# 2018 Oregon Annual Ambient Criteria Pollutant Air Monitoring Network Plan



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***DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.***

State of Oregon
**Department of Environmental Quality**

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## Glossary of Air Quality Terms

| | |
|---|---|
| AQI | Air Quality Index – standardized EPA method of reporting air quality |
| CO | Carbon monoxide – An odorless, colorless gaseous pollutant |
| DV | Design Value – the pollutant concentration used to compare to the NAAQS |
| FEM | Federal Equivalence Method (Method approved for comparison to NAAQS) |
| FRM | Federal Reference Method (Method approved for comparison to NAAQS) |
| HAPs | Hazardous Air Pollutant as defined in Title III of the Clean Air Act |
| IMPROVE | EPA's $PM_{2.5}$ speciation visibility network |
| NAAQS | National Ambient Air Quality Standards – federal air quality standards |
| NATTS | National Air Toxics Trends network |
| NO | Nitrogen oxide |
| $NO_2$ | Nitrogen dioxide |
| NOx | Nitrogen oxides – redish brown gaseous pollutant - mainly NO and $NO_2$ |
| NOy | NOx + HNO3 + organic nitrates + inorganic nitrates = NOx + NOz |
| $O_3$ | Ozone – a gaseous pollutant and a component of smog at ground level |
| PM2.5 | Particulate Matter 2.5 micrometers in diameter and smaller |
| PM10 | Particulate Matter 10 micrometers in diameter and smaller |
| PM10-2.5 | The particle size between 10 and 2.5. |
| SIP | State Implementation Plan |
| $SO_2$ | Sulfur dioxide |
| TSP | Total Suspended Particulates |
| VOC | Volatile Organic Compounds |
| WAQR | Wildfire Air Quality Rating - wildfire smoke health internet page |

Air Pollutant Concentration Units:

| | |
|---|---|
| ppm | Parts per million |
| ppb | Parts per billion |
| $\mu g/m^3$ | Microgram per cubic meter |
| $ng/m^3$ | Nanograms per cubic meter |

## Executive Summary

This annual criteria pollutant network plan is required by EPA and discusses changes to the criteria pollutant monitoring network. DEQ also has an ambient air toxics monitoring network that includes trend sites, neighborhood assessment sites, and source assessment sites. The planning for air toxics monitoring is conducted separately from the criteria pollutant network plan and can be found on the DEQ Air Quality Monitoring web page at http://www.oregon.gov/deq/aq/Pages/Air-Quality-Monitoring.aspx

In 2018/2019 the following changes will be made to the criteria monitoring network upon approval from EPA.

PM2.5 Federal Reference Monitoring (FRM)

DEQ will increase the sampling frequency of the PM2.5 FRM monitor from every third day to daily at Burns and Klamath Falls beginning January 1, 2019. This is required by EPA when an areas design value falls within 5% of the National Ambient Air Quality Standard. DEQ will use the particulate filter FRM samplers to start with but will move toward continuous monitoring sometime in 2019 or 2020.

Note that PM2.5 values from continuous monitoring methods have been shown to be as much as two micrograms per cubic meters higher than design values from particulate samplers. This may have to do with the immediate measurement of continuous monitors versus the delayed measurement of filters. The immediate measurement of the continuous monitoring likely does not allow for any loss of volatile particulates such as aerosols that may occur on filters.

PM2.5 Speciation

DEQ will reduce the non trend speciation sampling from two winter sites to one to help defer the cost of the increased PM2.5 sampling schedules mentioned above. Sampling will continue in Portland and Prineville but will end in Hillsboro.

PM10 Federal Reference Monitoring

EPA is requiring DEQ to place a PM10 monitor back in Lakeview (a PM10 maintenance area) for one year to determine a new PM2.5/PM10 correlation. Once this is determined, PM2.5 will be used as a surrogate for PM10 to determine compliance to the NAAQS. PM10 was removed in 2010 when it was showed to be less than 1/3$^{rd}$ of the NAAQS for over a decade.

Total Suspended Particulate Lead

DEQ will request renewal of the 2013 TSP lead monitoring waiver for Cascade Rolling Mills for another five years. Cascade Rolling Mills has not raised their PSEL since the 2012 monitoring and retain their emission controls required in their permit.
In 2010, EPA required TSP lead to be monitored outside of Cascade Rolling Mills in McMinnville because its Plant Site Emission Limits were over 0.5 tons per year. DEQ monitored for three years and found levels far below the NAAQS.

# 1. Introduction

The Oregon Department of Environmental Quality's (ODEQ) ambient air quality monitoring network is designed in response to the Environmental Protection Agency's (EPA) National Monitoring Strategy, state and local needs, the requirements of air quality maintenance plans and the State Implementation Plans (SIPs) for non-attainment areas, and CFR requirements.

