.0 |
| 471571004 | Tennessee | Shelby | -9.7 | -8.3 |

| 24-Hour PM2.5 (μg/m$^3$) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 471631007 | Tennessee | Sullivan | -5.4 | -4.6 |
| 471650007 | Tennessee | Sumner | -14.6 | -12.6 |
| 480370004 | Texas | Bowie | -5.4 | -4.3 |
| 481130069 | Texas | Dallas | -1.6 | -1.2 |
| 481130087 | Texas | Dallas | -2.5 | -1.8 |
| 481350003 | Texas | Ector | -3.1 | -1.4 |
| 481410037 | Texas | El Paso | -0.5 | -0.4 |
| 482010058 | Texas | Harris | -3.5 | -2.6 |
| 482011035 | Texas | Harris | -3.0 | -1.8 |
| 482030002 | Texas | Harrison | -3.8 | -3.2 |
| 482150043 | Texas | Hidalgo | -2.6 | -2.0 |
| 482450021 | Texas | Jefferson | -5.2 | -4.2 |
| 483550032 | Texas | Nueces | -4.5 | -3.4 |
| 483611001 | Texas | Orange | -5.8 | -4.8 |
| 484391002 | Texas | Tarrant | -1.8 | -1.4 |
| 484391006 | Texas | Tarrant | -1.1 | -0.8 |
| 500010002 | Vermont | Addison | -3.0 | -2.5 |
| 500010003 | Vermont | Addison | -3.8 | -3.2 |
| 500030004 | Vermont | Bennington | -2.1 | -1.5 |
| 500070012 | Vermont | Chittenden | -5.2 | -4.4 |
| 500070014 | Vermont | Chittenden | -2.4 | -1.7 |
| 500210002 | Vermont | Rutland | -1.2 | -0.7 |
| 510130020 | Virginia | Arlington | -3.2 | -2.4 |
| 510360002 | Virginia | Charles | -5.3 | -4.5 |
| 510410003 | Virginia | Chesterfield | -4.6 | -3.8 |
| 510590030 | Virginia | Fairfax | -4.3 | -3.9 |
| 510591005 | Virginia | Fairfax | -4.6 | -4.2 |
| 510595001 | Virginia | Fairfax | -3.7 | -3.0 |
| 510870014 | Virginia | Henrico | -5.2 | -4.4 |
| 510870015 | Virginia | Henrico | -6.0 | -5.3 |
| 511071005 | Virginia | Loudoun | -6.1 | -5.8 |
| 511390004 | Virginia | Page | -7.7 | -6.8 |
| 515200006 | Virginia | Bristol City | -5.7 | -4.8 |

| 24-Hour PM2.5 (µg/m³) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 516500004 | Virginia | Hampton City | -3.8 | -2.9 |
| 516800015 | Virginia | Lynchburg City | -7.1 | -6.1 |
| 517100024 | Virginia | Norfolk City | -3.6 | -2.7 |
| 517700014 | Virginia | Roanoke City | -5.1 | -3.8 |
| 517750010 | Virginia | Salem City | -5.1 | -4.1 |
| 518100008 | Virginia | Virginia Beach City | -3.2 | -2.3 |
| 540030003 | West Virginia | Berkeley | -2.7 | -2.3 |
| 540090005 | West Virginia | Brooke | -5.0 | -4.1 |
| 540090011 | West Virginia | Brooke | -3.5 | -2.8 |
| 540110006 | West Virginia | Cabell | -8.8 | -7.5 |
| 540291004 | West Virginia | Hancock | -8.3 | -6.7 |
| 540330003 | West Virginia | Harrison | -12.8 | -11.1 |
| 540390010 | West Virginia | Kanawha | -10.0 | -8.7 |
| 540390011 | West Virginia | Kanawha | -9.3 | -8.1 |
| 540391005 | West Virginia | Kanawha | -9.8 | -8.5 |
| 540490006 | West Virginia | Marion | -14.2 | -12.7 |
| 540511002 | West Virginia | Marshall | -7.1 | -5.8 |
| 540610003 | West Virginia | Monongalia | -13.3 | -10.8 |
| 540690010 | West Virginia | Ohio | -3.9 | -2.9 |
| 540810002 | West Virginia | Raleigh | -8.2 | -7.1 |
| 540890001 | West Virginia | Summers | -8.7 | -7.4 |
| 541071002 | West Virginia | Wood | -9.7 | -8.1 |
| 550030010 | Wisconsin | Ashland | -2.7 | -2.0 |
| 550090005 | Wisconsin | Brown | -0.5 | -0.2 |
| 550090009 | Wisconsin | Brown | -0.2 | 0.0 |
| 550250047 | Wisconsin | Dane | -3.4 | -2.5 |
| 550270007 | Wisconsin | Dodge | -2.2 | -1.0 |
| 550410007 | Wisconsin | Forest | -2.6 | -1.9 |
| 550430009 | Wisconsin | Grant | -1.8 | -1.0 |
| 550590019 | Wisconsin | Kenosha | -2.3 | -1.5 |
| 550710007 | Wisconsin | Manitowoc | -1.3 | -0.6 |
| 550790010 | Wisconsin | Milwaukee | -1.4 | -0.7 |
| 550790026 | Wisconsin | Milwaukee | -1.9 | -0.9 |

| 24-Hour PM2.5 (µg/m$^3$) | | | Differences: 2014 Remedy - 2012 Base Case | Differences: 2014 Remedy - 2014 Base Case |
|---|---|---|---|---|
| Monitor ID | State | County | | |
| 550790043 | Wisconsin | Milwaukee | -2.5 | -1.0 |
| 550790059 | Wisconsin | Milwaukee | -3.2 | -1.9 |
| 550790099 | Wisconsin | Milwaukee | -3.5 | -2.2 |
| 550870009 | Wisconsin | Outagamie | -0.5 | -0.2 |
| 550890009 | Wisconsin | Ozaukee | -1.8 | -0.9 |
| 551091002 | Wisconsin | St. Croix | -1.8 | -1.0 |
| 551110007 | Wisconsin | Sauk | -1.2 | -0.4 |
| 551198001 | Wisconsin | Taylor | -1.2 | -0.6 |
| 551250001 | Wisconsin | Vilas | -2.2 | -1.5 |
| 551330027 | Wisconsin | Waukesha | -3.3 | -1.7 |
| 560050877 | Wyoming | Campbell | -0.1 | 0.0 |
| 560050892 | Wyoming | Campbell | 0.0 | 0.0 |
| 560050899 | Wyoming | Campbell | 0.0 | 0.0 |
| 560090819 | Wyoming | Converse | 0.0 | 0.0 |
| 560131003 | Wyoming | Fremont | -0.2 | 0.1 |
| 560210001 | Wyoming | Laramie | -0.2 | -0.1 |
| 560330002 | Wyoming | Sheridan | -0.2 | 0.0 |

# Transport Rule Air Quality Modeling Technical Support Document

## Appendix C

## Ozone and PM2.5 Contribution Calculation Examples

As described in Section IV, the contribution of ozone and PM2.5 from upwind states to downwind nonattainment and maintenance receptors was calculated using a combination of MATS and other post-processing software. This appendix describes the calculations in more detail.

## 8-Hour Ozone [All example concentrations are in ppb]

The 2012 future year base case ozone design value calculations are described in Section III.C. The 2012 design values were calculated by running MATS using the CAMx 2005 base year and 2012 future base case model outputs. The contribution metrics were calculated as described in Section IV.B. There are several pieces of information needed to calculate the upwind ozone contributions to downwind ozone receptor sites.

1) The 2012 base case 8-hr design values at each receptor.
2) The relative response factors (RRFs) from each "source apportionment" MATS run. The source apportionment MATS run is described in Section IV.B steps 4 and 5. The source apportionment MATS runs specify the "base" year model file as the 2012 CAMx base case and the "future" year model file as the 2012 CAMx source apportionment case. A separate source apportionment MATS case is run for each upwind state.

The 2012 future year design values are shown in the example below as the variable "f_o3_DV" (from the MATS output file "*scenario_name* - Ozone Monitors -- monitor data, temporally adjusted 2012.csv")

| _id | lat | Long | referencecell | f_o3_DV | _state_name | _county_name |
|---|---|---|---|---|---|---|
| 10331002 | 34.76056 | -87.6506 | 155091 | **64.5** | Alabama | Colbert |
| 10731003 | 33.48556 | -86.915 | 162080 | **69.7** | Alabama | Jefferson |
| 10731005 | 33.33111 | -87.0036 | 162078 | **71** | Alabama | Jefferson |
| 10731009 | 33.45972 | -87.3056 | 159079 | **66.4** | Alabama | Jefferson |

These values are multiplied by the RRFs calculated from each source apportionment MATS run (for each upwind state). The values in the orange column (below) represent the relative ozone contribution from an upwind state to each downwind receptor. For example, an RRF value of 0.9569 for Colbert County means that the upwind state contributes 4.31% [(1 – 0.9569)* 100)] of the ozone in Colbert County (averaged across all high[1] ozone days)

[1] The high ozone day threshold for the MATS ozone contribution runs are defined in Section IV.B. step 5.

| _id | lat | long | referencecell | f_o3_DV | _state_name | _county_name | SA_rrf |
|---|---|---|---|---|---|---|---|
| 10331002 | 34.76056 | -87.6506 | 155091 | 64.5 | Alabama | Colbert | **0.9569** |
| 10731003 | 33.48556 | -86.915 | 162080 | 69.7 | Alabama | Jefferson | 0.9944 |
| 10731005 | 33.33111 | -87.0036 | 162078 | 71 | Alabama | Jefferson | 0.9979 |
| 10731009 | 33.45972 | -87.3056 | 159079 | 66.4 | Alabama | Jefferson | 0.9986 |

The 2012 future year design value (f_o3_DV) is multiplied by the RRF and then subtracted from the 2012 design value to get the total upwind contribution in ppb (the values in blue below). Here is the formula:

**Ozone Contribution** = f_o3_dv – (f_o3_dv * RRF)

The future design values and RRFs were derived from MATS. The calculation of the contribution was accomplished with additional post-processing software (using the formula above). The final 8-hr ozone contributions (in ppb) are truncated to the tenths digit, consistent with the NAAQS.

| _id | lat | long | referencecell | f_o3_DV | _state_name | _county_name | SA_rrf | Contribution |
|---|---|---|---|---|---|---|---|---|
| 10331002 | 34.76056 | -87.6506 | 155091 | 64.5 | Alabama | Colbert | 0.9569 | **2.7** |
| 10731003 | 33.48556 | -86.915 | 162080 | 69.7 | Alabama | Jefferson | 0.9944 | **0.3** |
| 10731005 | 33.33111 | -87.0036 | 162078 | 71 | Alabama | Jefferson | 0.9979 | **0.1** |
| 10731009 | 33.45972 | -87.3056 | 159079 | 66.4 | Alabama | Jefferson | 0.9986 | **0.0** |

## Annual Average PM2.5 **[All example concentrations are in ug/m3]**

The 2012 future year base case annual average PM2.5 design value calculations are described in Section III.B. The 2012 design values were calculated by running MATS using the CAMx 2005 base year and 2012 future base case model outputs. The annual PM2.5 contribution metrics were calculated as described in Section IV.A. The information needed to calculate the upwind annual PM2.5 contributions to downwind annual PM2.5 receptor sites is as follows:

1) The 2012 base case annual average PM2.5 design values **and** component species concentrations at each receptor.
2) The relative response factors (RRFs) from each "source apportionment" MATS run. The source apportionment MATS run is described in Section IV.A step 4. The source apportionment MATS runs specify the "base" year model file as the 2012 CAMx base case and the "future" year model file as the 2012 CAMx source apportionment case. A separate source apportionment MATS case is run for each upwind state.

The 2012 future year annual average PM2.5 design values are shown in the example below as the variable "f_pm25_ann_DV" (from the MATS output file "*scenario_name* Annual PM25 Point.csv").

| _id | _STATE_NAME | _COUNTY_NAME | monitor_lat | monitor_long | monitor_gridcell | b_pm25_ann_DV | **f_pm25_ann_DV** |
|---|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 11.44 | **10.81** |
| 10270001 | Alabama | Clay | 33.28126 | -85.8022 | 171079 | 13.21 | **12** |
| 10331002 | Alabama | Colbert | 34.76056 | -87.6506 | 155091 | 12.67 | **12.13** |
| 10491003 | Alabama | DeKalb | 34.28763 | -85.9683 | 169088 | 14.09 | **12.75** |

The 2012 future design value is comprised of a number of component PM2.5 species. The following table shows the 2012 species concentrations.

| _id | _STATE_NAME | _COUNTY_NAME | f_blank_mass | f_crustal_mass | f_EC_mass | f_NH4_mass | f_Ocmb_mass | f_SO4_mass | f_NO3_mass | f_water_mass | f_salt_mass |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 0.5 | 0.4838 | 0.4564 | 1.0612 | 3.2319 | 4.0003 | 0.0042 | 1.0489 | 0.0315 |
| 10270001 | Alabama | Clay | 0.5 | 0.7034 | 0.5973 | 1.1121 | 4.3653 | 3.5529 | 0.0675 | 1.0888 | 0.02 |
| 10331002 | Alabama | Colbert | 0.5 | 0.3902 | 0.3137 | 1.2683 | 4.2728 | 4.0396 | 0.1537 | 1.1984 | 0.0024 |
| 10491003 | Alabama | DeKalb | 0.5 | 0.6574 | 0.4713 | 1.3423 | 4.2096 | 4.0967 | 0.1444 | 1.314 | 0.0163 |

The source apportionment RRFs (in orange below) are derived from the source apportionment MATS runs. They represent the relative PM2.5 species contribution from an upwind state to each downwind receptor. For example, an RRF value of 0.9656 for Baldwin County for sulfate means that the upwind state contributes 3.44% [(1 – 0.9656)* 100)] of the sulfate ion in Baldwin County (averaged across all days).

| _id | _STATE_NAME | _COUNTY_NAME | SA_rrf_crustal | SA_rrf_ec | SA_rrf_nh4 | SA_rrf_oc | SA_rrf_so4 | SA_rrf_no3 | SA_rrf_water |
|---|---|---|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 0.9949 | 0.9947 | 0.964 | 0.9985 | **0.9656** | 0.9996 | 0.9634 |
| 10270001 | Alabama | Clay | 0.9895 | 0.9897 | 0.9535 | 0.9972 | 0.9529 | 0.9929 | 0.9514 |
| 10331002 | Alabama | Colbert | 0.9863 | 0.9871 | 0.9322 | 0.9954 | 0.928 | 0.9899 | 0.9292 |
| 10491003 | Alabama | DeKalb | 0.9862 | 0.9859 | 0.9371 | 0.9961 | 0.9364 | 0.9913 | 0.9357 |

The annual RRFs from the source apportionment MATS run are multiplied by the 2012 species concentrations and then subtracted from the 2012 species concentrations to get species contributions. Here is the formula:

**Annual PM2.5 Contribution (SO4)** = f_SO4_mass – (f_SO4_mass * SA_rrf_SO4)

The calculation is completed for each of the 7 species[2] which have an RRF. The yellow and orange columns are taken directly from MATS output files.

The species contributions from upwind state "A" to the example downwind receptors are shown in blue below. The blue columns are the final species contributions which are calculated using additional post-processing software (using the formula above).

| _id | _STATE_NAME | _COUNTY _NAME | crustal_mass_ SA | EC_mass_ SA | NH4_mass _SA | Ocmb_mass_ SA | SO4_mass _SA | NO3_mass _SA | water_mass _SA | salt_mass_ SA |
|---|---|---|---|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 0.002 | 0.002 | 0.038 | 0.005 | 0.138 | 0.000 | 0.038 | 0.000 |
| 10270001 | Alabama | Clay | 0.007 | 0.006 | 0.052 | 0.012 | 0.167 | 0.000 | 0.053 | 0.000 |
| 10331002 | Alabama | Colbert | 0.005 | 0.004 | 0.086 | 0.020 | 0.291 | 0.002 | 0.085 | 0.000 |
| 10491003 | Alabama | DeKalb | 0.009 | 0.007 | 0.084 | 0.016 | 0.261 | 0.001 | 0.084 | 0.000 |

[2] The RRF for salt is not used because it is always equal to 1.

For the transport rule contributions, the sulfate and nitrate and related species (ammonium and water) concentrations were summed to get the total PM2.5 contribution used in the proposed rule. These are the values in the blue column below. The final annual average PM2.5 contributions (in ug/m3) are truncated to the hundredths digit, consistent with the NAAQS.

| _id | _STATE_NAME | _COUNTY_NAME | Total Annual PM2.5 Mass Contribution |
|---|---|---|---|
| 10030010 | Alabama | Baldwin | 0.20 |
| 10270001 | Alabama | Clay | 0.26 |
| 10331002 | Alabama | Colbert | 0.43 |
| 10491003 | Alabama | DeKalb | 0.40 |

## 24-Hour Average PM2.5 **[All example concentrations are in ug/m3]**

The 2012 future year base case 24 hr. average PM2.5 design value calculations are described in Section III.B. The 2012 design values were calculated by running MATS using the CAMx 2005 base year and 2012 future base case model outputs. The 24-hr. PM2.5 contribution metrics were calculated as described in Section IV.A. The 24-hr. PM2.5 contribution calculations are considerably more complicated than the annual average calculations. High 24-hr values can occur at different times of the year at each receptor. Therefore, we must calculate the contributions to the downwind receptor for each of the quarters and years. The final contribution is a 5 year average of the contribution to the high quarters for each year. The high future quarters vary by receptor and are identified in the "*scenario_name* Daily All Years High Quarters PM25 PointAll years, all quarters.csv" MATS output file.

The information needed to calculate the upwind 24-hr. PM2.5 contributions to downwind 24-hr. PM2.5 receptor sites is as follows:

1) The 2012 base case 24-hour average PM2.5 and component species concentrations for each quarter for (up to) five years at each receptor.
3) The relative response factors (RRFs) from each "source apportionment" MATS run. The source apportionment MATS run is described in Section IV.A step 4. The source apportionment MATS runs specify the "base" year model file as the 2012 CAMx base case and the "future" year model file as the 2012 CAMx source apportionment case. A separate source apportionment MATS case is run for each upwind state.

The 2012 future year 24-hr. quarterly peak PM2.5 values are shown in the example below as the variable "f_pm25__d_q_conc" (from the MATS output file "*scenario_name* Daily All Years All Quarters PM25 PointAnnual PM25 Point.csv"). This is an intermediate file used in the calculation of the future year 5-year weighted average design values. For the design value calculations, the high future quarters for each year (in bold) are averaged together to create a 5 year weighted average (year 1 is weighted once, year 2 twice, year 3 three times, year 4 twice, and year 5 once).

| _id | _state_name | _county_name | monitor_lat | monitor_long | monitor_gridcell | year | quarter | b_pm25_d_q_conc | f_pm25_d_q_conc |
|---|---|---|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2003 | 1 | 19.7 | 19.343 |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2003 | 2 | **29.1** | **28.1653** |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2003 | 3 | 22.7 | 20.1001 |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2003 | 4 | 28.4 | 26.7538 |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2004 | 1 | 25.5 | **25.0352** |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2004 | 2 | 18.1 | 17.5248 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2004 | 3 | **27.5** | 24.338 |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2004 | 4 | 24.6 | 23.178 |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2005 | 1 | 23.4 | 22.9743 |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2005 | 2 | **26** | **25.1666** |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2005 | 3 | 23.7 | 20.983 |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2005 | 4 | 25 | 23.5544 |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2006 | 1 | 25.1 | 24.6427 |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2006 | 2 | 25.6 | **24.7797** |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2006 | 3 | **25.7** | 22.7488 |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2006 | 4 | 15.9 | 14.9913 |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2007 | 1 | 18.9 | 18.5579 |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2007 | 2 | **22.4** | **21.6843** |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2007 | 3 | 17.7 | 15.6857 |
| 10030010 | Alabama | Baldwin | 30.498 | -87.8814 | 158051 | 2007 | 4 | 19.7 | 18.5671 |

The 2012 future 24-hr PM2.5 design value is comprised of a number of component PM2.5 species. The following table shows the 2012 species concentrations for each quarter.

| _id | _state_name | _county_name | year | quarter | f_blank_ mass_q | f_crustal_ mass_q | f_EC_m ass_q | f_NH4_ mass_q | f_Ocmb_ mass_q | f_SO4_ mass_q | f_NO3_ mass_q | f_water_ mass_q | f_salt_ mass_q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 2003 | 1 | 0.5 | 0.4229 | 0.7735 | 1.8495 | 8.3227 | 5.467 | 0 | 2.0016 | 0.0058 |
| 10030010 | Alabama | Baldwin | 2003 | 2 | 0.5 | 0.717 | 0.6498 | 2.8397 | 10.6108 | 10.3037 | 0 | 2.5329 | 0.0114 |
| 10030010 | Alabama | Baldwin | 2003 | 3 | 0.5 | 0.6878 | 0.5218 | 1.7423 | 7.602 | 7.6151 | 0 | 1.4266 | 0.0044 |
| 10030010 | Alabama | Baldwin | 2003 | 4 | 0.5 | 0.689 | 0.706 | 2.7188 | 10.0991 | 9.3557 | 0 | 2.6406 | 0.0446 |
| 10030010 | Alabama | Baldwin | 2004 | 1 | 0.5 | 0.5507 | 1.0072 | 2.4082 | 10.8368 | 7.1185 | 0 | 2.6063 | 0.0075 |
| 10030010 | Alabama | Baldwin | 2004 | 2 | 0.5 | 0.4413 | 0.3999 | 1.7475 | 6.5297 | 6.3407 | 0 | 1.5587 | 0.007 |
| 10030010 | Alabama | Baldwin | 2004 | 3 | 0.5 | 0.8365 | 0.6346 | 2.1191 | 9.2457 | 9.2617 | 0 | 1.735 | 0.0054 |
| 10030010 | Alabama | Baldwin | 2004 | 4 | 0.5 | 0.5952 | 0.6098 | 2.3485 | 8.7236 | 8.0815 | 0 | 2.281 | 0.0386 |
| 10030010 | Alabama | Baldwin | 2005 | 1 | 0.5 | 0.5044 | 0.9226 | 2.2059 | 9.9266 | 6.5206 | 0 | 2.3874 | 0.0069 |
| 10030010 | Alabama | Baldwin | 2005 | 2 | 0.5 | 0.6393 | 0.5794 | 2.5319 | 9.4606 | 9.1869 | 0 | 2.2583 | 0.0102 |
| 10030010 | Alabama | Baldwin | 2005 | 3 | 0.5 | 0.7188 | 0.5453 | 1.8208 | 7.9445 | 7.9582 | 0 | 1.4908 | 0.0046 |
| 10030010 | Alabama | Baldwin | 2005 | 4 | 0.5 | 0.605 | 0.62 | 2.3875 | 8.8684 | 8.2156 | 0 | 2.3188 | 0.0392 |
| 10030010 | Alabama | Baldwin | 2006 | 1 | 0.5 | 0.5419 | 0.9911 | 2.3697 | 10.6635 | 7.0046 | 0 | 2.5646 | 0.0074 |
| 10030010 | Alabama | Baldwin | 2006 | 2 | 0.5 | 0.6293 | 0.5703 | 2.4922 | 9.3122 | 9.0428 | 0 | 2.2229 | 0.01 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 2006 | 3 | 0.5 | 0.7808 | 0.5923 | 1.9778 | 8.6293 | 8.6442 | 0 | 1.6194 | 0.005 |
| 10030010 | Alabama | Baldwin | 2006 | 4 | 0.5 | 0.3803 | 0.3897 | 1.5007 | 5.5744 | 5.1641 | 0 | 1.4575 | 0.0246 |
| 10030010 | Alabama | Baldwin | 2007 | 1 | 0.5 | 0.4053 | 0.7413 | 1.7724 | 7.9759 | 5.2392 | 0 | 1.9182 | 0.0055 |
| 10030010 | Alabama | Baldwin | 2007 | 2 | 0.5 | 0.5491 | 0.4976 | 2.1745 | 8.125 | 7.8899 | 0 | 1.9395 | 0.0088 |
| 10030010 | Alabama | Baldwin | 2007 | 3 | 0.5 | 0.5329 | 0.4043 | 1.3499 | 5.8899 | 5.9 | 0 | 1.1053 | 0.0034 |
| 10030010 | Alabama | Baldwin | 2007 | 4 | 0.5 | 0.4742 | 0.4859 | 1.871 | 6.9499 | 6.4383 | 0 | 1.8172 | 0.0307 |

The source apportionment RRFs[3] (in orange below) are derived from the source apportionment MATS runs. They represent the relative PM2.5 species contribution from an upwind state to each downwind receptor in each quarter[4]. For example, an RRF value of 0.8881 for Baldwin County for quarter 1 sulfate means that the upwind state contributes 11.19% [(1 – 0.8881)* 100)] of the sulfate ion in Baldwin County in quarter 1 (averaged across all high[5] days in each quarter).

| _id | _state_name | _county_name | year | quarter | SA_rrf_crustal_q | SA_rrf_ec_q | SA_rrf_nh4_q | SA_rrf_oc_q | SA_rrf_so4_q | SA_rrf_no3_q | SA_rrf_water_q |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 2003 | 1 | 0.9663 | 0.9772 | 0.9965 | 0.9852 | **0.8881** | 0.9958 | 0.8882 |
| 10030010 | Alabama | Baldwin | 2003 | 2 | 0.9912 | 0.9934 | 0.9996 | 0.9978 | 0.9656 | 0.9985 | 0.9655 |
| 10030010 | Alabama | Baldwin | 2003 | 3 | 0.9897 | 0.9914 | 0.9993 | 0.9985 | 0.942 | 1 | 0.9419 |
| 10030010 | Alabama | Baldwin | 2003 | 4 | 0.9715 | 0.971 | 0.9981 | 0.9918 | 0.9082 | 0.9981 | 0.9082 |
| 10030010 | Alabama | Baldwin | 2004 | 1 | 0.9663 | 0.9772 | 0.9965 | 0.9852 | 0.8881 | 0.9958 | 0.8882 |
| 10030010 | Alabama | Baldwin | 2004 | 2 | 0.9912 | 0.9934 | 0.9996 | 0.9978 | 0.9656 | 0.9985 | 0.9655 |
| 10030010 | Alabama | Baldwin | 2004 | 3 | 0.9897 | 0.9914 | 0.9993 | 0.9985 | 0.942 | 1 | 0.9419 |
| 10030010 | Alabama | Baldwin | 2004 | 4 | 0.9715 | 0.971 | 0.9981 | 0.9918 | 0.9082 | 0.9981 | 0.9082 |
| 10030010 | Alabama | Baldwin | 2005 | 1 | 0.9663 | 0.9772 | 0.9965 | 0.9852 | 0.8881 | 0.9958 | 0.8882 |
| 10030010 | Alabama | Baldwin | 2005 | 2 | 0.9912 | 0.9934 | 0.9996 | 0.9978 | 0.9656 | 0.9985 | 0.9655 |
| 10030010 | Alabama | Baldwin | 2005 | 3 | 0.9897 | 0.9914 | 0.9993 | 0.9985 | 0.942 | 1 | 0.9419 |
| 10030010 | Alabama | Baldwin | 2005 | 4 | 0.9715 | 0.971 | 0.9981 | 0.9918 | 0.9082 | 0.9981 | 0.9083 |
| 10030010 | Alabama | Baldwin | 2006 | 1 | 0.9663 | 0.9772 | 0.9965 | 0.9852 | 0.8881 | 0.9958 | 0.8882 |
| 10030010 | Alabama | Baldwin | 2006 | 2 | 0.9912 | 0.9934 | 0.9996 | 0.9978 | 0.9656 | 0.9985 | 0.9655 |

[3] One additional step is needed to calculate the water RRF. Since the MATS output file does not contain the quarterly water RRF, it must be back-calculated from the base and future year water concentrations (f_water_mass_q / b_water_mass_q)

[4] There is a single species RRF for each of the 4 quarters.

[5] Consistent with the 24-hr PM2.5 design value calculations, the "high" days are defined as the 10% highest modeled PM2.5 concentration days for each quarter at each receptor.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 2006 | 3 | 0.9897 | 0.9914 | 0.9993 | 0.9985 | 0.942 | 1 | 0.9419 |
| 10030010 | Alabama | Baldwin | 2006 | 4 | 0.9715 | 0.971 | 0.9981 | 0.9918 | 0.9082 | 0.9981 | 0.9083 |
| 10030010 | Alabama | Baldwin | 2007 | 1 | 0.9663 | 0.9772 | 0.9965 | 0.9852 | 0.8881 | 0.9958 | 0.8882 |
| 10030010 | Alabama | Baldwin | 2007 | 2 | 0.9912 | 0.9934 | 0.9996 | 0.9978 | 0.9656 | 0.9985 | 0.9655 |
| 10030010 | Alabama | Baldwin | 2007 | 3 | 0.9897 | 0.9914 | 0.9993 | 0.9985 | 0.942 | 1 | 0.9419 |
| 10030010 | Alabama | Baldwin | 2007 | 4 | 0.9715 | 0.971 | 0.9981 | 0.9918 | 0.9082 | 0.9981 | 0.9082 |

The quarterly RRFs from the source apportionment MATS run are multiplied by the 2012 species concentrations and then subtracted from the 2012 species concentrations to get species contributions for each quarter. Here is the formula:

**Quarterly PM2.5 Contribution (SO4)** = f_SO4_mass_q – (f_SO4_mass_q * SA_rrf_SO4_q)

The calculation is completed for each quarter for each of the 7 species[6] which have an RRF. The yellow and orange columns are taken directly from MATS output files.

The species contributions from upwind state "A" to the example downwind receptor is shown in blue below. The blue columns are the species contributions which are calculated using additional post-processing software (using the contribution formula above).

| _id | _state_name | _county_name | year | quarter | crustal_mass_SA | EC_mass_SA | NH4_mass_SA | Ocmb_mass_SA | SO4_mass_SA | NO3_mass_SA | water_mass_SA |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 2003 | 1 | 0.014 | 0.017 | 0.006 | 0.121 | 0.543 | 0.000 | 0.199 |
| 10030010 | Alabama | Baldwin | 2003 | 2 | **0.006** | **0.004** | **0.001** | **0.023** | **0.342** | **0.000** | **0.084** |
| 10030010 | Alabama | Baldwin | 2003 | 3 | 0.007 | 0.004 | 0.001 | 0.011 | 0.416 | 0.000 | 0.078 |
| 10030010 | Alabama | Baldwin | 2003 | 4 | 0.019 | 0.020 | 0.005 | 0.082 | 0.780 | 0.000 | 0.220 |
| 10030010 | Alabama | Baldwin | 2004 | 1 | **0.018** | **0.022** | **0.008** | **0.158** | **0.707** | **0.000** | **0.259** |
| 10030010 | Alabama | Baldwin | 2004 | 2 | 0.004 | 0.003 | 0.001 | 0.014 | 0.211 | 0.000 | 0.052 |
| 10030010 | Alabama | Baldwin | 2004 | 3 | 0.009 | 0.005 | 0.001 | 0.014 | 0.506 | 0.000 | 0.095 |
| 10030010 | Alabama | Baldwin | 2004 | 4 | 0.016 | 0.017 | 0.004 | 0.071 | 0.674 | 0.000 | 0.190 |
| 10030010 | Alabama | Baldwin | 2005 | 1 | 0.016 | 0.021 | 0.008 | 0.145 | 0.648 | 0.000 | 0.237 |
| 10030010 | Alabama | Baldwin | 2005 | 2 | **0.006** | **0.004** | **0.001** | **0.021** | **0.305** | **0.000** | **0.075** |
| 10030010 | Alabama | Baldwin | 2005 | 3 | 0.007 | 0.005 | 0.001 | 0.012 | 0.435 | 0.000 | 0.082 |

[6] The RRF for salt is ignored because it is always equal to 1.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 2005 | 4 | 0.017 | 0.017 | 0.005 | 0.072 | 0.685 | 0.000 | 0.193 |
| 10030010 | Alabama | Baldwin | 2006 | 1 | 0.018 | 0.022 | 0.008 | 0.155 | 0.696 | 0.000 | 0.255 |
| 10030010 | Alabama | Baldwin | 2006 | 2 | **0.005** | **0.004** | **0.001** | **0.020** | **0.300** | **0.000** | **0.074** |
| 10030010 | Alabama | Baldwin | 2006 | 3 | 0.008 | 0.005 | 0.001 | 0.013 | 0.472 | 0.000 | 0.089 |
| 10030010 | Alabama | Baldwin | 2006 | 4 | 0.011 | 0.011 | 0.003 | 0.045 | 0.431 | 0.000 | 0.121 |
| 10030010 | Alabama | Baldwin | 2007 | 1 | 0.013 | 0.017 | 0.006 | 0.116 | 0.521 | 0.000 | 0.190 |
| 10030010 | Alabama | Baldwin | 2007 | 2 | **0.005** | **0.003** | **0.001** | **0.018** | **0.262** | **0.000** | **0.065** |
| 10030010 | Alabama | Baldwin | 2007 | 3 | 0.005 | 0.003 | 0.001 | 0.009 | 0.322 | 0.000 | 0.060 |
| 10030010 | Alabama | Baldwin | 2007 | 4 | 0.013 | 0.014 | 0.004 | 0.057 | 0.537 | 0.000 | 0.151 |

The next step is to average the contributions for the **high quarter** in each of the 5 years (bolded values above). The high PM2.5 quarters for the receptor site were previously identified in the first step. The high future quarters for the 5 years at the example receptor site (Baldwin) are:

Year 1 (2003) quarter 2
Year 2 (2004) quarter 1
Year 3 (2005) quarter 2
Year 4 (2006) quarter 2
Year 5 (2007) quarter 2

The contributions (from the blue columns in the table above) are averaged[7] across the 5 high quarters (bolded rows) with the following result:

| | | | crustal_mass_SA | EC_mass_SA | NH4_mass_SA | Ocmb_mass_SA | SO4_mass_SA | NO3_mass_SA | water_mass_SA |
|---|---|---|---|---|---|---|---|---|---|
| 10030010 | Alabama | Baldwin | 0.0080 | 0.0075 | 0.0025 | 0.0481 | 0.3835 | 0.0000 | 0.1114 |

[7] The 5 year average for the **contribution** calculations is a "straight" 5 year average, not a weighted average.

For the transport rule contributions, the sulfate and nitrate and related species (ammonium and water) concentrations were summed to get the total PM2.5 contribution used in the proposed rule. The sum of these values is shown as the 24-hr PM2.5 contribution in the blue column below. The final 24 hr. PM2.5 contributions (in ug/m3) are truncated to the hundredths digit, consistent with the NAAQS.

| _id | _STATE_NAME | _COUNTY_NAME | Total 24 Hr. PM2.5 Mass Contribution |
|---|---|---|---|
| 10030010 | Alabama | Baldwin | 0.49 |

# Transport Rule Air Quality Modeling Technical Support Document

# Appendix D

# 2012 Base Case State-by-State Contributions to Nonattainment and Maintenance for 8-Hour Ozone, Annual PM2.5, and 24-Hour PM2.5

This Appendix provides tabular summaries of the State-by-State contributions to 8-hour ozone, annual PM2.5, and 24-hour PM2.5 at projected 2012 base case nonattainment receptors.

The contributions from a State to nonattainment in another (i.e., “downwind”) State were used to identify States to be covered by the Transport Rule.

The largest contribution from each State to nonattainment in a downwind State is provided at the bottom of the table.

Contributions to downwind nonattainment that are at or above the following thresholds are shown in red.

Ozone Threshold: 0.8 ppb
Annual PM2.5 Threshold: 0.15 $\mu g/m^3$
24-Hour PM2.5 Threshold: 0.35 $\mu g/m^3$

In-State contributions (i.e., the contribution from a State to nonattainment within the State itself) are provided in the tables in this Appendix for completeness. The in-State contributions were not used to identify States to be covered by the Transport Rule.

The tabular summaries are provided by pollutant starting with 8-hour ozone, then annual PM2.5, and finally 24-hour PM2.5. For each pollutant the contributions to nonattainment sites are provided in “Part 1” and the contributions to maintenance sites are provided in “Part 2”. Note that the tabular summaries for each NAAQS span multiple pages. Also, note that some counties have multiple sites that are projected to be nonattainment as well as other sites that are projected to have a maintenance problem.

# State-by-State Contributions to 8-Hour Ozone (ppb) *Nonattainment* Receptors
# Part 1a.
# Source States:  Alabama through Missouri

| | | | Source States | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **AL** | **AR** | **CT** | **DE** | **FL** | **GA** | **IL** | **IN** | **IA** | **KS** | **KY** | **LA** | **ME** | **MD/DC** | **MA** | **MI** | **MN** | **MS** | **MO** |
| 220330003 | Louisiana | E.Baton Rouge | **1.3** | **1.4** | 0.0 | 0.0 | 0.4 | 0.5 | 0.1 | 0.1 | 0.0 | 0.2 | 0.1 | 54.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | **3.1** | 0.4 |
| 361030002 | New York | Suffolk | 0.0 | 0.2 | 0.7 | **1.0** | 0.1 | 0.0 | 0.7 | **1.1** | 0.1 | 0.1 | **1.2** | 0.1 | 0.0 | **2.3** | 0.4 | 0.6 | 0.1 | 0.1 | 0.4 |
| 361030009 | New York | Suffolk | 0.1 | 0.1 | **1.7** | **1.6** | 0.1 | 0.1 | **0.8** | **0.9** | 0.2 | 0.1 | 0.7 | 0.2 | 0.0 | **2.9** | 0.6 | **0.9** | 0.1 | 0.1 | 0.4 |
| 421010024 | Pennsylvania | Philadelphia | 0.4 | 0.2 | 0.0 | **3.3** | 0.2 | 0.3 | 0.5 | **0.9** | 0.1 | 0.1 | **2.3** | 0.2 | 0.0 | **6.1** | 0.0 | 0.3 | 0.0 | 0.4 | 0.5 |
| 480391004 | Texas | Brazoria | **2.9** | **1.3** | 0.0 | 0.0 | 0.6 | **1.4** | 0.6 | 0.4 | 0.3 | 0.1 | 0.7 | **8.3** | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | **3.9** | 0.7 |
| 482010051 | Texas | Harris | **3.6** | 0.5 | 0.0 | 0.0 | 0.6 | **1.9** | 0.7 | 0.6 | 0.3 | 0.1 | **0.9** | **8.4** | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | **4.0** | 0.5 |
| 482010055 | Texas | Harris | **3.9** | 0.5 | 0.0 | 0.0 | 0.6 | **2.1** | **0.8** | 0.7 | 0.3 | 0.1 | **1.0** | **9.1** | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | **4.3** | 0.6 |
| 482010062 | Texas | Harris | **4.0** | 0.7 | 0.0 | 0.0 | **0.8** | **2.0** | 0.7 | 0.6 | 0.2 | 0.1 | **0.9** | **10.0** | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | **5.2** | 0.6 |
| 482010066 | Texas | Harris | **4.7** | 0.2 | 0.0 | 0.0 | 0.6 | **1.9** | 0.6 | 0.5 | 0.2 | 0.0 | 0.7 | **10.5** | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | **4.4** | 0.2 |
| 482011039 | Texas | Harris | **3.5** | 0.7 | 0.0 | 0.0 | 0.7 | **1.7** | 0.6 | 0.5 | 0.2 | 0.1 | **0.8** | **11.4** | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | **4.8** | 0.5 |
| 484391002 | Texas | Tarrant | **1.0** | **1.2** | 0.0 | 0.0 | **0.8** | **0.9** | 0.1 | 0.0 | 0.1 | 0.6 | 0.2 | **2.9** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | **1.1** | 0.2 |
| | | | | | | | | | | | | | | | | | | | | | |
| | **Largest Contribution to Downwind Nonattainment =>** | | **4.7** | **1.4** | **1.7** | **3.3** | **0.8** | **2.1** | **0.8** | **1.1** | 0.3 | 0.6 | **2.3** | **11.4** | 0.0 | **6.1** | 0.6 | **0.9** | 0.1 | **5.2** | 0.7 |

## State-by-State Contributions to 8-Hour Ozone (ppb) *Nonattainment* Receptors
## Part 1b.
## Source States: Nebraska through Wisconsin

| | | | Source States | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **NE** | **NH** | **NJ** | **NY** | **NC** | **ND** | **OH** | **OK** | **PA** | **RI** | **SC** | **SD** | **TN** | **TX** | **VT** | **VA** | **WV** | **WI** |
| 220330003 | Louisiana | E.Baton Rouge | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | **1.6** | 0.0 | 0.0 | 0.0 | 0.0 |
| 361030002 | New York | Suffolk | 0.0 | 0.1 | **16.8** | 17.7 | **1.4** | 0.0 | **2.8** | 0.1 | **8.8** | 0.0 | 0.1 | 0.0 | 0.4 | 0.2 | 0.0 | **4.2** | **2.3** | 0.1 |
| 361030009 | New York | Suffolk | 0.1 | 0.1 | **14.7** | 15.4 | **1.7** | 0.1 | **2.1** | 0.1 | **8.9** | 0.1 | 0.1 | 0.0 | 0.3 | 0.2 | 0.0 | **4.1** | **1.5** | 0.3 |
| 421010024 | Pennsylvania | Philadelphia | 0.0 | 0.0 | **8.0** | 0.4 | **1.3** | 0.0 | **2.2** | 0.1 | 32.7 | 0.0 | 0.2 | 0.0 | **1.4** | 0.2 | 0.0 | **4.2** | **2.7** | 0.0 |
| 480391004 | Texas | Brazoria | 0.1 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.1 | 0.3 | 0.1 | 0.0 | 0.3 | 0.0 | **1.3** | 41.6 | 0.0 | 0.1 | 0.0 | 0.1 |
| 482010051 | Texas | Harris | 0.1 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.6 | 0.0 | **1.5** | 38.8 | 0.0 | 0.2 | 0.0 | 0.0 |
| 482010055 | Texas | Harris | 0.1 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.6 | 0.0 | **1.6** | 42.0 | 0.0 | 0.2 | 0.0 | 0.1 |
| 482010062 | Texas | Harris | 0.1 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.4 | 0.0 | **1.6** | 38.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| 482010066 | Texas | Harris | 0.0 | 0.0 | 0.0 | 0.1 | 0.4 | 0.0 | 0.1 | 0.1 | 0.2 | 0.0 | 0.4 | 0.0 | **1.6** | 33.0 | 0.0 | 0.2 | 0.0 | 0.1 |
| 482011039 | Texas | Harris | 0.1 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.3 | 0.0 | **1.4** | 37.5 | 0.0 | 0.1 | 0.0 | 0.0 |
| 484391002 | Texas | Tarrant | 0.2 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | **2.1** | 0.0 | 0.0 | 0.3 | 0.0 | 0.6 | 52.1 | 0.0 | 0.1 | 0.0 | 0.0 |
| | | | | | | | | | | | | | | | | | | | | |
| | **Largest Contribution to Downwind Nonattainment =>** | | 0.2 | 0.1 | **16.8** | 0.4 | **1.7** | 0.1 | **2.8** | **2.1** | **8.9** | 0.1 | 0.6 | 0.0 | **1.6** | **1.6** | 0.0 | **4.2** | **2.7** | 0.3 |

# State-by-State Contributions to 8-Hour Ozone (ppb) *Maintenance* Receptors
# Part 2a.
# Source States: Alabama through Missouri

| | | | Source States | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **AL** | **AR** | **CT** | **DE** | **FL** | **GA** | **IL** | **IN** | **IA** | **KS** | **KY** | **LA** | **ME** | **MD/DC** | **MA** | **MI** | **MN** | **MS** | **MO** |
| 90010017 | Connecticut | Fairfield | 0.1 | 0.3 | 2.0 | 0.6 | 0.0 | 0.0 | 0.6 | **1.0** | 0.1 | 0.1 | **1.5** | 0.1 | 0.0 | **2.2** | 0.4 | 0.5 | 0.1 | 0.2 | 0.4 |
| 90011123 | Connecticut | Fairfield | 0.1 | 0.3 | 5.6 | 0.5 | 0.2 | 0.1 | 0.5 | 0.7 | 0.1 | 0.1 | **1.4** | 0.1 | 0.0 | **1.7** | 0.4 | 0.3 | 0.1 | 0.2 | 0.4 |
| 90013007 | Connecticut | Fairfield | 0.1 | 0.1 | 5.3 | 0.7 | 0.1 | 0.1 | 0.4 | 0.7 | 0.1 | 0.1 | **0.9** | 0.1 | 0.0 | **2.0** | 0.5 | 0.4 | 0.1 | 0.1 | 0.3 |
| 90093002 | Connecticut | New Haven | 0.1 | 0.1 | 6.1 | 0.7 | 0.1 | 0.0 | 0.5 | **0.8** | 0.1 | 0.1 | **0.8** | 0.1 | 0.0 | **2.3** | 0.1 | 0.5 | 0.0 | 0.1 | 0.3 |
| 130890002 | Georgia | DeKalb | **4.5** | 0.3 | 0.0 | 0.0 | **1.1** | 51.8 | 0.1 | 0.2 | 0.0 | 0.0 | 0.5 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | **0.9** | 0.1 |
| 131210055 | Georgia | Fulton | **4.7** | 0.3 | 0.0 | 0.0 | **1.1** | 53.6 | 0.1 | 0.2 | 0.0 | 0.0 | 0.6 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | **0.9** | 0.1 |
| 361192004 | New York | Westchester | 0.0 | 0.2 | **1.6** | 0.4 | 0.2 | 0.0 | 0.6 | **0.9** | 0.2 | 0.1 | **1.2** | 0.1 | 0.0 | **1.5** | 0.5 | 0.5 | 0.2 | 0.1 | 0.5 |
| 420170012 | Pennsylvania | Bucks | 0.3 | 0.4 | 0.2 | **2.5** | 0.1 | 0.2 | 0.6 | **0.9** | 0.1 | 0.1 | **1.8** | 0.3 | 0.0 | **4.2** | 0.1 | 0.5 | 0.0 | 0.4 | 0.6 |
| 481130069 | Texas | Dallas | 0.5 | **1.5** | 0.0 | 0.0 | 0.3 | 0.6 | 0.2 | 0.3 | 0.1 | **0.8** | 0.2 | **1.5** | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.7 | 0.5 |
| 481130087 | Texas | Dallas | 0.6 | **1.8** | 0.0 | 0.0 | 0.4 | 0.6 | 0.4 | 0.2 | 0.2 | 0.7 | 0.2 | **2.5** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | **0.9** | 0.6 |
| 482010024 | Texas | Harris | **2.6** | 0.1 | 0.0 | 0.0 | **0.8** | **1.0** | 0.5 | 0.4 | 0.1 | 0.0 | 0.4 | **10.3** | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | **2.5** | 0.1 |
| 482010029 | Texas | Harris | **1.4** | 0.0 | 0.0 | 0.0 | **2.1** | **1.7** | 0.1 | 0.2 | 0.0 | 0.0 | 0.2 | **7.4** | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | **1.6** | 0.0 |
| 482011050 | Texas | Harris | **2.0** | **1.0** | 0.0 | 0.0 | 0.7 | **1.1** | 0.5 | 0.4 | 0.3 | 0.2 | 0.6 | **10.6** | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | **2.5** | 0.6 |
| 484392003 | Texas | Tarrant | **1.3** | **1.0** | 0.0 | 0.0 | 0.6 | **1.2** | 0.0 | 0.0 | 0.0 | 0.4 | 0.1 | **2.8** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | **1.2** | 0.2 |
| | | | | | | | | | | | | | | | | | | | | | |
| | **Largest Contribution to Downwind Maintenance =>** | | **4.7** | **1.8** | **1.6** | **2.5** | **2.1** | **1.7** | 0.6 | **1.0** | 0.3 | **0.8** | **1.8** | **10.6** | 0.0 | **4.2** | 0.5 | 0.5 | 0.2 | **2.5** | 0.6 |

# State-by-State Contributions to 8-Hour Ozone (ppb) *Maintenance* Receptors
## Part 2b.
## Source States: Nebraska through Wisconsin

| | | | **Source States** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **NE** | **NH** | **NJ** | **NY** | **NC** | **ND** | **OH** | **OK** | **PA** | **RI** | **SC** | **SD** | **TN** | **TX** | **VT** | **VA** | **WV** | **WI** |
| 90010017 | Connecticut | Fairfield | 0.0 | 0.1 | **15.8** | **17.7** | 0.7 | 0.0 | **2.6** | 0.1 | **8.1** | 0.0 | 0.1 | 0.0 | 0.6 | 0.1 | 0.0 | **3.1** | **2.1** | 0.1 |
| 90011123 | Connecticut | Fairfield | 0.0 | 0.1 | **13.9** | **21.0** | **2.0** | 0.0 | **1.7** | 0.1 | **5.3** | 0.0 | 0.3 | 0.0 | 0.6 | 0.1 | 0.0 | **3.2** | **1.4** | 0.1 |
| 90013007 | Connecticut | Fairfield | 0.0 | 0.1 | **12.0** | **22.1** | **1.9** | 0.0 | **1.9** | 0.1 | **6.6** | 0.1 | 0.2 | 0.0 | 0.3 | 0.1 | 0.0 | **3.8** | **1.5** | 0.1 |
| 90093002 | Connecticut | New Haven | 0.0 | 0.0 | **11.8** | **22.7** | **1.8** | 0.0 | **2.0** | 0.1 | **6.4** | 0.0 | 0.2 | 0.0 | 0.3 | 0.1 | 0.0 | **4.5** | **1.6** | 0.1 |
| 130890002 | Georgia | DeKalb | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.2 | 0.1 | 0.0 | 0.0 | 0.7 | 0.0 | **2.9** | 0.6 | 0.0 | 0.2 | 0.1 | 0.0 |
| 131210055 | Georgia | Fulton | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.2 | 0.1 | 0.0 | 0.0 | **0.8** | 0.0 | **3.0** | 0.6 | 0.0 | 0.2 | 0.1 | 0.0 |
| 361192004 | New York | Westchester | 0.1 | 0.1 | **14.6** | 25.3 | **1.4** | 0.0 | **2.1** | 0.1 | **5.8** | 0.1 | 0.1 | 0.0 | 0.5 | 0.1 | 0.1 | **2.4** | **1.4** | 0.2 |
| 420170012 | Pennsylvania | Bucks | 0.0 | 0.1 | **15.2** | **2.6** | **0.9** | 0.0 | **2.0** | 0.1 | 23.8 | 0.0 | 0.1 | 0.0 | **1.1** | 0.3 | 0.1 | **3.0** | **2.3** | 0.1 |
| 481130069 | Texas | Dallas | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | **2.7** | 0.1 | 0.0 | 0.1 | 0.0 | 0.4 | 47.9 | 0.0 | 0.1 | 0.0 | 0.0 |
| 481130087 | Texas | Dallas | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | **2.5** | 0.1 | 0.0 | 0.2 | 0.0 | 0.2 | 47.7 | 0.0 | 0.1 | 0.0 | 0.0 |
| 482010024 | Texas | Harris | 0.0 | 0.0 | 0.0 | 0.1 | 0.4 | 0.0 | 0.1 | 0.0 | 0.2 | 0.0 | 0.3 | 0.0 | **0.8** | 35.6 | 0.0 | 0.2 | 0.0 | 0.1 |
| 482010029 | Texas | Harris | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | **0.8** | 0.0 | 0.3 | 40.1 | 0.0 | 0.2 | 0.0 | 0.0 |
| 482011050 | Texas | Harris | 0.1 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.7 | 0.1 | 0.0 | 0.3 | 0.0 | **1.0** | 38.6 | 0.0 | 0.1 | 0.0 | 0.0 |
| 484392003 | Texas | Tarrant | 0.1 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.1 | **1.8** | 0.1 | 0.0 | 0.4 | 0.0 | 0.6 | 50.1 | 0.0 | 0.2 | 0.1 | 0.0 |
| | | | | | | | | | | | | | | | | | | | | |
| | **Largest Contribution to Downwind Maintenance =>** | | 0.2 | 0.1 | **15.8** | **22.7** | **2.0** | 0.0 | **2.6** | **2.7** | **8.1** | 0.1 | **0.8** | 0.0 | **3.0** | 0.6 | 0.1 | **4.5** | **2.3** | 0.2 |

## State-by-State Contributions to Annual PM2.5 (μg/m$^3$) *Nonattainment* Receptors
## Part 1a.
## Source States: Alabama through Missouri
## Receptors: Nonattainment Sites in Alabama through Michigan

| | | | Source States | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **AL** | **AR** | **CT** | **DE** | **FL** | **GA** | **IL** | **IN** | **IA** | **KS** | **KY** | **LA** | **ME** | **MD/DC** | **MA** | **MI** | **MN** | **MS** | **MO** |
| 10730023 | Alabama | Jefferson | 3.48 | 0.03 | 0.00 | 0.01 | **0.15** | **0.61** | **0.18** | **0.28** | 0.04 | 0.02 | **0.28** | 0.11 | 0.00 | 0.02 | 0.00 | 0.05 | 0.01 | 0.07 | 0.13 |
| 10732003 | Alabama | Jefferson | 2.62 | 0.02 | 0.00 | 0.00 | 0.14 | **0.63** | **0.18** | **0.29** | 0.04 | 0.01 | **0.29** | 0.11 | 0.00 | 0.01 | 0.00 | 0.05 | 0.01 | 0.06 | 0.13 |
| 130210007 | Georgia | Bibb | **0.42** | 0.02 | 0.00 | 0.01 | **0.29** | 1.63 | **0.16** | **0.23** | 0.04 | 0.01 | **0.22** | 0.08 | 0.00 | 0.04 | 0.00 | 0.07 | 0.01 | 0.03 | 0.12 |
| 130630091 | Georgia | Clayton | **0.46** | 0.02 | 0.00 | 0.01 | **0.18** | 2.02 | **0.19** | **0.28** | 0.04 | 0.02 | **0.29** | 0.07 | 0.00 | 0.04 | 0.00 | 0.06 | 0.01 | 0.03 | 0.14 |
| 131210039 | Georgia | Fulton | **0.40** | 0.01 | 0.00 | 0.00 | 0.14 | 2.30 | **0.18** | **0.27** | 0.03 | 0.01 | **0.28** | 0.06 | 0.00 | 0.03 | 0.00 | 0.05 | 0.00 | 0.02 | 0.13 |
| 170310052 | Illinois | Cook | 0.03 | 0.02 | 0.00 | 0.00 | 0.00 | 0.04 | 2.00 | **1.00** | **0.31** | 0.05 | **0.22** | 0.02 | 0.00 | 0.00 | 0.00 | **0.52** | **0.19** | 0.00 | **0.28** |
| 171191007 | Illinois | Madison | 0.08 | 0.09 | 0.00 | 0.00 | 0.01 | 0.08 | 1.82 | **0.79** | **0.28** | 0.09 | **0.35** | 0.08 | 0.00 | 0.00 | 0.00 | **0.25** | 0.12 | 0.01 | **1.38** |
| 171630010 | Illinois | Saint Clair | 0.08 | 0.09 | 0.00 | 0.00 | 0.02 | 0.08 | 1.74 | **0.77** | **0.27** | 0.09 | **0.35** | 0.08 | 0.00 | 0.01 | 0.00 | **0.25** | 0.11 | 0.02 | **1.32** |
| 180190006 | Indiana | Clark | **0.18** | 0.04 | 0.00 | 0.00 | 0.04 | **0.18** | **0.66** | 1.92 | 0.12 | 0.03 | **1.68** | 0.06 | 0.00 | 0.02 | 0.00 | **0.24** | 0.05 | 0.02 | **0.29** |
| 180372001 | Indiana | Dubois | **0.18** | 0.06 | 0.00 | 0.00 | 0.04 | **0.18** | **1.01** | 2.66 | **0.18** | 0.04 | **1.52** | 0.07 | 0.00 | 0.02 | 0.00 | **0.28** | 0.08 | 0.03 | **0.43** |
| 180970078 | Indiana | Marion | 0.10 | 0.04 | 0.00 | 0.00 | 0.01 | 0.10 | **0.76** | 3.49 | 0.14 | 0.03 | **0.78** | 0.04 | 0.00 | 0.02 | 0.00 | **0.43** | 0.07 | 0.01 | **0.28** |
| 180970081 | Indiana | Marion | 0.10 | 0.04 | 0.00 | 0.00 | 0.02 | 0.10 | **0.77** | 3.49 | 0.14 | 0.03 | **0.78** | 0.04 | 0.00 | 0.02 | 0.00 | **0.43** | 0.08 | 0.01 | **0.28** |
| 180970083 | Indiana | Marion | 0.10 | 0.04 | 0.00 | 0.00 | 0.02 | 0.10 | **0.76** | 3.49 | 0.14 | 0.03 | **0.78** | 0.04 | 0.00 | 0.02 | 0.00 | **0.43** | 0.07 | 0.01 | **0.28** |
| 211110043 | Kentucky | Jefferson | **0.17** | 0.04 | 0.00 | 0.00 | 0.04 | **0.17** | **0.61** | **2.09** | 0.12 | 0.03 | 1.85 | 0.06 | 0.00 | 0.02 | 0.00 | **0.21** | 0.05 | 0.03 | **0.27** |
| 261630015 | Michigan | Wayne | 0.05 | 0.02 | 0.00 | 0.00 | 0.01 | 0.06 | **0.45** | **0.67** | 0.10 | 0.02 | **0.28** | 0.01 | 0.00 | 0.02 | 0.00 | 2.61 | 0.07 | 0.00 | 0.13 |
| 261630033 | Michigan | Wayne | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 | 0.06 | **0.47** | **0.70** | 0.11 | 0.01 | **0.29** | 0.01 | 0.00 | 0.02 | 0.00 | 2.71 | 0.07 | 0.00 | 0.13 |

## State-by-State Contributions to Annual PM2.5 (µg/m$^3$) *Nonattainment* Receptors
## Part 1b.
## Source States:  Alabama through Missouri
## Receptors:  Nonattainment Sites in Ohio through West Virginia

| | | | Source States | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **AL** | **AR** | **CT** | **DE** | **FL** | **GA** | **IL** | **IN** | **IA** | **KS** | **KY** | **LA** | **ME** | **MD/DC** | **MA** | **MI** | **MN** | **MS** | **MO** |
| 390170016 | Ohio | Butler | 0.13 | 0.03 | 0.00 | 0.00 | 0.02 | 0.13 | **0.58** | **1.36** | 0.11 | 0.02 | **0.99** | 0.03 | 0.00 | 0.03 | 0.00 | **0.38** | 0.05 | 0.01 | **0.24** |
| 390350038 | Ohio | Cuyahoga | 0.06 | 0.02 | 0.00 | 0.01 | 0.01 | 0.08 | **0.42** | **0.64** | 0.09 | 0.02 | **0.33** | 0.02 | 0.00 | 0.05 | 0.00 | **0.71** | 0.06 | 0.01 | 0.14 |
| 390350045 | Ohio | Cuyahoga | 0.06 | 0.02 | 0.00 | 0.01 | 0.02 | 0.09 | **0.42** | **0.64** | 0.10 | 0.02 | **0.34** | 0.02 | 0.00 | 0.05 | 0.00 | **0.72** | 0.06 | 0.01 | 0.14 |
| 390350060 | Ohio | Cuyahoga | 0.05 | 0.01 | 0.00 | 0.00 | 0.01 | 0.08 | **0.41** | **0.63** | 0.09 | 0.01 | **0.33** | 0.01 | 0.00 | 0.05 | 0.00 | **0.71** | 0.05 | 0.00 | 0.14 |
| 390610014 | Ohio | Hamilton | 0.13 | 0.04 | 0.00 | 0.01 | 0.03 | 0.14 | **0.57** | **1.29** | 0.11 | 0.03 | **1.00** | 0.04 | 0.00 | 0.04 | 0.00 | **0.36** | 0.06 | 0.02 | **0.24** |
| 390610042 | Ohio | Hamilton | 0.13 | 0.03 | 0.00 | 0.00 | 0.02 | 0.13 | **0.55** | **1.33** | 0.10 | 0.02 | **1.15** | 0.03 | 0.00 | 0.03 | 0.00 | **0.33** | 0.05 | 0.01 | **0.23** |
| 390610043 | Ohio | Hamilton | 0.12 | 0.03 | 0.00 | 0.00 | 0.02 | 0.13 | **0.56** | **1.27** | 0.11 | 0.02 | **0.94** | 0.03 | 0.00 | 0.03 | 0.00 | **0.37** | 0.05 | 0.01 | **0.23** |
| 390617001 | Ohio | Hamilton | 0.13 | 0.04 | 0.00 | 0.01 | 0.03 | 0.14 | **0.57** | **1.29** | 0.11 | 0.03 | **1.00** | 0.04 | 0.00 | 0.04 | 0.00 | **0.36** | 0.06 | 0.02 | **0.24** |
| 390618001 | Ohio | Hamilton | 0.12 | 0.03 | 0.00 | 0.00 | 0.02 | 0.13 | **0.56** | **1.28** | 0.10 | 0.02 | **0.99** | 0.03 | 0.00 | 0.03 | 0.00 | **0.35** | 0.05 | 0.01 | **0.23** |
| 420030064 | Pennsylvania | Allegheny | 0.04 | 0.01 | 0.00 | 0.01 | 0.01 | 0.07 | **0.26** | **0.41** | 0.05 | 0.01 | **0.27** | 0.01 | 0.00 | 0.12 | 0.00 | **0.32** | 0.02 | 0.00 | 0.10 |
| 420031301 | Pennsylvania | Allegheny | 0.05 | 0.01 | 0.00 | 0.01 | 0.01 | 0.07 | **0.28** | **0.43** | 0.06 | 0.01 | **0.29** | 0.01 | 0.00 | 0.12 | 0.00 | **0.35** | 0.03 | 0.00 | 0.11 |
| 420070014 | Pennsylvania | Beaver | 0.05 | 0.01 | 0.00 | 0.01 | 0.01 | 0.08 | **0.30** | **0.45** | 0.07 | 0.01 | **0.29** | 0.01 | 0.00 | 0.09 | 0.00 | **0.38** | 0.03 | 0.01 | 0.11 |
| 420710007 | Pennsylvania | Lancaster | 0.03 | 0.01 | 0.04 | **0.20** | 0.01 | 0.07 | **0.22** | **0.28** | 0.05 | 0.01 | **0.16** | 0.01 | 0.01 | **0.63** | 0.07 | **0.28** | 0.03 | 0.00 | 0.08 |
| 421330008 | Pennsylvania | York | 0.03 | 0.01 | 0.03 | **0.16** | 0.01 | 0.07 | **0.23** | **0.30** | 0.05 | 0.01 | **0.18** | 0.01 | 0.01 | **0.62** | 0.06 | **0.27** | 0.03 | 0.00 | 0.09 |
| 540110006 | West Virginia | Cabell | 0.12 | 0.02 | 0.00 | 0.00 | 0.04 | **0.19** | **0.35** | **0.64** | 0.07 | 0.01 | **0.79** | 0.03 | 0.00 | 0.05 | 0.00 | **0.24** | 0.03 | 0.01 | **0.16** |
| 540391005 | West Virginia | Kanawha | 0.12 | 0.02 | 0.00 | 0.01 | 0.03 | **0.18** | **0.33** | **0.59** | 0.07 | 0.01 | **0.61** | 0.03 | 0.00 | 0.08 | 0.00 | **0.24** | 0.02 | 0.01 | **0.15** |
| | | | | | | | | | | | | | | | | | | | | | |
| | **Largest Contribution to Downwind Nonattainment =>** | | **0.46** | 0.09 | 0.04 | **0.20** | **0.29** | **0.63** | **1.01** | **2.09** | **0.31** | 0.09 | **1.68** | 0.11 | 0.01 | **0.63** | 0.07 | **0.72** | **0.19** | 0.07 | **1.38** |

## State-by-State Contributions to Annual PM2.5 (μg/m$^3$) *Nonattainment* Receptors
## Part 1c.
## Source States: Nebraska through Wisconsin
## Receptors: Nonattainment Sites in Alabama through Michigan

| | | | Source States | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **NE** | **NH** | **NJ** | **NY** | **NC** | **ND** | **OH** | **OK** | **PA** | **RI** | **SC** | **SD** | **TN** | **TX** | **VT** | **VA** | **WV** | **WI** |
| 10730023 | Alabama | Jefferson | 0.02 | 0.00 | 0.01 | 0.02 | 0.08 | 0.01 | **0.24** | 0.02 | 0.14 | 0.00 | 0.11 | 0.00 | **0.33** | 0.06 | 0.00 | 0.06 | 0.12 | 0.03 |
| 10732003 | Alabama | Jefferson | 0.01 | 0.00 | 0.00 | 0.01 | 0.08 | 0.00 | **0.25** | 0.01 | 0.14 | 0.00 | 0.10 | 0.00 | **0.34** | 0.05 | 0.00 | 0.05 | 0.12 | 0.02 |
| 130210007 | Georgia | Bibb | 0.01 | 0.00 | 0.01 | 0.04 | **0.17** | 0.00 | **0.27** | 0.02 | **0.26** | 0.00 | **0.26** | 0.00 | **0.27** | 0.05 | 0.00 | 0.12 | **0.16** | 0.02 |
| 130630091 | Georgia | Clayton | 0.02 | 0.00 | 0.01 | 0.04 | **0.19** | 0.01 | **0.30** | 0.02 | **0.23** | 0.00 | **0.25** | 0.00 | **0.36** | 0.05 | 0.00 | 0.11 | **0.17** | 0.03 |
| 131210039 | Georgia | Fulton | 0.01 | 0.00 | 0.01 | 0.03 | **0.19** | 0.00 | **0.29** | 0.01 | **0.22** | 0.00 | **0.26** | 0.00 | **0.36** | 0.04 | 0.00 | 0.10 | **0.16** | 0.02 |
| 170310052 | Illinois | Cook | 0.06 | 0.00 | 0.00 | 0.02 | 0.01 | 0.05 | **0.37** | 0.04 | **0.17** | 0.00 | 0.01 | 0.02 | 0.12 | 0.04 | 0.00 | 0.01 | 0.11 | **0.46** |
| 171191007 | Illinois | Madison | 0.08 | 0.00 | 0.00 | 0.02 | 0.02 | 0.04 | **0.40** | 0.08 | **0.15** | 0.00 | 0.02 | 0.02 | **0.25** | 0.13 | 0.00 | 0.01 | 0.11 | 0.12 |
| 171630010 | Illinois | Saint Clair | 0.08 | 0.00 | 0.00 | 0.02 | 0.02 | 0.04 | **0.39** | 0.07 | **0.15** | 0.00 | 0.02 | 0.02 | **0.25** | 0.12 | 0.00 | 0.02 | 0.11 | 0.12 |
| 180190006 | Indiana | Clark | 0.03 | 0.00 | 0.00 | 0.06 | 0.05 | 0.02 | **1.08** | 0.03 | **0.39** | 0.00 | 0.05 | 0.01 | **0.67** | 0.06 | 0.00 | 0.06 | **0.31** | 0.10 |
| 180372001 | Indiana | Dubois | 0.05 | 0.00 | 0.00 | 0.05 | 0.05 | 0.03 | **0.94** | 0.04 | **0.33** | 0.00 | 0.05 | 0.01 | **0.68** | 0.08 | 0.00 | 0.05 | **0.25** | **0.15** |
| 180970078 | Indiana | Marion | 0.03 | 0.00 | 0.00 | 0.07 | 0.03 | 0.03 | **1.02** | 0.03 | **0.32** | 0.00 | 0.02 | 0.01 | **0.41** | 0.05 | 0.00 | 0.04 | **0.20** | **0.15** |
| 180970081 | Indiana | Marion | 0.04 | 0.00 | 0.00 | 0.07 | 0.03 | 0.03 | **1.02** | 0.03 | **0.32** | 0.00 | 0.02 | 0.01 | **0.41** | 0.05 | 0.00 | 0.04 | **0.20** | **0.16** |
| 180970083 | Indiana | Marion | 0.03 | 0.00 | 0.00 | 0.07 | 0.03 | 0.03 | **1.02** | 0.03 | **0.32** | 0.00 | 0.02 | 0.01 | **0.41** | 0.05 | 0.00 | 0.04 | **0.20** | **0.16** |
| 211110043 | Kentucky | Jefferson | 0.03 | 0.00 | 0.01 | 0.05 | 0.05 | 0.02 | **0.98** | 0.03 | **0.35** | 0.00 | 0.05 | 0.01 | **0.63** | 0.06 | 0.00 | 0.05 | **0.29** | 0.10 |
| 261630015 | Michigan | Wayne | 0.03 | 0.00 | 0.00 | 0.13 | 0.02 | 0.02 | **1.00** | 0.02 | **0.39** | 0.00 | 0.01 | 0.00 | **0.15** | 0.03 | 0.00 | 0.04 | **0.24** | **0.19** |
| 261630033 | Michigan | Wayne | 0.02 | 0.00 | 0.00 | 0.13 | 0.01 | 0.02 | **1.04** | 0.02 | **0.40** | 0.00 | 0.01 | 0.00 | **0.15** | 0.03 | 0.00 | 0.04 | **0.24** | **0.19** |

## State-by-State Contributions to Annual PM2.5 (μg/m$^3$) *Nonattainment* Receptors
## Part 1d.
## Source States: Nebraska through Wisconsin
## Receptors: Nonattainment Sites in Ohio through West Virginia

| | | | Source States | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **NE** | **NH** | **NJ** | **NY** | **NC** | **ND** | **OH** | **OK** | **PA** | **RI** | **SC** | **SD** | **TN** | **TX** | **VT** | **VA** | **WV** | **WI** |
| 390170016 | Ohio | Butler | 0.03 | 0.00 | 0.00 | 0.10 | 0.04 | 0.02 | 2.16 | 0.02 | **0.52** | 0.00 | 0.03 | 0.00 | **0.50** | 0.05 | 0.00 | 0.06 | **0.34** | 0.12 |
| 390350038 | Ohio | Cuyahoga | 0.03 | 0.00 | 0.01 | **0.23** | 0.03 | 0.02 | 2.76 | 0.02 | **0.79** | 0.00 | 0.01 | 0.01 | **0.18** | 0.03 | 0.00 | 0.07 | **0.45** | 0.14 |
| 390350045 | Ohio | Cuyahoga | 0.03 | 0.00 | 0.01 | **0.23** | 0.04 | 0.02 | 2.77 | 0.02 | **0.80** | 0.00 | 0.02 | 0.01 | **0.19** | 0.03 | 0.00 | 0.07 | **0.45** | **0.15** |
| 390350060 | Ohio | Cuyahoga | 0.02 | 0.00 | 0.01 | **0.22** | 0.03 | 0.02 | 2.76 | 0.02 | **0.79** | 0.00 | 0.01 | 0.00 | **0.18** | 0.03 | 0.00 | 0.06 | **0.44** | 0.14 |
| 390610014 | Ohio | Hamilton | 0.03 | 0.00 | 0.01 | 0.10 | 0.05 | 0.03 | 2.51 | 0.03 | **0.54** | 0.00 | 0.03 | 0.01 | **0.51** | 0.05 | 0.00 | 0.07 | **0.37** | 0.12 |
| 390610042 | Ohio | Hamilton | 0.03 | 0.00 | 0.00 | 0.09 | 0.04 | 0.02 | 2.43 | 0.02 | **0.51** | 0.00 | 0.03 | 0.00 | **0.50** | 0.04 | 0.00 | 0.06 | **0.35** | 0.11 |
| 390610043 | Ohio | Hamilton | 0.03 | 0.00 | 0.00 | 0.10 | 0.04 | 0.02 | 2.27 | 0.02 | **0.53** | 0.00 | 0.03 | 0.00 | **0.48** | 0.05 | 0.00 | 0.06 | **0.34** | 0.12 |
| 390617001 | Ohio | Hamilton | 0.03 | 0.00 | 0.01 | 0.10 | 0.05 | 0.03 | 2.50 | 0.03 | **0.54** | 0.00 | 0.03 | 0.01 | **0.50** | 0.05 | 0.00 | 0.07 | **0.36** | 0.12 |
| 390618001 | Ohio | Hamilton | 0.02 | 0.00 | 0.00 | 0.09 | 0.04 | 0.02 | 2.49 | 0.02 | **0.53** | 0.00 | 0.03 | 0.00 | **0.49** | 0.04 | 0.00 | 0.06 | **0.36** | 0.11 |
| 420030064 | Pennsylvania | Allegheny | 0.01 | 0.00 | 0.02 | **0.19** | 0.05 | 0.01 | **1.26** | 0.01 | 2.35 | 0.00 | 0.02 | 0.00 | **0.17** | 0.02 | 0.00 | 0.12 | **0.98** | 0.06 |
| 420031301 | Pennsylvania | Allegheny | 0.01 | 0.00 | 0.02 | **0.20** | 0.05 | 0.01 | **1.36** | 0.01 | 2.33 | 0.00 | 0.02 | 0.00 | **0.17** | 0.02 | 0.00 | 0.12 | **0.96** | 0.07 |
| 420070014 | Pennsylvania | Beaver | 0.02 | 0.00 | 0.02 | **0.21** | 0.05 | 0.01 | **1.49** | 0.01 | 1.61 | 0.00 | 0.02 | 0.00 | **0.17** | 0.02 | 0.00 | 0.10 | **0.76** | 0.08 |
| 420710007 | Pennsylvania | Lancaster | 0.02 | 0.01 | **0.34** | **0.49** | 0.12 | 0.01 | **0.59** | 0.01 | 3.17 | 0.01 | 0.04 | 0.00 | 0.10 | 0.02 | 0.00 | **0.36** | **0.40** | 0.08 |
| 421330008 | Pennsylvania | York | 0.02 | 0.01 | **0.28** | **0.45** | 0.12 | 0.01 | **0.64** | 0.01 | 2.96 | 0.00 | 0.04 | 0.00 | 0.11 | 0.02 | 0.00 | **0.34** | **0.46** | 0.08 |
| 540110006 | West Virginia | Cabell | 0.02 | 0.00 | 0.01 | 0.10 | 0.09 | 0.01 | **1.40** | 0.02 | **0.69** | 0.00 | 0.05 | 0.00 | **0.40** | 0.04 | 0.00 | **0.15** | 1.21 | 0.08 |
| 540391005 | West Virginia | Kanawha | 0.02 | 0.00 | 0.02 | 0.11 | 0.12 | 0.01 | **1.38** | 0.02 | **0.83** | 0.00 | 0.06 | 0.00 | **0.38** | 0.04 | 0.00 | **0.25** | 1.32 | 0.07 |
| | | | | | | | | | | | | | | | | | | | | |
| | **Largest Contribution to Downwind Nonattainment =>** | | 0.08 | 0.01 | **0.34** | **0.49** | **0.19** | 0.05 | **1.49** | 0.08 | **0.83** | 0.01 | **0.26** | 0.02 | **0.68** | 0.13 | 0.00 | **0.36** | **0.98** | **0.46** |

## State-by-State Contributions to Annual PM2.5 (µg/m$^3$) *Maintenance* Receptors
## Part 2a.
## Source States: Alabama through Missouri

| | | | Source States | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **AL** | **AR** | **CT** | **DE** | **FL** | **GA** | **IL** | **IN** | **IA** | **KS** | **KY** | **LA** | **ME** | **MD/DC** | **MA** | **MI** | **MN** | **MS** | **MO** |
| 170313301 | Illinois | Cook | 0.03 | 0.02 | 0.00 | 0.00 | 0.00 | 0.04 | 1.99 | **1.07** | **0.25** | 0.04 | **0.22** | 0.02 | 0.00 | 0.00 | 0.00 | **0.47** | 0.13 | 0.00 | **0.25** |
| 170316005 | Illinois | Cook | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.05 | 2.14 | **1.02** | **0.30** | 0.05 | **0.22** | 0.02 | 0.00 | 0.01 | 0.00 | **0.50** | **0.17** | 0.00 | **0.27** |
| 211110044 | Kentucky | Jefferson | **0.18** | 0.04 | 0.00 | 0.00 | 0.04 | **0.18** | **0.63** | **1.78** | 0.12 | 0.02 | 1.88 | 0.05 | 0.00 | 0.02 | 0.00 | **0.22** | 0.05 | 0.02 | **0.27** |
| 360610056 | New York | New York | 0.01 | 0.00 | 0.09 | 0.07 | 0.00 | 0.04 | 0.13 | **0.16** | 0.03 | 0.00 | 0.09 | 0.00 | 0.02 | 0.13 | 0.13 | **0.16** | 0.02 | 0.00 | 0.05 |
| 390350027 | Ohio | Cuyahoga | 0.05 | 0.01 | 0.00 | 0.00 | 0.01 | 0.08 | **0.41** | **0.63** | 0.09 | 0.01 | **0.33** | 0.01 | 0.00 | 0.04 | 0.00 | **0.71** | 0.05 | 0.00 | 0.13 |
| 390350065 | Ohio | Cuyahoga | 0.06 | 0.02 | 0.00 | 0.01 | 0.01 | 0.08 | **0.41** | **0.63** | 0.09 | 0.01 | **0.33** | 0.01 | 0.00 | 0.05 | 0.00 | **0.71** | 0.05 | 0.01 | 0.14 |
| 390610040 | Ohio | Hamilton | 0.14 | 0.04 | 0.01 | 0.01 | 0.03 | 0.14 | **0.58** | **1.31** | 0.12 | 0.03 | **1.01** | 0.04 | 0.01 | 0.04 | 0.01 | **0.37** | 0.06 | 0.02 | **0.24** |
| 390811001 | Ohio | Jefferson | 0.06 | 0.02 | 0.00 | 0.01 | 0.02 | 0.10 | **0.33** | **0.50** | 0.07 | 0.01 | **0.34** | 0.02 | 0.00 | 0.10 | 0.01 | **0.38** | 0.04 | 0.01 | 0.13 |
| 391130032 | Ohio | Montgomery | 0.10 | 0.02 | 0.00 | 0.00 | 0.02 | 0.11 | **0.57** | **1.21** | 0.11 | 0.02 | **0.76** | 0.02 | 0.00 | 0.02 | 0.00 | **0.45** | 0.05 | 0.01 | **0.21** |
| 391510017 | Ohio | Stark | 0.06 | 0.02 | 0.00 | 0.01 | 0.02 | 0.09 | **0.41** | **0.66** | 0.09 | 0.02 | **0.40** | 0.02 | 0.00 | 0.06 | 0.00 | **0.60** | 0.05 | 0.01 | **0.15** |
| 420110011 | Pennsylvania | Berks | 0.02 | 0.00 | 0.03 | 0.14 | 0.01 | 0.06 | **0.20** | **0.25** | 0.05 | 0.01 | 0.14 | 0.00 | 0.01 | **0.37** | 0.06 | **0.25** | 0.03 | 0.00 | 0.07 |
| 482011035 | Texas | Harris | 0.11 | 0.04 | 0.00 | 0.00 | 0.07 | 0.09 | **0.16** | **0.16** | 0.04 | 0.02 | 0.13 | **0.34** | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.03 | 0.13 |
| 540030003 | West Virginia | Berkeley | 0.04 | 0.01 | 0.01 | 0.05 | 0.01 | 0.08 | **0.23** | **0.34** | 0.05 | 0.01 | **0.22** | 0.01 | 0.00 | **0.56** | 0.02 | **0.23** | 0.02 | 0.00 | 0.10 |
| 540090005 | West Virginia | Brooke | 0.06 | 0.01 | 0.00 | 0.01 | 0.02 | 0.09 | **0.32** | **0.49** | 0.07 | 0.01 | **0.33** | 0.02 | 0.00 | 0.09 | 0.00 | **0.37** | 0.03 | 0.00 | 0.13 |
| 540291004 | West Virginia | Hancock | 0.07 | 0.02 | 0.01 | 0.02 | 0.02 | 0.10 | **0.33** | **0.50** | 0.08 | 0.02 | **0.34** | 0.03 | 0.01 | 0.10 | 0.01 | **0.38** | 0.04 | 0.01 | 0.13 |
| 540490006 | West Virginia | Marion | 0.06 | 0.01 | 0.00 | 0.01 | 0.02 | 0.10 | **0.28** | **0.44** | 0.06 | 0.01 | **0.34** | 0.02 | 0.00 | 0.13 | 0.00 | **0.27** | 0.03 | 0.00 | 0.12 |
| | | | | | | | | | | | | | | | | | | | | | |
| | **Largest Contribution to Downwind Maintenance =>** | | **0.18** | 0.04 | 0.09 | 0.14 | 0.07 | **0.18** | **0.63** | **1.78** | **0.30** | 0.05 | **1.01** | **0.34** | 0.02 | **0.56** | 0.13 | **0.71** | **0.17** | 0.03 | **0.27** |