Code of Federal regulations, 40 CFR 58.10, requires the state and local air quality surveillance agencies to write an annual ambient air quality monitoring network plan. EPA requires the plan to be put out for public comment and submitted to EPA by July 1st. This report is used to determine if the network meets the monitoring objectives defined in Part 58, Appendix D and to propose modifications to the network in the following year. A more detailed air quality data summary is available annually at http://www.deq.state.or.us/aq/forms/annrpt.htm

# 2. Monitoring background

## 2.1 National Monitoring Strategy

The National Monitoring Strategy directs state and local agencies to operate more continuous monitors and to collect real time air quality data. The real time information is available through EPA's AIRNow and ODEQ's Air Quality Index (AQI) web pages. In particular, EPA encouraged states to use continuous $PM_{2.5}$ monitors instead of the filter base samplers which do not provide real time information. The National Monitoring Strategy also created National Core (NCORE) sites which contain a wide array of pollutant monitoring. ODEQ's NCORE site has monitors for Carbon monoxide (CO), Nitrogen oxides ($NO_x$), Sulfur dioxide ($SO_2$), ozone ($O_3$), particulate matter 2.5 and 10 micrometers in diameter and smaller ($PM_{2.5}$ and $PM_{10}$), PM coarse ($PM_{10}$-$PM_{2.5}$=PMc), $PM_{2.5}$ Speciation, visibility, and meteorology. The NCORE site is at SE Lafayette, Portland.

### 2.1.1 State and Local Support

Our monitors support state and local needs by providing data for the Air Quality Index, local wood stove management programs, Clean Air Quality Advisories, the Department of Agriculture's field burning program, and the US Forest Service and BLM's forest health program. ODEQ also operates a visibility network in the Cascades to support Regional Haze requirements protecting pristine Class 1 areas.

### 2.1.2 AQ Maintenance and Non-attainment support

ODEQ monitoring supports the SIPs and maintenance plans developed for many cities. ODEQ also has monitors in attainment areas with fast growing populations to support pollution prevention measures.

## 2.2 Non-attainment and Maintenance Areas

Areas are designated attainment or non-attainment a few years after a standard is issued. If an area exceeds the standard a State Implementation Plan (SIP) is written to bring the area into attainment. After monitoring shows a non-attainment area has reached attainment, a maintenance plan is created to keep it there. Oregon's non-attainment and maintenance areas are below.

### 2.2.1 Formerly non-attainment areas awaiting maintenance plans:

| | |
|---|---|
| PM2.5 | Klamath Falls |
| | Oakridge |

### 2.2.2 Maintenance Areas in Oregon:

| | |
|---|---|
| CO: | Grants Pass Central Business District |
| | Portland Metropolitan Service District Boundary |
| | Klamath Falls Urban Growth Boundary Medford |
| | Urban Growth Boundary |
| | Salem-Kaiser Area Transportation Study |
| PM10: | Grants Pass Urban Growth Boundary |
| | Klamath Falls Urban Growth Boundary |
| | Medford-Ashland Air Quality Maintenance Area |
| | La Grande Urban Growth Boundary |
| | Lakeview Urban Growth Boundary |
| | Eugene/Springfield Urban Growth Area |
| | Oakridge Urban Growth Boundary |
| Ozone (1hr): | Portland/Vancouver AQMA |

# 3. Overview of Network Operations

## 3.1 Air Monitoring Network Design

Site Type and Spatial Scale

Federal regulations, specifically 40 CFR Part 58 Appendix D, require that a State and Local Air Monitoring (SLAMS) network be designed to meet a minimum of three basic monitoring objectives: Provide air pollution data to the public in a timely manner, support compliance with the National Ambient Air Quality Standards (NAAQS), and support air pollution research. A variety of site types are needed to support these basic objectives, including the six general types identified in Appendix D.

1. Sites located to determine the **highest concentrations** expected to occur in the area covered by the network.
2. Sites located to measure typical **concentrations in areas of high population** density.
3. Sites located to determine the **impact of significant sources** or source categories on air quality.
4. Sites located to determine general **background concentration** levels.
5. Sites located to determine the extent of **regional pollutant transport** among populated areas; and in support of secondary standards.
6. Sites located to measure air pollution **impacts on visibility, vegetation damage**, or other welfare-based impacts.