# State-by-State Contributions to Annual PM2.5 (µg/m$^3$) *Maintenance* Receptors
## Part 2b.
## Source States:  Nebraska through Wisconsin

| | | | Source States | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **NE** | **NH** | **NJ** | **NY** | **NC** | **ND** | **OH** | **OK** | **PA** | **RI** | **SC** | **SD** | **TN** | **TX** | **VT** | **VA** | **WV** | **WI** |
| 170313301 | Illinois | Cook | 0.05 | 0.00 | 0.00 | 0.02 | 0.01 | 0.03 | **0.36** | 0.03 | **0.17** | 0.00 | 0.01 | 0.01 | 0.12 | 0.04 | 0.00 | 0.01 | 0.11 | **0.34** |
| 170316005 | Illinois | Cook | 0.06 | 0.00 | 0.00 | 0.03 | 0.01 | 0.05 | **0.37** | 0.04 | **0.17** | 0.00 | 0.01 | 0.02 | 0.13 | 0.05 | 0.00 | 0.01 | 0.11 | **0.42** |
| 211110044 | Kentucky | Jefferson | 0.03 | 0.00 | 0.00 | 0.05 | 0.05 | 0.02 | **1.03** | 0.03 | **0.37** | 0.00 | 0.04 | 0.00 | **0.64** | 0.06 | 0.00 | 0.05 | **0.30** | 0.10 |
| 360610056 | New York | New York | 0.01 | 0.02 | **0.68** | 2.72 | 0.10 | 0.01 | **0.30** | 0.00 | **0.74** | 0.01 | 0.03 | 0.00 | 0.06 | 0.01 | 0.00 | **0.17** | **0.19** | 0.05 |
| 390350027 | Ohio | Cuyahoga | 0.02 | 0.00 | 0.01 | **0.22** | 0.03 | 0.02 | 2.75 | 0.02 | **0.78** | 0.00 | 0.01 | 0.00 | **0.18** | 0.02 | 0.00 | 0.06 | **0.44** | 0.14 |
| 390350065 | Ohio | Cuyahoga | 0.02 | 0.00 | 0.01 | **0.23** | 0.03 | 0.02 | 2.75 | 0.02 | **0.79** | 0.00 | 0.01 | 0.01 | **0.18** | 0.03 | 0.00 | 0.07 | **0.45** | 0.14 |
| 390610040 | Ohio | Hamilton | 0.04 | 0.00 | 0.01 | 0.10 | 0.05 | 0.03 | 2.53 | 0.03 | **0.55** | 0.00 | 0.04 | 0.01 | **0.51** | 0.05 | 0.00 | 0.08 | **0.37** | 0.13 |
| 390811001 | Ohio | Jefferson | 0.02 | 0.00 | 0.02 | **0.20** | 0.06 | 0.02 | 2.07 | 0.02 | **1.30** | 0.00 | 0.03 | 0.01 | **0.21** | 0.03 | 0.00 | 0.12 | **1.17** | 0.09 |
| 391130032 | Ohio | Montgomery | 0.03 | 0.00 | 0.00 | 0.11 | 0.03 | 0.02 | 2.05 | 0.02 | **0.50** | 0.00 | 0.02 | 0.00 | **0.41** | 0.04 | 0.00 | 0.05 | **0.32** | 0.13 |
| 391510017 | Ohio | Stark | 0.03 | 0.00 | 0.01 | **0.21** | 0.04 | 0.02 | 2.36 | 0.02 | **0.94** | 0.00 | 0.02 | 0.00 | **0.23** | 0.03 | 0.00 | 0.09 | **0.72** | 0.12 |
| 420110011 | Pennsylvania | Berks | 0.01 | 0.01 | **0.30** | **0.47** | 0.10 | 0.01 | **0.49** | 0.01 | 2.86 | 0.00 | 0.03 | 0.00 | 0.09 | 0.01 | 0.00 | **0.28** | **0.31** | 0.07 |
| 482011035 | Texas | Harris | 0.02 | 0.00 | 0.00 | 0.01 | 0.02 | 0.01 | 0.08 | 0.05 | 0.05 | 0.00 | 0.02 | 0.00 | 0.14 | 2.78 | 0.00 | 0.01 | 0.03 | 0.02 |
| 540030003 | West Virginia | Berkeley | 0.01 | 0.00 | 0.11 | **0.27** | 0.11 | 0.01 | **0.77** | 0.01 | **1.60** | 0.00 | 0.04 | 0.00 | 0.14 | 0.02 | 0.00 | **0.37** | 0.96 | 0.06 |
| 540090005 | West Virginia | Brooke | 0.02 | 0.00 | 0.02 | **0.20** | 0.05 | 0.01 | **2.03** | 0.01 | **1.26** | 0.00 | 0.03 | 0.00 | **0.20** | 0.03 | 0.00 | 0.11 | 1.15 | 0.08 |
| 540291004 | West Virginia | Hancock | 0.03 | 0.01 | 0.03 | **0.21** | 0.06 | 0.02 | **1.80** | 0.02 | **1.33** | 0.00 | 0.03 | 0.01 | **0.21** | 0.03 | 0.00 | 0.12 | 1.12 | 0.09 |
| 540490006 | West Virginia | Marion | 0.02 | 0.00 | 0.02 | **0.15** | 0.08 | 0.01 | **1.23** | 0.01 | **1.34** | 0.00 | 0.04 | 0.00 | **0.23** | 0.03 | 0.00 | **0.17** | 2.43 | 0.07 |
| | | | | | | | | | | | | | | | | | | | | |
| | **Largest Contribution to Downwind Maintenance =>** | | 0.06 | 0.02 | **0.68** | **0.47** | 0.11 | 0.05 | **2.03** | 0.05 | **1.60** | 0.01 | 0.04 | 0.02 | **0.64** | 0.06 | 0.00 | **0.37** | **1.17** | **0.42** |

## State-by-State Contributions to 24-Hour PM2.5 (μg/m$^3$) *Nonattainment* Receptors
## Part 1a.
## Source States:  Alabama through Missouri
## Receptors:  Nonattainment Sites in Alabama through Illinois

| | | | Source States | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **AL** | **AR** | **CT** | **DE** | **FL** | **GA** | **IL** | **IN** | **IA** | **KS** | **KY** | **LA** | **ME** | **MD/DC** | **MA** | **MI** | **MN** | **MS** | **MO** |
| 10730023 | Alabama | Jefferson | 7.54 | 0.05 | 0.00 | 0.01 | 0.06 | **0.95** | **0.49** | **0.83** | 0.05 | 0.02 | **0.87** | 0.23 | 0.00 | 0.06 | 0.00 | 0.14 | 0.01 | 0.09 | 0.28 |
| 10732003 | Alabama | Jefferson | 4.62 | 0.02 | 0.01 | 0.01 | 0.07 | **0.76** | **0.40** | **0.91** | 0.04 | 0.02 | **0.79** | 0.08 | 0.01 | 0.04 | 0.01 | 0.10 | 0.01 | 0.09 | 0.17 |
| 90091123 | Connecticut | New Haven | 0.09 | 0.04 | 2.08 | 0.30 | 0.03 | 0.20 | **0.47** | **0.64** | 0.08 | 0.03 | **0.55** | 0.02 | 0.19 | **0.63** | **0.67** | 0.28 | 0.02 | 0.01 | 0.29 |
| 170310052 | Illinois | Cook | 0.06 | 0.10 | 0.00 | 0.01 | 0.01 | 0.10 | 7.69 | **3.32** | **0.93** | 0.26 | **0.68** | 0.04 | 0.00 | 0.04 | 0.00 | **1.15** | 0.16 | 0.02 | **0.92** |
| 170310057 | Illinois | Cook | 0.05 | 0.05 | 0.01 | 0.01 | 0.01 | 0.08 | 8.75 | **3.78** | **1.00** | 0.33 | **0.42** | 0.03 | 0.01 | 0.06 | 0.01 | **1.83** | 0.14 | 0.01 | **0.84** |
| 170310076 | Illinois | Cook | 0.03 | 0.04 | 0.01 | 0.01 | 0.01 | 0.04 | 6.58 | **4.42** | **0.44** | 0.16 | **0.65** | 0.02 | 0.01 | 0.09 | 0.01 | **1.80** | 0.10 | 0.01 | **0.59** |
| 170311016 | Illinois | Cook | 0.03 | 0.07 | 0.00 | 0.00 | 0.00 | 0.06 | 6.38 | **3.92** | **0.56** | 0.11 | **0.75** | 0.02 | 0.00 | 0.04 | 0.00 | **1.58** | 0.10 | 0.01 | **0.65** |
| 170312001 | Illinois | Cook | 0.04 | 0.05 | 0.01 | 0.01 | 0.01 | 0.06 | 4.31 | **6.33** | **0.41** | 0.07 | **0.72** | 0.02 | 0.01 | 0.08 | 0.01 | **2.35** | 0.08 | 0.01 | **0.38** |
| 170313103 | Illinois | Cook | 0.04 | 0.07 | 0.00 | 0.00 | 0.00 | 0.05 | 9.16 | **3.37** | **0.90** | 0.30 | **0.49** | 0.02 | 0.00 | 0.02 | 0.00 | **2.06** | 0.14 | 0.01 | **0.89** |
| 170313301 | Illinois | Cook | 0.04 | 0.05 | 0.02 | 0.02 | 0.02 | 0.04 | 7.34 | **4.44** | **0.61** | 0.26 | **0.52** | 0.03 | 0.02 | 0.09 | 0.02 | **1.91** | 0.12 | 0.02 | **0.69** |
| 170316005 | Illinois | Cook | 0.04 | 0.06 | 0.00 | 0.00 | 0.00 | 0.08 | 7.85 | **3.68** | **0.82** | 0.29 | **0.52** | 0.02 | 0.00 | 0.03 | 0.00 | **1.58** | 0.11 | 0.01 | **0.77** |
| 171190023 | Illinois | Madison | 0.20 | 0.08 | 0.00 | 0.00 | 0.00 | 0.25 | 7.07 | **3.43** | 0.30 | 0.03 | **1.83** | 0.02 | 0.00 | 0.01 | 0.00 | **0.50** | 0.03 | 0.01 | **5.03** |
| 171191007 | Illinois | Madison | 0.16 | 0.20 | 0.01 | 0.01 | 0.02 | 0.16 | 5.70 | **2.64** | **0.43** | 0.25 | **1.34** | 0.06 | 0.01 | 0.05 | 0.01 | **1.18** | 0.07 | 0.03 | **3.72** |
| 171192009 | Illinois | Madison | 0.15 | 0.18 | 0.01 | 0.02 | 0.02 | 0.19 | 6.69 | **3.18** | 0.34 | 0.12 | **1.69** | 0.06 | 0.01 | 0.06 | 0.01 | **0.61** | 0.12 | 0.03 | **4.68** |
| 171193007 | Illinois | Madison | 0.14 | 0.16 | 0.00 | 0.01 | 0.01 | 0.21 | 6.82 | **3.64** | 0.23 | 0.04 | **1.98** | 0.03 | 0.00 | 0.03 | 0.00 | **0.56** | 0.04 | 0.01 | **4.86** |

# State-by-State Contributions to 24-Hour PM2.5 (µg/m$^3$) *Nonattainment* Receptors
## Part 1b.
## Source States: Alabama through Missouri
## Receptors: Nonattainment Sites in Indiana through Maryland

| | | | Source States | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **AL** | **AR** | **CT** | **DE** | **FL** | **GA** | **IL** | **IN** | **IA** | **KS** | **KY** | **LA** | **ME** | **MD/DC** | **MA** | **MI** | **MN** | **MS** | **MO** |
| 180190006 | Indiana | Clark | 0.12 | 0.06 | 0.00 | 0.01 | 0.01 | 0.07 | **2.60** | 6.30 | 0.19 | 0.03 | **6.19** | 0.02 | 0.00 | 0.03 | 0.00 | 0.31 | 0.02 | 0.01 | **0.99** |
| 180372001 | Indiana | Dubois | 0.17 | 0.06 | 0.00 | 0.01 | 0.01 | 0.17 | **2.62** | 8.79 | 0.28 | 0.08 | **5.97** | 0.04 | 0.00 | 0.03 | 0.00 | 0.34 | 0.08 | 0.01 | **1.13** |
| 180830004 | Indiana | Knox | 0.09 | 0.05 | 0.00 | 0.00 | 0.01 | 0.09 | **2.09** | 8.11 | 0.26 | 0.08 | **4.51** | 0.01 | 0.00 | 0.02 | 0.00 | **0.46** | 0.10 | 0.01 | **1.04** |
| 180890022 | Indiana | Lake | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.03 | **4.16** | 6.88 | **0.64** | 0.24 | 0.30 | 0.01 | 0.00 | 0.01 | 0.00 | **1.45** | 0.06 | 0.01 | **0.67** |
| 180890026 | Indiana | Lake | 0.04 | 0.02 | 0.00 | 0.00 | 0.00 | 0.04 | **3.59** | 5.56 | **0.45** | 0.18 | **0.75** | 0.01 | 0.00 | 0.06 | 0.00 | **2.10** | 0.10 | 0.01 | **0.61** |
| 180970042 | Indiana | Marion | 0.13 | 0.05 | 0.00 | 0.00 | 0.00 | 0.12 | **2.16** | 10.91 | 0.15 | 0.01 | **5.48** | 0.01 | 0.00 | 0.03 | 0.00 | 0.19 | 0.01 | 0.01 | **1.22** |
| 180970043 | Indiana | Marion | 0.18 | 0.08 | 0.01 | 0.02 | 0.02 | 0.19 | **1.92** | 10.83 | 0.16 | 0.03 | **4.99** | 0.04 | 0.01 | 0.08 | 0.01 | 0.23 | 0.03 | 0.02 | **1.16** |
| 180970066 | Indiana | Marion | 0.11 | 0.04 | 0.00 | 0.00 | 0.00 | 0.09 | **2.08** | 11.37 | 0.14 | 0.01 | **5.06** | 0.01 | 0.00 | 0.04 | 0.00 | 0.21 | 0.01 | 0.00 | **1.18** |
| 180970078 | Indiana | Marion | 0.18 | 0.08 | 0.01 | 0.02 | 0.02 | 0.20 | **1.91** | 10.75 | 0.16 | 0.03 | **4.97** | 0.04 | 0.01 | 0.08 | 0.01 | 0.23 | 0.03 | 0.03 | **1.15** |
| 180970079 | Indiana | Marion | 0.11 | 0.04 | 0.00 | 0.00 | 0.00 | 0.08 | **2.13** | 9.85 | 0.15 | 0.01 | **5.20** | 0.01 | 0.00 | 0.04 | 0.00 | 0.25 | 0.01 | 0.00 | **1.20** |
| 180970081 | Indiana | Marion | 0.21 | 0.08 | 0.01 | 0.02 | 0.02 | 0.26 | **1.64** | 9.91 | 0.14 | 0.03 | **4.76** | 0.04 | 0.01 | 0.08 | 0.01 | 0.19 | 0.03 | 0.02 | **1.06** |
| 180970083 | Indiana | Marion | 0.14 | 0.04 | 0.00 | 0.00 | 0.00 | 0.15 | **1.98** | 11.35 | 0.13 | 0.01 | **5.21** | 0.01 | 0.00 | 0.04 | 0.00 | 0.19 | 0.01 | 0.00 | **1.18** |
| 181570008 | Indiana | Tippecanoe | 0.24 | 0.11 | 0.02 | 0.02 | 0.02 | 0.29 | **1.56** | 5.91 | 0.12 | 0.03 | **3.11** | 0.04 | 0.01 | 0.16 | 0.02 | 0.31 | 0.03 | 0.03 | **0.97** |
| 191630019 | Iowa | Scott | 0.19 | 0.11 | 0.00 | 0.00 | 0.00 | 0.23 | **3.91** | **3.49** | 2.25 | 0.08 | **2.29** | 0.02 | 0.00 | 0.06 | 0.00 | **1.13** | 0.09 | 0.01 | **1.84** |
| 210590005 | Kentucky | Daviess | 0.17 | 0.07 | 0.00 | 0.00 | 0.01 | 0.09 | **2.96** | **9.91** | 0.13 | 0.02 | 10.03 | 0.03 | 0.00 | 0.01 | 0.00 | 0.33 | 0.01 | 0.01 | **1.27** |
| 211110043 | Kentucky | Jefferson | 0.18 | 0.07 | 0.02 | 0.03 | 0.03 | 0.18 | **2.30** | **7.78** | 0.14 | 0.04 | 6.89 | 0.06 | 0.02 | 0.08 | 0.03 | 0.15 | 0.03 | 0.03 | **0.84** |
| 211110044 | Kentucky | Jefferson | 0.13 | 0.06 | 0.00 | 0.01 | 0.01 | 0.10 | **2.42** | **6.66** | 0.12 | 0.02 | 7.35 | 0.04 | 0.00 | 0.05 | 0.01 | 0.14 | 0.01 | 0.01 | **0.93** |
| 211110048 | Kentucky | Jefferson | 0.13 | 0.07 | 0.01 | 0.02 | 0.02 | 0.10 | **2.18** | **5.98** | 0.12 | 0.02 | 6.59 | 0.05 | 0.01 | 0.06 | 0.01 | 0.14 | 0.02 | 0.02 | **0.84** |
| 245100040 | Maryland | Baltimore City | 0.15 | 0.02 | 0.07 | 0.20 | 0.08 | **0.40** | 0.25 | 0.33 | 0.07 | 0.02 | 0.30 | 0.05 | 0.03 | **6.65** | 0.10 | 0.09 | 0.02 | 0.01 | 0.18 |
| 245100049 | Maryland | Baltimore City | 0.14 | 0.02 | 0.08 | 0.21 | 0.07 | **0.38** | 0.23 | 0.31 | 0.06 | 0.01 | 0.29 | 0.04 | 0.03 | **6.63** | 0.12 | 0.07 | 0.01 | 0.01 | 0.16 |

## State-by-State Contributions to 24-Hour PM2.5 (µg/m$^3$) *Nonattainment* Receptors
## Part 1c.
## Source States: Alabama through Missouri
## Receptors: Nonattainment Sites in Michigan through New York

| | | | Source States | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **AL** | **AR** | **CT** | **DE** | **FL** | **GA** | **IL** | **IN** | **IA** | **KS** | **KY** | **LA** | **ME** | **MD/DC** | **MA** | **MI** | **MN** | **MS** | **MO** |
| 261150005 | Michigan | Monroe | **0.36** | 0.09 | 0.01 | 0.02 | 0.03 | 0.31 | **1.30** | **3.53** | 0.14 | 0.04 | **2.46** | 0.11 | 0.00 | 0.17 | 0.01 | 2.45 | 0.02 | 0.04 | **0.58** |
| 261250001 | Michigan | Oakland | 0.21 | 0.03 | 0.00 | 0.01 | 0.00 | 0.18 | **1.51** | **3.21** | 0.16 | 0.03 | **1.62** | 0.10 | 0.00 | 0.12 | 0.00 | 4.34 | 0.02 | 0.02 | **0.35** |
| 261470005 | Michigan | St. Clair | 0.13 | 0.02 | 0.00 | 0.01 | 0.00 | 0.11 | **1.10** | **1.91** | 0.12 | 0.02 | **0.96** | 0.08 | 0.00 | 0.13 | 0.00 | 3.29 | 0.02 | 0.01 | 0.23 |
| 261610008 | Michigan | Washtenaw | 0.31 | 0.05 | 0.00 | 0.02 | 0.01 | 0.26 | **1.48** | **3.30** | 0.16 | 0.04 | **1.71** | 0.14 | 0.00 | 0.12 | 0.00 | 3.88 | 0.03 | 0.04 | **0.38** |
| 261630015 | Michigan | Wayne | **0.35** | 0.06 | 0.00 | 0.01 | 0.06 | 0.29 | **1.31** | **3.03** | 0.12 | 0.03 | **1.95** | 0.16 | 0.00 | 0.08 | 0.00 | 5.34 | 0.02 | 0.05 | **0.45** |
| 261630016 | Michigan | Wayne | 0.04 | 0.01 | 0.01 | 0.02 | 0.01 | 0.05 | **1.73** | **2.99** | 0.21 | 0.04 | **0.67** | 0.01 | 0.01 | 0.11 | 0.01 | 6.59 | 0.04 | 0.01 | 0.18 |
| 261630019 | Michigan | Wayne | 0.03 | 0.01 | 0.00 | 0.01 | 0.00 | 0.04 | **1.54** | **2.82** | 0.16 | 0.02 | **0.71** | 0.00 | 0.00 | 0.08 | 0.00 | 4.53 | 0.02 | 0.00 | 0.21 |
| 261630033 | Michigan | Wayne | 0.27 | 0.05 | 0.01 | 0.02 | 0.05 | 0.22 | **1.69** | **3.24** | 0.19 | 0.05 | **1.49** | 0.12 | 0.01 | 0.11 | 0.01 | 6.35 | 0.04 | 0.04 | **0.38** |
| 261630036 | Michigan | Wayne | 0.31 | 0.09 | 0.01 | 0.03 | 0.07 | 0.26 | **1.71** | **3.01** | 0.21 | 0.06 | **1.52** | 0.17 | 0.01 | 0.12 | 0.01 | 4.30 | 0.04 | 0.06 | **0.57** |
| 290990012 | Missouri | Jefferson | 0.11 | 0.08 | 0.00 | 0.00 | 0.00 | 0.08 | **6.47** | **3.43** | **0.43** | 0.04 | **1.66** | 0.03 | 0.00 | 0.01 | 0.00 | **0.51** | 0.08 | 0.01 | 6.82 |
| 291831002 | Missouri | Saint Charles | 0.13 | 0.14 | 0.01 | 0.01 | 0.01 | 0.19 | **6.10** | **3.67** | 0.32 | 0.04 | **2.01** | 0.03 | 0.01 | 0.04 | 0.01 | **0.61** | 0.07 | 0.02 | 5.54 |
| 295100007 | Missouri | St. Louis City | 0.10 | 0.07 | 0.00 | 0.00 | 0.00 | 0.07 | **6.83** | **3.29** | **0.40** | 0.03 | **1.60** | 0.03 | 0.00 | 0.00 | 0.00 | **0.45** | 0.07 | 0.01 | 7.74 |
| 295100087 | Missouri | St. Louis City | 0.22 | 0.11 | 0.00 | 0.00 | 0.01 | 0.25 | **6.42** | **3.20** | 0.34 | 0.04 | **1.73** | 0.03 | 0.00 | 0.03 | 0.00 | **0.56** | 0.03 | 0.02 | 4.76 |
| 340171003 | New Jersey | Hudson | 0.07 | 0.03 | 0.08 | 0.34 | 0.02 | 0.25 | 0.25 | **0.38** | 0.04 | 0.02 | **0.40** | 0.02 | 0.01 | **0.76** | 0.17 | 0.17 | 0.01 | 0.01 | 0.17 |
| 340172002 | New Jersey | Hudson | 0.09 | 0.02 | **0.38** | 0.34 | 0.04 | 0.26 | 0.20 | 0.34 | 0.04 | 0.02 | 0.34 | 0.03 | 0.02 | **0.71** | 0.33 | 0.16 | 0.01 | 0.01 | 0.13 |
| 340390004 | New Jersey | Union | 0.15 | 0.03 | 0.25 | **0.36** | 0.05 | **0.37** | **0.37** | **0.58** | 0.07 | 0.01 | **0.46** | 0.05 | 0.06 | **0.57** | 0.26 | 0.20 | 0.01 | 0.01 | 0.19 |
| 360050080 | New York | Bronx | 0.09 | 0.03 | 0.19 | 0.32 | 0.03 | 0.27 | 0.28 | **0.44** | 0.05 | 0.02 | **0.41** | 0.03 | 0.01 | **0.64** | 0.14 | 0.19 | 0.02 | 0.01 | 0.15 |
| 360610056 | New York | New York | 0.12 | 0.05 | **0.41** | 0.33 | 0.06 | 0.32 | 0.28 | **0.40** | 0.08 | 0.03 | 0.32 | 0.06 | 0.04 | **0.68** | **0.37** | 0.23 | 0.03 | 0.03 | 0.16 |
| 360610128 | New York | New York | 0.11 | 0.04 | **0.35** | 0.29 | 0.03 | 0.22 | **0.51** | **0.81** | 0.07 | 0.02 | **0.58** | 0.04 | 0.08 | **0.60** | **0.36** | **0.39** | 0.01 | 0.01 | 0.27 |

## State-by-State Contributions to 24-Hour PM2.5 (µg/m$^3$) *Nonattainment* Receptors
## Part 1d.
## Source States: Alabama through Missouri
## Receptors: Nonattainment Sites in Ohio

| | | | Source States | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **AL** | **AR** | **CT** | **DE** | **FL** | **GA** | **IL** | **IN** | **IA** | **KS** | **KY** | **LA** | **ME** | **MD/DC** | **MA** | **MI** | **MN** | **MS** | **MO** |
| 390170003 | Ohio | Butler | 0.26 | 0.04 | 0.00 | 0.01 | 0.00 | 0.33 | **1.84** | **6.09** | 0.09 | 0.00 | **6.53** | 0.03 | 0.00 | 0.08 | 0.00 | 0.26 | 0.00 | 0.01 | **0.96** |
| 390170016 | Ohio | Butler | 0.29 | 0.06 | 0.01 | 0.03 | 0.02 | **0.35** | **1.59** | **5.22** | 0.15 | 0.02 | **5.05** | 0.04 | 0.01 | 0.16 | 0.01 | 0.28 | 0.02 | 0.02 | **0.91** |
| 390170017 | Ohio | Butler | 0.22 | 0.02 | 0.00 | 0.00 | 0.00 | 0.27 | **1.52** | **5.02** | 0.07 | 0.00 | **5.38** | 0.02 | 0.00 | 0.06 | 0.00 | 0.21 | 0.00 | 0.00 | **0.79** |
| 390171004 | Ohio | Butler | 0.28 | 0.03 | 0.00 | 0.01 | 0.00 | **0.35** | **1.36** | **4.82** | 0.06 | 0.00 | **5.25** | 0.03 | 0.00 | 0.06 | 0.00 | 0.24 | 0.00 | 0.01 | **0.75** |
| 390350038 | Ohio | Cuyahoga | 0.16 | 0.04 | 0.01 | 0.02 | 0.04 | 0.19 | **0.70** | **1.69** | 0.09 | 0.02 | **1.23** | 0.03 | 0.01 | 0.30 | 0.01 | **1.65** | 0.03 | 0.02 | 0.29 |
| 390350045 | Ohio | Cuyahoga | 0.12 | 0.02 | 0.01 | 0.02 | 0.01 | 0.14 | **0.56** | **1.39** | 0.09 | 0.02 | **0.91** | 0.02 | 0.01 | 0.25 | 0.01 | **1.92** | 0.04 | 0.01 | 0.14 |
| 390350060 | Ohio | Cuyahoga | 0.09 | 0.00 | 0.00 | 0.01 | 0.00 | 0.10 | **0.59** | **1.32** | 0.10 | 0.01 | **0.73** | 0.01 | 0.00 | 0.20 | 0.00 | **1.93** | 0.05 | 0.00 | 0.12 |
| 390350065 | Ohio | Cuyahoga | 0.11 | 0.04 | 0.01 | 0.02 | 0.04 | 0.13 | **0.71** | **1.50** | 0.11 | 0.02 | **0.89** | 0.03 | 0.01 | 0.22 | 0.01 | **1.57** | 0.05 | 0.01 | 0.26 |
| 390490024 | Ohio | Franklin | 0.15 | 0.07 | 0.01 | 0.02 | 0.01 | 0.21 | **0.90** | **2.74** | 0.13 | 0.03 | **1.92** | 0.08 | 0.01 | 0.14 | 0.01 | **0.98** | 0.04 | 0.03 | **0.43** |
| 390490025 | Ohio | Franklin | 0.16 | 0.07 | 0.01 | 0.03 | 0.02 | 0.20 | **0.99** | **2.65** | 0.16 | 0.05 | **1.84** | 0.08 | 0.01 | 0.18 | 0.02 | **1.06** | 0.06 | 0.03 | **0.44** |
| 390610006 | Ohio | Hamilton | **0.38** | 0.07 | 0.00 | 0.02 | 0.02 | **0.38** | **1.53** | **5.12** | 0.13 | 0.02 | **5.12** | 0.11 | 0.00 | 0.11 | 0.01 | 0.33 | 0.01 | 0.04 | **0.94** |
| 390610014 | Ohio | Hamilton | **0.48** | 0.06 | 0.00 | 0.02 | 0.03 | **0.54** | **0.95** | **3.68** | 0.07 | 0.01 | **4.28** | 0.13 | 0.00 | 0.12 | 0.00 | **0.38** | 0.01 | 0.05 | **0.65** |
| 390610040 | Ohio | Hamilton | 0.19 | 0.04 | 0.00 | 0.00 | 0.00 | 0.13 | **1.57** | **4.27** | 0.13 | 0.00 | **4.40** | 0.03 | 0.00 | 0.08 | 0.00 | 0.32 | 0.01 | 0.01 | **0.93** |
| 390610042 | Ohio | Hamilton | 0.23 | 0.05 | 0.00 | 0.00 | 0.01 | 0.19 | **1.29** | **3.67** | 0.12 | 0.01 | **4.29** | 0.06 | 0.00 | 0.05 | 0.00 | 0.34 | 0.01 | 0.02 | **0.80** |
| 390610043 | Ohio | Hamilton | 0.23 | 0.09 | 0.01 | 0.03 | 0.03 | 0.17 | **1.91** | **5.54** | 0.19 | 0.03 | **5.19** | 0.07 | 0.01 | 0.11 | 0.02 | 0.28 | 0.03 | 0.03 | **1.12** |
| 390617001 | Ohio | Hamilton | 0.31 | 0.07 | 0.01 | 0.02 | 0.02 | 0.29 | **1.42** | **4.16** | 0.14 | 0.02 | **4.44** | 0.09 | 0.01 | 0.13 | 0.01 | **0.37** | 0.02 | 0.03 | **0.88** |
| 390618001 | Ohio | Hamilton | **0.36** | 0.06 | 0.00 | 0.01 | 0.03 | **0.38** | **1.13** | **3.58** | 0.12 | 0.02 | **3.68** | 0.10 | 0.00 | 0.11 | 0.00 | **0.53** | 0.02 | 0.04 | **0.62** |
| 390811001 | Ohio | Jefferson | 0.04 | 0.02 | 0.00 | 0.01 | 0.00 | 0.09 | **0.63** | **1.37** | 0.08 | 0.02 | **0.85** | 0.00 | 0.00 | 0.08 | 0.00 | **0.94** | 0.04 | 0.00 | 0.26 |
| 391130032 | Ohio | Montgomery | 0.32 | 0.04 | 0.00 | 0.02 | 0.01 | **0.39** | **1.30** | **4.38** | 0.08 | 0.01 | **4.99** | 0.05 | 0.00 | 0.16 | 0.00 | **0.35** | 0.01 | 0.02 | **0.70** |
| 391530017 | Ohio | Summit | 0.10 | 0.06 | 0.00 | 0.01 | 0.00 | 0.14 | **1.04** | **1.91** | 0.14 | 0.02 | **0.90** | 0.02 | 0.00 | 0.19 | 0.01 | **1.80** | 0.09 | 0.01 | 0.33 |

## State-by-State Contributions to 24-Hour PM2.5 (µg/m³) *Nonattainment* Receptors
## Part 1e.
## Source States: Alabama through Missouri
## Receptors: Nonattainment Sites in Pennsylvania through Wisconsin

| | | | Source States | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **AL** | **AR** | **CT** | **DE** | **FL** | **GA** | **IL** | **IN** | **IA** | **KS** | **KY** | **LA** | **ME** | **MD/DC** | **MA** | **MI** | **MN** | **MS** | **MO** |
| 420030008 | Pennsylvania | Allegheny | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.02 | 0.33 | **0.70** | 0.03 | 0.00 | **0.47** | 0.00 | 0.00 | 0.11 | 0.00 | **0.52** | 0.01 | 0.00 | 0.12 |
| 420030064 | Pennsylvania | Allegheny | 0.05 | 0.02 | 0.00 | 0.01 | 0.00 | 0.06 | **0.51** | **0.98** | 0.07 | 0.02 | **0.68** | 0.01 | 0.00 | 0.07 | 0.00 | **0.62** | 0.04 | 0.01 | 0.26 |
| 420030093 | Pennsylvania | Allegheny | 0.17 | 0.06 | 0.01 | 0.02 | 0.02 | 0.15 | **0.60** | **1.22** | 0.07 | 0.02 | **1.10** | 0.09 | 0.00 | 0.12 | 0.01 | **0.44** | 0.02 | 0.03 | 0.34 |
| 420030116 | Pennsylvania | Allegheny | 0.03 | 0.04 | 0.00 | 0.02 | 0.00 | 0.05 | **0.62** | **1.26** | 0.07 | 0.02 | **0.99** | 0.01 | 0.00 | 0.17 | 0.01 | **0.47** | 0.01 | 0.01 | **0.35** |
| 420031008 | Pennsylvania | Allegheny | 0.14 | 0.05 | 0.00 | 0.01 | 0.01 | 0.15 | **0.65** | **1.43** | 0.07 | 0.02 | **1.17** | 0.06 | 0.00 | 0.12 | 0.00 | **0.72** | 0.01 | 0.02 | 0.34 |
| 420031301 | Pennsylvania | Allegheny | 0.06 | 0.04 | 0.01 | 0.03 | 0.02 | 0.07 | **0.53** | **1.06** | 0.07 | 0.03 | **0.82** | 0.02 | 0.01 | 0.12 | 0.01 | **0.73** | 0.03 | 0.02 | 0.28 |
| 420070014 | Pennsylvania | Beaver | 0.08 | 0.03 | 0.00 | 0.01 | 0.00 | 0.08 | **0.64** | **1.34** | 0.09 | 0.01 | **0.81** | 0.01 | 0.00 | 0.18 | 0.01 | **0.84** | 0.03 | 0.00 | 0.26 |
| 420110011 | Pennsylvania | Berks | 0.13 | 0.03 | 0.17 | 0.33 | 0.06 | 0.28 | **0.45** | **0.57** | 0.12 | 0.03 | **0.43** | 0.05 | 0.09 | **1.87** | 0.24 | 0.30 | 0.06 | 0.02 | 0.18 |
| 420210011 | Pennsylvania | Cambria | 0.03 | 0.04 | 0.01 | 0.01 | 0.01 | 0.02 | **0.62** | **1.55** | 0.07 | 0.02 | **0.84** | 0.02 | 0.01 | 0.14 | 0.01 | **1.20** | 0.03 | 0.01 | 0.26 |
| 420430401 | Pennsylvania | Dauphin | 0.10 | 0.02 | 0.17 | **0.50** | 0.05 | 0.24 | 0.25 | **0.39** | 0.06 | 0.02 | 0.29 | 0.04 | 0.08 | **2.15** | 0.26 | **0.39** | 0.04 | 0.02 | 0.10 |
| 420710007 | Pennsylvania | Lancaster | 0.13 | 0.03 | 0.19 | 0.31 | 0.07 | 0.27 | 0.22 | 0.26 | 0.08 | 0.03 | 0.20 | 0.06 | 0.11 | **2.63** | 0.28 | 0.25 | 0.04 | 0.03 | 0.11 |
| 421330008 | Pennsylvania | York | 0.16 | 0.02 | 0.16 | 0.34 | 0.05 | **0.35** | 0.34 | **0.57** | 0.07 | 0.01 | **0.49** | 0.06 | 0.08 | **2.04** | 0.23 | 0.30 | 0.03 | 0.02 | 0.15 |
| 471251009 | Tennessee | Montgomery | 0.27 | 0.06 | 0.00 | 0.02 | 0.02 | 0.24 | **2.73** | **3.32** | 0.24 | 0.03 | **3.49** | 0.03 | 0.00 | 0.11 | 0.00 | **0.64** | 0.07 | 0.02 | **1.20** |
| 540090011 | West Virginia | Brooke | 0.04 | 0.03 | 0.02 | 0.03 | 0.02 | 0.06 | **0.89** | **1.37** | 0.20 | 0.05 | **0.42** | 0.02 | 0.02 | 0.25 | 0.02 | **1.19** | 0.14 | 0.02 | 0.30 |
| 550790010 | Wisconsin | Milwaukee | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | **7.28** | **2.70** | **1.87** | **0.77** | **0.62** | 0.00 | 0.00 | 0.01 | 0.00 | **1.64** | **0.88** | 0.00 | **1.09** |
| 550790026 | Wisconsin | Milwaukee | 0.04 | 0.03 | 0.01 | 0.01 | 0.01 | 0.06 | **5.24** | **2.24** | **1.57** | **0.38** | **0.56** | 0.01 | 0.01 | 0.03 | 0.01 | **1.38** | **0.91** | 0.01 | **0.93** |
| 550790043 | Wisconsin | Milwaukee | 0.04 | 0.02 | 0.00 | 0.00 | 0.00 | 0.10 | **5.53** | **3.92** | **0.94** | 0.25 | **1.02** | 0.01 | 0.00 | 0.03 | 0.00 | **1.18** | **0.53** | 0.00 | **0.90** |
| 550790099 | Wisconsin | Milwaukee | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.05 | **6.17** | **2.82** | **1.63** | **0.45** | **0.73** | 0.00 | 0.00 | 0.01 | 0.00 | **1.68** | **0.71** | 0.00 | **1.17** |
| | | | | | | | | | | | | | | | | | | | | | |
| | **Largest Contribution to Downwind Nonattainment =>** | | **0.48** | 0.20 | **0.41** | **0.50** | 0.08 | **0.95** | **7.28** | **9.91** | **1.87** | **0.77** | **6.53** | 0.23 | 0.19 | **2.63** | **0.67** | **2.35** | **0.91** | 0.09 | **5.03** |

## State-by-State Contributions to 24-Hour PM2.5 (µg/m³) *Nonattainment* Receptors
## Part 1f.
## Source States: Nebraska through Wisconsin
## Receptors: Nonattainment Sites in Alabama through Illinois

| | | | Source States | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **NE** | **NH** | **NJ** | **NY** | **NC** | **ND** | **OH** | **OK** | **PA** | **RI** | **SC** | **SD** | **TN** | **TX** | **VT** | **VA** | **WV** | **WI** |
| 10730023 | Alabama | Jefferson | 0.02 | 0.00 | 0.01 | 0.06 | 0.16 | 0.01 | **1.00** | 0.03 | **0.60** | 0.00 | 0.13 | 0.00 | **1.03** | 0.10 | 0.00 | 0.15 | **0.65** | 0.02 |
| 10732003 | Alabama | Jefferson | 0.02 | 0.01 | 0.01 | 0.03 | 0.09 | 0.01 | **0.79** | 0.02 | **0.35** | 0.01 | 0.12 | 0.01 | **0.92** | 0.04 | 0.01 | 0.08 | **0.35** | 0.02 |
| 90091123 | Connecticut | New Haven | 0.03 | 0.21 | **1.24** | **3.47** | 0.30 | 0.01 | **1.20** | 0.05 | **2.57** | 0.05 | 0.12 | 0.00 | **0.35** | 0.08 | 0.06 | **0.72** | **1.01** | 0.07 |
| 170310052 | Illinois | Cook | 0.20 | 0.00 | 0.01 | 0.21 | 0.04 | 0.07 | **1.38** | 0.16 | **0.71** | 0.00 | 0.03 | 0.05 | 0.26 | 0.16 | 0.00 | 0.06 | **0.50** | **0.67** |
| 170310057 | Illinois | Cook | 0.25 | 0.01 | 0.01 | 0.20 | 0.03 | 0.06 | **1.17** | 0.16 | **0.78** | 0.01 | 0.03 | 0.05 | 0.16 | 0.13 | 0.01 | 0.05 | **0.47** | **0.79** |
| 170310076 | Illinois | Cook | 0.13 | 0.01 | 0.01 | 0.19 | 0.03 | 0.03 | **1.95** | 0.08 | **1.39** | 0.01 | 0.02 | 0.02 | 0.21 | 0.05 | 0.01 | 0.08 | **0.90** | **0.46** |
| 170311016 | Illinois | Cook | 0.14 | 0.00 | 0.00 | 0.24 | 0.01 | 0.02 | **1.74** | 0.07 | **1.16** | 0.00 | 0.00 | 0.01 | 0.30 | 0.07 | 0.00 | 0.06 | **0.77** | **0.49** |
| 170312001 | Illinois | Cook | 0.10 | 0.01 | 0.01 | 0.14 | 0.03 | 0.03 | **1.82** | 0.04 | **1.20** | 0.01 | 0.02 | 0.02 | 0.24 | 0.03 | 0.01 | 0.09 | **0.84** | **0.36** |
| 170313103 | Illinois | Cook | 0.24 | 0.00 | 0.00 | 0.15 | 0.02 | 0.05 | **0.95** | 0.11 | **0.43** | 0.00 | 0.01 | 0.03 | 0.21 | 0.10 | 0.00 | 0.05 | 0.34 | **0.71** |
| 170313301 | Illinois | Cook | 0.19 | 0.02 | 0.02 | 0.18 | 0.03 | 0.04 | **1.45** | 0.12 | **1.01** | 0.02 | 0.02 | 0.04 | 0.18 | 0.06 | 0.02 | 0.07 | **0.65** | **0.55** |
| 170316005 | Illinois | Cook | 0.21 | 0.00 | 0.00 | 0.16 | 0.03 | 0.04 | **1.14** | 0.13 | **0.63** | 0.00 | 0.02 | 0.03 | 0.20 | 0.10 | 0.00 | 0.06 | **0.45** | **0.65** |
| 171190023 | Illinois | Madison | 0.02 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | **1.78** | 0.08 | **0.35** | 0.00 | 0.02 | 0.00 | **1.15** | 0.13 | 0.00 | 0.03 | **0.37** | 0.16 |
| 171191007 | Illinois | Madison | 0.05 | 0.01 | 0.01 | 0.12 | 0.04 | 0.03 | **2.01** | 0.08 | **0.93** | 0.01 | 0.03 | 0.02 | **1.01** | 0.21 | 0.01 | 0.05 | **0.53** | 0.12 |
| 171192009 | Illinois | Madison | 0.10 | 0.01 | 0.02 | 0.09 | 0.04 | 0.03 | **1.72** | 0.12 | **0.70** | 0.01 | 0.04 | 0.03 | **1.03** | 0.16 | 0.01 | 0.07 | **0.54** | 0.24 |
| 171193007 | Illinois | Madison | 0.03 | 0.00 | 0.01 | 0.04 | 0.03 | 0.01 | **1.76** | 0.11 | **0.59** | 0.00 | 0.03 | 0.01 | **1.12** | 0.14 | 0.00 | 0.05 | **0.54** | 0.16 |