The physical siting of air monitoring station must conform to 40 CFR Part 58 and its location must achieve a spatial scale of representativeness that is consistent with the monitoring objective and site type. The spatial scale results from the physical location of the site with respect to the pollutant sources and categories. It estimates the size of the area surrounding the monitoring site that experiences uniform pollutant concentrations. The categories of spatial scale are:

1. Microscale—Defines the concentrations in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
2. Middle scale—Defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometer.
3. Neighborhood scale—Defines concentrations within some extended area of the city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers range. The neighborhood and urban scales listed below have the potential to overlap in applications that concern secondarily formed or homogeneously distributed air pollutants.
4. Urban scale—Defines concentrations within an area of city-like dimensions, on the order of 4 to 50 kilometers. Within a city, the geographic placement of sources may result in there being no single site that can be said to represent air quality on an urban scale.
5. Regional scale—Defines usually a rural area of reasonably homogeneous geography without large sources, and extends from tens to hundreds of kilometers.
6. National and global scales—These measurement scales represent concentrations characterizing the nation and the globe as a whole.

Table 1. Relationship Between Site Type and Scale of Representativeness

| Site Type | Appropriate Spatial Scale |
|---|---|
| Highest Concentration | Micro, Middle, Neighborhood (sometimes urban) |
| Population Exposure | Middle, Neighborhood, Urban |
| Source Oriented | Micro, Middle, Neighborhood |
| General/Background | Neighborhood, Urban, Regional |
| Welfare-related Impacts | Urban, Regional |

## 3.2 Oregon Criteria Pollutant Monitoring Network

Oregon DEQ operates the ambient monitoring network for the entire state with the exception of Lane County which is operated by the Lane Regional Air Protection Authority. Tribal lands are sovereign and do not fall under DEQ's jurisdiction. Several of the tribes operate their own monitoring networks. The USFS and BLM also conduct their own monitoring in some areas.

Oregon DEQ's and LRAPA's air quality monitoring networks measure ambient concentrations of the criteria pollutants - ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, lead. The map below shows the Oregon monitoring network. The table below lists the networks sites.