## State-by-State Contributions to 24-Hour PM2.5 (µg/m$^3$) *Nonattainment* Receptors
## Part 1g.
## Source States: Nebraska through Wisconsin
## Receptors: Nonattainment Sites in Indiana through Maryland

| | | | Source States | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **NE** | **NH** | **NJ** | **NY** | **NC** | **ND** | **OH** | **OK** | **PA** | **RI** | **SC** | **SD** | **TN** | **TX** | **VT** | **VA** | **WV** | **WI** |
| 180190006 | Indiana | Clark | 0.03 | 0.00 | 0.01 | 0.09 | 0.03 | 0.01 | **1.98** | 0.06 | **0.72** | 0.00 | 0.02 | 0.01 | **2.04** | 0.08 | 0.00 | 0.05 | **0.63** | 0.06 |
| 180372001 | Indiana | Dubois | 0.05 | 0.00 | 0.01 | 0.09 | 0.03 | 0.03 | **2.73** | 0.06 | **0.58** | 0.00 | 0.03 | 0.01 | **1.86** | 0.07 | 0.00 | 0.05 | **0.39** | 0.12 |
| 180830004 | Indiana | Knox | 0.05 | 0.00 | 0.00 | 0.14 | 0.02 | 0.03 | **3.68** | 0.05 | **0.46** | 0.00 | 0.02 | 0.02 | **1.12** | 0.04 | 0.00 | 0.03 | 0.25 | 0.15 |
| 180890022 | Indiana | Lake | 0.18 | 0.00 | 0.00 | 0.11 | 0.01 | 0.03 | **0.51** | 0.11 | 0.22 | 0.00 | 0.01 | 0.02 | 0.07 | 0.04 | 0.00 | 0.01 | 0.10 | **0.45** |
| 180890026 | Indiana | Lake | 0.14 | 0.00 | 0.00 | 0.15 | 0.02 | 0.03 | **1.72** | 0.06 | **0.98** | 0.00 | 0.01 | 0.02 | 0.24 | 0.04 | 0.00 | 0.05 | **0.69** | **0.46** |
| 180970042 | Indiana | Marion | 0.01 | 0.00 | 0.00 | 0.06 | 0.04 | 0.00 | **3.71** | 0.01 | **0.74** | 0.00 | 0.03 | 0.00 | **1.96** | 0.01 | 0.00 | 0.07 | **0.82** | 0.03 |
| 180970043 | Indiana | Marion | 0.03 | 0.01 | 0.02 | 0.09 | 0.07 | 0.02 | **3.51** | 0.03 | **0.82** | 0.01 | 0.06 | 0.01 | **2.29** | 0.04 | 0.01 | 0.10 | **0.85** | 0.06 |
| 180970066 | Indiana | Marion | 0.01 | 0.00 | 0.00 | 0.06 | 0.04 | 0.00 | **3.74** | 0.01 | **0.76** | 0.00 | 0.03 | 0.00 | **1.81** | 0.01 | 0.00 | 0.07 | **0.83** | 0.04 |
| 180970078 | Indiana | Marion | 0.03 | 0.01 | 0.02 | 0.10 | 0.07 | 0.02 | **3.48** | 0.03 | **0.82** | 0.01 | 0.06 | 0.01 | **2.30** | 0.04 | 0.01 | 0.10 | **0.85** | 0.07 |
| 180970079 | Indiana | Marion | 0.01 | 0.00 | 0.00 | 0.07 | 0.04 | 0.00 | **4.13** | 0.01 | **0.84** | 0.00 | 0.03 | 0.00 | **1.81** | 0.01 | 0.00 | 0.08 | **0.93** | 0.04 |
| 180970081 | Indiana | Marion | 0.03 | 0.01 | 0.02 | 0.09 | 0.06 | 0.02 | **3.11** | 0.02 | **0.84** | 0.01 | 0.05 | 0.01 | **2.75** | 0.04 | 0.01 | 0.09 | **0.81** | 0.06 |
| 180970083 | Indiana | Marion | 0.01 | 0.00 | 0.00 | 0.06 | 0.03 | 0.00 | **3.65** | 0.01 | **0.82** | 0.00 | 0.02 | 0.00 | **2.36** | 0.01 | 0.00 | 0.06 | **0.85** | 0.03 |
| 181570008 | Indiana | Tippecanoe | 0.02 | 0.01 | 0.03 | 0.20 | 0.08 | 0.02 | **3.64** | 0.03 | **1.79** | 0.01 | 0.05 | 0.01 | **1.96** | 0.04 | 0.01 | 0.15 | **1.66** | 0.07 |
| 191630019 | Iowa | Scott | 0.04 | 0.00 | 0.00 | 0.11 | 0.06 | 0.02 | **3.06** | 0.14 | **2.10** | 0.00 | 0.03 | 0.00 | **1.16** | 0.07 | 0.00 | 0.11 | **1.21** | **0.80** |
| 210590005 | Kentucky | Daviess | 0.01 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | **1.38** | 0.03 | 0.17 | 0.00 | 0.02 | 0.00 | **1.76** | 0.05 | 0.00 | 0.02 | 0.16 | 0.03 |
| 211110043 | Kentucky | Jefferson | 0.03 | 0.02 | 0.03 | 0.08 | 0.07 | 0.03 | **1.51** | 0.04 | **0.45** | 0.02 | 0.06 | 0.02 | **1.57** | 0.06 | 0.02 | 0.09 | **0.60** | 0.05 |
| 211110044 | Kentucky | Jefferson | 0.01 | 0.00 | 0.02 | 0.03 | 0.04 | 0.01 | **1.21** | 0.03 | **0.45** | 0.00 | 0.03 | 0.00 | **1.65** | 0.05 | 0.00 | 0.10 | **0.65** | 0.03 |
| 211110048 | Kentucky | Jefferson | 0.02 | 0.01 | 0.02 | 0.04 | 0.04 | 0.01 | **1.09** | 0.03 | **0.42** | 0.01 | 0.03 | 0.01 | **1.49** | 0.06 | 0.01 | 0.10 | **0.59** | 0.03 |
| 245100040 | Maryland | Baltimore City | 0.03 | 0.03 | 0.33 | **0.44** | **0.49** | 0.01 | **0.50** | 0.04 | **1.93** | 0.01 | 0.19 | 0.00 | 0.21 | 0.10 | 0.01 | **1.29** | **0.64** | 0.04 |
| 245100049 | Maryland | Baltimore City | 0.02 | 0.03 | **0.35** | **0.49** | **0.50** | 0.00 | **0.48** | 0.02 | **2.05** | 0.01 | 0.19 | 0.00 | 0.20 | 0.08 | 0.01 | **1.32** | **0.65** | 0.02 |

# State-by-State Contributions to 24-Hour PM2.5 (µg/m³) *Nonattainment* Receptors
## Part 1h.
## Source States: Nebraska through Wisconsin
## Receptors: Nonattainment Sites in Michigan through New York

| | | | Source States | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **NE** | **NH** | **NJ** | **NY** | **NC** | **ND** | **OH** | **OK** | **PA** | **RI** | **SC** | **SD** | **TN** | **TX** | **VT** | **VA** | **WV** | **WI** |
| 261150005 | Michigan | Monroe | 0.04 | 0.00 | 0.03 | 0.26 | 0.08 | 0.01 | **5.39** | 0.04 | **1.73** | 0.00 | 0.05 | 0.01 | **1.64** | 0.06 | 0.00 | 0.17 | **1.32** | 0.13 |
| 261250001 | Michigan | Oakland | 0.04 | 0.00 | 0.02 | 0.33 | 0.06 | 0.00 | **4.66** | 0.02 | **1.84** | 0.00 | 0.01 | 0.00 | **1.10** | 0.03 | 0.00 | 0.15 | **1.35** | 0.26 |
| 261470005 | Michigan | St. Clair | 0.03 | 0.00 | 0.02 | **0.78** | 0.04 | 0.00 | **3.45** | 0.02 | **1.83** | 0.00 | 0.01 | 0.00 | **0.65** | 0.02 | 0.00 | 0.14 | **1.04** | 0.13 |
| 261610008 | Michigan | Washtenaw | 0.05 | 0.00 | 0.03 | **0.36** | 0.06 | 0.01 | **4.56** | 0.04 | **1.49** | 0.00 | 0.03 | 0.00 | **1.30** | 0.05 | 0.00 | 0.14 | **1.02** | 0.24 |
| 261630015 | Michigan | Wayne | 0.03 | 0.00 | 0.02 | 0.26 | 0.06 | 0.01 | **4.09** | 0.04 | **1.31** | 0.00 | 0.03 | 0.00 | **1.42** | 0.05 | 0.00 | 0.11 | **0.96** | 0.17 |
| 261630016 | Michigan | Wayne | 0.07 | 0.01 | 0.02 | **0.60** | 0.02 | 0.01 | **3.71** | 0.02 | **1.73** | 0.01 | 0.01 | 0.01 | 0.33 | 0.02 | 0.01 | 0.08 | **0.89** | **0.38** |
| 261630019 | Michigan | Wayne | 0.04 | 0.00 | 0.01 | **0.55** | 0.01 | 0.00 | **3.37** | 0.01 | **1.50** | 0.00 | 0.00 | 0.00 | 0.33 | 0.01 | 0.00 | 0.07 | **0.70** | 0.26 |
| 261630033 | Michigan | Wayne | 0.06 | 0.01 | 0.03 | **0.46** | 0.06 | 0.02 | **3.98** | 0.04 | **1.44** | 0.01 | 0.03 | 0.01 | **1.07** | 0.05 | 0.01 | 0.11 | **0.87** | 0.28 |
| 261630036 | Michigan | Wayne | 0.07 | 0.01 | 0.04 | **0.59** | 0.05 | 0.02 | **4.02** | 0.07 | **1.31** | 0.01 | 0.03 | 0.01 | **1.02** | 0.09 | 0.01 | 0.10 | **0.69** | 0.16 |
| 290990012 | Missouri | Jefferson | 0.02 | 0.00 | 0.00 | 0.01 | 0.02 | 0.01 | **2.28** | 0.11 | **0.55** | 0.00 | 0.01 | 0.00 | **1.11** | 0.17 | 0.00 | 0.03 | **0.55** | 0.22 |
| 291831002 | Missouri | Saint Charles | 0.03 | 0.01 | 0.01 | 0.04 | 0.03 | 0.02 | **1.70** | 0.06 | **0.62** | 0.01 | 0.03 | 0.02 | **1.14** | 0.06 | 0.01 | 0.05 | **0.57** | 0.21 |
| 295100007 | Missouri | St. Louis City | 0.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | **2.17** | 0.10 | **0.55** | 0.00 | 0.01 | 0.00 | **0.99** | 0.15 | 0.00 | 0.03 | **0.55** | 0.20 |
| 295100087 | Missouri | St. Louis City | 0.03 | 0.00 | 0.01 | 0.03 | 0.03 | 0.01 | **1.87** | 0.08 | **0.52** | 0.00 | 0.03 | 0.01 | **1.19** | 0.12 | 0.00 | 0.05 | **0.43** | 0.15 |
| 340171003 | New Jersey | Hudson | 0.02 | 0.02 | 4.67 | **4.06** | **0.40** | 0.01 | **0.85** | 0.04 | **2.28** | 0.03 | 0.17 | 0.01 | 0.26 | 0.07 | 0.01 | **0.91** | **0.82** | 0.03 |
| 340172002 | New Jersey | Hudson | 0.02 | 0.03 | 4.20 | **5.82** | **0.37** | 0.01 | **0.70** | 0.03 | **2.23** | 0.05 | 0.16 | 0.00 | 0.21 | 0.06 | 0.01 | **0.74** | **0.69** | 0.03 |
| 340390004 | New Jersey | Union | 0.02 | 0.07 | 3.28 | **2.42** | **0.40** | 0.00 | **1.07** | 0.02 | **2.84** | 0.02 | 0.18 | 0.00 | **0.37** | 0.06 | 0.02 | **0.76** | **0.90** | 0.04 |
| 360050080 | New York | Bronx | 0.02 | 0.02 | **2.69** | 6.67 | **0.38** | 0.01 | **0.94** | 0.03 | **2.55** | 0.02 | 0.17 | 0.01 | 0.29 | 0.05 | 0.01 | **0.72** | **0.86** | 0.04 |
| 360610056 | New York | New York | 0.04 | 0.11 | **2.56** | 7.99 | **0.37** | 0.02 | **0.74** | 0.05 | **2.40** | 0.05 | 0.18 | 0.01 | 0.25 | 0.09 | 0.04 | **0.72** | **0.62** | 0.06 |
| 360610128 | New York | New York | 0.02 | 0.09 | **2.67** | 5.66 | 0.28 | 0.00 | **1.48** | 0.03 | **3.29** | 0.02 | 0.12 | 0.00 | **0.40** | 0.05 | 0.02 | **0.59** | **1.20** | 0.07 |

**State-by-State Contributions to 24-Hour PM2.5 (µg/m$^3$) *Nonattainment* Receptors**
**Part 1i.**
**Source States: Nebraska through Wisconsin**
**Receptors: Nonattainment Sites in Ohio**

| | | | Source States | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **NE** | **NH** | **NJ** | **NY** | **NC** | **ND** | **OH** | **OK** | **PA** | **RI** | **SC** | **SD** | **TN** | **TX** | **VT** | **VA** | **WV** | **WI** |
| 390170003 | Ohio | Butler | 0.00 | 0.00 | 0.01 | 0.07 | 0.06 | 0.00 | 7.48 | 0.00 | **1.08** | 0.00 | 0.04 | 0.00 | **3.92** | 0.01 | 0.00 | 0.15 | **1.26** | 0.02 |
| 390170016 | Ohio | Butler | 0.02 | 0.01 | 0.03 | 0.10 | 0.07 | 0.02 | 5.13 | 0.02 | **1.26** | 0.01 | 0.05 | 0.01 | **3.29** | 0.04 | 0.01 | 0.15 | **1.00** | 0.09 |
| 390170017 | Ohio | Butler | 0.00 | 0.00 | 0.01 | 0.05 | 0.05 | 0.00 | 6.16 | 0.00 | **0.89** | 0.00 | 0.03 | 0.00 | **3.23** | 0.01 | 0.00 | 0.12 | **1.03** | 0.01 |
| 390171004 | Ohio | Butler | 0.00 | 0.00 | 0.01 | 0.05 | 0.04 | 0.00 | 6.45 | 0.00 | **0.89** | 0.00 | 0.03 | 0.00 | **3.19** | 0.01 | 0.00 | 0.10 | **0.98** | 0.01 |
| 390350038 | Ohio | Cuyahoga | 0.02 | 0.00 | 0.03 | **0.53** | 0.09 | 0.02 | 9.09 | 0.02 | **3.62** | 0.00 | 0.04 | 0.01 | **0.56** | 0.02 | 0.00 | 0.24 | **2.53** | 0.09 |
| 390350045 | Ohio | Cuyahoga | 0.03 | 0.01 | 0.03 | **0.78** | 0.07 | 0.02 | 9.48 | 0.01 | **2.94** | 0.01 | 0.03 | 0.01 | **0.40** | 0.01 | 0.01 | 0.20 | **2.14** | 0.11 |
| 390350060 | Ohio | Cuyahoga | 0.02 | 0.00 | 0.03 | **0.99** | 0.05 | 0.01 | 9.68 | 0.00 | **2.74** | 0.00 | 0.02 | 0.00 | 0.30 | 0.00 | 0.00 | 0.15 | **1.67** | 0.13 |
| 390350065 | Ohio | Cuyahoga | 0.03 | 0.01 | 0.04 | **0.83** | 0.06 | 0.02 | 8.92 | 0.02 | **3.13** | 0.01 | 0.03 | 0.01 | **0.38** | 0.02 | 0.01 | 0.16 | **1.63** | 0.11 |
| 390490024 | Ohio | Franklin | 0.04 | 0.01 | 0.03 | **0.35** | 0.09 | 0.02 | 7.45 | 0.02 | **2.12** | 0.00 | 0.04 | 0.01 | **1.01** | 0.03 | 0.00 | 0.19 | **2.10** | 0.11 |
| 390490025 | Ohio | Franklin | 0.05 | 0.01 | 0.05 | **0.41** | 0.12 | 0.04 | 7.07 | 0.04 | **2.15** | 0.01 | 0.05 | 0.02 | **0.97** | 0.05 | 0.01 | 0.28 | **1.74** | 0.13 |
| 390610006 | Ohio | Hamilton | 0.02 | 0.00 | 0.02 | 0.10 | 0.06 | 0.01 | 6.26 | 0.02 | **1.08** | 0.00 | 0.04 | 0.00 | **3.48** | 0.05 | 0.00 | 0.14 | **0.88** | 0.07 |
| 390610014 | Ohio | Hamilton | 0.01 | 0.00 | 0.02 | 0.13 | 0.06 | 0.01 | 6.59 | 0.02 | **1.43** | 0.00 | 0.05 | 0.00 | **3.10** | 0.04 | 0.00 | 0.14 | **1.01** | 0.06 |
| 390610040 | Ohio | Hamilton | 0.01 | 0.00 | 0.01 | 0.11 | 0.03 | 0.00 | 6.35 | 0.01 | **1.60** | 0.00 | 0.01 | 0.00 | **3.20** | 0.02 | 0.00 | 0.10 | **1.13** | 0.08 |
| 390610042 | Ohio | Hamilton | 0.01 | 0.00 | 0.00 | 0.13 | 0.02 | 0.00 | 7.08 | 0.01 | **0.90** | 0.00 | 0.02 | 0.00 | **2.83** | 0.04 | 0.00 | 0.06 | **0.59** | 0.09 |
| 390610043 | Ohio | Hamilton | 0.03 | 0.01 | 0.03 | 0.09 | 0.07 | 0.02 | 5.49 | 0.04 | **0.88** | 0.01 | 0.04 | 0.01 | **3.43** | 0.07 | 0.01 | 0.14 | **0.79** | 0.10 |
| 390617001 | Ohio | Hamilton | 0.02 | 0.01 | 0.02 | 0.14 | 0.06 | 0.01 | 6.53 | 0.02 | **1.59** | 0.01 | 0.04 | 0.01 | **3.23** | 0.05 | 0.01 | 0.14 | **1.13** | 0.09 |
| 390618001 | Ohio | Hamilton | 0.02 | 0.00 | 0.02 | 0.18 | 0.05 | 0.01 | 6.42 | 0.02 | **1.42** | 0.00 | 0.04 | 0.00 | **2.53** | 0.05 | 0.00 | 0.13 | **0.89** | 0.08 |
| 390811001 | Ohio | Jefferson | 0.03 | 0.00 | 0.02 | 0.18 | 0.04 | 0.02 | 5.87 | 0.01 | **2.34** | 0.00 | 0.02 | 0.00 | **0.37** | 0.02 | 0.00 | 0.10 | **3.41** | 0.10 |
| 391130032 | Ohio | Montgomery | 0.01 | 0.00 | 0.03 | 0.14 | 0.10 | 0.00 | 7.00 | 0.00 | **1.43** | 0.00 | 0.05 | 0.00 | **3.10** | 0.01 | 0.00 | 0.29 | **1.77** | 0.05 |
| 391530017 | Ohio | Summit | 0.04 | 0.00 | 0.03 | **0.38** | 0.06 | 0.03 | 8.82 | 0.04 | **2.97** | 0.00 | 0.02 | 0.00 | **0.48** | 0.04 | 0.00 | 0.15 | **2.44** | 0.26 |

## State-by-State Contributions to 24-Hour PM2.5 (µg/m³) *Nonattainment* Receptors
## Part 1j.
## Source States: Nebraska through Wisconsin
## Receptors: Nonattainment Sites in Pennsylvania through Wisconsin

| | | | Source States | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **NE** | **NH** | **NJ** | **NY** | **NC** | **ND** | **OH** | **OK** | **PA** | **RI** | **SC** | **SD** | **TN** | **TX** | **VT** | **VA** | **WV** | **WI** |
| 420030008 | Pennsylvania | Allegheny | 0.00 | 0.00 | 0.01 | 0.13 | 0.02 | 0.00 | **3.24** | 0.00 | 4.83 | 0.00 | 0.00 | 0.00 | 0.18 | 0.01 | 0.00 | 0.17 | **2.97** | 0.03 |
| 420030064 | Pennsylvania | Allegheny | 0.03 | 0.00 | 0.01 | 0.11 | 0.06 | 0.02 | **3.66** | 0.01 | 4.90 | 0.00 | 0.03 | 0.00 | 0.27 | 0.02 | 0.00 | 0.14 | **2.31** | 0.11 |
| 420030093 | Pennsylvania | Allegheny | 0.03 | 0.00 | 0.03 | 0.14 | 0.06 | 0.02 | **4.13** | 0.03 | 4.49 | 0.00 | 0.02 | 0.01 | **0.56** | 0.04 | 0.00 | 0.19 | **3.51** | 0.05 |
| 420030116 | Pennsylvania | Allegheny | 0.02 | 0.00 | 0.02 | 0.15 | 0.07 | 0.01 | **4.04** | 0.02 | 4.85 | 0.00 | 0.02 | 0.00 | **0.37** | 0.02 | 0.00 | 0.26 | **3.42** | 0.04 |
| 420031008 | Pennsylvania | Allegheny | 0.02 | 0.00 | 0.02 | 0.21 | 0.06 | 0.01 | **5.21** | 0.02 | 6.02 | 0.00 | 0.01 | 0.00 | **0.60** | 0.04 | 0.00 | 0.15 | **3.11** | 0.07 |
| 420031301 | Pennsylvania | Allegheny | 0.03 | 0.01 | 0.03 | 0.19 | 0.05 | 0.02 | **4.45** | 0.03 | 5.23 | 0.01 | 0.02 | 0.01 | **0.39** | 0.04 | 0.01 | 0.14 | **3.07** | 0.07 |
| 420070014 | Pennsylvania | Beaver | 0.02 | 0.00 | 0.03 | 0.23 | 0.07 | 0.01 | **4.99** | 0.02 | 4.07 | 0.00 | 0.01 | 0.00 | 0.33 | 0.03 | 0.00 | 0.22 | **2.80** | 0.13 |
| 420110011 | Pennsylvania | Berks | 0.04 | 0.07 | **0.86** | **1.02** | **0.36** | 0.03 | **1.00** | 0.03 | 9.02 | 0.03 | 0.14 | 0.02 | 0.29 | 0.06 | 0.03 | **1.02** | **0.94** | 0.12 |
| 420210011 | Pennsylvania | Cambria | 0.02 | 0.01 | 0.02 | 0.32 | 0.06 | 0.02 | **4.74** | 0.03 | 13.38 | 0.01 | 0.01 | 0.01 | **0.39** | 0.04 | 0.01 | 0.14 | **2.26** | 0.11 |
| 420430401 | Pennsylvania | Dauphin | 0.02 | 0.09 | **1.02** | **1.15** | **0.36** | 0.02 | **1.08** | 0.02 | 10.88 | 0.04 | 0.15 | 0.01 | 0.19 | 0.05 | 0.04 | **1.04** | **0.98** | 0.11 |
| 420710007 | Pennsylvania | Lancaster | 0.04 | 0.10 | **0.94** | **1.02** | **0.37** | 0.03 | **0.58** | 0.04 | 9.97 | 0.05 | 0.14 | 0.02 | 0.18 | 0.07 | 0.05 | **1.20** | **0.59** | 0.09 |
| 421330008 | Pennsylvania | York | 0.02 | 0.08 | **0.83** | **1.17** | **0.35** | 0.01 | **1.41** | 0.01 | 12.16 | 0.02 | 0.16 | 0.00 | **0.36** | 0.05 | 0.03 | **1.16** | **1.48** | 0.10 |
| 471251009 | Tennessee | Montgomery | 0.04 | 0.00 | 0.02 | 0.11 | 0.10 | 0.02 | **2.75** | 0.04 | **1.13** | 0.00 | 0.04 | 0.01 | 5.25 | 0.05 | 0.00 | 0.19 | **1.46** | 0.12 |
| 540090011 | West Virginia | Brooke | 0.07 | 0.02 | 0.05 | 0.31 | 0.05 | 0.07 | **5.84** | 0.04 | **3.67** | 0.01 | 0.03 | 0.03 | 0.12 | 0.04 | 0.02 | 0.17 | 2.25 | 0.33 |
| 550790010 | Wisconsin | Milwaukee | **0.62** | 0.00 | 0.00 | 0.04 | 0.01 | 0.20 | **0.44** | 0.14 | 0.23 | 0.00 | 0.00 | 0.08 | 0.13 | 0.04 | 0.00 | 0.01 | 0.12 | 6.21 |
| 550790026 | Wisconsin | Milwaukee | **0.42** | 0.01 | 0.01 | 0.12 | 0.02 | 0.27 | **0.95** | 0.15 | **0.47** | 0.01 | 0.02 | 0.13 | 0.17 | 0.10 | 0.01 | 0.03 | 0.29 | 5.19 |
| 550790043 | Wisconsin | Milwaukee | 0.25 | 0.00 | 0.00 | 0.10 | 0.02 | 0.14 | **2.12** | 0.11 | **0.89** | 0.00 | 0.03 | 0.06 | 0.28 | 0.08 | 0.00 | 0.04 | **0.61** | 3.93 |
| 550790099 | Wisconsin | Milwaukee | **0.43** | 0.00 | 0.00 | 0.07 | 0.01 | 0.18 | **1.11** | 0.14 | **0.51** | 0.00 | 0.01 | 0.09 | 0.18 | 0.07 | 0.00 | 0.02 | 0.32 | 5.23 |
| | | | | | | | | | | | | | | | | | | | | |
| | **Largest Contribution to Downwind Nonattainment =>** | | **0.62** | 0.21 | **2.69** | **5.82** | **0.50** | 0.27 | **5.84** | 0.16 | **3.67** | 0.05 | 0.19 | 0.13 | **3.92** | 0.21 | 0.06 | **1.32** | **3.51** | **0.80** |

## State-by-State Contributions to 24-Hour PM2.5 (µg/m$^3$) *Maintenance* Receptors
## Part 2a.
## Source States: Alabama through Missouri
## Receptors: Nonattainment Sites in the District of Columbia through New York

| | | | Source States | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **AL** | **AR** | **CT** | **DE** | **FL** | **GA** | **IL** | **IN** | **IA** | **KS** | **KY** | **LA** | **ME** | **MD/DC** | **MA** | **MI** | **MN** | **MS** | **MO** |
| 110010041 | District Of Columbia | District Of Columbia | 0.11 | 0.04 | 0.13 | 0.17 | 0.06 | 0.19 | **0.43** | **0.65** | 0.11 | 0.06 | **0.49** | 0.05 | 0.06 | 3.67 | 0.18 | **0.36** | 0.05 | 0.03 | 0.27 |
| 110010042 | District Of Columbia | District Of Columbia | 0.09 | 0.02 | 0.10 | 0.13 | 0.03 | 0.20 | **0.41** | **0.60** | 0.08 | 0.05 | **0.48** | 0.03 | 0.05 | 3.40 | 0.17 | 0.28 | 0.03 | 0.01 | 0.28 |
| 170310022 | Illinois | Cook | 0.01 | 0.03 | 0.00 | 0.00 | 0.00 | 0.03 | 4.23 | **8.94** | **0.56** | 0.24 | **0.41** | 0.01 | 0.00 | 0.00 | 0.00 | **1.87** | 0.05 | 0.00 | **0.65** |
| 170310050 | Illinois | Cook | 0.06 | 0.07 | 0.01 | 0.02 | 0.01 | 0.07 | 4.88 | **5.09** | **0.41** | 0.17 | **0.97** | 0.03 | 0.01 | 0.09 | 0.01 | **1.66** | 0.08 | 0.02 | **0.69** |
| 170314007 | Illinois | Cook | 0.07 | 0.06 | 0.00 | 0.01 | 0.01 | 0.13 | 8.29 | **4.39** | **0.84** | 0.32 | **1.17** | 0.04 | 0.00 | 0.06 | 0.01 | **1.24** | 0.12 | 0.01 | **1.13** |
| 171630010 | Illinois | Saint Clair | 0.22 | 0.11 | 0.00 | 0.00 | 0.01 | 0.26 | 6.59 | **3.26** | 0.34 | 0.04 | **1.76** | 0.04 | 0.00 | 0.02 | 0.00 | **0.55** | 0.04 | 0.02 | **4.82** |
| 171971002 | Illinois | Will | 0.07 | 0.10 | 0.00 | 0.00 | 0.00 | 0.09 | 6.48 | **3.82** | **0.68** | 0.13 | **0.98** | 0.05 | 0.00 | 0.05 | 0.00 | **1.43** | 0.10 | 0.02 | **0.70** |
| 180390003 | Indiana | Elkhart | 0.20 | 0.10 | 0.00 | 0.00 | 0.02 | 0.31 | **2.19** | 6.34 | **0.39** | 0.10 | **1.87** | 0.18 | 0.00 | 0.05 | 0.00 | **0.68** | 0.09 | 0.03 | **0.60** |
| 180431004 | Indiana | Floyd | 0.14 | 0.05 | 0.00 | 0.01 | 0.01 | 0.09 | **2.39** | 7.24 | 0.13 | 0.01 | **6.91** | 0.02 | 0.00 | 0.03 | 0.00 | 0.14 | 0.01 | 0.01 | **0.98** |
| 181670023 | Indiana | Vigo | 0.12 | 0.09 | 0.01 | 0.01 | 0.02 | 0.05 | **3.10** | 9.11 | 0.34 | 0.12 | **3.19** | 0.03 | 0.01 | 0.04 | 0.01 | **0.77** | 0.10 | 0.02 | **1.47** |
| 191390015 | Iowa | Muscatine | 0.14 | 0.17 | 0.00 | 0.01 | 0.03 | 0.15 | **4.35** | **1.71** | 3.57 | **0.42** | **0.69** | 0.10 | 0.00 | 0.03 | 0.00 | **0.80** | **0.86** | 0.04 | **1.08** |
| 210290006 | Kentucky | Bullitt | 0.19 | 0.09 | 0.03 | 0.04 | 0.04 | 0.16 | **2.44** | **5.99** | 0.13 | 0.04 | 7.11 | 0.07 | 0.03 | 0.12 | 0.03 | 0.22 | 0.03 | 0.04 | **0.99** |
| 211451004 | Kentucky | McCracken | 0.22 | 0.07 | 0.00 | 0.00 | 0.00 | 0.16 | **2.61** | **6.47** | 0.06 | 0.01 | 4.99 | 0.02 | 0.00 | 0.02 | 0.00 | 0.32 | 0.00 | 0.01 | **1.76** |
| 212270007 | Kentucky | Warren | 0.22 | 0.07 | 0.01 | 0.02 | 0.02 | 0.20 | **2.92** | **5.75** | 0.14 | 0.02 | 4.78 | 0.03 | 0.01 | 0.10 | 0.01 | **0.74** | 0.02 | 0.02 | **0.99** |
| 240031003 | Maryland | Anne Arundel | 0.08 | 0.02 | 0.20 | 0.33 | 0.04 | 0.18 | 0.29 | **0.41** | 0.09 | 0.02 | **0.39** | 0.02 | 0.08 | 6.84 | 0.31 | 0.21 | 0.02 | 0.01 | 0.18 |
| 245100035 | Maryland | Baltimore City | 0.14 | 0.02 | 0.05 | 0.17 | 0.07 | **0.38** | 0.24 | 0.33 | 0.06 | 0.02 | 0.28 | 0.04 | 0.02 | 6.45 | 0.07 | 0.11 | 0.02 | 0.01 | 0.17 |
| 261630001 | Michigan | Wayne | 0.19 | 0.02 | 0.00 | 0.01 | 0.01 | 0.17 | **1.12** | **2.86** | 0.10 | 0.01 | **1.75** | 0.05 | 0.00 | 0.10 | 0.00 | 3.94 | 0.01 | 0.01 | 0.32 |
| 295100085 | Missouri | St. Louis City | 0.17 | 0.10 | 0.02 | 0.02 | 0.03 | 0.19 | **6.57** | **3.48** | **0.49** | 0.08 | **1.73** | 0.06 | 0.02 | 0.05 | 0.02 | **0.40** | 0.11 | 0.03 | 7.41 |
| 360610062 | New York | New York | 0.12 | 0.03 | **0.70** | 0.32 | 0.06 | 0.31 | 0.32 | **0.44** | 0.07 | 0.03 | **0.37** | 0.05 | 0.19 | **0.67** | **0.71** | 0.22 | 0.02 | 0.02 | 0.19 |
| 360610079 | New York | New York | 0.10 | 0.04 | 0.07 | **0.35** | 0.04 | 0.29 | **0.38** | **0.53** | 0.07 | 0.03 | **0.49** | 0.04 | 0.01 | **0.73** | 0.11 | 0.29 | 0.02 | 0.02 | 0.24 |

# State-by-State Contributions to 24-Hour PM2.5 (µg/m$^3$) *Maintenance* Receptors
# Part 2b.
# Source States: Alabama through Missouri
# Receptors: Nonattainment Sites in Ohio through Wisconsin

| | | | Source States | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **AL** | **AR** | **CT** | **DE** | **FL** | **GA** | **IL** | **IN** | **IA** | **KS** | **KY** | **LA** | **ME** | **MD/DC** | **MA** | **MI** | **MN** | **MS** | **MO** |
| 390350027 | Ohio | Cuyahoga | 0.05 | 0.01 | 0.00 | 0.00 | 0.01 | 0.07 | **0.69** | **1.35** | 0.11 | 0.01 | **0.62** | 0.01 | 0.00 | 0.14 | 0.00 | **1.65** | 0.04 | 0.00 | 0.20 |
| 390350034 | Ohio | Cuyahoga | 0.08 | 0.01 | 0.00 | 0.00 | 0.00 | 0.08 | **0.72** | **1.86** | 0.11 | 0.01 | **0.86** | 0.01 | 0.00 | 0.18 | 0.00 | **2.78** | 0.06 | 0.00 | 0.18 |
| 390810017 | Ohio | Jefferson | 0.03 | 0.03 | 0.00 | 0.02 | 0.00 | 0.06 | **0.72** | **1.48** | 0.08 | 0.02 | **0.94** | 0.01 | 0.00 | 0.16 | 0.01 | **0.78** | 0.03 | 0.00 | **0.37** |
| 390950024 | Ohio | Lucas | 0.06 | 0.01 | 0.00 | 0.01 | 0.00 | 0.12 | **1.49** | **3.33** | 0.19 | 0.02 | **1.03** | 0.00 | 0.00 | 0.11 | 0.00 | **3.35** | 0.02 | 0.00 | 0.19 |
| 390950026 | Ohio | Lucas | 0.25 | 0.06 | 0.01 | 0.02 | 0.08 | **0.36** | **1.20** | **3.56** | 0.13 | 0.04 | **2.05** | 0.07 | 0.01 | 0.15 | 0.01 | **2.00** | 0.02 | 0.03 | **0.42** |
| 390990014 | Ohio | Mahoning | 0.07 | 0.03 | 0.00 | 0.01 | 0.03 | 0.13 | **0.70** | **1.32** | 0.11 | 0.02 | **0.68** | 0.01 | 0.00 | 0.19 | 0.01 | **1.48** | 0.07 | 0.01 | 0.24 |
| 391130031 | Ohio | Montgomery | 0.23 | 0.03 | 0.00 | 0.01 | 0.00 | 0.29 | **1.13** | **3.47** | 0.09 | 0.01 | **3.57** | 0.03 | 0.00 | 0.11 | 0.00 | **0.54** | 0.02 | 0.01 | **0.51** |
| 391351001 | Ohio | Preble | 0.32 | 0.08 | 0.01 | 0.03 | 0.02 | **0.41** | **1.40** | **5.14** | 0.11 | 0.03 | **4.79** | 0.04 | 0.01 | 0.13 | 0.01 | **0.76** | 0.03 | 0.03 | **0.84** |
| 391550007 | Ohio | Trumbull | 0.08 | 0.02 | 0.00 | 0.02 | 0.01 | 0.13 | **0.65** | **1.23** | 0.12 | 0.02 | **0.58** | 0.01 | 0.00 | 0.24 | 0.00 | **1.54** | 0.08 | 0.01 | 0.16 |
| 420030095 | Pennsylvania | Allegheny | 0.04 | 0.04 | 0.01 | 0.02 | 0.01 | 0.06 | **0.65** | **1.22** | 0.10 | 0.02 | **0.80** | 0.02 | 0.01 | 0.17 | 0.01 | **0.64** | 0.05 | 0.01 | 0.30 |
| 420033007 | Pennsylvania | Allegheny | 0.05 | 0.04 | 0.01 | 0.02 | 0.01 | 0.06 | **0.58** | **1.21** | 0.07 | 0.02 | **0.89** | 0.02 | 0.00 | 0.13 | 0.01 | **0.71** | 0.01 | 0.01 | 0.28 |
| 420410101 | Pennsylvania | Cumberland | 0.10 | 0.01 | 0.12 | **0.36** | 0.04 | 0.25 | 0.23 | **0.37** | 0.03 | 0.01 | 0.29 | 0.03 | 0.05 | **1.82** | 0.19 | 0.24 | 0.01 | 0.01 | 0.11 |
| 421255001 | Pennsylvania | Washington | 0.07 | 0.03 | 0.01 | 0.01 | 0.01 | 0.20 | **0.70** | **1.48** | 0.12 | 0.03 | **0.85** | 0.01 | 0.00 | 0.19 | 0.01 | **0.89** | 0.05 | 0.01 | 0.29 |
| 471650007 | Tennessee | Sumner | 0.23 | 0.09 | 0.02 | 0.03 | 0.03 | 0.20 | **2.10** | **4.29** | 0.19 | 0.04 | **4.27** | 0.05 | 0.02 | 0.14 | 0.02 | **0.80** | 0.03 | 0.03 | **0.95** |
| 540090005 | West Virginia | Brooke | 0.03 | 0.02 | 0.01 | 0.02 | 0.00 | 0.07 | **0.67** | **1.27** | 0.12 | 0.02 | **0.62** | 0.01 | 0.00 | 0.16 | 0.01 | **0.95** | 0.07 | 0.00 | 0.24 |
| 550250047 | Wisconsin | Dane | 0.05 | 0.05 | 0.00 | 0.00 | 0.00 | 0.09 | **3.87** | **1.81** | **1.67** | 0.29 | **0.71** | 0.01 | 0.00 | 0.02 | 0.00 | **0.99** | **0.77** | 0.00 | **1.31** |
| 550790059 | Wisconsin | Milwaukee | 0.04 | 0.05 | 0.00 | 0.00 | 0.00 | 0.08 | **5.93** | **3.41** | **1.17** | **0.45** | **0.93** | 0.08 | 0.00 | 0.03 | 0.00 | **1.38** | **0.53** | 0.01 | **0.96** |
| 551330027 | Wisconsin | Waukesha | 0.05 | 0.08 | 0.01 | 0.01 | 0.01 | 0.11 | **3.26** | **2.43** | **0.65** | 0.09 | **0.79** | 0.08 | 0.01 | 0.06 | 0.01 | **0.96** | **0.35** | 0.02 | **0.71** |
| | | | | | | | | | | | | | | | | | | | | | |
| | **Largest Contribution to Downwind Maintenance =>** | | 0.32 | 0.17 | **0.70** | **0.36** | 0.08 | **0.41** | **6.57** | **8.94** | **1.67** | **0.45** | **6.91** | 0.18 | 0.19 | **1.82** | **0.71** | **3.35** | **0.86** | 0.04 | **4.82** |

# State-by-State Contributions to 24-Hour PM2.5 (µg/m$^3$) *Maintenance* Receptors
## Part 2c.
## Source States: Nebraska through Wisconsin
## Receptors: Nonattainment Sites in the District of Columbia through New York

| | | | Source States | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **NE** | **NH** | **NJ** | **NY** | **NC** | **ND** | **OH** | **OK** | **PA** | **RI** | **SC** | **SD** | **TN** | **TX** | **VT** | **VA** | **WV** | **WI** |
| 110010041 | District Of Columbia | District Of Columbia | 0.06 | 0.06 | **0.37** | **0.80** | 0.29 | 0.04 | **1.92** | 0.06 | **4.34** | 0.04 | 0.13 | 0.03 | 0.24 | 0.08 | 0.03 | **2.26** | **2.32** | 0.11 |
| 110010042 | District Of Columbia | District Of Columbia | 0.05 | 0.04 | 0.31 | **0.74** | 0.28 | 0.02 | **1.44** | 0.04 | **3.34** | 0.02 | 0.11 | 0.01 | 0.20 | 0.07 | 0.01 | **2.12** | **1.73** | 0.09 |
| 170310022 | Illinois | Cook | 0.14 | 0.00 | 0.00 | 0.11 | 0.01 | 0.01 | **0.73** | 0.09 | **0.37** | 0.00 | 0.00 | 0.01 | 0.16 | 0.03 | 0.00 | 0.02 | 0.23 | **0.44** |
| 170310050 | Illinois | Cook | 0.12 | 0.01 | 0.02 | 0.13 | 0.04 | 0.03 | **2.18** | 0.08 | **1.20** | 0.01 | 0.02 | 0.02 | 0.29 | 0.05 | 0.01 | 0.09 | **0.88** | **0.36** |
| 170314007 | Illinois | Cook | 0.23 | 0.00 | 0.01 | 0.08 | 0.04 | 0.04 | **1.88** | 0.13 | **0.89** | 0.00 | 0.04 | 0.03 | **0.38** | 0.08 | 0.00 | 0.08 | **0.73** | **0.70** |
| 171630010 | Illinois | Saint Clair | 0.03 | 0.00 | 0.01 | 0.02 | 0.04 | 0.01 | **1.84** | 0.09 | **0.47** | 0.00 | 0.03 | 0.01 | **1.18** | 0.13 | 0.00 | 0.05 | **0.42** | 0.16 |
| 171971002 | Illinois | Will | 0.16 | 0.00 | 0.00 | 0.23 | 0.03 | 0.03 | **1.79** | 0.09 | **0.96** | 0.00 | 0.01 | 0.02 | **0.41** | 0.09 | 0.00 | 0.07 | **0.69** | **0.57** |
| 180390003 | Indiana | Elkhart | 0.10 | 0.00 | 0.01 | 0.28 | 0.07 | 0.03 | **2.24** | 0.07 | **0.89** | 0.00 | 0.06 | 0.01 | **1.01** | 0.10 | 0.00 | 0.11 | **0.72** | **0.35** |
| 180431004 | Indiana | Floyd | 0.01 | 0.00 | 0.01 | 0.05 | 0.03 | 0.01 | **1.56** | 0.03 | **0.44** | 0.00 | 0.02 | 0.00 | **2.32** | 0.04 | 0.00 | 0.05 | **0.58** | 0.03 |
| 181670023 | Indiana | Vigo | 0.07 | 0.01 | 0.01 | 0.17 | 0.04 | 0.04 | **3.45** | 0.07 | **0.74** | 0.01 | 0.02 | 0.03 | **1.36** | 0.06 | 0.01 | 0.07 | **0.44** | 0.21 |
| 191390015 | Iowa | Muscatine | **0.39** | 0.00 | 0.01 | 0.10 | 0.06 | 0.15 | **1.08** | 0.21 | **0.61** | 0.00 | 0.04 | 0.09 | **0.46** | 0.28 | 0.00 | 0.06 | **0.40** | **1.01** |
| 210290006 | Kentucky | Bullitt | 0.03 | 0.03 | 0.04 | 0.09 | 0.08 | 0.03 | **2.20** | 0.05 | **0.65** | 0.03 | 0.06 | 0.03 | **2.04** | 0.08 | 0.03 | 0.15 | **0.98** | 0.06 |
| 211451004 | Kentucky | McCracken | 0.01 | 0.00 | 0.01 | 0.03 | 0.05 | 0.00 | **1.13** | 0.02 | 0.29 | 0.00 | 0.04 | 0.00 | **2.66** | 0.03 | 0.00 | 0.05 | 0.22 | 0.03 |
| 212270007 | Kentucky | Warren | 0.02 | 0.01 | 0.03 | 0.06 | 0.07 | 0.01 | **1.83** | 0.03 | **0.60** | 0.01 | 0.03 | 0.01 | **4.70** | 0.03 | 0.01 | 0.16 | **0.94** | 0.05 |
| 240031003 | Maryland | Anne Arundel | 0.04 | 0.08 | **0.65** | **1.17** | 0.30 | 0.01 | **1.23** | 0.04 | **4.86** | 0.03 | 0.12 | 0.01 | 0.24 | 0.06 | 0.03 | **1.42** | **1.69** | 0.05 |
| 245100035 | Maryland | Baltimore (City | 0.03 | 0.02 | 0.30 | **0.38** | **0.44** | 0.01 | **0.50** | 0.04 | **1.75** | 0.00 | 0.17 | 0.00 | 0.20 | 0.10 | 0.00 | **1.23** | **0.59** | 0.05 |
| 261630001 | Michigan | Wayne | 0.02 | 0.00 | 0.01 | 0.30 | 0.05 | 0.00 | **5.29** | 0.01 | **1.87** | 0.00 | 0.01 | 0.00 | **1.08** | 0.02 | 0.00 | 0.15 | **1.50** | 0.24 |
| 295100085 | Missouri | St. Louis City | 0.06 | 0.02 | 0.02 | 0.03 | 0.04 | 0.03 | **1.52** | 0.14 | 0.24 | 0.02 | 0.04 | 0.03 | **0.96** | 0.18 | 0.02 | 0.06 | **0.36** | 0.23 |
| 360610062 | New York | New York | 0.03 | 0.23 | **4.74** | 5.76 | **0.45** | 0.01 | **0.79** | 0.04 | **2.21** | 0.06 | 0.19 | 0.01 | 0.24 | 0.08 | 0.07 | **0.80** | **0.72** | 0.05 |
| 360610079 | New York | New York | 0.03 | 0.01 | **2.68** | 7.30 | **0.42** | 0.02 | **1.11** | 0.05 | **2.60** | 0.03 | 0.19 | 0.01 | 0.33 | 0.08 | 0.01 | **0.89** | **0.98** | 0.06 |

## State-by-State Contributions to 24-Hour PM2.5 (μg/m$^3$) *Maintenance* Receptors
## Part 2d.
## Source States: Nebraska through Wisconsin
## Receptors: Nonattainment Sites in Ohio through Wisconsin

| | | | Source States | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Receptor Monitor ID** | **Receptor State** | **Receptor County** | **NE** | **NH** | **NJ** | **NY** | **NC** | **ND** | **OH** | **OK** | **PA** | **RI** | **SC** | **SD** | **TN** | **TX** | **VT** | **VA** | **WV** | **WI** |
| 390350027 | Ohio | Cuyahoga | 0.02 | 0.00 | 0.03 | **1.10** | 0.02 | 0.01 | 9.31 | 0.01 | **2.79** | 0.00 | 0.01 | 0.00 | 0.22 | 0.01 | 0.00 | 0.09 | **1.04** | 0.12 |
| 390350034 | Ohio | Cuyahoga | 0.03 | 0.00 | 0.00 | **0.72** | 0.04 | 0.01 | 8.52 | 0.01 | **2.34** | 0.00 | 0.01 | 0.00 | 0.33 | 0.01 | 0.00 | 0.13 | **1.32** | 0.23 |
| 390810017 | Ohio | Jefferson | 0.02 | 0.00 | 0.03 | 0.22 | 0.05 | 0.02 | 5.57 | 0.01 | **2.52** | 0.00 | 0.01 | 0.00 | **0.35** | 0.02 | 0.00 | 0.19 | **3.30** | 0.09 |
| 390950024 | Ohio | Lucas | 0.05 | 0.00 | 0.01 | **0.51** | 0.03 | 0.00 | 5.67 | 0.01 | **1.54** | 0.00 | 0.01 | 0.00 | **0.47** | 0.01 | 0.00 | 0.10 | **1.03** | 0.22 |
| 390950026 | Ohio | Lucas | 0.05 | 0.01 | 0.02 | **0.48** | 0.09 | 0.01 | 6.14 | 0.04 | **1.89** | 0.01 | 0.05 | 0.01 | **1.52** | 0.04 | 0.01 | 0.17 | **1.53** | 0.13 |
| 390990014 | Ohio | Mahoning | 0.03 | 0.00 | 0.02 | 0.30 | 0.06 | 0.03 | 7.13 | 0.02 | **3.04** | 0.00 | 0.02 | 0.01 | **0.37** | 0.03 | 0.00 | 0.17 | **1.62** | 0.21 |
| 391130031 | Ohio | Montgomery | 0.02 | 0.00 | 0.02 | 0.17 | 0.06 | 0.00 | 6.05 | 0.01 | **1.26** | 0.00 | 0.03 | 0.00 | **2.13** | 0.01 | 0.00 | 0.19 | **1.31** | 0.06 |
| 391351001 | Ohio | Preble | 0.02 | 0.01 | 0.03 | 0.16 | 0.09 | 0.02 | 5.52 | 0.02 | **1.03** | 0.01 | 0.06 | 0.01 | **2.99** | 0.03 | 0.01 | 0.16 | **1.12** | 0.11 |
| 391550007 | Ohio | Trumbull | 0.03 | 0.00 | 0.02 | 0.27 | 0.09 | 0.02 | 6.73 | 0.02 | **3.17** | 0.00 | 0.03 | 0.01 | **0.37** | 0.02 | 0.00 | 0.24 | **2.07** | 0.26 |
| 420030095 | Pennsylvania | Allegheny | 0.03 | 0.01 | 0.03 | 0.22 | 0.07 | 0.03 | **3.97** | 0.02 | 5.18 | 0.01 | 0.02 | 0.01 | 0.30 | 0.03 | 0.01 | 0.20 | **2.61** | 0.14 |
| 420033007 | Pennsylvania | Allegheny | 0.02 | 0.00 | 0.03 | 0.18 | 0.08 | 0.02 | **4.61** | 0.02 | 5.56 | 0.00 | 0.04 | 0.00 | **0.36** | 0.02 | 0.00 | 0.21 | **3.56** | 0.06 |
| 420410101 | Pennsylvania | Cumberland | 0.01 | 0.06 | **0.83** | **0.91** | 0.33 | 0.00 | **0.91** | 0.01 | 8.23 | 0.02 | 0.16 | 0.00 | 0.19 | 0.03 | 0.02 | **0.99** | **1.05** | 0.05 |
| 421255001 | Pennsylvania | Washington | 0.05 | 0.00 | 0.02 | 0.16 | 0.17 | 0.02 | **5.13** | 0.03 | 3.42 | 0.00 | 0.08 | 0.01 | **0.40** | 0.04 | 0.00 | 0.22 | **4.83** | 0.12 |
| 471650007 | Tennessee | Sumner | 0.04 | 0.02 | 0.04 | 0.09 | 0.10 | 0.02 | **2.27** | 0.05 | **0.86** | 0.02 | 0.05 | 0.02 | 6.45 | 0.05 | 0.02 | 0.24 | **1.59** | 0.08 |
| 540090005 | West Virginia | Brooke | 0.03 | 0.00 | 0.03 | 0.24 | 0.04 | 0.03 | **5.56** | 0.02 | **3.00** | 0.00 | 0.02 | 0.01 | 0.24 | 0.02 | 0.00 | 0.13 | 2.84 | 0.19 |
| 550250047 | Wisconsin | Dane | 0.31 | 0.00 | 0.00 | 0.09 | 0.02 | 0.12 | **1.27** | 0.20 | **0.77** | 0.00 | 0.02 | 0.07 | 0.34 | 0.11 | 0.00 | 0.03 | **0.38** | 3.64 |
| 550790059 | Wisconsin | Milwaukee | **0.36** | 0.00 | 0.00 | 0.09 | 0.02 | 0.13 | **1.43** | 0.11 | **0.63** | 0.00 | 0.02 | 0.05 | 0.27 | 0.09 | 0.00 | 0.04 | **0.52** | 4.30 |
| 551330027 | Wisconsin | Waukesha | 0.13 | 0.01 | 0.01 | 0.16 | 0.04 | 0.13 | **1.63** | 0.09 | **0.73** | 0.01 | 0.03 | 0.06 | 0.28 | 0.12 | 0.01 | 0.09 | **0.65** | 2.32 |
| | | | | | | | | | | | | | | | | | | | | |
| | **Largest Contribution to Downwind Maintenance =>** | | **0.39** | 0.23 | **4.74** | **1.17** | **0.45** | 0.15 | **5.56** | 0.21 | **4.86** | 0.06 | 0.19 | 0.09 | **4.70** | 0.28 | 0.07 | **2.26** | **4.83** | **1.01** |

# Transport Rule Air Quality Modeling Technical Support Document

## Appendix E

## Upwind States to Downwind Nonattainment and Maintenance Linkages

**Table E-1. Upwind State-to-Downwind Nonattainment Site "Linkages" for Annual $PM_{2.5}$.**

| Upwind State | Number of Linkages | Counties Containing Downwind Annual $PM_{2.5}$ Nonattainment Sites (Monitoring Site ID) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Alabama | 6 | Bibb, GA (130210007) | Clayton, GA (130630091) | Fulton, GA (131210039) | Clark, IN (180190006) | Dubois, IN (180372001) | Jefferson, KY (211110043) | |
| Delaware | 2 | Lancaster, PA (420710007) | York, PA (421330008) | | | | | |
| Florida | 3 | Jefferson, AL (10730023) | Bibb, GA (130210007) | Clayton, GA (130630091) | | | | |
| Georgia | 7 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | Clark, IN (180190006) | Dubois, IN (180372001) | Jefferson, KY (211110043) | Kanawha, WV (540391005) | Cabell, WV (540110006) |
| Illinois | 29 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | Fulton, GA (131210039) | Bibb, GA (130210007) | Clayton, GA (130630091) | Clark, IN (180190006) | Dubois, IN (180372001) |
| | | Marion, IN (180970078) | Marion, IN (180970081) | Marion, IN (180970083) | Jefferson, KY (211110043) | Wayne, MI (261630015) | Wayne, MI (261630033) | Butler, OH (390170016) |
| | | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) | Cuyahoga, OH (390350060) | Hamilton, OH (390610014) | Hamilton, OH (390610042) | Hamilton, OH (390610043) | Hamilton, OH (390617001) |
| | | Hamilton, OH (390618001) | Allegheny, PA (420030064) | Allegheny, PA (420031301) | Beaver, PA (420070014) | Lancaster, PA (420710007) | York, PA (421330008) | Cabell, WV (540110006) |
| | | Kanawha, WV (540391005) | | | | | | |
| Indiana | 27 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | Bibb, GA (130210007) | Clayton, GA (130630091) | Fulton, GA (131210039) | Cook, IL (170310052) | Madison, IL (171191007) |
| | | Saint Clair, IL (171630010) | Jefferson, KY (211110043) | Wayne, MI (261630015) | Wayne, MI (261630033) | Butler, OH (390170016) | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) |
| | | Cuyahoga, OH (390350060) | Hamilton, OH (390618001) | Hamilton, OH (390610014) | Hamilton, OH (390610042) | Hamilton, OH (390610043) | Hamilton, OH (390617001) | Allegheny, PA (420030064) |

| Upwind State | Number of Linkages | Counties Containing Downwind Annual $PM_{2.5}$ Nonattainment Sites (Monitoring Site ID) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Allegheny, PA (420031301) | Beaver, PA (420070014) | Lancaster, PA (420710007) | York, PA (421330008) | Cabell, WV (540110006) | Kanawha, WV (540391005) | |
| Iowa | 4 | Cook, IL (170310052) | Madison, IL (171191007) | Saint Clair, IL (171630010) | Dubois, IN (180372001) | | | |
| Kentucky | 31 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | Bibb, GA (130210007) | Clayton, GA (130630091) | Fulton, GA (131210039) | Cook, IL (170310052) | Madison, IL (171191007) |
| | | Saint Clair, IL (171630010) | Clark, IN (180190006) | Dubois, IN (180372001) | Marion, IN (180970078) | Marion, IN (180970081) | Marion, IN (180970083) | Wayne, MI (261630015) |
| | | Wayne, MI (261630033) | Butler, OH (390170016) | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) | Cuyahoga, OH (390350060) | Hamilton, OH (390610014) | Hamilton, OH (390610042) |
| | | Hamilton, OH (390610043) | Hamilton, OH (390617001) | Hamilton, OH (390618001) | Allegheny, PA (420030064) | Allegheny, PA (420031301) | Beaver, PA (420070014) | Lancaster, PA (420710007) |
| | | York, PA (421330008) | Cabell, WV (540110006) | Kanawha, WV (540391005) | | | | |
| Maryland/DC | 2 | Lancaster, PA (420710007) | York, PA (421330008) | | | | | |
| Michigan | 25 | Cook, IL (170310052) | Madison, IL (171191007) | Saint Clair, IL (171630010) | Clark, IN (180190006) | Dubois, IN (180372001) | Marion, IN (180970078) | Marion, IN (180970081) |
| | | Marion, IN (180970083) | Jefferson, KY (211110043) | Butler, OH (390170016) | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) | Cuyahoga, OH (390350060) | Hamilton, OH (390610014) |
| | | Hamilton, OH (390610042) | Hamilton, OH (390610043) | Hamilton, OH (390617001) | Hamilton, OH (390618001) | Allegheny, PA (420030064) | Allegheny, PA (420031301) | Beaver, PA (420070014) |
| | | Lancaster, PA (420710007) | York, PA (421330008) | Cabell, WV (540110006) | Kanawha, WV (540391005) | | | |
| Minnesota | 1 | Cook, IL (170310052) | | | | | | |

| Upwind State | Number of Linkages | Counties Containing Downwind Annual $PM_{2.5}$ Nonattainment Sites (Monitoring Site ID) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Missouri | 17 | Cook, IL (170310052) | Madison, IL (171191007) | Saint Clair, IL (171630010) | Clark, IN (180190006) | Dubois, IN (180372001) | Marion, IN (180970078) | Marion, IN (180970081) |
| | | Marion, IN (180970083) | Jefferson, KY (211110043) | Butler, OH (390170016) | Hamilton, OH (390610014) | Hamilton, OH (390610042) | Hamilton, OH (390610043) | Hamilton, OH (390617001) |
| | | Hamilton, OH (390618001) | Cabell, WV (540110006) | Kanawha, WV (540391005) | | | | |
| New Jersey | 2 | Lancaster, PA (420710007) | York, PA (421330008) | | | | | |
| New York | 8 | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) | Cuyahoga, OH (390350060) | Allegheny, PA (420030064) | Allegheny, PA (420031301) | Beaver, PA (420070014) | Lancaster, PA (420710007) |
| | | York, PA (421330008) | | | | | | |
| North Carolina | 3 | Bibb, GA (130210007) | Clayton, GA (130630091) | Fulton, GA (131210039) | | | | |
| Ohio | 23 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | Bibb, GA (130210007) | Clayton, GA (130630091) | Fulton, GA (131210039) | Cook, IL (170310052) | Madison, IL (171191007) |
| | | Saint Clair, IL (171630010) | Clark, IN (180190006) | Dubois, IN (180372001) | Marion, IN (180970078) | Marion, IN (180970081) | Marion, IN (180970083) | Jefferson, KY (211110043) |
| | | Wayne, MI (261630015) | Wayne, MI (261630033) | Allegheny, PA (420030064) | Allegheny, PA (420031301) | Beaver, PA (420070014) | Lancaster, PA (420710007) | York, PA (421330008) |
| | | Cabell, WV (540110006) | Kanawha, WV (540391005) | | | | | |
| Pennsylvania | 25 | Bibb, GA (130210007) | Clayton, GA (130630091) | Fulton, GA (131210039) | Cook, IL (170310052) | Madison, IL (171191007) | Saint Clair, IL (171630010) | Clark, IN (180190006) |
| | | Dubois, IN (180372001) | Marion, IN (180970078) | Marion, IN (180970081) | Marion, IN (180970083) | Jefferson, KY (211110043) | Wayne, MI (261630015) | Wayne, MI (261630033) |

| Upwind State | Number of Linkages | Counties Containing Downwind Annual $PM_{2.5}$ Nonattainment Sites (Monitoring Site ID) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Butler, OH (390170016) | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) | Cuyahoga, OH (390350060) | Hamilton, OH (390610014) | Hamilton, OH (390610042) | Hamilton, OH (390610043) |
| | | Hamilton, OH (390617001) | Hamilton, OH (390618001) | Cabell, WV (540110006) | Kanawha, WV (540391005) | | | |
| South Carolina | 3 | Bibb, GA (130210007) | Clayton, GA (130630091) | Fulton, GA (131210039) | | | | |
| Tennessee | 29 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | Bibb, GA (130210007) | Clayton, GA (130630091) | Fulton, GA (131210039) | Clark, IN (180190006) | Madison, IL (171191007) |
| | | Saint Clair, IL (171630010) | Dubois, IN (180372001) | Marion, IN (180970078) | Marion, IN (180970081) | Marion, IN (180970083) | Jefferson, KY (211110043) | Wayne, MI (261630015) |
| | | Wayne, MI (261630033) | Butler, OH (390170016) | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) | Cuyahoga, OH (390350060) | Hamilton, OH (390610014) | Hamilton, OH (390610042) |
| | | Hamilton, OH (390610043) | Hamilton, OH (390617001) | Hamilton, OH (390618001) | Allegheny, PA (420030064) | Allegheny, PA (420031301) | Beaver, PA (420070014) | Cabell, WV (540110006) |
| | | Kanawha, WV (540391005) | | | | | | |
| Virginia | 4 | Lancaster, PA (420710007) | York, PA (421330008) | Cabell, WV (540110006) | Kanawha, WV (540391005) | | | |
| West Virginia | 25 | Fulton, GA (131210039) | Bibb, GA (130210007) | Clayton, GA (130630091) | Clark, IN (180190006) | Marion, IN (180970078) | Marion, IN (180970081) | Marion, IN (180970083) |
| | | Dubois, IN (180372001) | Jefferson, KY (211110043) | Wayne, MI (261630015) | Wayne, MI (261630033) | Butler, OH (390170016) | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) |
| | | Cuyahoga, OH (390350060) | Hamilton, OH (390610014) | Hamilton, OH (390610042) | Hamilton, OH (390610043) | Hamilton, OH (390617001) | Hamilton, OH (390618001) | Allegheny, PA (420030064) |
| | | Allegheny, PA (420031301) | Beaver, PA (420070014) | Lancaster, PA (420710007) | York, PA (421330008) | | | |

| Upwind State | Number of Linkages | Counties Containing Downwind Annual $PM_{2.5}$ Nonattainment Sites (Monitoring Site ID) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Wisconsin | 8 | Cook, IL (170310052) | Dubois, IN (180372001) | Marion, IN (180970078) | Marion, IN (180970081) | Marion, IN (180970083) | Wayne, MI (261630015) | Wayne, MI (261630033) |
| | | Cuyahoga, OH (390350045) | | | | | | |

**Table E-2. Upwind State-to-Downwind Maintenance Site "Linkages" for Annual $PM_{2.5}$.**

| Upwind State | Number of Linkages | Counties Containing Downwind Annual $PM_{2.5}$ Maintenance Sites (Monitoring Site ID) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Alabama | 1 | Jefferson, KY (211110044) | | | | | | |
| Georgia | 1 | Jefferson, KY (211110044) | | | | | | |
| Illinois | 13 | Jefferson, KY (211110044) | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350065) | Hamilton, OH (390610040) | Jefferson, OH (390811001) | Montgomery, OH (391130032) | Stark, OH (391510017) |
| | | Berks, PA (420110011) | Harris, TX (482011035) | Berkeley, WV (540030003) | Brooke, WV (540090005) | Hancock, WV (540291004) | Marion, WV (540490006) | |
| Indiana | 16 | Cook, IL (170313301) | Cook, IL (170316005) | Jefferson, KY (211110044) | New York, NY (360610056) | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350065) | Hamilton, OH (390610040) |
| | | Jefferson, OH (390811001) | Montgomery, OH (391130032) | Stark, OH (391510017) | Berks, PA (420110011) | Harris, TX (482011035) | Berkeley, WV (540030003) | Brooke, WV (540090005) |
| | | Hancock, WV (540291004) | Marion, WV (540490006) | | | | | |
| Iowa | 2 | Cook, IL (170313301) | Cook, IL (170316005) | | | | | |
| Kentucky | 12 | Cook, IL (170313301) | Cook, IL (170316005) | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350065) | Hamilton, OH (390610040) | Jefferson, OH (390811001) | Montgomery, OH (391130032) |
| | | Stark, OH (391510017) | Berkeley, WV (540030003) | Brooke, WV (540090005) | Hancock, WV (540291004) | Marion, WV (540490006) | | |
| Louisiana | 1 | Harris, TX (482011035) | | | | | | |
| Maryland/DC | 2 | Berks, PA (420110011) | Berkeley, WV (540030003) | | | | | |
| Michigan | 15 | Cook, IL (170313301) | Cook, IL (170316005) | Jefferson, KY (211110044) | New York, NY (360610056) | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350065) | Hamilton, OH (390610040) |

| Upwind State | Number of Linkages | Counties Containing Downwind Annual $PM_{2.5}$ Maintenance Sites (Monitoring Site ID) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Jefferson, OH (390811001) | Montgomery, OH (391130032) | Stark, OH (391510017) | Berks, PA (420110011) | Berkeley, WV (540030003) | Brooke, WV (540090005) | Hancock, WV (540291004) |
| | | Marion, WV (540490006) | | | | | | |
| Minnesota | 1 | Cook, IL (170316005) | | | | | | |
| Missouri | 6 | Cook, IL (170313301) | Cook, IL (170316005) | Jefferson, KY (211110044) | Hamilton, OH (390610040) | Montgomery, OH (391130032) | Stark, OH (391510017) | |
| New Jersey | 2 | New York, NY (360610056) | Berks, PA (420110011) | | | | | |
| New York | 9 | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350065) | Jefferson, OH (390811001) | Stark, OH (391510017) | Berks, PA (420110011) | Berkeley, WV (540030003) | Brooke, WV (540090005) |
| | | Hancock, WV (540291004) | Marion, WV (540490006) | | | | | |
| Ohio | 9 | Cook, IL (170313301) | Cook, IL (170316005) | Jefferson, KY (211110044) | New York, NY (360610056) | Berks, PA (420110011) | Berkeley, WV (540030003) | Brooke, WV (540090005) |
| | | Hancock, WV (540291004) | Marion, WV (540490006) | | | | | |
| Pennsylvania | 14 | Cook, IL (170313301) | Cook, IL (170316005) | Jefferson, KY (211110044) | New York, NY (360610056) | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350065) | Hamilton, OH (390610040) |
| | | Jefferson, OH (390811001) | Montgomery, OH (391130032) | Stark, OH (391510017) | Berkeley, WV (540030003) | Brooke, WV (540090005) | Hancock, WV (540291004) | Marion, WV (540490006) |
| Tennessee | 10 | Jefferson, KY (211110044) | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350065) | Hamilton, OH (390610040) | Jefferson, OH (390811001) | Montgomery, OH (391130032) | Stark, OH (391510017) |
| | | Brooke, WV (540090005) | Hancock, WV (540291004) | Marion, WV (540490006) | | | | |
| Virginia | 4 | New York, NY (360610056) | Berks, PA (420110011) | Berkeley, WV (540030003 | Marion, WV (540490006) | | | |

| Upwind State | Number of Linkages | Counties Containing Downwind Annual $PM_{2.5}$ Maintenance Sites (Monitoring Site ID) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | ) | | | | |
| West Virginia | 9 | Jefferson, KY (211110044) | New York, NY (360610056) | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350065) | Hamilton, OH (390610040) | Jefferson, OH (390811001) | Montgomery, OH (391130032) |
| | | Stark, OH (391510017) | Berks, PA (420110011) | | | | | |
| Wisconsin | 2 | Cook, IL (170313301) | Cook, IL (170316005) | | | | | |

**Table E-3. Upwind State-to-Downwind Nonattainment Site "Linkages" for 24-Hour $PM_{2.5}$.**

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Nonattainment Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| Alabama | 5 | Monroe, MI (261150005) | Wayne, MI (261630015) | Hamilton, OH (390610006) | Hamilton, OH (390610014) | Hamilton, OH (390618001) | |
| Connecticut | 3 | Hudson, NJ (340172002) | New York, NY (360610056) | New York, NY (360610128) | | | |
| Delaware | 2 | Union, NJ (340390004) | Dauphin, PA (420430401) | | | | |
| Georgia | 12 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | Baltimore City, MD (245100040) | Baltimore City, MD (245100049) | Union, NJ (340390004) | Butler, OH (390170016) |
| | | Butler, OH (390171004) | Hamilton, OH (390610006) | Hamilton, OH (390610014) | Hamilton, OH (390618001) | Montgomery, OH (391130032) | York, PA (421330008) |
| Illinois | 70 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | New Haven, CT (90091123) | Clark, IN (180190006) | Dubois, IN (180372001) | Knox, IN (180830004) |
| | | Lake, IN (180890022) | Lake, IN (180890026) | Marion, IN (180970042) | Marion, IN (180970043) | Marion, IN (180970066) | Marion, IN (180970078) |
| | | Marion, IN (180970079) | Marion, IN (180970081) | Marion, IN (180970083) | Tippecanoe, IN (181570008) | Scott, IA (191630019) | Daviess, KY (210590005) |
| | | Jefferson, KY (211110043) | Jefferson, KY (211110044) | Jefferson, KY (211110048) | Monroe, MI (261150005) | Oakland, MI (261250001) | St. Clair, MI (261470005) |
| | | Washtenaw, MI (261610008) | Wayne, MI (261630015) | Wayne, MI (261630016) | Wayne, MI (261630019) | Wayne, MI (261630033) | Wayne, MI (261630036) |
| | | Jefferson, MO (290990012) | Saint Charles, MO (291831002) | St. Louis City, MO (295100007) | St. Louis City, MO (295100087) | Union, NJ (340390004) | New York, NY (360610128) |
| | | Butler, OH (390170003) | Butler, OH (390170016) | Butler, OH (390170017) | Butler, OH (390171004) | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) |
| | | Cuyahoga, OH (390350060) | Cuyahoga, OH (390350065) | Franklin, OH (390490024) | Franklin, OH (390490025) | Hamilton, OH (390610006) | Hamilton, OH (390610014) |
| | | Hamilton, OH (390610040) | Hamilton, OH (390610042) | Hamilton, OH (390610043) | Hamilton, OH (390617001) | Hamilton, OH (390618001) | Jefferson, OH (390811001) |
| | | Montgomery, OH | Summit, OH (391530017) | Allegheny, PA (420030064) | Allegheny, PA (420030093) | Allegheny, PA (420030116) | Allegheny, PA (420031008) |

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Nonattainment Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| | | (391130032) | | | | | |
| | | Allegheny, PA (420031301) | Beaver, PA (420070014) | Berks, PA (420110011) | Cambria, PA (420210011) | Montgomery, TN (471251009) | Brooke, WV (540090011) |
| | | Milwaukee, WI (550790010) | Milwaukee, WI (550790026) | Milwaukee, WI (550790043) | Milwaukee, WI (550790099) | | |
| Indiana | 75 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | New Haven, CT (90091123) | Cook, IL (170310052) | Cook, IL (170310057) | Cook, IL (170310076) |
| | | Cook, IL (170311016) | Cook, IL (170312001) | Cook, IL (170313103) | Cook, IL (170313301) | Cook, IL (170316005) | Madison, IL (171190023) |
| | | Madison, IL (171191007) | Madison, IL (171192009) | Madison, IL (171193007) | Scott, IA (191630019) | Daviess, KY (210590005) | Jefferson, KY (211110043) |
| | | Jefferson, KY (211110044) | Jefferson, KY (211110048) | Monroe, MI (261150005) | Oakland, MI (261250001) | St. Clair, MI (261470005) | Washtenaw, MI (261610008) |
| | | Wayne, MI (261630015) | Wayne, MI (261630016) | Wayne, MI (261630019) | Wayne, MI (261630033) | Wayne, MI (261630036) | Jefferson, MO (290990012) |
| | | Saint Charles, MO (291831002) | St. Louis City, MO (295100007) | St. Louis City, MO (295100087) | Hudson, NJ (340171003) | Union, NJ (340390004) | Bronx, NY (360050080) |
| | | New York, NY (360610056) | New York, NY (360610128) | Butler, OH (390170003) | Butler, OH (390170016) | Butler, OH (390170017) | Butler, OH (390171004) |
| | | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) | Cuyahoga, OH (390350060) | Cuyahoga, OH (390350065) | Franklin, OH (390490024) | Franklin, OH (390490025) |
| | | Hamilton, OH (390610006) | Hamilton, OH (390610014) | Hamilton, OH (390610040) | Hamilton, OH (390610042) | Hamilton, OH (390610043) | Hamilton, OH (390617001) |
| | | Hamilton, OH (390618001) | Jefferson, OH (390811001) | Montgomery, OH (391130032) | Summit, OH (391530017) | Allegheny, PA (420030008) | Allegheny, PA (420030064) |
| | | Allegheny, PA (420030093) | Allegheny, PA (420030116) | Allegheny, PA (420031008) | Allegheny, PA (420031301) | Beaver, PA (420070014) | Berks, PA (420110011) |
| | | Cambria, PA (420210011) | Dauphin, PA (420430401) | York, PA (421330008) | Montgomery, TN (471251009) | Brooke, WV (540090011) | Milwaukee, WI (550790010) |
| | | Milwaukee, WI (550790026) | Milwaukee, WI (550790043) | Milwaukee, WI (550790099) | | | |
| Iowa | 17 | Cook, IL (170310052) | Cook, IL (170310057) | Cook, IL (170310076) | Cook, IL (170311016) | Cook, IL (170312001) | Cook, IL (170313103) |

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Nonattainment Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Cook, IL (170313301) | Cook, IL (170316005) | Madison, IL (171191007) | Lake, IN (180890022) | Lake, IN (180890026) | Jefferson, MO (290990012) |
| | | St. Louis City, MO (295100007) | Milwaukee, WI (550790010) | Milwaukee, WI (550790026) | Milwaukee, WI (550790043) | Milwaukee, WI (550790099) | |
| Kansas | 3 | Milwaukee, WI (550790010) | Milwaukee, WI (550790026) | Milwaukee, WI (550790099) | | | |
| Kentucky | 81 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | New Haven, CT (90091123) | Cook, IL (170310052) | Cook, IL (170310057) | Cook, IL (170310076) |
| | | Cook, IL (170311016) | Cook, IL (170312001) | Cook, IL (170313103) | Cook, IL (170313301) | Cook, IL (170316005) | Madison, IL (171190023) |
| | | Madison, IL (171191007) | Madison, IL (171192009) | Madison, IL (171193007) | Clark, IN (180190006) | Dubois, IN (180372001) | Knox, IN (180830004) |
| | | Lake, IN (180890026) | Marion, IN (180970042) | Marion, IN (180970043) | Marion, IN (180970066) | Marion, IN (180970078) | Marion, IN (180970079) |
| | | Marion, IN (180970081) | Marion, IN (180970083) | Tippecanoe, IN (181570008) | Scott, IA (191630019) | Monroe, MI (261150005) | Oakland, MI (261250001) |
| | | St. Clair, MI (261470005) | Washtenaw, MI (261610008) | Wayne, MI (261630015) | Wayne, MI (261630016) | Wayne, MI (261630019) | Wayne, MI (261630033) |
| | | Wayne, MI (261630036) | Jefferson, MO (290990012) | Saint Charles, MO (291831002) | St. Louis City, MO (295100007) | St. Louis City, MO (295100087) | Hudson, NJ (340171003) |
| | | Union, NJ (340390004) | Bronx, NY (360050080) | New York, NY (360610128) | Butler, OH (390170003) | Butler, OH (390170016) | Butler, OH (390170017) |
| | | Butler, OH (390171004) | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) | Cuyahoga, OH (390350060) | Cuyahoga, OH (390350065) | Franklin, OH (390490024) |
| | | Franklin, OH (390490025) | Hamilton, OH (390610006) | Hamilton, OH (390610014) | Hamilton, OH (390610040) | Hamilton, OH (390610042) | Hamilton, OH (390610043) |
| | | Hamilton, OH (390617001) | Hamilton, OH (390618001) | Jefferson, OH (390811001) | Montgomery, OH (391130032) | Summit, OH (391530017) | Allegheny, PA (420030008) |
| | | Allegheny, PA (420030064) | Allegheny, PA (420030093) | Allegheny, PA (420030116) | Allegheny, PA (420031008) | Allegheny, PA (420031301) | Beaver, PA (420070014) |
| | | Berks, PA (420110011) | Cambria, PA (420210011) | York, PA (421330008) | Montgomery, TN (471251009) | Brooke, WV (540090011) | Milwaukee, WI (550790010) |
| | | Milwaukee, WI (550790026) | Milwaukee, WI (550790043) | Milwaukee, WI (550790099) | | | |

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Nonattainment Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| Maryland/DC | 11 | New Haven, CT (90091123) | Hudson, NJ (340171003) | Hudson, NJ (340172002) | Union, NJ (340390004) | Bronx, NY (360050080) | New York, NY (360610056) |
| | | New York, NY (360610128) | Berks, PA (420110011) | Dauphin, PA (420430401) | Lancaster, PA (420710007) | York, PA (421330008) | |
| Massachusetts | 3 | New Haven, CT (90091123) | New York, NY (360610056) | New York, NY (360610128) | | | |
| Michigan | 48 | Cook, IL (170310052) | Cook, IL (170310057) | Cook, IL (170310076) | Cook, IL (170311016) | Cook, IL (170312001) | Cook, IL (170313103) |
| | | Cook, IL (170313301) | Cook, IL (170316005) | Madison, IL (171190023) | Madison, IL (171191007) | Madison, IL (171192009) | Madison, IL (171193007) |
| | | Knox, IN (180830004) | Lake, IN (180890022) | Lake, IN (180890026) | Scott, IA (191630019) | Jefferson, MO (290990012) | Saint Charles, MO (291831002) |
| | | St. Louis City, MO (295100007) | St. Louis City, MO (295100087) | New York, NY (360610128) | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) | Cuyahoga, OH (390350060) |
| | | Cuyahoga, OH (390350065) | Franklin, OH (390490024) | Franklin, OH (390490025) | Hamilton, OH (390610014) | Hamilton, OH (390617001) | Hamilton, OH (390618001) |
| | | Jefferson, OH (390811001) | Montgomery, OH (391130032) | Summit, OH (391530017) | Allegheny, PA (420030008) | Allegheny, PA (420030064) | Allegheny, PA (420030093) |
| | | Allegheny, PA (420030116) | Allegheny, PA (420031008) | Allegheny, PA (420031301) | Beaver, PA (420070014) | Cambria, PA (420210011) | Dauphin, PA (420430401) |
| | | Montgomery, TN (471251009) | Brooke, WV (540090011) | Milwaukee, WI (550790010) | Milwaukee, WI (550790026) | Milwaukee, WI (550790043) | |
| | | Milwaukee, WI (550790099) | | | | | |
| Minnesota | 4 | Milwaukee, WI (550790010) | Milwaukee, WI (550790026) | Milwaukee, WI (550790043) | Milwaukee, WI (550790099) | | |
| Missouri | 56 | Cook, IL (170310052) | Cook, IL (170310057) | Cook, IL (170310076) | Cook, IL (170311016) | Cook, IL (170312001) | Cook, IL (170313103) |
| | | Cook, IL (170313301) | Cook, IL (170316005) | Madison, IL (171190023) | Madison, IL (171191007) | Madison, IL (171192009) | Madison, IL (171193007) |
| | | Clark, IN (180190006) | Dubois, IN (180372001) | Knox, IN (180830004) | Lake, IN (180890022) | Lake, IN (180890026) | Marion, IN (180970042) |

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Nonattainment Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Marion, IN (180970043) | Marion, IN (180970066) | Marion, IN (180970078) | Marion, IN (180970079) | Marion, IN (180970081) | Marion, IN (180970083) |
| | | Tippecanoe, IN (181570008) | Scott, IA (191630019) | Daviess, KY (210590005) | Jefferson, KY (211110043) | Jefferson, KY (211110044) | Jefferson, KY (211110048) |
| | | Monroe, MI (261150005) | Oakland, MI (261250001) | Washtenaw, MI (261610008) | Wayne, MI (261630015) | Wayne, MI (261630033) | Wayne, MI (261630036) |
| | | Butler, OH (390170003) | Butler, OH (390170016) | Butler, OH (390170017) | Butler, OH (390171004) | Franklin, OH (390490024) | Franklin, OH (390490025) |
| | | Hamilton, OH (390610006) | Hamilton, OH (390610014) | Hamilton, OH (390610040) | Hamilton, OH (390610042) | Hamilton, OH (390610043) | Hamilton, OH (390617001) |
| | | Hamilton, OH (390618001) | Montgomery, OH (391130032) | Allegheny, PA (420030116) | Montgomery, TN (471251009) | Milwaukee, WI (550790010) | Milwaukee, WI (550790026) |
| | | Milwaukee, WI (550790043) | Milwaukee, WI (550790099) | | | | |
| Nebraska | 3 | Milwaukee, WI (550790010) | Milwaukee, WI (550790026) | Milwaukee, WI (550790099) | | | |
| New Jersey | 9 | New Haven, CT (90091123) | Baltimore City, MD (245100049) | Bronx, NY (360050080) | New York, NY (360610056) | New York, NY (360610128) | Berks, PA (420110011) |
| | | Dauphin, PA (420430401) | Lancaster, PA (420710007) | York, PA (421330008) | | | |
| New York | 23 | New Haven, CT (90091123) | Baltimore City, MD (245100040) | Baltimore City, MD (245100049) | St. Clair, MI (261470005) | Washtenaw, MI (261610008) | Wayne, MI (261630016) |
| | | Wayne, MI (261630019) | Wayne, MI (261630033) | Wayne, MI (261630036) | Hudson, NJ (340171003) | Hudson, NJ (340172002) | Union, NJ (340390004) |
| | | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) | Cuyahoga, OH (390350060) | Cuyahoga, OH (390350065) | Franklin, OH (390490024) | Franklin, OH (390490025) |
| | | Summit, OH (391530017) | Berks, PA (420110011) | Dauphin, PA (420430401) | Lancaster, PA (420710007) | York, PA (421330008) | |
| North Carolina | 11 | Baltimore City, MD (245100040) | Baltimore City, MD (245100049) | Hudson, NJ (340171003) | Hudson, NJ (340172002) | Union, NJ (340390004) | Bronx, NY (360050080) |

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Nonattainment Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| | | New York, NY (360610056) | Berks, PA (420110011) | Dauphin, PA (420430401) | Lancaster, PA (420710007) | York, PA (421330008) | |
| Ohio | 72 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | New Haven, CT (90091123) | Cook, IL (170310052) | Cook, IL (170310057) | Cook, IL (170310076) |
| | | Cook, IL (170311016) | Cook, IL (170312001) | Cook, IL (170313103) | Cook, IL (170313301) | Cook, IL (170316005) | Madison, IL (171190023) |
| | | Madison, IL (171191007) | Madison, IL (171192009) | Madison, IL (171193007) | Clark, IN (180190006) | Dubois, IN (180372001) | Knox, IN (180830004) |
| | | Lake, IN (180890022) | Lake, IN (180890026) | Marion, IN (180970042) | Marion, IN (180970043) | Marion, IN (180970066) | Marion, IN (180970078) |
| | | Marion, IN (180970079) | Marion, IN (180970081) | Marion, IN (180970083) | Tippecanoe, IN (181570008) | Scott, IA (191630019) | Daviess, KY (210590005) |
| | | Jefferson, KY (211110043) | Jefferson, KY (211110044) | Jefferson, KY (211110048) | Baltimore (City, MD (245100040) | Baltimore (City, MD (245100049) | Monroe, MI (261150005) |
| | | Oakland, MI (261250001) | St. Clair, MI (261470005) | Washtenaw, MI (261610008) | Wayne, MI (261630015) | Wayne, MI (261630016) | Wayne, MI (261630019) |
| | | Wayne, MI (261630033) | Wayne, MI (261630036) | Jefferson, MO (290990012) | Saint Charles, MO (291831002) | St. Louis City, MO (295100007) | St. Louis City, MO (295100087) |
| | | Hudson, NJ (340171003) | Hudson, NJ (340172002) | Union, NJ (340390004) | Bronx, NY (360050080) | New York, NY (360610056) | New York, NY (360610128) |
| | | Allegheny, PA (420030008) | Allegheny, PA (420030064) | Allegheny, PA (420030093) | Allegheny, PA (420030116) | Allegheny, PA (420031008) | Allegheny, PA (420031301) |
| | | Beaver, PA (420070014) | Berks, PA (420110011) | Cambria, PA (420210011) | Dauphin, PA (420430401) | Lancaster, PA (420710007) | York, PA (421330008) |
| | | Montgomery, TN (471251009) | Brooke, WV (540090011) | Milwaukee, WI (550790010) | Milwaukee, WI (550790026) | Milwaukee, WI (550790043) | Milwaukee, WI (550790099) |
| Pennsylvania | 77 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | New Haven, CT (90091123) | Cook, IL (170310052) | Cook, IL (170310057) | Cook, IL (170310076) |
| | | Cook, IL (170311016) | Cook, IL (170312001) | Cook, IL (170313103) | Cook, IL (170313301) | Cook, IL (170316005) | Madison, IL (171191007) |
| | | Madison, IL (171192009) | Madison, IL (171193007) | Madison, IL (171190023) | Clark, IN (180190006) | Dubois, IN (180372001) | Knox, IN (180830004) |