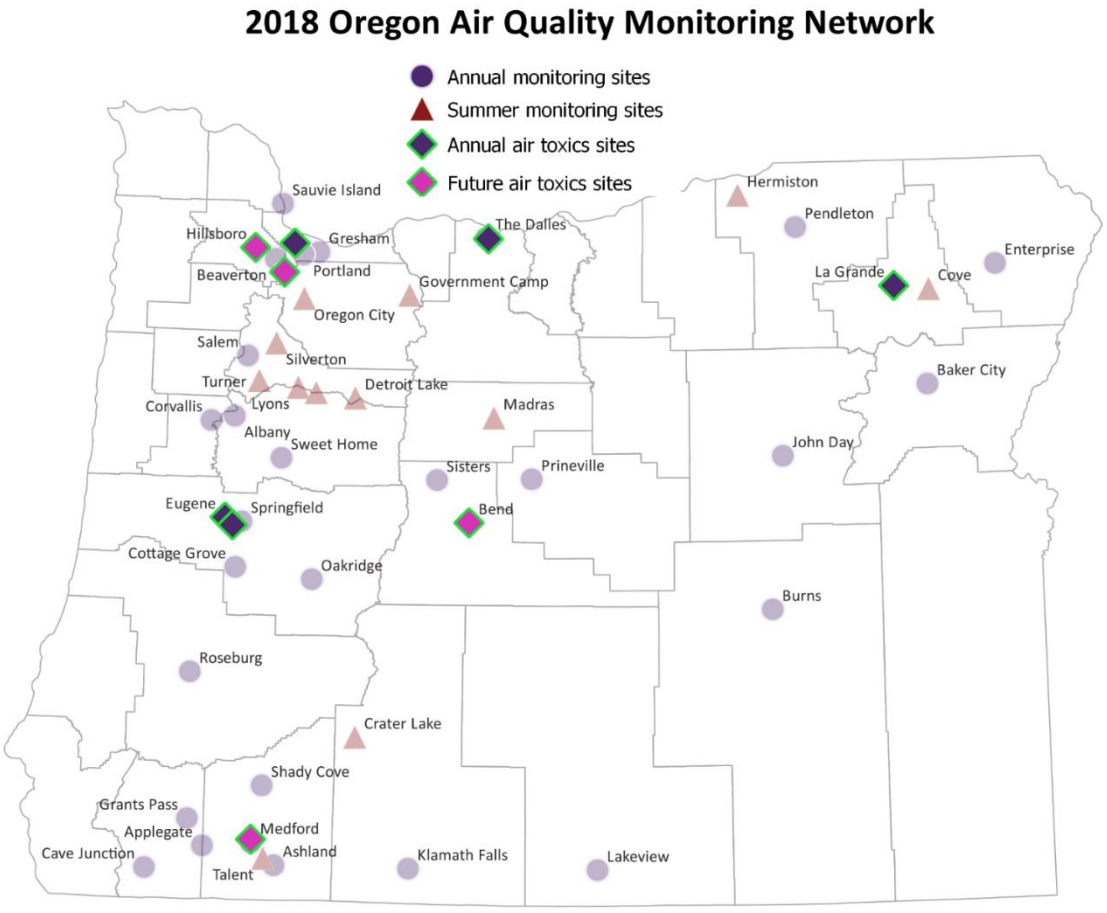


Figure 1. ODEQ and LRAPA Ambient Air Monitoring Network

Table 2. ODEQ and LRAPA Criteria Pollutant Ambient Air Monitoring Network

| City | Address | Site Code | EPA# | SO2 | CO | $NO_2$ | Ozone | PM2.5 | PM2.5 Est | PM2.5 Spec | PM10 | HAPS | Lead | Met |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Albany | Calapooia School | ACS | 410430009 | | | | | | x | | | | | |
| Applegate | Provolt | PSO | 410330011 | | | | | | x | | | | | |
| Bend | Bend Pump Station | BPS | 410170120 | | | | | | x | | | | | |
| | Road Department | BRD | 410140121 | | | | x | | | | | | | x |
| Baker City | Forest Service | BFS | 410010004 | | | | | | x | | | | | |
| Burns | Washington St. | BWS | 410250003 | | | | | x | x | | | | | x |
| Cave Junction | USFS Station | CJFS | 410330036 | | | | | | x | | | | | |
| Corvallis | Intermediate Sch. | CCB | 410030013 | | | | | | x | | | | | |
| CottageGrove | City Shops | CGC | 410399004 | | | | | x | x | | | | | |
| Crater Lake | Maintenance Bldg | CLM | 410351002 | | | | | | x | | | | | |
| Detroit Lake | USFS Station | DFS | 410470123 | | | | | | x | | | | | |
| Eugene | Pacific Hwy99N | E99 | 410390059 | | | | | x | x | | x | | | |
| | Amazon Park | EAP | 410390060 | | | | x | x | x | | | | | |
| (Saginaw) | Delight Vly SchRd | SAG | 410391007 | | | | x | | | | | | | |
| Enterprise | Forest Service | EFS | 410630001 | | | | | | x | | | | | |
| Grants Pass | Parkside School | GPP | 410330114 | | | | | x | x | | | | | x |
| Hermiston | Municipal Airport | HM | 410591003 | | | | x | | | | | | | x |
| John Day | Davidson St. | JDD | 410230002 | | | | | | x | | | | | |
| Klamath Falls | Peterson School | KFP | 410350004 | | | | | x | x | x | | | | x |
| La Grande | Ash Street | LAS | 410610119 | | | | | | x | | | x | | x |
| | Hall and North | LHN | 410610123 | | | | | | x | | | x | | x |
| (Cove) | City Hall | CCH | 410610120 | | | | | | x | | | | | x |
| Lakeview | Center & M Sts. | LCM | 410370001 | | | | | x | x | x | | | | x |
| Lyons | Maryilynn Sch | LMS | 410432003 | | | | | | x | | | | | |
| Madras | Westside School | MWS | 410310007 | | | | | | x | | | | | |
| Medford | Grant and Belmont | MG | 410290133 | | | | | x | x | | | | | |
| | Rapp Rd Talent | TAL | 410290201 | | | | x | | | | | | | |
| | Rossanley Dr. | MTV | 410291002 | | | | | | | | | | | x |
| | Welch & Jackson | MWJ | 410292129 | | | | | | | | x | | | |
| Ashland | Fire Department | AFD | 410290203 | | | | | | x | | | | | |
| Mill City | High School | MCS | 410430104 | | | | | | x | | | | | |
| Mt. Hood | Multopor | MUL | 410050102 | | | | | | x | | | | | x |
| Oakridge | School St. | OAK | 410392013 | | | | | x | x | x | | | | x |
| Pendleton | SW Marshall Pl | PMC | 410590121 | | | | | | x | | | | | x |

| City | Address | Site Code | EPA# | SO2 | CO | $NO_2$ | Ozone | PM2.5 | PM2.5 Est | PM2.5 Spec | PM10 | HAPS | Lead | Met |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Portland | 57th &SE Lafayette | SEL | 410510080 | x | x | x | x | x | x | x | x | | x | x |
| | Tualatin – I-5 | NRS | 410670005 | | x | x | x | x | x | | | | | x |
| | Humboldt Sch | PHS | 410512010 | | | | | | | | | x | | |
| | Jefferson High Sch | PJH | 410511191 | | | | | | | | | | | x |
| | Cully | PNS | 410512011 | | | | | | x | | | x | | x |
| (Beaverton) | Highland Prk Sch. | BHP | 410670111 | | | | | | x | | | | | |
| (Carus) | Spangler Rd. | SPR | 410050004 | | | | x | | x | | | | | x |
| (Hillsboro) | NE Grant St. | HHF | 410670004 | | | | | x | x | | | | | |
| (Sauvie Is) | NW SI | SIS | 410090004 | | | | x | | x | | | | | x |
| Prineville | SE Court St. | PDP | 410130100 | | | | | x | x | | | | | x |
| Roseburg | NW Garden Valley | RGV | 410190002 | | | | | | x | | | | | |
| Salem | Salem State Hosp. | SSH | 410470041 | | | | x | | x | | | | | |
| (Turner) | Cascade Jr. High, | CJH | 410470004 | | | | x | | | | | | | x |
| Shady Cove | School | SCS | 410290019 | | | | | | x | | | | | |
| Sisters | USFS Office | SFS | 410170004 | | | | | | x | | | | | |
| SweetHome | Fire Dept | SFD | 410432002 | | | | | | x | | | | | |
| The Dalles | Cherry Heights | TDC | 410650007 | | | | | | x | | | | | |
| The Dalles | Wasco Library | TWL | 410650008 | | | | | | x | | | x | | x |

* The roadway site's HAP monitoring is only black carbon monitoring (used as a diesel PM surrogate).

**Key:**
Gasses:
SO2 = Sulfur dioxide CO = Carbon Monoxide NO2 = Nitrogen dioxide O3 = ozone

Particulates:
PM Estimate = PM2.5 estimated using nephelometers
PM10 = Particulate Matter 10 microns in diameter or smaller PM2.5 = Particulate Matter 2.5 microns in diameter or smaller
Spec = PM2.5 chemical speciation,

Lead = PM10 lead,

Meteorology monitors:
WS/WD = Wind speed and direction,
Temp = Outdoor temperature at 2 meters,
DT = Delta (difference) in Temperature at 2 and 10 meters,
BP = Barometric Pressure, RH = Relative Humidity, SR = solar radiation

Other:
HAPS = Hazardous air pollutants or air toxics

### 3.2.1 Ozone Network

Oregon DEQ and LRAPA have 11 monitoring sites. Four in the Portland-Metro area (Southwest Clean Air Agency also has an additional one in Vancouver), two in Salem, Two in Eugene-Springfield, one in the Medford-Ashland area, one in Hermiston, and one in The Dalles. Maps of the network are shown below.