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Nonattainment Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Lake, IN (180890026) | Marion, IN (180970042) | Marion, IN (180970043) | Marion, IN (180970066) | Marion, IN (180970078) | Marion, IN (180970079) |
| | | Marion, IN (180970081) | Marion, IN (180970083) | Tippecanoe, IN (181570008) | Scott, IA (191630019) | Jefferson, KY (211110043) | Jefferson, KY (211110044) |
| | | Jefferson, KY (211110048) | Baltimore City, MD (245100040) | Baltimore City, MD (245100049) | Monroe, MI (261150005) | Oakland, MI (261250001) | St. Clair, MI (261470005) |
| | | Washtenaw, MI (261610008) | Wayne, MI (261630015) | Wayne, MI (261630016) | Wayne, MI (261630019) | Wayne, MI (261630033) | Wayne, MI (261630036) |
| | | Jefferson, MO (290990012) | Saint Charles, MO (291831002) | St. Louis City, MO (295100007) | St. Louis City, MO (295100087) | Hudson, NJ (340171003) | Hudson, NJ (340172002) |
| | | Union, NJ (340390004) | Bronx, NY (360050080) | New York, NY (360610056) | New York, NY (360610128) | Butler, OH (390170003) | Butler, OH (390170016) |
| | | Butler, OH (390170017) | Butler, OH (390171004) | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) | Cuyahoga, OH (390350060) | Cuyahoga, OH (390350065) |
| | | Franklin, OH (390490024) | Franklin, OH (390490025) | Hamilton, OH (390610006) | Hamilton, OH (390610014) | Hamilton, OH (390610040) | Hamilton, OH (390610042) |
| | | Hamilton, OH (390610043) | Hamilton, OH (390617001) | Hamilton, OH (390618001) | Jefferson, OH (390811001) | Montgomery, OH (391130032) | Summit, OH (391530017) |
| | | Montgomery, TN (471251009) | Brooke, WV (540090011) | Milwaukee, WI (550790026) | Milwaukee, WI (550790043) | Milwaukee, WI (550790099) | |
| Tennessee | 61 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | New Haven, CT (90091123) | Madison, IL (171190023) | Madison, IL (171191007) | Madison, IL (171192009) |
| | | Madison, IL (171193007) | Clark, IN (180190006) | Dubois, IN (180372001) | Knox, IN (180830004) | Marion, IN (180970042) | Marion, IN (180970043) |
| | | Marion, IN (180970066) | Marion, IN (180970078) | Marion, IN (180970079) | Marion, IN (180970081) | Marion, IN (180970083) | Tippecanoe, IN (181570008) |
| | | Scott, IA (191630019) | Daviess, KY (210590005) | Jefferson, KY (211110043) | Jefferson, KY (211110044) | Jefferson, KY (211110048) | Monroe, MI (261150005) |
| | | Oakland, MI (261250001) | St. Clair, MI (261470005) | Washtenaw, MI (261610008) | Wayne, MI (261630015) | Wayne, MI (261630033) | Wayne, MI (261630036) |

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Nonattainment Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Jefferson, MO (290990012) | Saint Charles, MO (291831002) | St. Louis City, MO (295100007) | St. Louis City, MO (295100087) | Union, NJ (340390004) | New York, NY (360610128) |
| | | Butler, OH (390170003) | Butler, OH (390170016) | Butler, OH (390170017) | Butler, OH (390171004) | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) |
| | | Cuyahoga, OH (390350065) | Franklin, OH (390490024) | Franklin, OH (390490025) | Hamilton, OH (390610006) | Hamilton, OH (390610014) | Hamilton, OH (390610040) |
| | | Hamilton, OH (390610042) | Hamilton, OH (390610043) | Hamilton, OH (390617001) | Hamilton, OH (390618001) | Jefferson, OH (390811001) | Montgomery, OH (391130032) |
| | | Summit, OH (391530017) | Allegheny, PA (420030093) | Allegheny, PA (420030116) | Allegheny, PA (420031008) | Allegheny, PA (420031301) | Cambria, PA (420210011) |
| | | York, PA (421330008) | | | | | |
| Virginia | 13 | New Haven, CT (90091123) | Baltimore City, MD (245100040) | Baltimore City, MD (245100049) | Hudson, NJ (340171003) | Hudson, NJ (340172002) | Union, NJ (340390004) |
| | | Bronx, NY (360050080) | New York, NY (360610056) | New York, NY (360610128) | Berks, PA (420110011) | Dauphin, PA (420430401) | Lancaster, PA (420710007) |
| | | York, PA (421330008) | | | | | |
| West Virginia | 84 | Jefferson, AL (10730023) | Jefferson, AL (10732003) | New Haven, CT (90091123) | Cook, IL (170310052) | Cook, IL (170310057) | Cook, IL (170310076) |
| | | Cook, IL (170311016) | Cook, IL (170312001) | Cook, IL (170313301) | Cook, IL (170316005) | Madison, IL (171190023) | Madison, IL (171191007) |
| | | Madison, IL (171192009) | Madison, IL (171193007) | Clark, IN (180190006) | Dubois, IN (180372001) | Lake, IN (180890026) | Marion, IN (180970042) |
| | | Marion, IN (180970043) | Marion, IN (180970066) | Marion, IN (180970078) | Marion, IN (180970079) | Marion, IN (180970081) | Marion, IN (180970083) |
| | | Tippecanoe, IN (181570008) | Scott, IA (191630019) | Jefferson, KY (211110043) | Jefferson, KY (211110044) | Jefferson, KY (211110048) | Baltimore City, MD (245100040) |
| | | Baltimore City, MD (245100049) | Monroe, MI (261150005) | Oakland, MI (261250001) | St. Clair, MI (261470005) | Washtenaw, MI (261610008) | Wayne, MI (261630015) |

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Nonattainment Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Wayne, MI (261630016) | Wayne, MI (261630019) | Wayne, MI (261630033) | Wayne, MI (261630036) | Jefferson, MO (290990012) | Saint Charles, MO (291831002) |
| | | St. Louis City, MO (295100007) | St. Louis City, MO (295100087) | Hudson, NJ (340171003) | Hudson, NJ (340172002) | Union, NJ (340390004) | Bronx, NY (360050080) |
| | | New York, NY (360610056) | New York, NY (360610128) | Butler, OH (390170003) | Butler, OH (390170016) | Butler, OH (390170017) | Butler, OH (390171004) |
| | | Cuyahoga, OH (390350038) | Cuyahoga, OH (390350045) | Cuyahoga, OH (390350060) | Cuyahoga, OH (390350065) | Franklin, OH (390490024) | Franklin, OH (390490025) |
| | | Hamilton, OH (390610006) | Hamilton, OH (390610014) | Hamilton, OH (390610040) | Hamilton, OH (390610042) | Hamilton, OH (390610043) | Hamilton, OH (390617001) |
| | | Hamilton, OH (390618001) | Jefferson, OH (390811001) | Montgomery, OH (391130032) | Summit, OH (391530017) | Allegheny, PA (420030008) | Allegheny, PA (420030064) |
| | | Allegheny, PA (420030093) | Allegheny, PA (420030116) | Allegheny, PA (420031008) | Allegheny, PA (420031301) | Beaver, PA (420070014) | Berks, PA (420110011) |
| | | Cambria, PA (420210011) | Dauphin, PA (420430401) | Lancaster, PA (420710007) | York, PA (421330008) | Montgomery, TN (471251009) | Milwaukee, WI (550790043) |
| Wisconsin | 12 | Cook, IL (170310052) | Cook, IL (170310057) | Cook, IL (170310076) | Cook, IL (170311016) | Cook, IL (170312001) | Cook, IL (170313103) |
| | | Cook, IL (170313301) | Cook, IL (170316005) | Lake, IN (180890022) | Lake, IN (180890026) | Scott, IA (191630019) | Wayne, MI (261630016) |

**Table E-4. Upwind State-to-Downwind Maintenance Site "Linkages" for 24-Hour $PM_{2.5}$.**

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Maintenance Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| Connecticut | 1 | New York, NY (360610062) | | | | | |
| Delaware | 2 | Cumberland, PA (420410101) | New York, NY (360610079) | | | | |
| Georgia | 3 | Baltimore City, MD (245100035) | Lucas, OH (390950026) | Preble, OH (391351001) | | | |
| Illinois | 29 | District of Columbia (110010041) | District of Columbia (110010042) | Elkhart, IN (180390003) | Floyd, IN (180431004) | Vigo, IN (181670023) | Muscatine, IA (191390015) |
| | | Bullitt, KY (210290006) | McCracken, KY (211451004) | Warren, KY (212270007) | Wayne, MI (261630001) | St. Louis City, MO (295100085) | New York, NY (360610079) |
| | | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350034) | Jefferson, OH (390810017) | Lucas, OH (390950024) | Lucas, OH (390950026) | Mahoning, OH (390990014) |
| | | Montgomery, OH (391130031) | Preble, OH (391351001) | Trumbull, OH (391550007) | Allegheny, PA (420030095) | Allegheny, PA (420033007) | Washington, PA (421255001) |
| | | Sumner, TN (471650007) | Brooke, WV (540090005) | Dane, WI (550250047) | Milwaukee, WI (550790059) | Waukesha, WI (551330027) | |
| Indiana | 34 | District of Columbia (110010041) | District of Columbia (110010042) | Cook, IL (170310022) | Cook, IL (170310050) | Cook, IL (170314007) | Saint Clair, IL (171630010) |
| | | Will, IL (171971002) | Muscatine, IA (191390015) | Bullitt, KY (210290006) | McCracken, KY (211451004) | Warren, KY (212270007) | Anne Arundel, MD (240031003) |
| | | Wayne, MI (261630001) | St. Louis City, MO (295100085) | New York, NY (360610062) | New York, NY (360610079) | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350034) |
| | | Jefferson, OH (390810017) | Lucas, OH (390950024) | Lucas, OH (390950026) | Mahoning, OH (390990014) | Montgomery, OH (391130031) | Preble, OH (391351001) |
| | | Trumbull, OH (391550007) | Allegheny, PA (420030095) | Allegheny, PA (420033007) | Cumberland, PA (420410101) | Washington, PA (421255001) | Sumner, TN (471650007) |

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Maintenance Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Brooke, WV (540090005) | Dane, WI (550250047) | Milwaukee, WI (550790059) | Waukesha, WI (551330027) | | |
| Iowa | 9 | Cook, IL (170310022) | Cook, IL (170310050) | Cook, IL (170314007) | Will, IL (171971002) | Elkhart, IN (180390003) | St. Louis City, MO (295100085) |
| | | Dane, WI (550250047) | Milwaukee, WI (550790059) | Waukesha, WI (551330027) | | | |
| Kansas | 2 | Muscatine, IA (191390015) | Milwaukee, WI (550790059) | | | | |
| Kentucky | 33 | District of Columbia (110010041) | District of Columbia (110010042) | Cook, IL (170310022) | Cook, IL (170310050) | Cook, IL (170314007) | Saint Clair, IL (171630010) |
| | | Will, IL (171971002) | Elkhart, IN (180390003) | Floyd, IN (180431004) | Vigo, IN (181670023) | Muscatine, IA (191390015) | Anne Arundel, MD (240031003) |
| | | Wayne, MI (261630001) | St. Louis City, MO (295100085) | New York, NY (360610062) | New York, NY (360610079) | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350034) |
| | | Jefferson, OH (390810017) | Lucas, OH (390950024) | Lucas, OH (390950026) | Mahoning, OH (390990014) | Montgomery, OH (391130031) | Preble, OH (391351001) |
| | | Trumbull, OH (391550007) | Allegheny, PA (420030095) | Allegheny, PA (420033007) | Washington, PA (421255001) | Sumner, TN (471650007) | Brooke, WV (540090005) |
| | | Dane, WI (550250047) | Milwaukee, WI (550790059) | Waukesha, WI (551330027) | | | |
| Maryland/DC | 5 | New York, NY (360610062) | New York, NY (360610079) | Cumberland, PA (420410101) | | | |
| Massachusetts | 1 | New York, NY (360610062) | | | | | |
| Michigan | 28 | District of Columbia (110010041) | Cook, IL (170310022) | Cook, IL (170310050) | Cook, IL (170314007) | Saint Clair, IL (171630010) | Will, IL (171971002) |
| | | Elkhart, IN (180390003) | Vigo, IN (181670023) | Muscatine, IA (191390015) | Warren, KY (212270007) | St. Louis City, MO (295100085) | Cuyahoga, OH (390350027) |

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Maintenance Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Cuyahoga, OH (390350034) | Jefferson, OH (390810017) | Lucas, OH (390950024) | Lucas, OH (390950026) | Mahoning, OH (390990014) | Montgomery, OH (391130031) |
| | | Preble, OH (391351001) | Trumbull, OH (391550007) | Allegheny, PA (420030095) | Allegheny, PA (420033007) | Washington, PA (421255001) | Sumner, TN (471650007) |
| | | Brooke, WV (540090005) | Dane, WI (550250047) | Milwaukee, WI (550790059) | Waukesha, WI (551330027) | | |
| Minnesota | 4 | Muscatine, IA (191390015) | Dane, WI (550250047) | Milwaukee, WI (550790059) | Waukesha, WI (551330027) | | |
| Missouri | 20 | Cook, IL (170310022) | Cook, IL (170310050) | Cook, IL (170314007) | Saint Clair, IL (171630010) | Will, IL (171971002) | Elkhart, IN (180390003) |
| | | Floyd, IN (180431004) | Vigo, IN (181670023) | Muscatine, IA (191390015) | Bullitt, KY (210290006) | McCracken, KY (211451004) | Warren, KY (212270007) |
| | | Jefferson, OH (390810017) | Lucas, OH (390950026) | Montgomery, OH (391130031) | Preble, OH (391351001) | Sumner, TN (471650007) | Dane, WI (550250047) |
| | | Milwaukee, WI (550790059) | Waukesha, WI (551330027) | | | | |
| Nebraska | 2 | Muscatine, IA (191390015) | Milwaukee, WI (550790059) | | | | |
| New Jersey | 5 | District of Columbia (110010041) | Anne Arundel, MD (240031003) | New York, NY (360610062) | New York, NY (360610079) | Cumberland, PA (420410101) | |
| New York | 9 | District of Columbia (110010041) | District of Columbia (110010042) | Anne Arundel, MD (240031003) | Baltimore City, MD (245100035) | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350034) |
| | | Lucas, OH (390950024) | Lucas, OH (390950026) | Cumberland, PA (420410101) | | | |
| North Carolina | 3 | Baltimore City, MD (245100035) | New York, NY (360610062) | New York, NY (360610079) | | | |
| Ohio | 29 | District of Columbia (110010041) | District of Columbia (110010042) | Cook, IL (170310022) | Cook, IL (170310050) | Cook, IL (170314007) | Saint Clair, IL (171630010) |

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Maintenance Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Will, IL (171971002) | Elkhart, IN (180390003) | Floyd, IN (180431004) | Vigo, IN (181670023) | Muscatine, IA (191390015) | Bullitt, KY (210290006) |
| | | McCracken, KY (211451004) | Warren, KY (212270007) | Anne Arundel, MD (240031003) | Baltimore City, MD (245100035) | Wayne, MI (261630001) | St. Louis City, MO (295100085) |
| | | New York, NY (360610062) | New York, NY (360610079) | Allegheny, PA (420030095) | Allegheny, PA (420033007) | Cumberland, PA (420410101) | Washington, PA (421255001) |
| | | Sumner, TN (471650007) | Brooke, WV (540090005) | Dane, WI (550250047) | Milwaukee, WI (550790059) | Waukesha, WI (551330027) | |
| Pennsylvania | 32 | District of Columbia (110010041) | District of Columbia (110010042) | Cook, IL (170310022) | Cook, IL (170310050) | Cook, IL (170314007) | Saint Clair, IL (171630010) |
| | | Will, IL (171971002) | Elkhart, IN (180390003) | Floyd, IN (180431004) | Vigo, IN (181670023) | Muscatine, IA (191390015) | Bullitt, KY (210290006) |
| | | Warren, KY (212270007) | Anne Arundel, MD (240031003) | Baltimore City, MD (245100035) | Wayne, MI (261630001) | New York, NY (360610062) | New York, NY (360610079) |
| | | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350034) | Jefferson, OH (390810017) | Lucas, OH (390950024) | Lucas, OH (390950026) | Mahoning, OH (390990014) |
| | | Montgomery, OH (391130031) | Preble, OH (391351001) | Trumbull, OH (391550007) | Sumner, TN (471650007) | Brooke, WV (540090005) | Dane, WI (550250047) |
| | | Milwaukee, WI (550790059) | Waukesha, WI (551330027) | | | | |
| Tennessee | 21 | Cook, IL (170314007) | Saint Clair, IL (171630010) | Will, IL (171971002) | Elkhart, IN (180390003) | Floyd, IN (180431004) | Vigo, IN (181670023) |
| | | Muscatine, IA (191390015) | Bullitt, KY (210290006) | McCracken, KY (211451004) | Warren, KY (212270007) | Wayne, MI (261630001) | St. Louis City, MO (295100085) |
| | | Jefferson, OH (390810017) | Lucas, OH (390950024) | Lucas, OH (390950026) | Mahoning, OH (390990014) | Montgomery, OH (391130031) | Preble, OH (391351001) |
| | | Trumbull, OH (391550007) | Allegheny, PA (420033007) | Washington, PA (421255001) | | | |

| Upwind State | Number of Linkages | Counties Containing Downwind 24-Hour PM2.5 Maintenance Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| Virginia | 7 | District of Columbia (110010041) | District of Columbia (110010042) | Anne Arundel, MD (240031003) | Baltimore City, MD (245100035) | New York, NY (360610062) | New York, NY (360610079) |
| | | Cumberland, PA (420410101) | | | | | |
| West Virginia | 35 | District of Columbia (110010041) | District of Columbia (110010042) | Cook, IL (170310050) | Cook, IL (170314007) | Saint Clair, IL (171630010) | Will, IL (171971002) |
| | | Elkhart, IN (180390003) | Floyd, IN (180431004) | Vigo, IN (181670023) | Muscatine, IA (191390015) | Bullitt, KY (210290006) | Warren, KY (212270007) |
| | | Anne Arundel, MD (240031003) | Baltimore City, MD (245100035) | Wayne, MI (261630001) | St. Louis City, MO (295100085) | New York, NY (360610062) | New York, NY (360610079) |
| | | Cuyahoga, OH (390350027) | Cuyahoga, OH (390350034) | Jefferson, OH (390810017) | Lucas, OH (390950024) | Lucas, OH (390950026) | Mahoning, OH (390990014) |
| | | Montgomery, OH (391130031) | Preble, OH (391351001) | Trumbull, OH (391550007) | Allegheny, PA (420030095) | Allegheny, PA (420033007) | Cumberland, PA (420410101) |
| | | Washington, PA (421255001) | Sumner, TN (471650007) | Dane, WI (550250047) | Milwaukee, WI (550790059) | Waukesha, WI (551330027) | |
| Wisconsin | 6 | Cook, IL (170310022) | Cook, IL (170310050) | Cook, IL (170314007) | Will, IL (171971002) | Elkhart, IN (180390003) | Muscatine, IA (191390015) |

**Table E-5. Upwind State-to-Downwind Nonattainment "Linkages" for 8-hour Ozone.**

| Upwind State | Number of Linkages | Counties Containing Downwind 8-Hour Ozone Nonattainment Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| Alabama | 8 | East Baton Rouge, LA (220330003) | Brazoria, TX (480391004) | Harris, TX (482010051) | Harris, TX (482010055) | Harris, TX (482010062) | Harris, TX (482010066) |
| | | Harris, TX (482011039) | Tarrant, TX (484391002) | | | | |
| Arkansas | 3 | East Baton Rouge, LA (220330003) | Brazoria, TX (480391004) | Tarrant, TX (484391002) | | | |
| Connecticut | 1 | Suffolk, NY (361030009) | | | | | |
| Delaware | 3 | Suffolk, NY (361030002) | Suffolk, NY (361030009) | Philadelphia, PA (421010024) | | | |
| Florida | 2 | Harris, TX (482010062) | Tarrant, TX (484391002) | | | | |
| Georgia | 7 | Brazoria, TX (480391004) | Harris, TX (482010051) | Harris, TX (482010055) | Harris, TX (482010062) | Harris, TX (482010066) | Harris, TX (482011039) |
| | | Tarrant, TX (484391002) | | | | | |
| Illinois | 2 | Suffolk, NY (361030009) | Harris, TX (482010055) | | | | |
| Indiana | 3 | Suffolk, NY (361030002) | Suffolk, NY (361030009) | Philadelphia, PA (421010024) | | | |
| Kentucky | 6 | Suffolk, NY (361030002) | Philadelphia, PA (421010024) | Harris, TX (482010051) | Harris, TX (482010055) | Harris, TX (482010062) | Harris, TX (482011039) |
| Louisiana | 7 | Brazoria, TX (480391004) | Harris, TX (482010051) | Harris, TX (482010055) | Harris, TX (482010062) | Harris, TX (482010066) | Harris, TX (482011039) |
| | | Tarrant, TX (484391002) | | | | | |

| Upwind State | Number of Linkages | Counties Containing Downwind 8-Hour Ozone Nonattainment Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| Maryland/DC | 3 | Suffolk, NY (361030002) | Suffolk, NY (361030009) | Philadelphia, PA (421010024) | | | |
| Michigan | 1 | Suffolk, NY (361030009) | | | | | |
| Mississippi | 8 | East Baton Rouge, LA (220330003) | Brazoria, TX (480391004) | Harris, TX (482010051) | Harris, TX (482010055) | Harris, TX (482010062) | Harris, TX (482010066) |
| | | Harris, TX (482011039) | Tarrant, TX (484391002) | | | | |
| New Jersey | 3 | Suffolk, NY (361030002) | Suffolk, NY (361030009) | Philadelphia, PA (421010024) | | | |
| North Carolina | 3 | Suffolk, NY (361030002) | Suffolk, NY (361030009) | Philadelphia, PA (421010024) | | | |
| Ohio | 3 | Suffolk, NY (361030002) | Suffolk, NY (361030009) | Philadelphia, PA (421010024) | | | |
| Oklahoma | 1 | Tarrant, TX (484391002) | | | | | |
| Pennsylvania | 2 | Suffolk, NY (361030002) | Suffolk, NY (361030009) | | | | |
| Tennessee | 7 | Philadelphia, PA (421010024) | Brazoria, TX (480391004) | Harris, TX (482010051) | Harris, TX (482010055) | Harris, TX (482010062) | Harris, TX (482010066) |
| | | Harris, TX (482011039) | | | | | |
| Texas | 1 | East Baton Rouge, LA (220330003) | | | | | |
| Virginia | 3 | Suffolk, NY (361030002) | Suffolk, NY (361030009) | Philadelphia, PA (421010024) | | | |

| Upwind State | Number of Linkages | Counties Containing Downwind 8-Hour Ozone Nonattainment Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| West Virginia | 3 | Suffolk, NY (361030002) | Suffolk, NY (361030009) | Philadelphia, PA (421010024) | | | |

**Table E-6. Upwind State-to-Downwind Maintenance "Linkages" for 8-Hour Ozone.**

| Upwind State | Number of Linkages | Counties Containing Downwind 8-Hour Ozone Maintenance Sites (Monitoring Site ID) | | | | | |
|---|---|---|---|---|---|---|---|
| Alabama | 6 | DeKalb, GA (130890002) | Fulton, GA (131210055) | Harris, TX (482010024) | Harris, TX (482010029) | Harris, TX (482011050) | Tarrant, TX (484392003) |
| Arkansas | 4 | Dallas, TX (481130069) | Dallas, TX (481130087) | Harris, TX (482011050) | Tarrant, TX (484392003) | | |
| Connecticut | 1 | Westchester, NY (361192004) | | | | | |
| Delaware | 1 | Bucks, PA (420170012) | | | | | |
| Florida | 4 | DeKalb, GA (130890002) | Fulton, GA (131210055) | Harris, TX (482010024) | Harris, TX (482010029) | | |
| Georgia | 4 | Harris, TX (482010024) | Harris, TX (482010029) | Harris, TX (482011050) | Tarrant, TX (484392003) | | |
| Indiana | 4 | Fairfield, CT (90010017) | New Haven, CT (90093002) | Westchester, NY (361192004) | Bucks, PA (420170012) | | |
| Kansas | 1 | Dallas, TX (481130069) | | | | | |
| Kentucky | 6 | Fairfield, CT (90010017) | Fairfield, CT (90011123) | Fairfield, CT (90013007) | New Haven, CT (90093002) | Westchester, NY (361192004) | Bucks, PA (420170012) |
| Louisiana | 6 | Dallas, TX (481130069) | Dallas, TX (481130087) | Harris, TX (482010024) | Harris, TX (482010029) | Harris, TX (482011050) | Tarrant, TX (484392003) |
| Maryland/DC | 6 | Fairfield, CT (90010017) | Fairfield, CT (90011123) | Fairfield, CT (90013007) | New Haven, CT (90093002) | Westchester, NY (361192004) | Bucks, PA (420170012) |
| Mississippi | 7 | DeKalb, GA (130890002) | Fulton, GA (131210055) | Dallas, TX (481130087) | Harris, TX (482010024) | Harris, TX (482010029) | Harris, TX (482011050) |
| | | Tarrant, TX (484392003) | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| New Jersey | 6 | Fairfield, CT (90010017) | Fairfield, CT (90011123) | Fairfield, CT (90013007) | New Haven, CT (90093002) | Westchester, NY (361192004) | Bucks, PA (420170012) |
| New York | 5 | Fairfield, CT (90010017) | Fairfield, CT (90011123) | Fairfield, CT (90013007) | New Haven, CT (90093002) | Bucks, PA (420170012) | |
| North Carolina | 5 | Fairfield, CT (90011123) | Fairfield, CT (90013007) | New Haven, CT (90093002) | Westchester, NY (361192004) | Bucks, PA (420170012) | |
| Ohio | 6 | Fairfield, CT (90010017) | Fairfield, CT (90011123) | Fairfield, CT (90013007) | New Haven, CT (90093002) | Westchester, NY (361192004) | Bucks, PA (420170012) |
| Oklahoma | 3 | Dallas, TX (481130069) | Dallas, TX (481130087) | Tarrant, TX (484392003) | | | |
| Pennsylvania | 5 | Fairfield, CT (90010017) | Fairfield, CT (90011123) | Fairfield, CT (90013007) | New Haven, CT (90093002) | Westchester, NY (361192004) | |
| South Carolina | 2 | Fulton, GA (131210055) | Harris, TX (482010029) | | | | |
| Tennessee | 5 | DeKalb, GA (130890002) | Fulton, GA (131210055) | Bucks, PA (420170012) | Harris, TX (482010024) | Harris, TX (482011050) | |
| Virginia | 6 | Fairfield, CT (90010017) | Fairfield, CT (90011123) | Fairfield, CT (90013007) | New Haven, CT (90093002) | Westchester, NY (361192004) | Bucks, PA (420170012) |
| West Virginia | 6 | Fairfield, CT (90010017) | Fairfield, CT (90011123) | Fairfield, CT (90013007) | New Haven, CT (90093002) | Westchester, NY (361192004) | Bucks, PA (420170012) |

# Transport Rule Air Quality Modeling Technical Support Document

## Appendix F

## Summary of Aggregated Emissions of SO2 and NOx For States Included in the Transport Rule

**Table F-1. G**roup1 and Group 2 States $NO_X$ Total Emissions (not including fires) for each Modeling Scenario.

| | **2005 Base Year** | **2012 Base Case** | **2014 Base Case** | **2014 Remedy** | **2014 Remedy - 2012 Base Case** | **Percent Change: 2014 Remedy vs 2012 Base Case** | **2014 Remedy - 2014 Base Case** | **Percent Change: 2014 Remedy vs 2014 Base Case** |
|---|---|---|---|---|---|---|---|---|
| Annual Total NOx Emissions for 15 States in Group 1 | 8,111,227 | 5,952,260 | 5,531,877 | 5,018,570 | -933,690 | -15.7% | -513,308 | -9.3% |
| Annual Total NOx Emissions for 12 States + DC in Group 2 | 4,610,746 | 3,574,961 | 3,361,673 | 3,137,064 | -437,897 | -12.2% | -224,608 | -6.7% |
| Annual Total NOx for 27 States + DC | 12,721,973 | 9,527,221 | 8,893,550 | 8,155,634 | -1,371,587 | -14.4% | -737,916 | -8.3% |
| Annual Total NOx Emissions for All States Fully within the Eastern Modeling Domain | 15,862,117 | 11,997,188 | 11,207,626 | 10,388,190 | -1,608,998 | -13.4% | -819,435 | -7.3% |
| Annual Total NOx Emissions for All Western States | 3,669,688 | 2,882,771 | 2,699,187 | 2,699,522 | -183,249 | -6.4% | 334 | 0.0% |

**Table F-2.** Group1 and Group 2 States $SO_2$ Total Emissions (not including fires) for each Modeling Scenario.

| | **2005 Base Year** | **2012 Base Case** | **2014 Base Case** | **2014 Remedy** | **2014 Remedy - 2012 Base Case** | **Percent Change: 2014 Remedy vs 2012 Base Case** | **2014 Remedy - 2014 Base Case** | **Percent Change: 2014 Remedy vs 2014 Base Case** |
|---|---|---|---|---|---|---|---|---|
| Annual Total SO2 Emissions for 15 States in Group 1 | 9,040,217 | 9,146,651 | 8,087,579 | 3,792,063 | -5,354,589 | -58.5% | -4,295,516 | -53.1% |
| Annual Total SO2 Emissions for 12 States + DC in Group 2 | 3,133,554 | 2,243,946 | 2,198,166 | 1,869,543 | -374,403 | -16.7% | -328,623 | -14.9% |
| Annual Total SO2 for 27 States + DC Covered for PM2.5 | 12,173,771 | 11,390,598 | 10,285,746 | 5,661,606 | -5,728,992 | -50.3% | -4,624,139 | -45.0% |
| Annual Total SO2 Emissions for All States Fully within the Eastern Modeling Domain | 13,810,921 | 12,639,283 | 11,583,637 | 7,123,638 | -5,515,645 | -43.6% | -4,459,999 | -38.5% |
| Annual Total SO2 Emissions for All Western States | 852,154 | 700,400 | 697,838 | 733,479 | 33,079 | 4.7% | 35,641 | 5.1% |

**Table F-3.** Group1 and Group 2 States $NO_X$ EGU Sector Emissions for each Modeling Scenario.

| | 2005 Base Year | 2012 Base Case | 2014 Base Case | 2014 Remedy | 2014 Remedy - 2012 Base Case | Percent Change: 2014 Remedy vs 2012 Base Case | 2014 Remedy - 2014 Base Case | Percent Change: 2014 Remedy vs 2014 Base Case |
|---|---|---|---|---|---|---|---|---|
| Annual EGU NOx Emissions for 15 States in Group 1 | 1,945,446 | 1,445,575 | 1,432,270 | 918,963 | -526,613 | -36.4% | -513,308 | -35.8% |
| Annual EGU NOx Emissions for 12 States + DC in Group 2 | 831,991 | 632,031 | 626,150 | 401,542 | -230,489 | -36.5% | -224,608 | -35.9% |
| Annual EGU NOx for 27 States + DC Covered for PM2.5 | 2,777,437 | 2,077,606 | 2,058,421 | 1,320,505 | -757,101 | -36.4% | -737,916 | -35.8% |
| Annual EGU NOx Emissions for All States Fully within the Eastern Modeling Domain | 3,223,184 | 2,485,856 | 2,468,057 | 1,648,621 | -837,234 | -33.7% | -819,435 | -33.2% |
| Annual EGU NOx Emissions for All Western States | 504,928 | 440,572 | 440,787 | 441,121 | 550 | 0.1% | 334 | 0.1% |

**Table F-4.** Group1 and Group 2 States $SO_2$ EGU Sector Emissions for each Modeling Scenario.

| | 2005 Base Year | 2012 Base Case | 2014 Base Case | 2014 Remedy | 2014 Remedy - 2012 Base Case | Percent Change: 2014 Remedy vs 2012 Base Case | 2014 Remedy - 2014 Base Case | Percent Change: 2014 Remedy vs 2014 Base Case |
|---|---|---|---|---|---|---|---|---|
| Annual EGU SO2 Emissions for 15 States in Group 1 | 7,040,088 | 7,349,814 | 6,303,300 | 2,007,783 | -5,342,031 | -72.7% | -4,295,516 | -68.1% |
| Annual EGU SO2 Emissions for 12 States + DC in Group 2 | 1,989,050 | 1,164,259 | 1,118,141 | 789,518 | -374,740 | -32.2% | -328,623 | -29.4% |
| Annual EGU SO2 for 27 States + DC Covered for PM2.5 | 9,029,138 | 8,514,073 | 7,421,441 | 2,797,302 | -5,716,771 | -67.1% | -4,624,139 | -62.3% |
| Annual EGU SO2 Emissions for All States Fully within the Eastern Modeling Domain | 10,019,774 | 9,243,362 | 8,209,536 | 3,749,537 | -5,493,825 | -59.4% | -4,459,999 | -54.3% |
| Annual EGU SO2 Emissions for All Western States | 361,634 | 256,561 | 260,283 | 295,924 | 39,364 | 15.3% | 35,641 | 13.7% |

**Table F-5.** 26-State Total and Electric Generating Unit Sector Summer $NO_X$ Emissions for each Modeling Scenario.

| | **2005 Base Year** | **2012 Base Case** | **2014 Base Case** | **2014 Remedy** | **2014 Remedy - 2012 Base Case** | **Percent Change: 2014 Remedy vs 2012 Base Case** | **2014 Remedy - 2014 Base Case** | **Percent Change: 2014 Remedy vs 2014 Base Case** |
|---|---|---|---|---|---|---|---|---|
| Summer EGU NOx Emissions for 26 States Included for Ozone | 905,345 | 718,142 | 698,827 | 585,584 | -132,559 | -18.5% | -113,243 | -16.2% |
| Summer Total NOx Emissions for 26 States Included for Ozone | 5,363,278 | 4,085,516 | 3,784,430 | 3,671,187 | -414,329 | -10.1% | -113,243 | -3.0% |

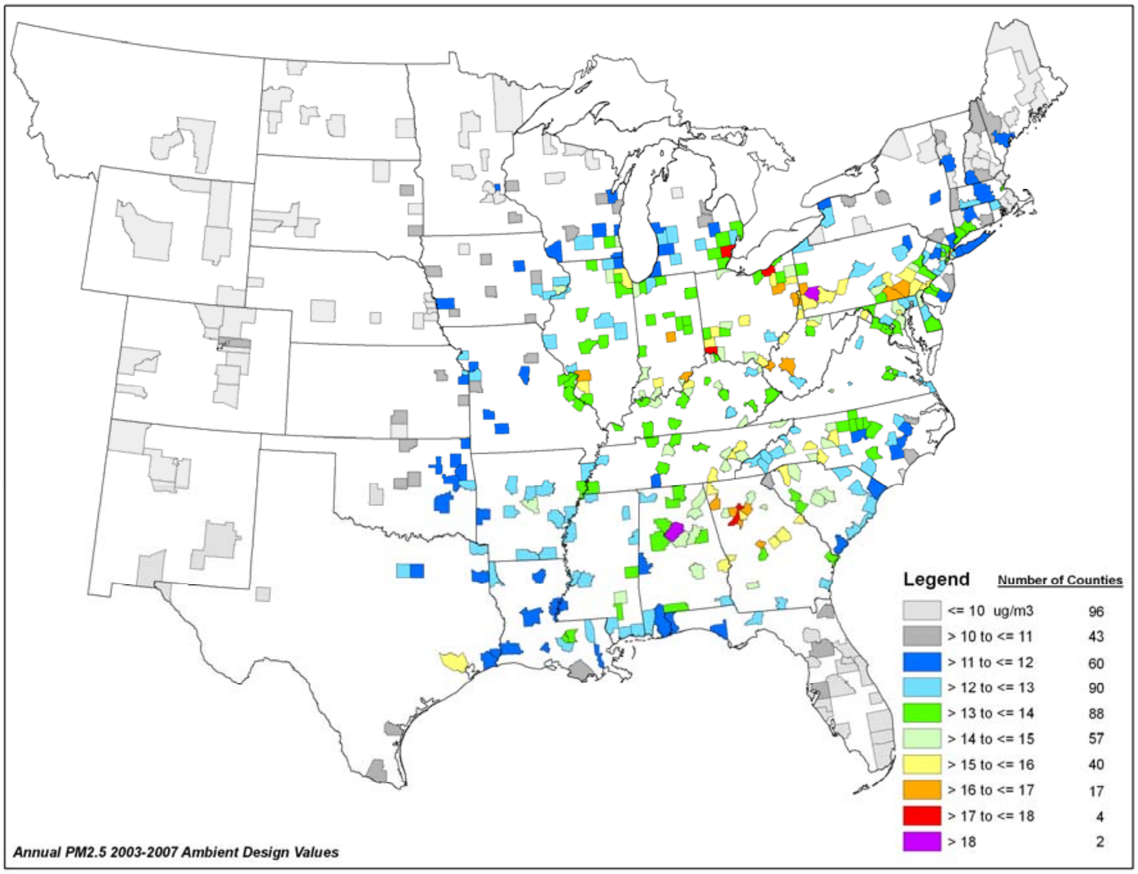
# Transport Rule Air Quality Modeling Technical Support Document

## Appendix G

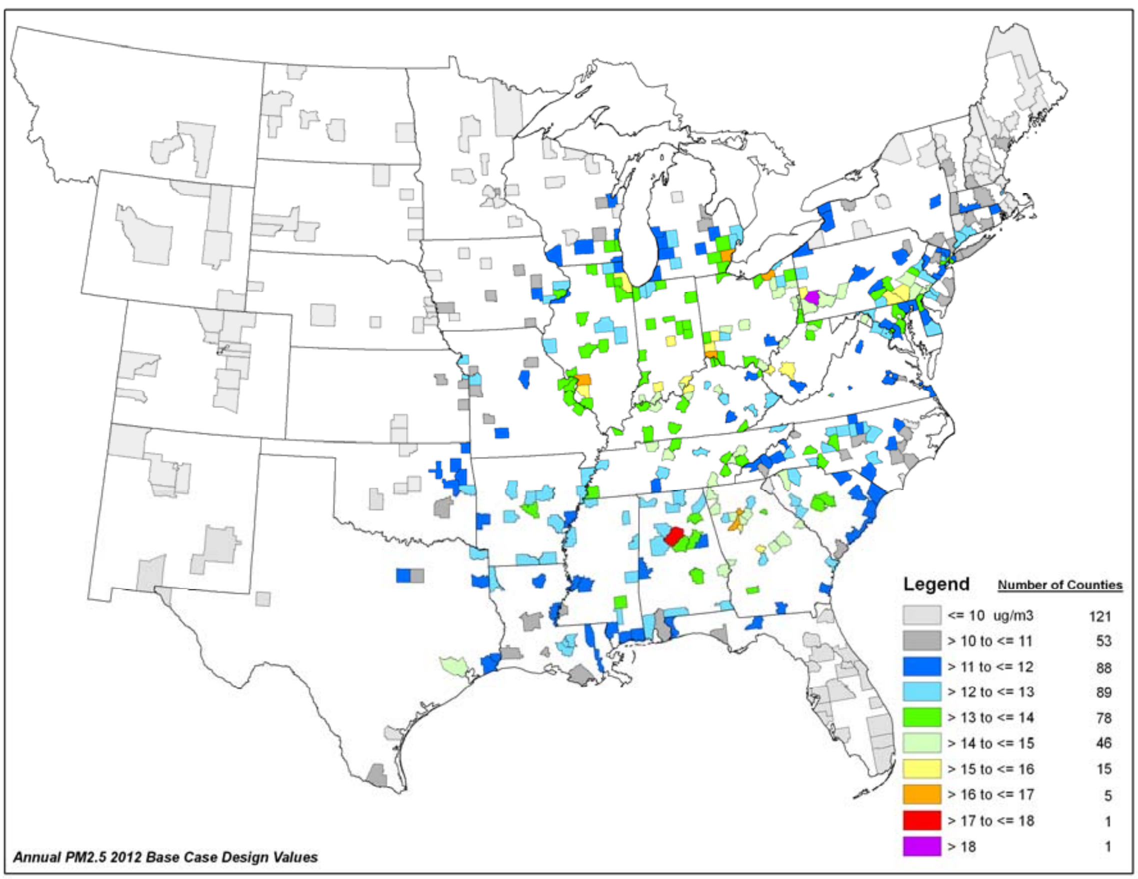
## Concentration and Difference Maps for Annual PM2.5, 24-Hour PM2.5, and 8-Hour Ozone