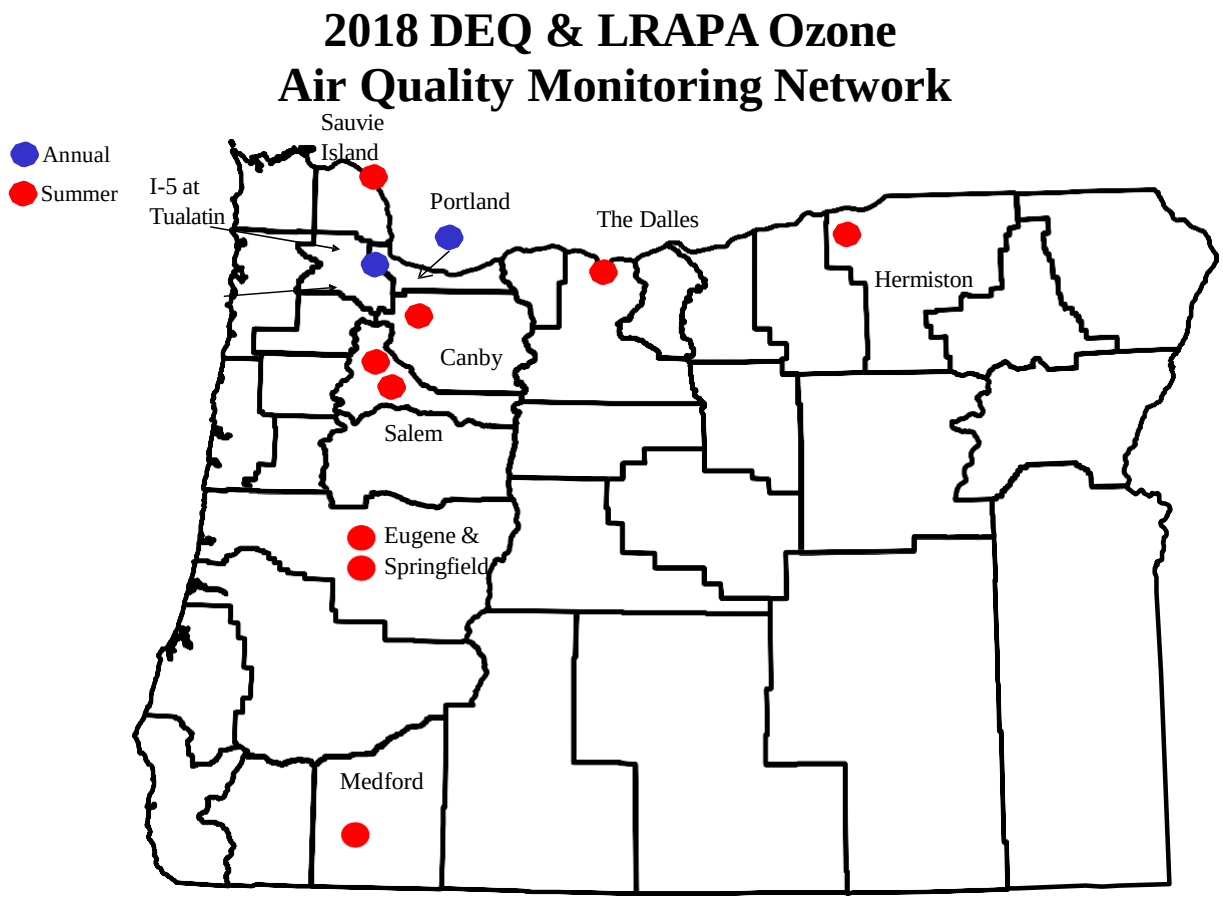


Figure 2. Ozone Monitoring Network

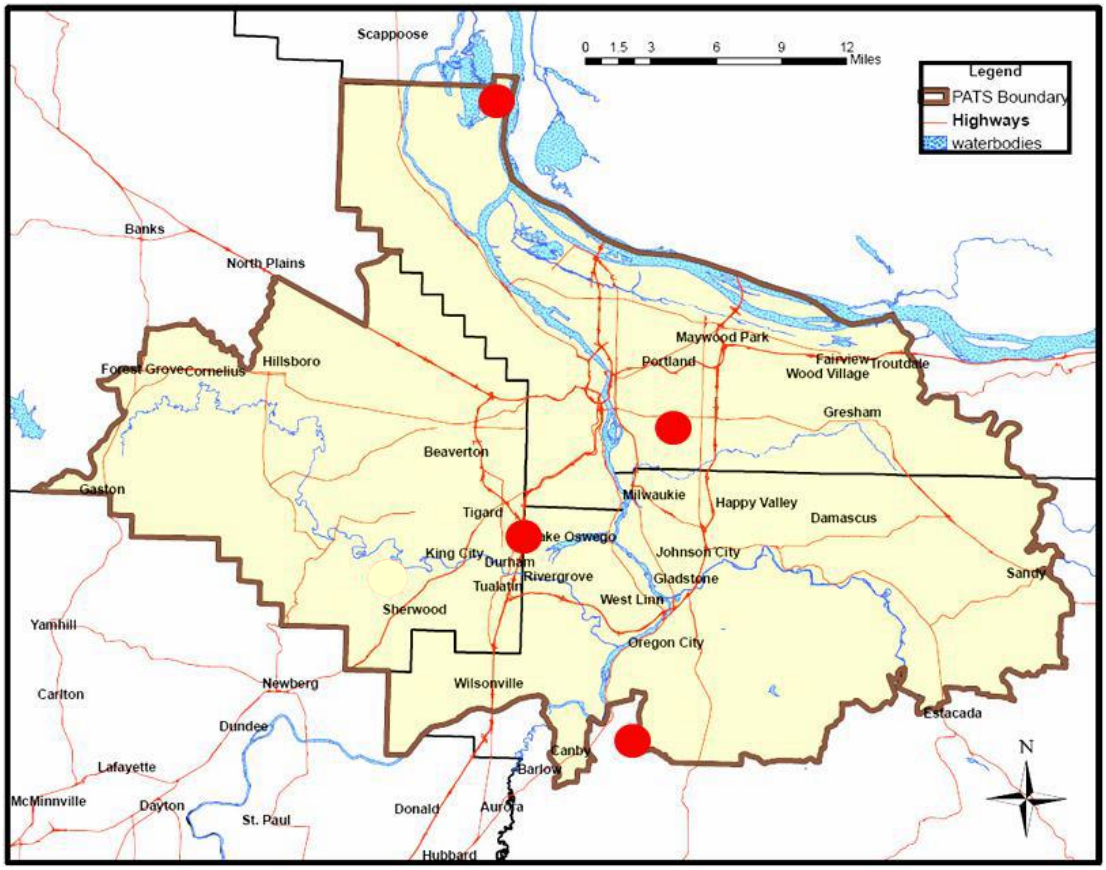


Figure 3. Portland- Metro Ozone Monitoring Sites.