# Annual PM2.5 Maps

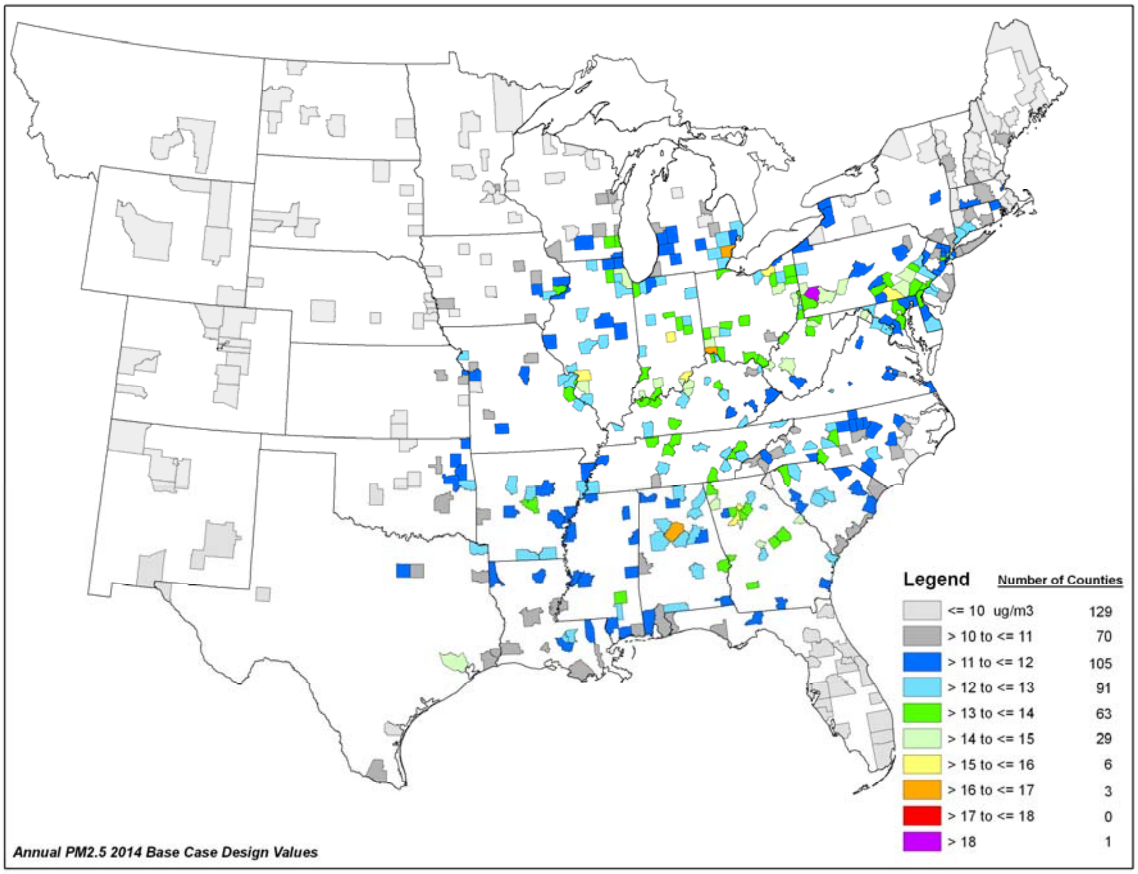
## 2003-2007 Average Ambient Annual PM2.5 Concentrations



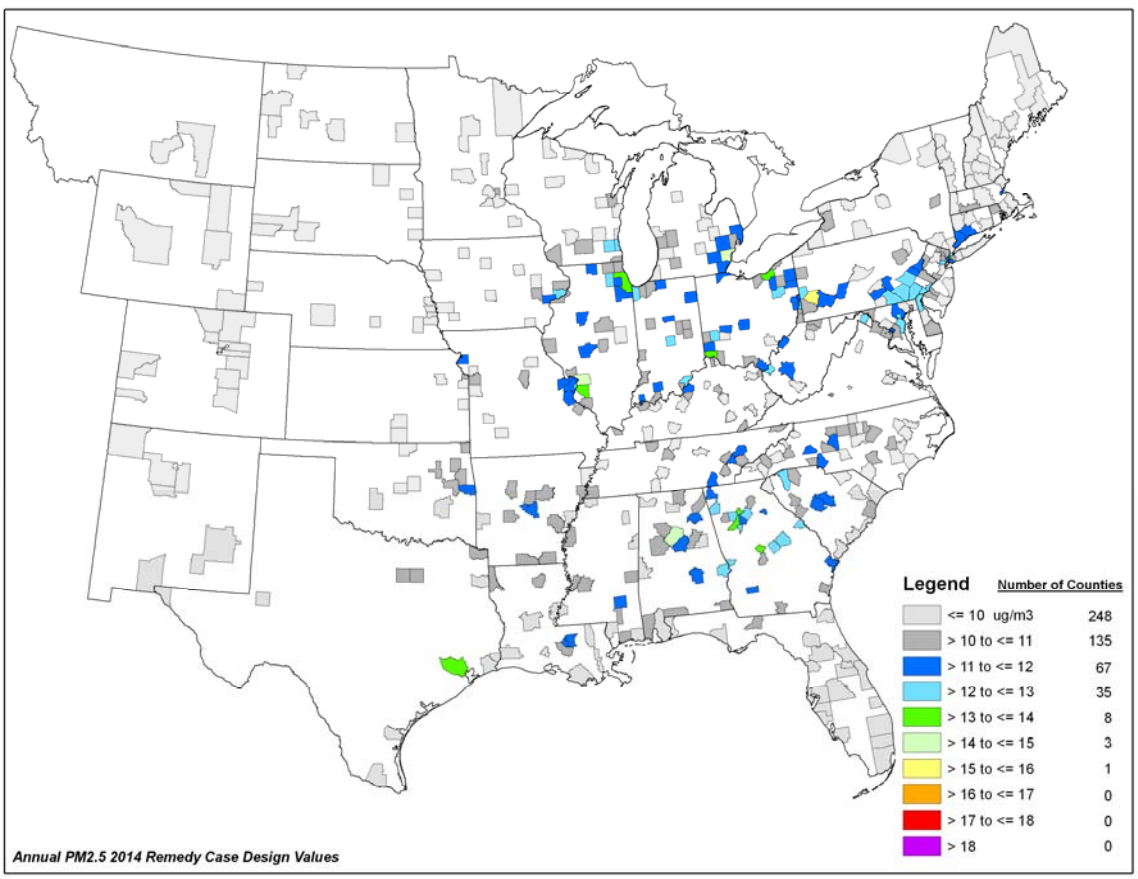

## 2012 Base Case Annual PM2.5 Concentrations



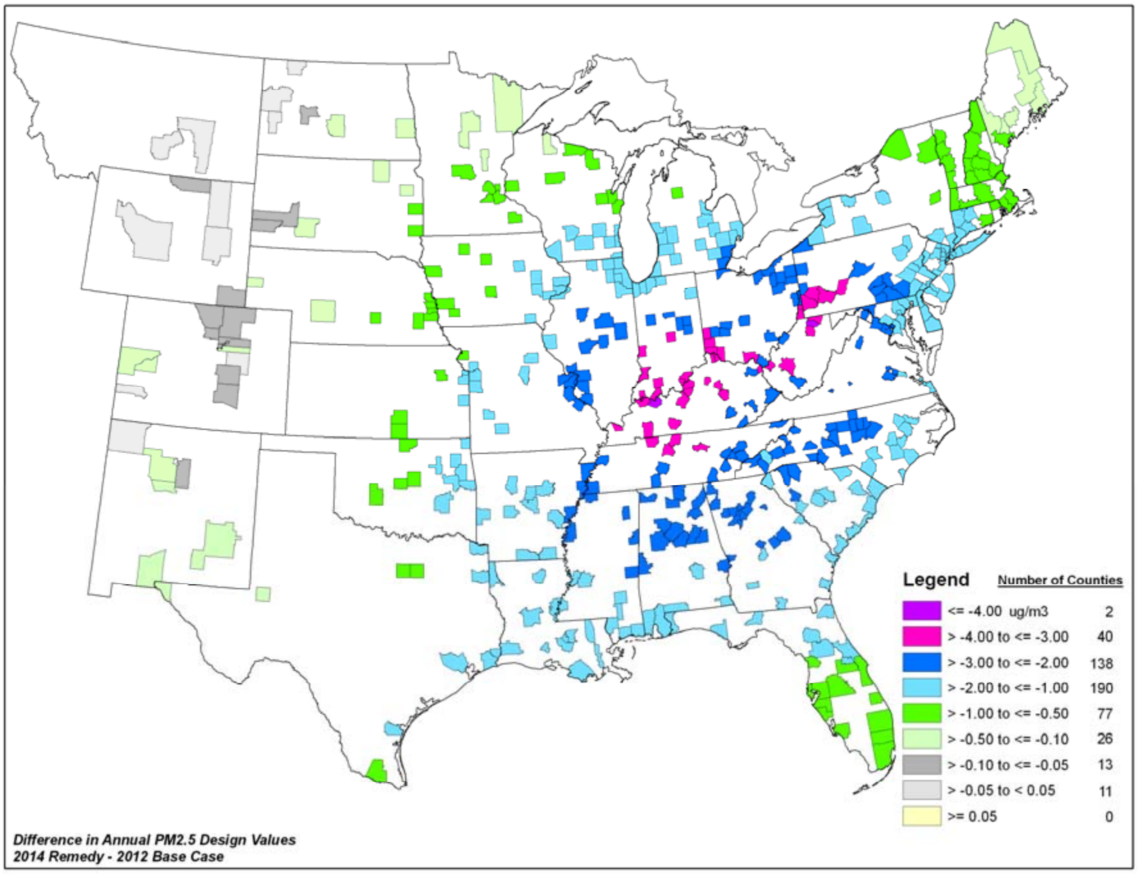
## 2014 Base Case Annual PM2.5 Concentrations



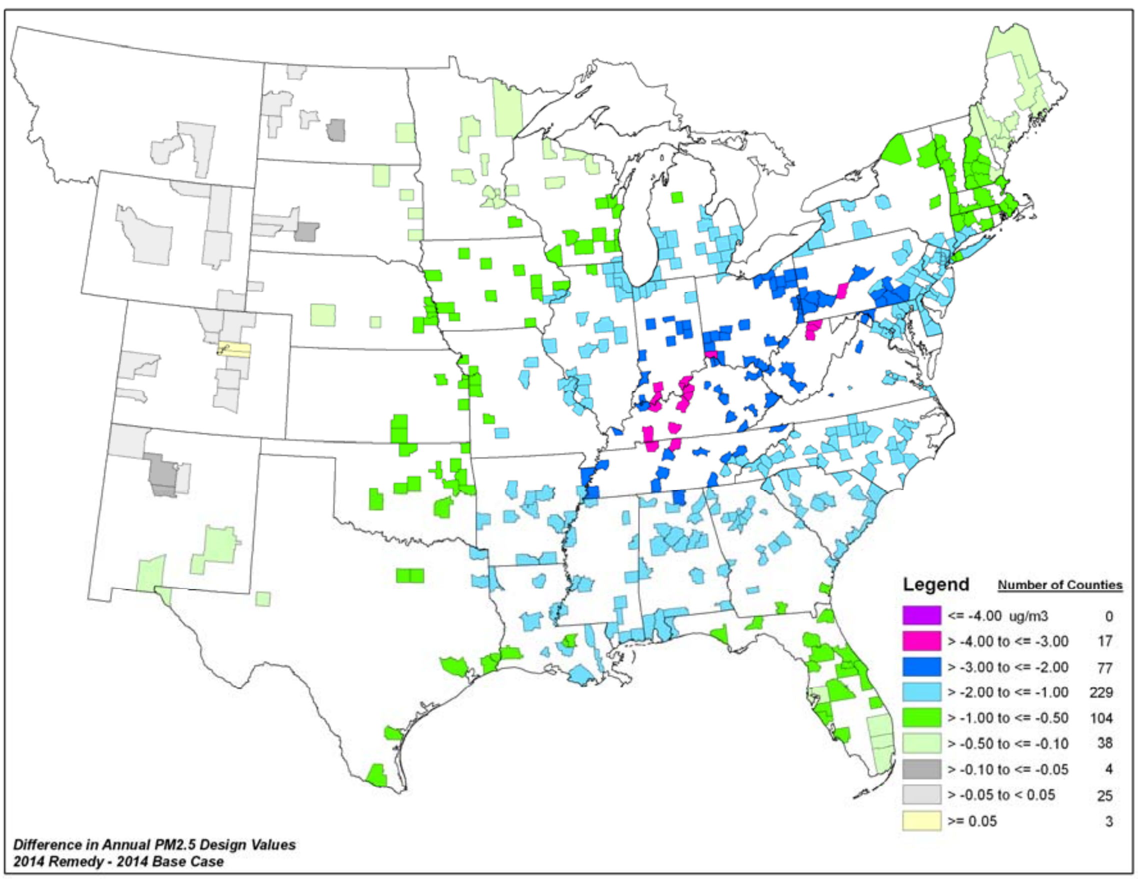

## 2014 Remedy Annual PM2.5 Concentrations



**2014 Remedy – 2012 Base Case Difference in Annual PM2.5 Concentrations**

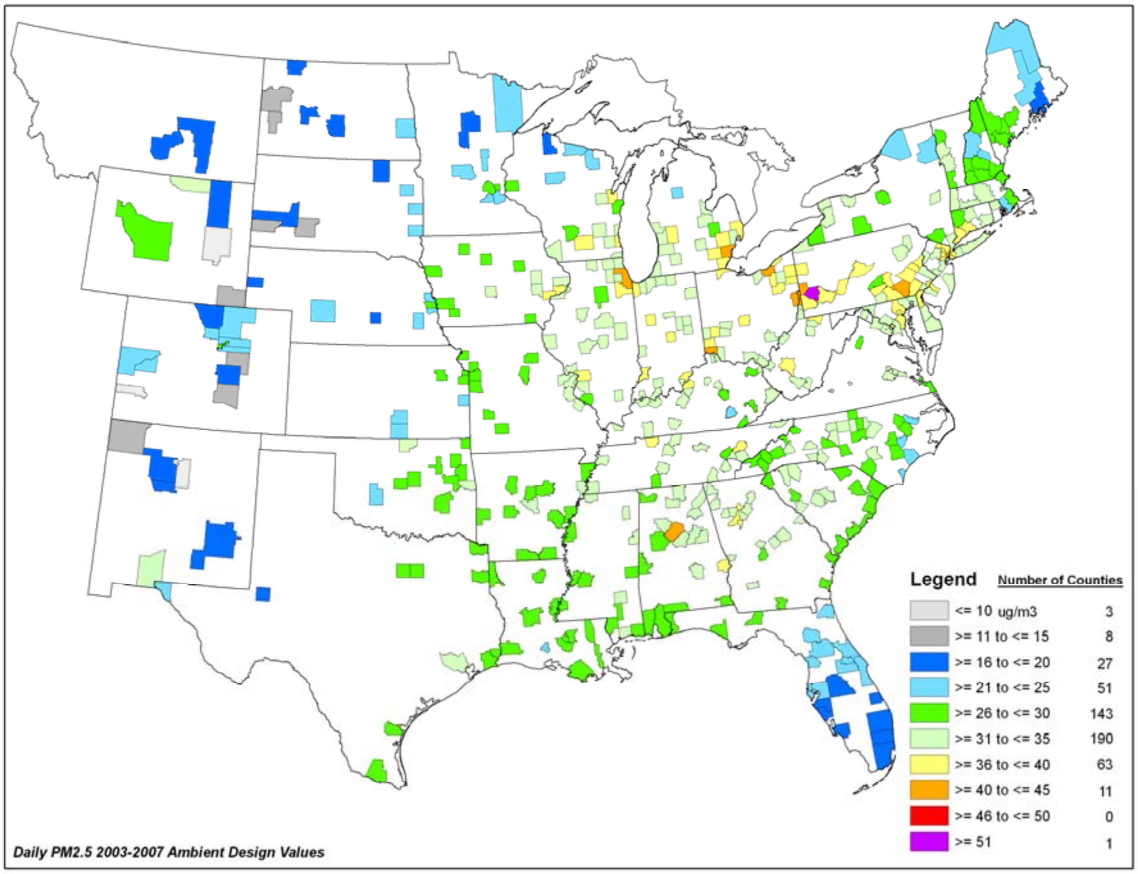



**2014 Remedy – 2014 Base Case Difference in Annual PM2.5 Concentrations**

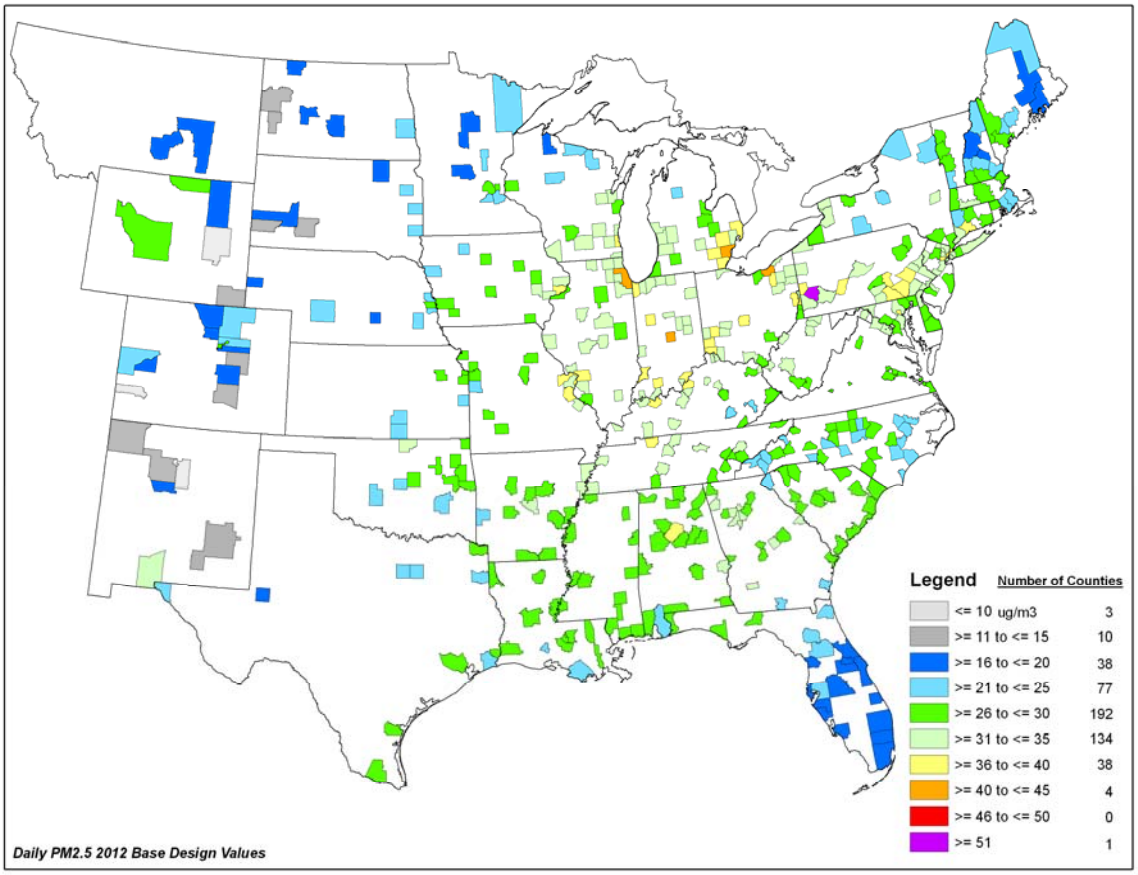


# 24-Hour PM2.5 Maps

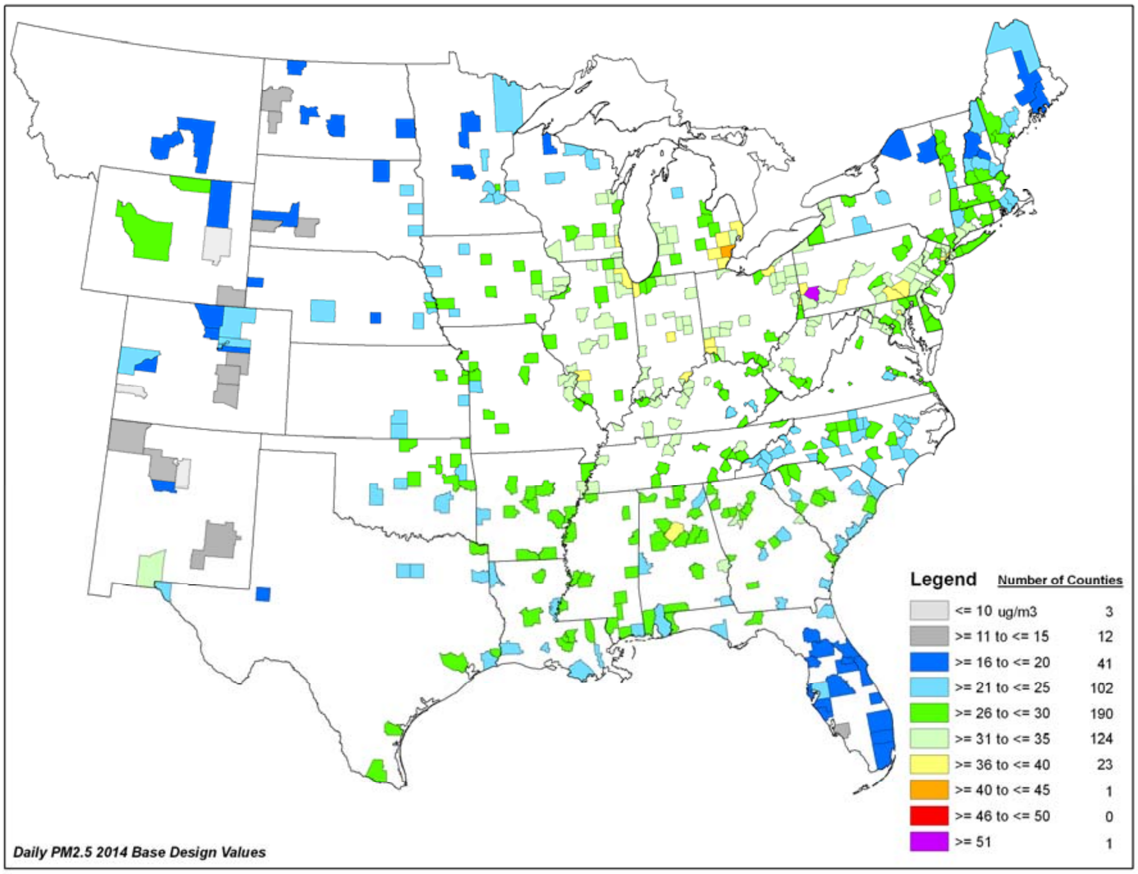
## 2003-2007 Average Ambient 24-Hour PM2.5 Concentrations



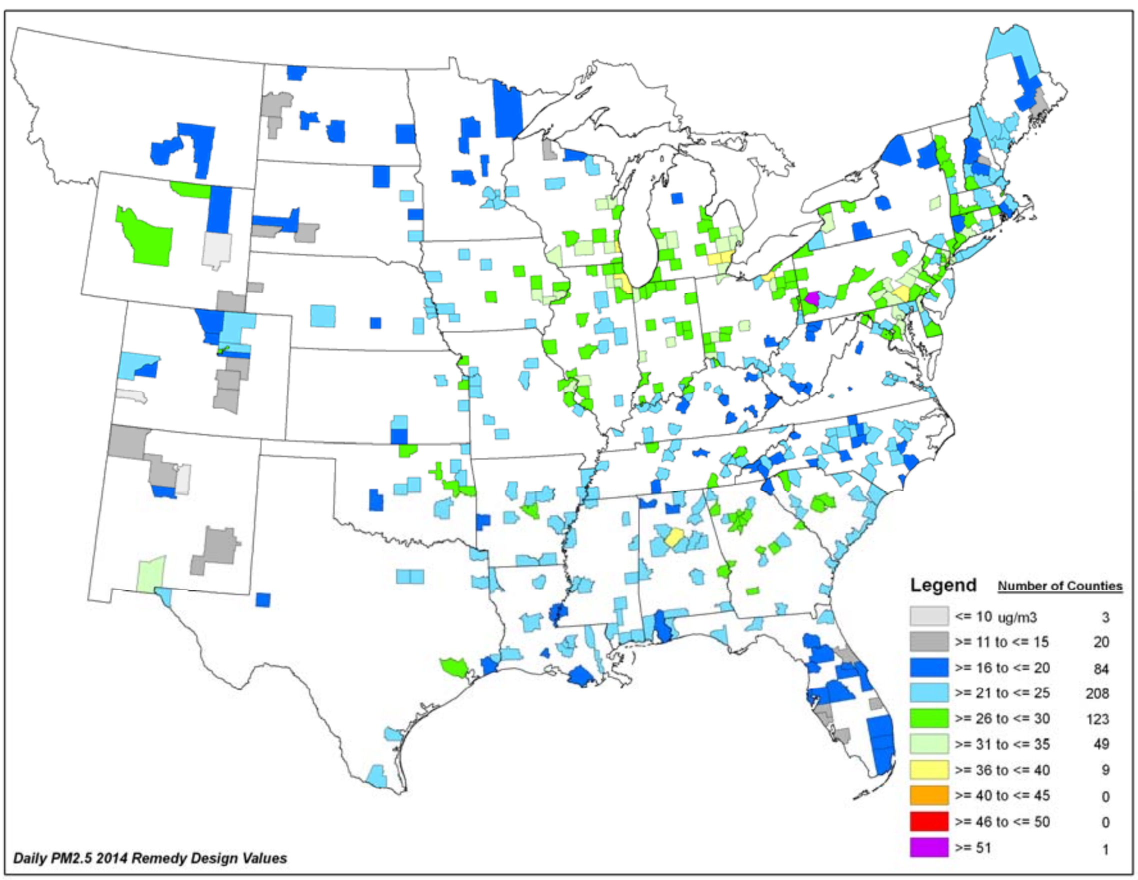

## 2012 Base Case 24-Hour PM2.5 Concentrations



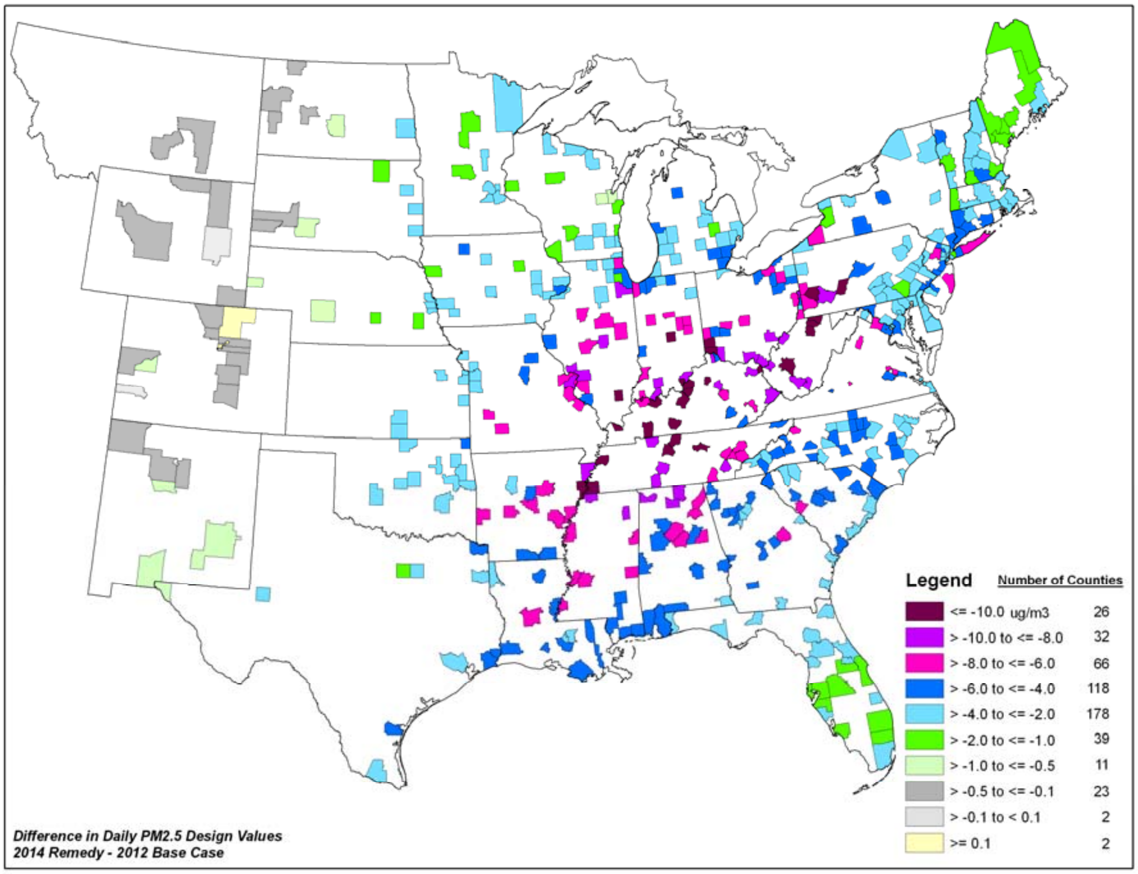
# 2014 Base Case 24-Hour PM2.5 Concentrations



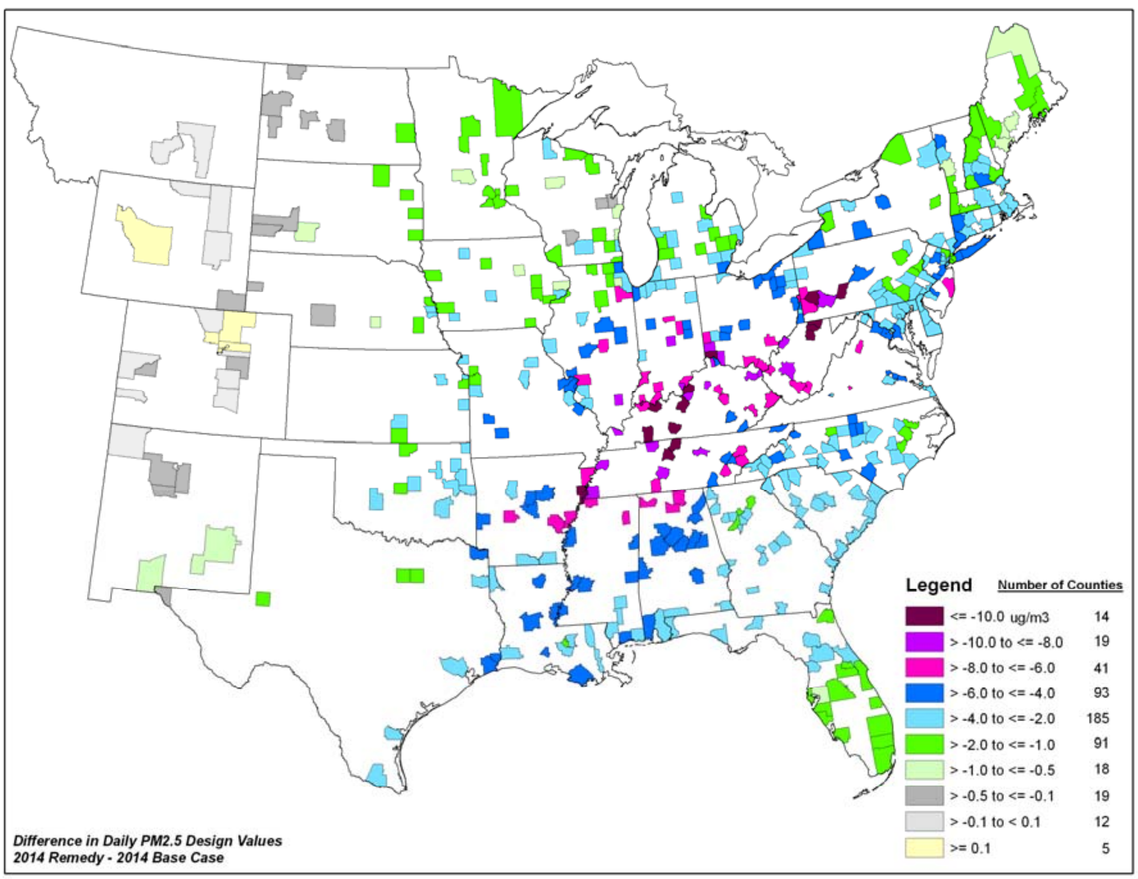

# 2014 Remedy 24-Hour PM2.5 Concentrations



**2014 Remedy – 2012 Base Case Difference in 24-Hour PM2.5 Concentrations**

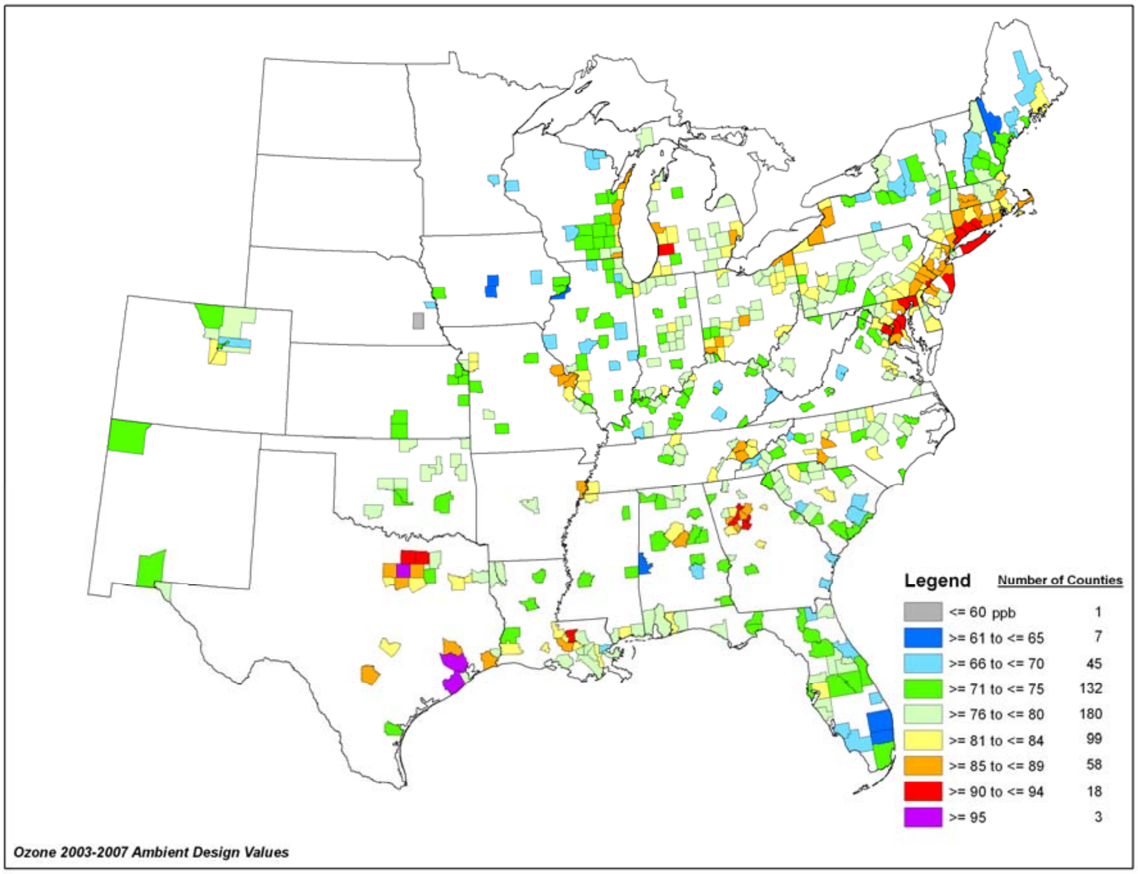



**2014 Remedy – 2014 Base Case Difference in 24-Hour PM2.5 Concentrations**

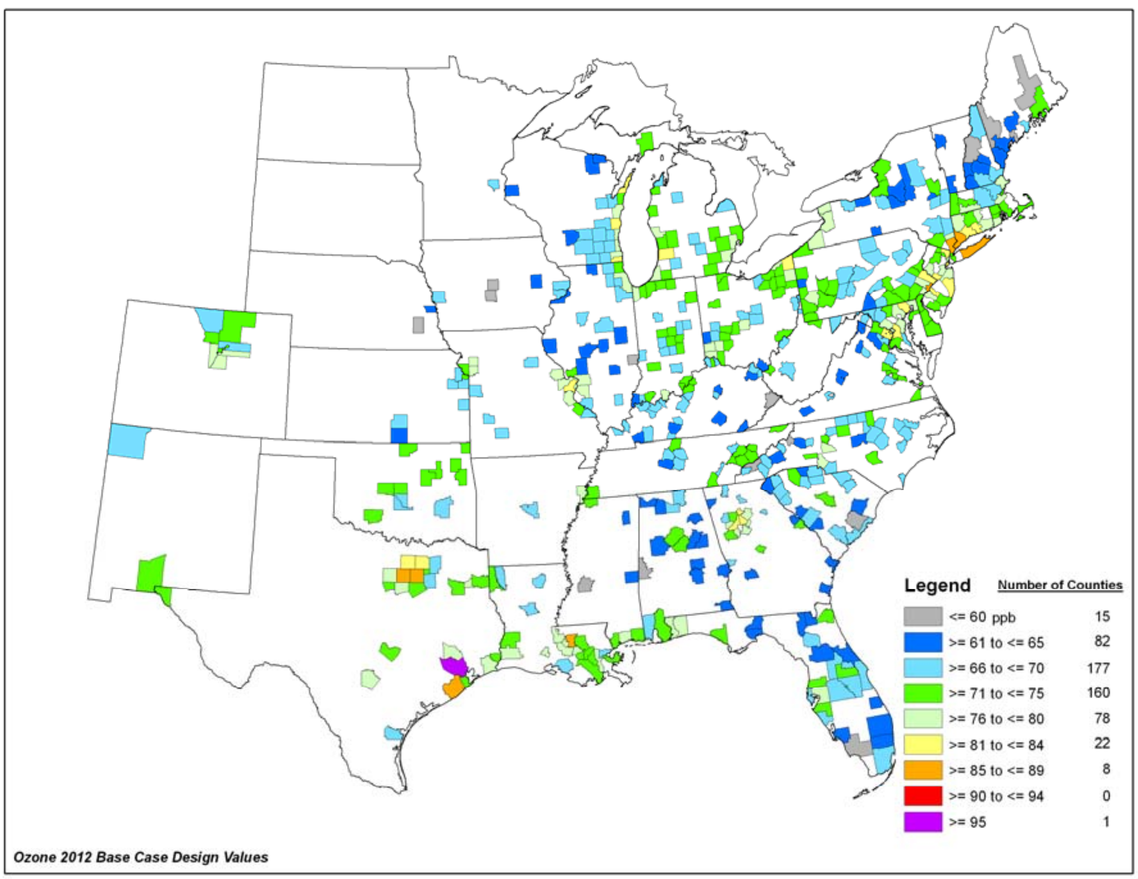


# 8-Hour Ozone Maps

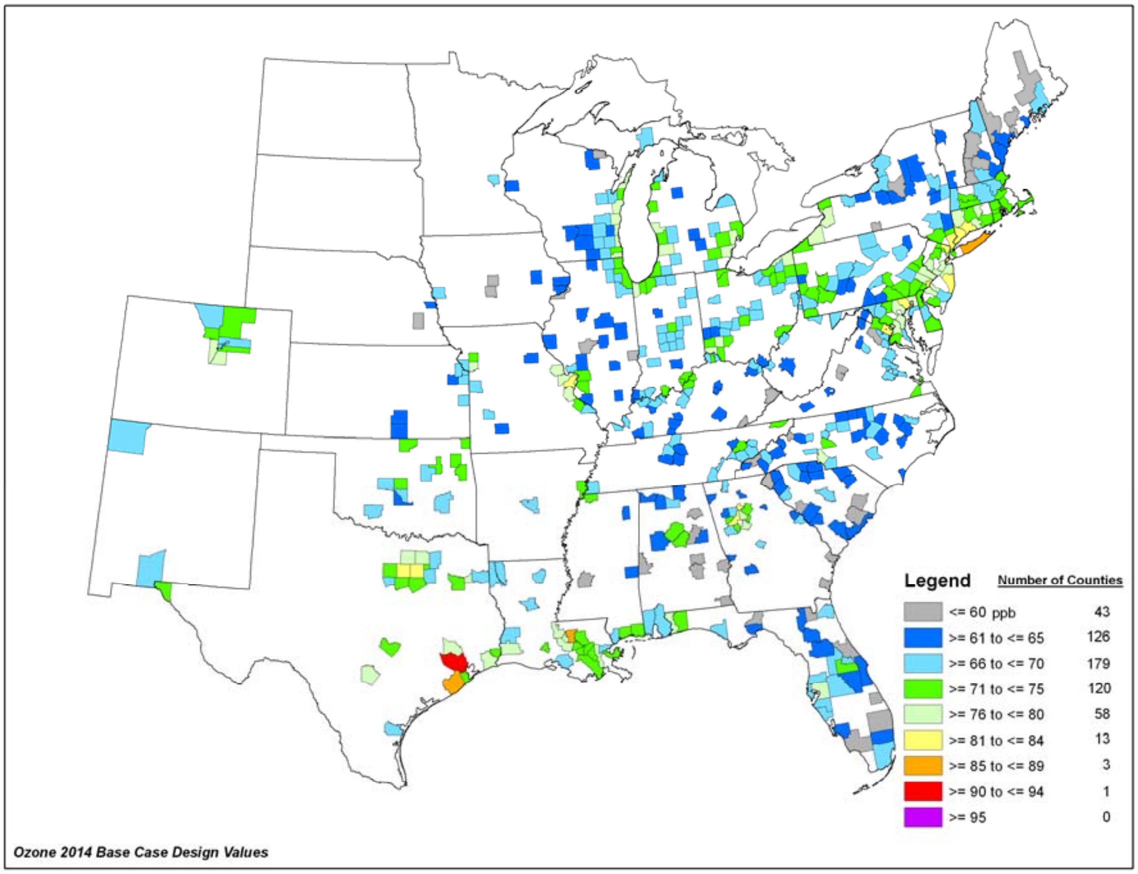
# 2003-2007 Average Ambient 8-Hour Ozone Concentrations



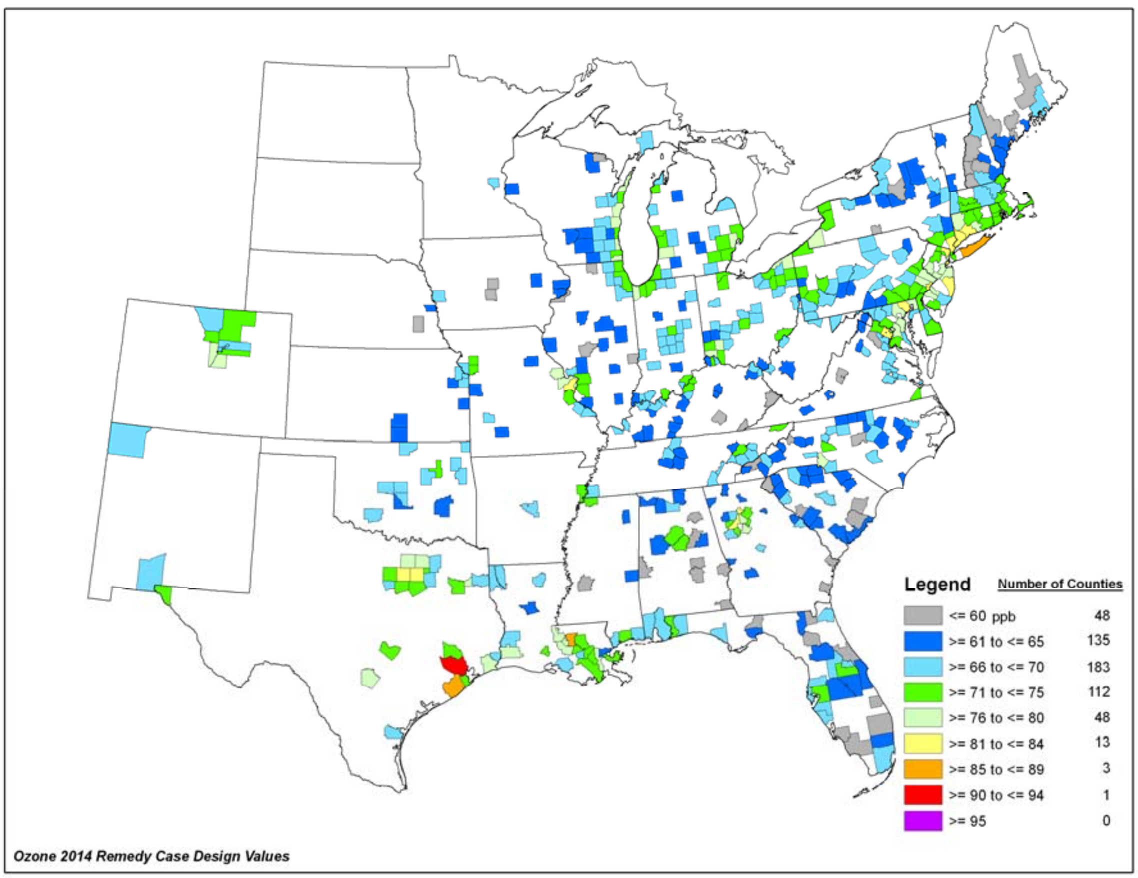

# 2012 Base Case 8-Hour Ozone Concentrations



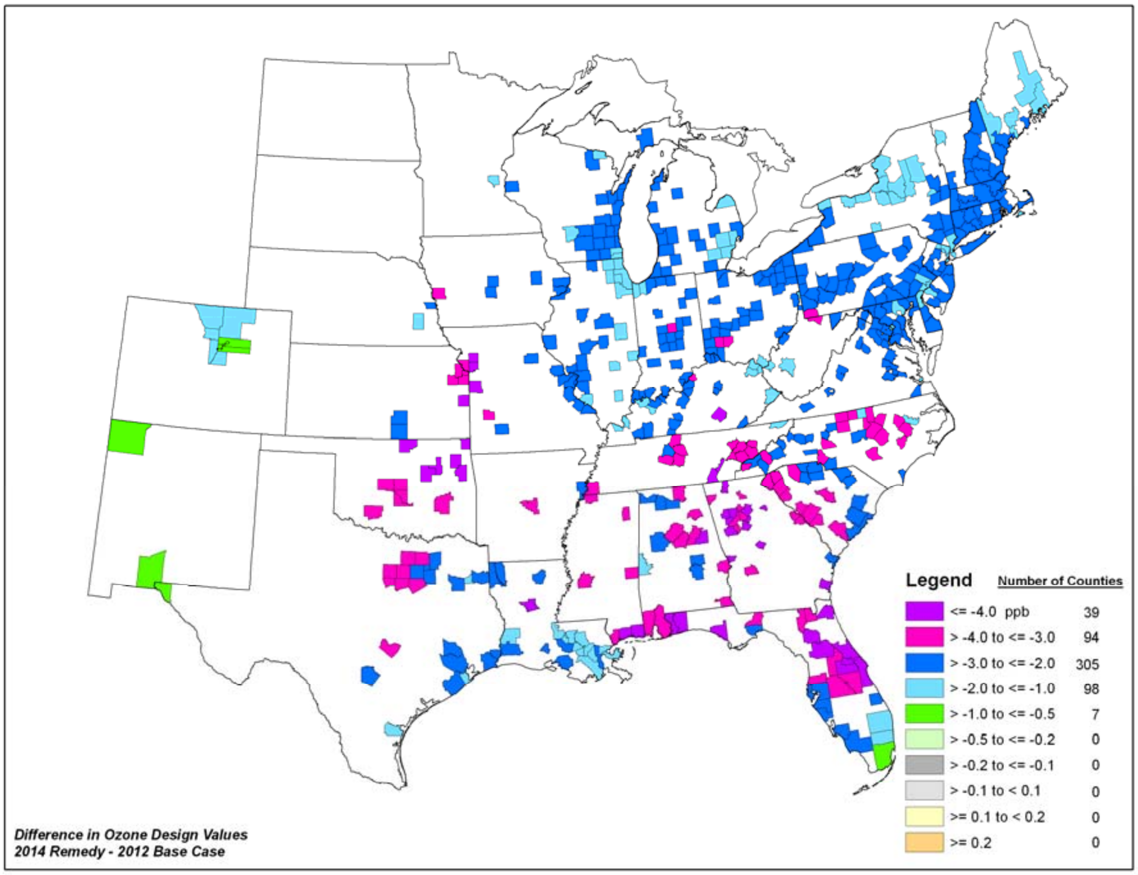
## 2014 Base Case 8-Hour Ozone Concentrations



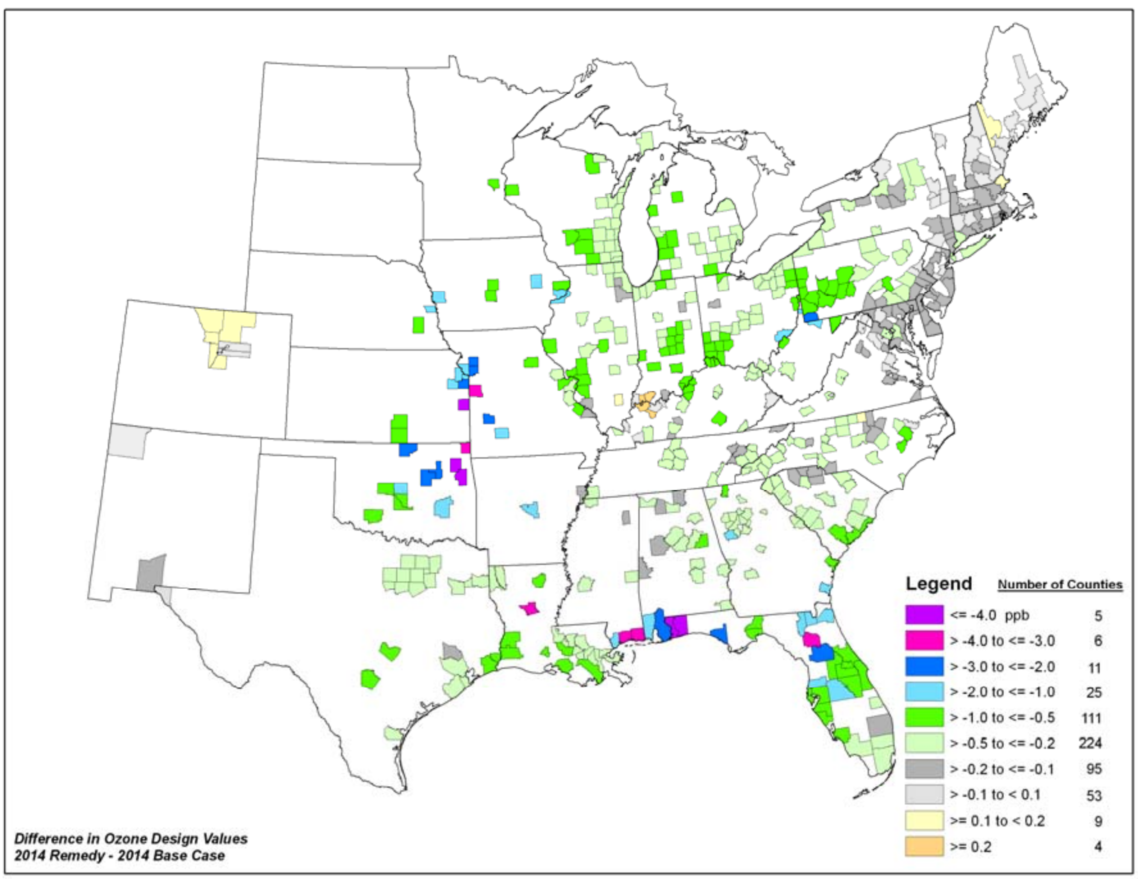

## 2014 Remedy 8-Hour Ozone Concentrations



## 2014 Remedy – 2012 Base Case Difference in 8-Hour Ozone Concentrations




## 2014 Remedy – 2014 Base Case Difference in 8-Hour Ozone Concentrations



# Transport Rule Air Quality Modeling Technical Support Document

## Appendix H

## Quarterly “Exceedances” of the
## 24-Hour PM2.5 NAAQS for the
## 2014 Base Case and 2014 Remedy Scenario

As described in Section III of the Air Quality Modeling Technical Support Document, EPA projected a 24-hour PM2.5 concentration for each calendar quarter for each of 5 years of ambient quarterly data (2003 through 2007). These projected quarterly concentrations were used in the calculation of future case design values for the 24-hour PM2.5 NAAQS. This appendix provides the quarterly 24-hour PM2.5 concentrations for the 2014 Base Case and 2014 Remedy scenario for the monitoring sites projected to be nonattainment and/or maintenance sites based on modeling of the 2014 Remedy scenario. The quarterly values that exceed the 35 $\mu g.m^3$ 24-hour PM2.5 NAAQS are in red.

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Ann Arbor, MI (Washtenaw Co) 261610008 | 2003 | 28.70 | 27.89 | **37.84** | 24.65 | 30.28 | 22.07 | 31.60 | 31.54 |
| | 2004 | 27.95 | 27.16 | 27.31 | 17.84 | 27.53 | 20.07 | 29.71 | 29.66 |
| | 2005 | **48.84** | **47.45** | 26.83 | 17.53 | **35.70** | 25.99 | 35.37 | 35.30 |
| | 2006 | 26.45 | 25.70 | 29.65 | 19.36 | 25.30 | 18.46 | 29.52 | 29.47 |
| | 2007 | 19.24 | 18.70 | 26.44 | 17.28 | 30.73 | 22.39 | 29.15 | 29.09 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Baltimore, MD (Anne Arundel Co) 240031003 | 2003 | **39.26** | **37.83** | 26.92 | 21.97 | 32.84 | 24.81 | 29.44 | 27.87 |
| | 2004 | **37.06** | **35.71** | 26.92 | 21.97 | 28.55 | 21.59 | 30.01 | 28.40 |
| | 2005 | **36.26** | 34.94 | 24.24 | 19.79 | 30.69 | 23.20 | 29.63 | 28.05 |
| | 2006 | 29.15 | 28.09 | 25.85 | 21.10 | 27.26 | 20.62 | 28.50 | 26.98 |
| | 2007 | 27.54 | 26.54 | 24.60 | 20.08 | 29.92 | 22.62 | 25.12 | 23.78 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Baltimore, MD (Baltimore City) 245100040 | 2003 | **35.78** | 34.67 | **35.89** | 29.73 | 34.71 | 27.18 | **39.15** | **37.96** |
| | 2004 | **35.97** | 34.86 | **35.98** | 29.80 | 34.45 | 26.99 | **36.93** | **35.80** |
| | 2005 | **37.95** | **36.78** | 28.44 | 23.57 | 31.57 | 24.74 | **36.00** | 34.91 |
| | 2006 | 33.41 | 32.38 | 30.68 | 25.42 | 30.64 | 24.01 | 33.13 | 32.12 |
| | 2007 | 31.61 | 30.64 | 30.50 | 25.28 | 29.88 | 23.42 | 31.00 | 30.06 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Birmingham, AL (Jefferson Co) 10730023 | 2003 | 29.55 | 28.54 | 35.27 | 31.61 | 33.43 | 29.87 | 34.57 | 32.16 |
| | 2004 | 34.82 | 33.62 | **36.74** | 32.93 | **36.16** | 32.30 | 33.85 | 31.50 |
| | 2005 | 34.82 | 33.62 | **43.46** | **38.93** | **42.98** | **38.39** | **37.68** | 35.06 |
| | 2006 | 27.49 | 26.54 | 33.89 | 30.37 | 33.51 | 29.94 | 35.28 | 32.82 |
| | 2007 | **40.27** | **38.88** | **38.86** | 34.82 | **36.24** | 32.38 | 29.76 | 27.70 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Chicago, IL (Cook Co) 170310052 | 2003 | 34.79 | 33.79 | 34.71 | 30.35 | 33.39 | 25.69 | 34.00 | 33.46 |
| | 2004 | 30.96 | 30.07 | 21.97 | 19.24 | 34.73 | 26.71 | 34.75 | 34.19 |
| | 2005 | **36.94** | **35.88** | 30.15 | 26.38 | **39.65** | 30.48 | **45.23** | **44.50** |
| | 2006 | 28.99 | 28.17 | 26.53 | 23.21 | 26.06 | 20.07 | 29.60 | 29.13 |
| | 2007 | **36.84** | **35.79** | 34.90 | 30.51 | 31.34 | 24.11 | **35.87** | 35.30 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Chicago, IL (Cook Co) 170311016 | 2003 | **42.17** | **41.34** | **37.47** | 31.67 | 30.36 | 23.07 | 34.45 | 33.04 |
| | 2004 | 34.30 | 33.63 | 24.15 | 20.45 | 26.45 | 20.11 | **39.77** | **38.14** |
| | 2005 | **45.26** | **44.37** | **36.07** | 30.50 | **45.83** | 34.75 | 34.92 | 33.49 |
| | 2006 | 26.34 | 25.83 | 25.73 | 21.78 | 27.43 | 20.85 | 30.72 | 29.47 |
| | 2007 | 29.43 | 28.86 | 34.30 | 29.00 | 30.54 | 23.20 | 31.28 | 30.00 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Chicago, IL (Cook Co) 170313103 | 2004 | 35.21 | 34.47 | 20.18 | 16.99 | 33.31 | 24.29 | **38.17** | **37.40** |
| | 2005 | **47.47** | **46.47** | 31.61 | 26.57 | **41.62** | 30.32 | **38.17** | **37.40** |
| | 2006 | 25.12 | 24.59 | 28.14 | 23.66 | 25.26 | 18.46 | 26.37 | 25.84 |
| | 2007 | 34.55 | 33.82 | 32.92 | 27.66 | 23.67 | 17.30 | 27.40 | 26.85 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Chicago, IL (Cook Co) 170313301 | 2003 | **35.64** | 34.94 | 21.78 | 18.39 | 29.89 | 22.54 | 30.31 | 29.05 |
| | 2004 | 33.23 | 32.57 | 21.13 | 17.84 | **38.05** | 28.66 | 29.94 | 28.69 |
| | 2005 | **45.55** | **44.66** | 33.45 | 28.20 | **38.85** | 29.26 | **36.59** | 35.06 |
| | 2006 | 24.14 | 23.67 | 23.18 | 19.57 | 24.61 | 18.58 | 22.16 | 21.24 |
| | 2007 | 28.50 | 27.94 | 31.12 | 26.24 | 27.92 | 21.06 | 34.44 | 33.00 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Chicago, IL (Cook Co) 170316005 | 2003 | **36.02** | 35.17 | 31.63 | 28.03 | 32.29 | 24.52 | 33.98 | 33.28 |
| | 2004 | **39.76** | **38.82** | 21.38 | 18.96 | 35.15 | 26.68 | 30.44 | 29.81 |
| | 2005 | **40.22** | **39.28** | 29.21 | 25.88 | **38.99** | 29.58 | **41.63** | **40.76** |
| | 2006 | 27.14 | 26.50 | 23.15 | 20.53 | 26.13 | 19.86 | 23.91 | 23.42 |
| | 2007 | 24.15 | 23.58 | 34.43 | 30.50 | 29.70 | 22.56 | 33.89 | 33.18 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Cleveland, OH (Cuyahoga Co) 390350038 | 2003 | **41.69** | **40.51** | **43.69** | 33.18 | **39.77** | 28.64 | 32.92 | 30.04 |
| | 2004 | **36.21** | 35.19 | 34.37 | 26.13 | **37.98** | 27.36 | **38.43** | 35.06 |
| | 2005 | **40.11** | **38.97** | 33.35 | 25.36 | **45.85** | 33.00 | 27.32 | 24.94 |
| | 2006 | 33.52 | 32.58 | 31.78 | 24.17 | 26.89 | 19.41 | 25.43 | 23.21 |
| | 2007 | 23.97 | 23.30 | 31.78 | 24.17 | **35.56** | 25.63 | 31.93 | 29.14 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Cleveland, OH (Cuyahoga Co) 390350060 | 2003 | 32.43 | 31.54 | 32.97 | 24.95 | **40.64** | 28.46 | 29.26 | 25.98 |
| | 2004 | **39.10** | **38.02** | 32.97 | 24.95 | 30.74 | 21.57 | 23.45 | 20.84 |
| | 2005 | **45.86** | **44.59** | 34.91 | 26.41 | **43.23** | 30.27 | 25.18 | 22.36 |
| | 2006 | 28.73 | 27.94 | 27.25 | 20.64 | 27.44 | 19.27 | 20.46 | 18.18 |
| | 2007 | 25.58 | 24.88 | 29.19 | 22.10 | 34.57 | 24.24 | 33.43 | 29.68 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Detroit, MI (Oakland Co) 261250001 | 2003 | 32.75 | 32.11 | 31.36 | 20.97 | 32.34 | 22.63 | 30.55 | 29.42 |
| | 2004 | 28.58 | 28.03 | 27.32 | 18.28 | 28.73 | 20.12 | 29.19 | 28.10 |
| | 2005 | **49.39** | **48.42** | 27.32 | 18.28 | **38.69** | 27.05 | **36.20** | 34.85 |
| | 2006 | 28.30 | 27.75 | 31.08 | 20.78 | 20.26 | 14.23 | 29.92 | 28.80 |
| | 2007 | 20.26 | 19.87 | 31.18 | 20.84 | 31.20 | 21.84 | 26.37 | 25.39 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Detroit, MI (Wayne Co) 261630016 | 2003 | **43.47** | **42.81** | **40.03** | 29.18 | **38.35** | 27.99 | 35.38 | 34.67 |
| | 2004 | 30.31 | 29.85 | 29.61 | 21.61 | 34.16 | 24.95 | 32.42 | 31.77 |
| | 2005 | **48.74** | **47.99** | **36.72** | 26.77 | **41.29** | 30.12 | **42.32** | **41.47** |
| | 2006 | 34.73 | 34.20 | 31.98 | 23.33 | 23.39 | 17.12 | 29.37 | 28.78 |
| | 2007 | 24.48 | 24.11 | 27.52 | 20.10 | 30.60 | 22.36 | 25.76 | 25.24 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Detroit, MI (Wayne Co) 261630019 | 2003 | 34.89 | 34.24 | 29.88 | 20.40 | 28.21 | 19.71 | 29.87 | 29.35 |
| | 2004 | 30.85 | 30.28 | 26.92 | 18.40 | 30.66 | 21.41 | 29.87 | 29.35 |
| | 2005 | **49.18** | **48.26** | **47.15** | 32.10 | **38.71** | 26.99 | **38.73** | **38.05** |
| | 2006 | 34.05 | 33.41 | 29.88 | 20.40 | 18.95 | 13.29 | 32.11 | 31.55 |
| | 2007 | 23.15 | 22.72 | 25.87 | 17.69 | 27.95 | 19.53 | 27.26 | 26.79 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Detroit, MI (Wayne Co) 261630033 | 2003 | **38.26** | **37.68** | **36.67** | 26.81 | **38.31** | 28.17 | 31.99 | 31.54 |
| | 2004 | 32.62 | 32.13 | **37.43** | 27.36 | 31.34 | 23.07 | 32.55 | 32.09 |
| | 2005 | **47.18** | **46.46** | 34.20 | 25.01 | **40.10** | 29.48 | 34.68 | 34.19 |
| | 2006 | **40.51** | **39.90** | 30.88 | 22.59 | 27.23 | 20.06 | 32.46 | 32.00 |
| | 2007 | 30.27 | 29.82 | 34.77 | 25.43 | 32.77 | 24.12 | 31.81 | 31.36 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Detroit, MI (Wayne Co) 261630036 | 2003 | 33.28 | 32.57 | 33.12 | 22.31 | 27.42 | 18.26 | 30.68 | 28.99 |
| | 2004 | 30.89 | 30.23 | 27.76 | 18.73 | 27.68 | 18.44 | 25.18 | 23.80 |
| | 2005 | **44.65** | **43.70** | 29.39 | 19.82 | **39.26** | 26.08 | **38.79** | **36.64** |
| | 2006 | 30.60 | 29.95 | 31.78 | 21.42 | 24.17 | 16.12 | 26.98 | 25.50 |
| | 2007 | 26.97 | 26.40 | 27.38 | 18.47 | 24.79 | 16.53 | 23.56 | 22.27 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| East St Louis, MO (Madison Co, IL) 171191007 | 2003 | **39.21** | **38.42** | **36.45** | 29.75 | 31.32 | 24.53 | 34.02 | 32.07 |
| | 2004 | 34.02 | 33.34 | 27.07 | 22.12 | 31.71 | 24.83 | 25.90 | 24.42 |
| | 2005 | **40.17** | **39.36** | **43.09** | 35.15 | **41.92** | 32.79 | 28.73 | 27.09 |
| | 2006 | 27.01 | 26.47 | 35.47 | 28.95 | 32.50 | 25.45 | 25.52 | 24.06 |
| | 2007 | 25.76 | 25.25 | 34.49 | 28.16 | 35.35 | 27.67 | 24.10 | 22.73 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Gary, IN (Lake Co, IN) 180890022 | 2003 | **43.12** | **41.96** | 26.83 | 20.62 | 27.94 | 20.86 | **42.77** | **41.26** |
| | 2004 | **40.31** | **39.22** | 22.73 | 17.48 | 30.95 | 23.10 | **42.86** | **41.35** |
| | 2005 | **37.39** | **36.39** | 29.50 | 22.66 | **35.82** | 26.71 | 32.48 | 31.34 |
| | 2006 | 26.79 | 26.07 | 22.54 | 17.34 | 24.40 | 18.23 | 21.26 | 20.52 |
| | 2007 | 33.08 | 32.19 | 32.17 | 24.70 | 27.41 | 20.47 | 29.39 | 28.36 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Gary, IN (Lake Co, IN) 180890026 | 2003 | **39.06** | **37.65** | 27.17 | 20.62 | 32.15 | 24.71 | **35.61** | 33.30 |
| | 2004 | **36.15** | 34.86 | 27.07 | 20.55 | 33.22 | 25.53 | 28.79 | 26.93 |
| | 2005 | **36.34** | 35.04 | 32.73 | 24.82 | **39.01** | 29.96 | 31.55 | 29.51 |
| | 2006 | 26.89 | 25.93 | 24.86 | 18.89 | 27.15 | 20.89 | 23.17 | 21.68 |
| | 2007 | 27.73 | 26.74 | 29.95 | 22.72 | 29.29 | 22.53 | 32.29 | 30.20 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Jersey City, NJ (Hudson Co) 340172002 | 2006 | **38.67** | **37.97** | **35.94** | 29.48 | **36.29** | 29.94 | **41.29** | **40.18** |
| | 2007 | 32.23 | 31.65 | 28.31 | 23.24 | 30.21 | 24.94 | **38.12** | **37.10** |
| | 2008 | No Data | No Data | No Data | No Data | 32.62 | 26.93 | 32.63 | 31.76 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Lancaster, PA (Lancaster Co) 420710007 | 2003 | **45.22** | **43.44** | **40.72** | 30.96 | **36.70** | 24.70 | **46.07** | **44.33** |
| | 2004 | 33.46 | 32.15 | 32.04 | 24.39 | 28.51 | 19.23 | 31.78 | 30.58 |
| | 2005 | **39.72** | **38.16** | 25.63 | 19.53 | **38.22** | 25.72 | 32.58 | 31.36 |
| | 2006 | 33.65 | 32.33 | 28.97 | 22.06 | 29.19 | 19.68 | 22.21 | 21.39 |
| | 2007 | **38.18** | **36.68** | 25.17 | 19.18 | 28.01 | 18.89 | 32.67 | 31.44 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Milwaukee, WI (Milwaukee Co) 550790010 | 2003 | 31.80 | 31.21 | 20.47 | 17.02 | 26.34 | 20.04 | 28.55 | 28.08 |
| | 2004 | **36.77** | **36.09** | 20.57 | 17.10 | 32.57 | 24.75 | 23.17 | 22.79 |
| | 2005 | **37.06** | **36.38** | 24.02 | 19.96 | 31.40 | 23.87 | 34.32 | 33.75 |
| | 2006 | **38.97** | **38.25** | 25.23 | 20.96 | 23.90 | 18.19 | 24.49 | 24.09 |
| | 2007 | **38.88** | **38.16** | 27.19 | 22.58 | 28.87 | 21.95 | 33.65 | 33.10 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Milwaukee, WI (Milwaukee Co) 550790026 | 2003 | 27.73 | 27.01 | 22.92 | 19.05 | 24.57 | 17.94 | 27.88 | 27.31 |
| | 2004 | 26.48 | 25.80 | 21.61 | 17.97 | 25.55 | 18.65 | 24.96 | 24.46 |
| | 2005 | **39.67** | **38.63** | 24.31 | 20.21 | 30.97 | 22.58 | 33.62 | 32.93 |
| | 2006 | 34.60 | 33.70 | 24.87 | 20.67 | 24.66 | 18.01 | **40.11** | **39.29** |
| | 2007 | **38.04** | **37.05** | 28.50 | 23.67 | 25.19 | 18.39 | **36.63** | **35.88** |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| MIlwaukee, WI (Milwaukee Co) 550790043 | 2003 | 32.54 | 31.96 | 22.64 | 19.07 | 35.47 | 27.10 | 27.32 | 26.88 |
| | 2004 | 27.38 | 26.89 | 22.18 | 18.67 | **36.65** | 27.99 | **39.12** | **38.48** |
| | 2005 | 32.83 | 32.24 | 23.67 | 19.93 | 33.58 | 25.65 | 34.02 | 33.47 |
| | 2006 | **42.11** | **41.35** | 27.69 | 23.30 | 23.54 | 18.03 | 24.58 | 24.18 |
| | 2007 | 28.72 | 28.20 | 26.19 | 22.04 | 25.17 | 19.26 | **35.91** | 35.33 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Milwaukee, WI (Milwaukee Co) 550790099 | 2003 | 29.36 | 28.56 | 23.56 | 19.98 | 27.90 | 20.42 | 31.74 | 31.12 |
| | 2004 | 29.17 | 28.38 | 21.69 | 18.40 | 34.66 | 25.33 | 28.45 | 27.89 |
| | 2005 | 35.48 | 34.51 | 25.43 | 21.55 | 32.70 | 23.91 | 34.00 | 33.33 |
| | 2006 | **36.62** | **35.63** | 27.20 | 23.05 | 23.27 | 17.06 | 25.25 | 24.76 |
| | 2007 | **38.92** | **37.86** | 26.36 | 22.34 | 26.83 | 19.64 | 31.93 | 31.30 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| New York, NY (New York Co) 360610056 | 2003 | 32.17 | 31.63 | 24.53 | 20.77 | 31.33 | 25.37 | 29.88 | 29.14 |
| | 2004 | 34.55 | 33.98 | **36.64** | 30.98 | 25.61 | 20.75 | 28.19 | 27.49 |
| | 2005 | 32.93 | 32.38 | 29.96 | 25.35 | 34.32 | 27.78 | **37.42** | **36.48** |
| | 2006 | 33.60 | 33.04 | **36.28** | 30.68 | 30.48 | 24.68 | **38.08** | **37.13** |
| | 2007 | 35.13 | 34.54 | 29.69 | 25.13 | 29.80 | 24.13 | 30.17 | 29.41 |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Pittsburgh, PA (Allegheny Co) 420030064 | 2003 | **55.27** | **53.24** | **58.42** | **49.46** | **54.83** | **46.35** | **58.20** | **56.90** |
| | 2004 | **58.74** | **56.58** | **52.29** | **44.27** | **57.89** | **48.93** | **61.53** | **60.15** |
| | 2005 | **47.95** | **46.19** | **61.05** | **51.68** | **56.45** | **47.72** | **61.26** | **59.88** |
| | 2006 | **47.50** | **45.75** | **47.47** | **40.20** | **49.33** | **41.71** | **50.04** | **48.92** |
| | 2007 | **49.51** | **47.69** | **47.82** | **40.50** | **49.33** | **41.71** | **41.15** | **40.23** |

| | | Quarter 1 | | Quarter 2 | | Quarter 3 | | Quarter 4 | |
|---|---|---|---|---|---|---|---|---|---|
| | **Ambient Data Year** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** | **2014 Base Case** | **2014 Remedy** |
| Steubenville, OH (Brooke Co, WV) 540090011 | 2003 | 28.43 | 26.07 | 25.90 | 16.95 | 27.12 | 21.32 | **38.21** | **36.02** |
| | 2004 | **40.34** | **36.97** | **37.23** | 24.29 | 34.08 | 26.76 | 21.87 | 20.63 |
| | 2005 | 28.81 | 26.42 | 34.88 | 22.77 | 29.69 | 23.33 | **40.18** | **37.88** |
| | 2006 | 33.59 | 30.79 | 20.12 | 13.21 | 30.68 | 24.11 | 29.77 | 28.07 |
| | 2007 | **46.62** | **42.72** | **35.74** | 23.33 | 32.17 | 25.27 | 24.47 | 23.08 |

# Transport Rule Air Quality Modeling Technical Support Document

# Appendix I

# Impacts on Visibility in Class I Areas of the West

Impact on visibility (in deciviews) for all Western Class I areas included (only) in the 36 km modeling domain. See section V for a description of the procedures used in calculating these data.

| Class I Area (IMPROVE Site) | Site Code | State | 2002-2006 Baseline Visibility 20% Worst Days (dv) | 2012 Base Case Visibility (dv) | 2014 Base Case Visibility (dv) | 2014 Remedy Visibility (dv) | 2014 Visibility Change from Remedy (dv) |
|---|---|---|---|---|---|---|---|
| Agua Tibia Wilderness | AGTI | California | 23.09 | 22.75 | 22.51 | 22.51 | 0.00 |
| Alpine Lake Wilderness | ALLA | Washington | 17.35 | 17.17 | 17.03 | 17.02 | -0.01 |
| Anaconda-Pintler Wilderness | ANAC | Montana | 13.91 | 13.82 | 13.79 | 13.80 | 0.01 |
| Ansel Adams Wilderness (Minarets) | ANAD | California | 14.90 | 14.65 | 14.60 | 14.60 | 0.00 |
| Arches NP | ARCH | Utah | 11.04 | 10.10 | 10.14 | 10.11 | -0.03 |
| Mount Baldy Wilderness | BALD | Arizona | 11.27 | 10.95 | 10.96 | 10.82 | -0.14 |
| Bob Marshall Wilderness | BOMA | Montana | 14.54 | 14.43 | 14.4 | 14.41 | 0.01 |
| Bryce Canyon NP | BRCA | Utah | 11.73 | 11.38 | 11.23 | 11.32 | 0.09 |
| Cabinet Mountains Wilderness | CABI | Montana | 14.15 | 13.98 | 13.94 | 13.95 | 0.01 |
| Canyonlands NP | CANY | Utah | 11.04 | 10.38 | 10.35 | 10.35 | 0.00 |
| Capitol Reef NP | CAPI | Utah | 10.63 | 10.06 | 10.00 | 9.98 | -0.02 |
| Caribou Wilderness | CARI | California | 14.19 | 13.89 | 13.81 | 13.81 | 0.00 |
| Chiricahua NM | CHIR | Arizona | 13.33 | 13.05 | 13.10 | 12.99 | -0.11 |
| Chiricahua Wilderness | CHIW | Arizona | 13.33 | 13.05 | 13.10 | 12.99 | -0.11 |
| Crater Lake NP | CRLA | Oregon | 14.04 | 13.86 | 13.75 | 13.76 | 0.01 |
| Craters of the Moon NM | CRMO | Idaho | 14.19 | 13.89 | 13.78 | 13.78 | 0.00 |
| Cucamonga Wilderness | CUCA | California | 19.35 | 18.30 | 17.78 | 17.80 | 0.02 |
| Desolation Wilderness | DESO | California | 12.52 | 12.31 | 12.26 | 12.27 | 0.01 |
| Diamond Peak Wilderness | DIPE | Oregon | 14.04 | 13.87 | 13.79 | 13.78 | -0.01 |
| Eagle Cap Wilderness | EACA | Oregon | 18.25 | 18.01 | 17.85 | 17.85 | 0.00 |
| Emigrant Wilderness | EMIG | California | 17.37 | 17.11 | 17.04 | 17.04 | 0.00 |
| Galiuro Wilderness | GALI | Arizona | 13.33 | 12.95 | 12.89 | 12.92 | 0.03 |
| Gates of the Mountains Wilderness | GAMO | Montana | 11.67 | 11.54 | 11.52 | 11.53 | 0.01 |
| Gearhart Mountain Wilderness | GEMO | Oregon | 14.04 | 13.82 | 13.61 | 13.6 | -0.01 |
| Gila Wilderness | GICL | New Mexico | 13.32 | 13.15 | 13.11 | 12.97 | -0.14 |

| Class I Area (IMPROVE Site) | Site Code | State | 2002-2006 Baseline Visibility 20% Worst Days (dv) | 2012 Base Case Visibility (dv) | 2014 Base Case Visibility (dv) | 2014 Remedy Visibility (dv) | 2014 Visibility Change from Remedy (dv) |
|---|---|---|---|---|---|---|---|
| Glacier NP | GLAC | Montana | 19.13 | 18.80 | 18.71 | 18.73 | 0.02 |
| Glacier Peak Wilderness | GLPE | Washington | 13.78 | 13.55 | 13.54 | 13.54 | 0.00 |
| Goat Rocks Wilderness | GORO | Washington | 12.88 | 12.60 | 11.95 | 11.97 | 0.02 |
| Grand Canyon NP | GRCA | Arizona | 11.85 | 11.37 | 11.31 | 11.32 | 0.01 |
| Grand Teton NP | GRTE | Wyoming | 10.94 | 10.74 | 10.71 | 10.72 | 0.01 |
| Hells Canyon Wilderness | HECA | Oregon | 18.73 | 18.27 | 18.02 | 18.02 | 0.00 |
| Hoover Wilderness | HOOV | California | 11.92 | 11.74 | 11.72 | 11.72 | 0.00 |
| Jarbidge Wilderness | JARB | Nevada | 12.13 | 12.03 | 12.04 | 12.04 | 0.00 |
| John Muir Wilderness | JOMU | California | 14.90 | 14.53 | 14.46 | 14.46 | 0.00 |
| Joshua Tree NM | JOSH | California | 19.40 | 18.22 | 17.79 | 17.76 | -0.03 |
| Kaiser Wilderness | KAIS | California | 14.90 | 14.63 | 14.57 | 14.57 | 0.00 |
| Kalmiopsis Wilderness | KALM | Oregon | 16.31 | 16.33 | 16.30 | 16.38 | 0.08 |
| Kings Canyon NP | KICA | California | 23.41 | 22.50 | 22.21 | 22.20 | -0.01 |
| Lava Beds NM | LABE | California | 14.77 | 14.38 | 14.31 | 14.32 | 0.01 |
| Lassen Volcanic NP | LAVO | California | 14.19 | 13.95 | 13.87 | 13.88 | 0.01 |
| Mazatzal Wilderness | MAZA | Arizona | 13.8 | 13.25 | 13.16 | 13.15 | -0.01 |
| Mount Hood Wilderness | MOHO | Oregon | 14.79 | 14.61 | 14.51 | 14.53 | 0.02 |
| Mount Jefferson Wilderness | MOJE | Oregon | 15.93 | 15.89 | 15.84 | 15.85 | 0.01 |
| Mokelumne Wilderness | MOKE | California | 12.52 | 12.36 | 12.33 | 12.33 | 0.00 |
| Mountain Lakes Wilderness | MOLA | Oregon | 14.04 | 14.02 | 13.82 | 13.84 | 0.02 |
| Mount Rainier NP | MORA | Washington | 17.56 | 17.32 | 17.20 | 17.23 | 0.03 |
| Mount Washington Wilderness | MOWA | Oregon | 15.93 | 15.91 | 15.87 | 15.89 | 0.02 |
| North Cascades NP | NOCA | Washington | 13.78 | 13.62 | 13.60 | 13.60 | 0.00 |
| Olympic NP | OLYM | Washington | 16.14 | 16.40 | 16.40 | 16.41 | 0.01 |
| Pasayten Wilderness | PASA | Washington | 15.39 | 15.11 | 14.54 | 14.55 | 0.01 |
| Petrified Forest NP | PEFO | Arizona | 13.73 | 13.11 | 13.24 | 13.21 | -0.03 |
| Pine Mountain Wilderness | PIMO | Arizona | 13.8 | 13.19 | 13.03 | 12.89 | -0.14 |
| Pinnacles NM | PINN | California | 18.22 | 17.92 | 17.80 | 17.81 | 0.01 |
| Point Reyes NS | PORE | California | 22.89 | 22.82 | 22.73 | 22.73 | 0.00 |
| San Rafael Wilderness | RAFA | California | 19.04 | 18.77 | 18.62 | 18.63 | 0.01 |
| Red Rock Lakes | REDR | Wyoming | 10.94 | 10.75 | 10.71 | 10.72 | 0.01 |
| Redwood NP | REDW | California | 18.66 | 18.81 | 18.81 | 18.82 | 0.01 |
| San Gabriel | SAGA | California | 19.35 | 18.30 | 17.78 | 17.80 | 0.02 |

| Class I Area (IMPROVE Site) | Site Code | State | 2002-2006 Baseline Visibility 20% Worst Days (dv) | 2012 Base Case Visibility (dv) | 2014 Base Case Visibility (dv) | 2014 Remedy Visibility (dv) | 2014 Visibility Change from Remedy (dv) |
|---|---|---|---|---|---|---|---|
| Wilderness | | | | | | | |
| San Gorgonio Wilderness | SAGO | California | 21.8 | 20.66 | 20.15 | 20.14 | -0.01 |
| Saguaro NM | SAGU | Arizona | 14.53 | 13.69 | 13.43 | 13.40 | -0.03 |
| San Jacinto Wilderness | SAJA | California | 21.8 | 20.08 | 19.49 | 19.49 | 0.00 |
| Sawtooth Wilderness | SAWT | Idaho | 14.33 | 14.25 | 14.24 | 14.25 | 0.01 |
| Scapegoat Wilderness | SCAP | Montana | 14.54 | 14.40 | 14.36 | 14.38 | 0.02 |
| Selway-Bitterroot Wilderness | SELW | Idaho | 13.91 | 13.84 | 13.83 | 13.81 | -0.02 |
| Sequoia NP | SEQU | California | 23.41 | 22.30 | 21.95 | 21.95 | 0.00 |
| Sierra Ancha Wilderness | SIAN | Arizona | 14.37 | 14.06 | 13.97 | 13.92 | -0.05 |
| South Warner Wilderness | SOWA | California | 14.77 | 14.43 | 14.43 | 14.43 | 0.00 |
| Strawberry Mountain Wilderness | STMO | Oregon | 18.25 | 17.96 | 17.83 | 17.82 | -0.01 |
| Superstition Wilderness | SUPE | Arizona | 14.01 | 13.61 | 13.49 | 13.47 | -0.02 |
| Sycamore Canyon Wilderness | SYCA | Arizona | 15.34 | 15.02 | 14.96 | 15.01 | 0.05 |
| Teton Wilderness | TETO | Wyoming | 10.94 | 10.78 | 10.76 | 10.75 | -0.01 |
| Three Sisters Wilderness | THIS | Oregon | 15.93 | 15.91 | 15.87 | 15.89 | 0.02 |
| Thousand Lakes Wilderness | THLA | California | 14.19 | 13.95 | 13.87 | 13.88 | 0.01 |
| Ventana Wilderness | VENT | California | 18.22 | 18.25 | 18.20 | 18.20 | 0.00 |
| Mount Adams Wilderness | WHPA | Washington | 12.88 | 12.63 | 12.12 | 12.15 | 0.03 |
| Yellowstone NP | YELL | Wyoming | 10.94 | 10.77 | 10.74 | 10.74 | 0.00 |
| Yosemite NP | YOSE | California | 17.37 | 17.12 | 17.05 | 17.05 | 0.00 |