Changes to the Ozone network in the past year

The ozone monitor in Sherwood was moved to Salem because the Salem MSA population requires two monitors. The Sherwood monitor was not required by the Portland-Vancouver MSA. This was moved as required by EPA and is not expect to provide any additional health benefit to Salem because there was already a downwind monitor located in Turner.

### 3.2.2 Nitrogen Dioxide Network

Oregon DEQ has two monitoring sites both in the Portland-Metro area. One is a community scale site located in SE Portland. The other is the near roadway site which measures vehicle contributions to NO2. LRAPA has no monitoring sites.

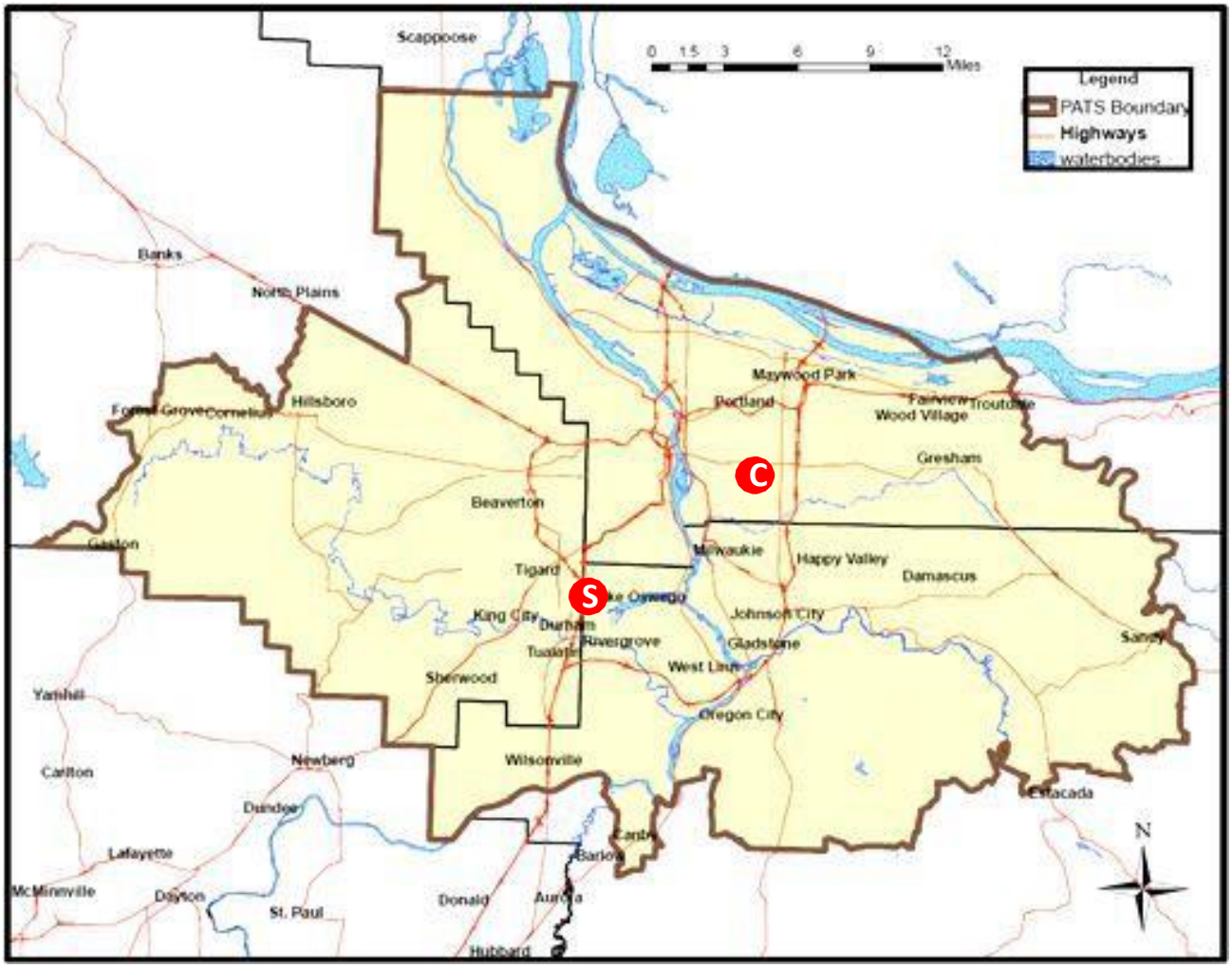


Figure 4. NO2 Monitoring Network

S = Source monitor (measuring I-5)
C = Community monitor (Measuring in neighborhood)

Changes to the NO2 network in the past year

1) No changes.

### 3.2.3 Carbon Monoxide Network

Oregon DEQ has two monitoring sites both in the Portland-Metro area. One is a community scale site located in SE Portland. The other is the near roadway site which measures vehicle contributions to CO.

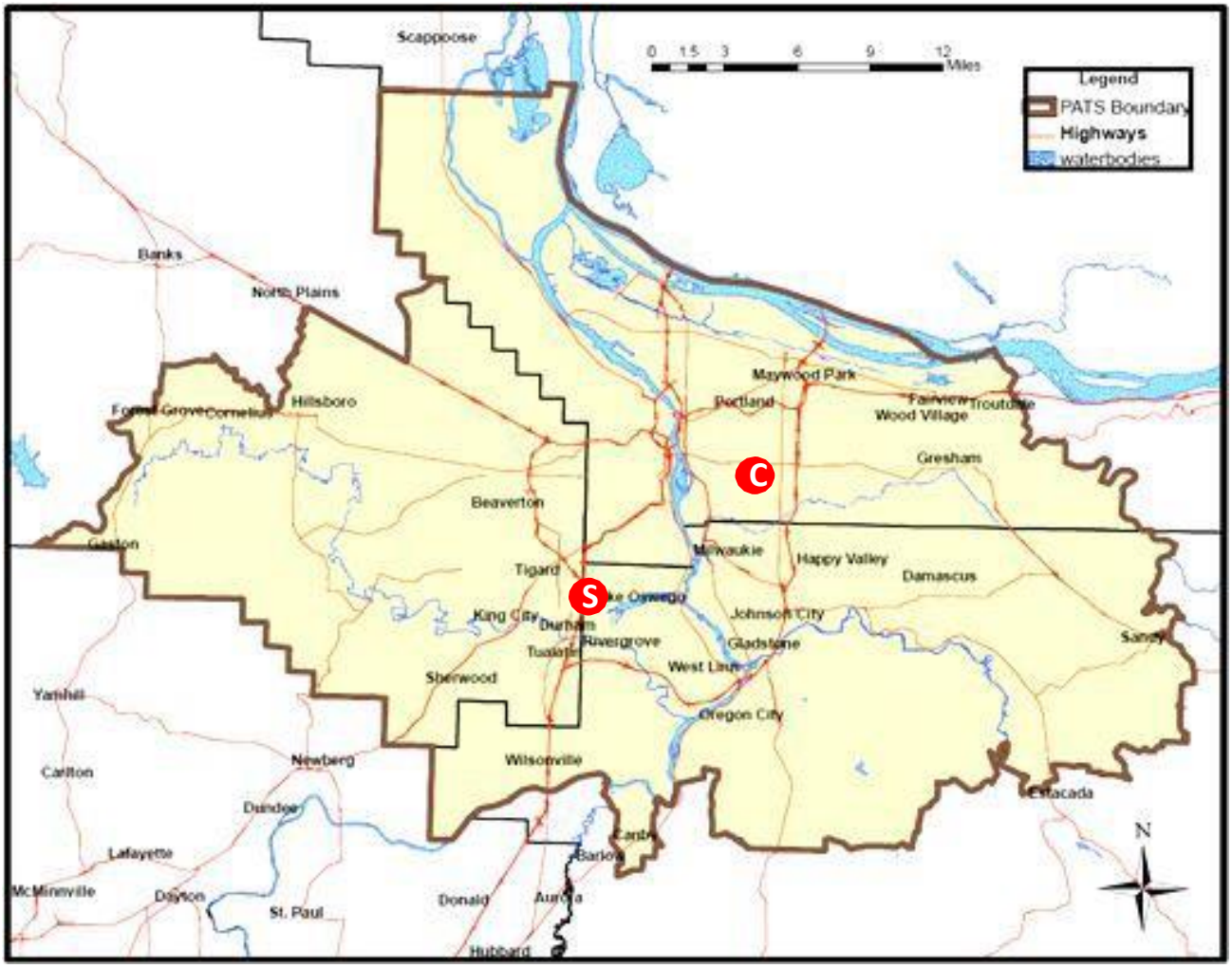


Figure 5. CO Monitoring Network

S = Source monitor (measuring I-5)
C = Community monitor (Measuring in neighborhood)

Changes to the CO network in the past year

1) No changes.

### 3.2.4 PM2.5 Network

Oregon DEQ and LRAPA have one NCORE and 11 SLAMS Federal Reference Monitoring (FRM) sites. Three in the Portland-Metro area, two in Eugene, and one each in Oakridge, Cottage Grove, Grants Pass, Medford, Klamath Falls, Lakeview, and Prineville. LRAPA operates one special purpose FRM site in Springfield. DEQ has three PM2.5 speciation sites, one in SE Portland (the trend site), one in Hillsboro, and one in Prineville. The speciation site that was in Klamath Falls is being discontinued because we have around 10 years of data and need to cut costs.

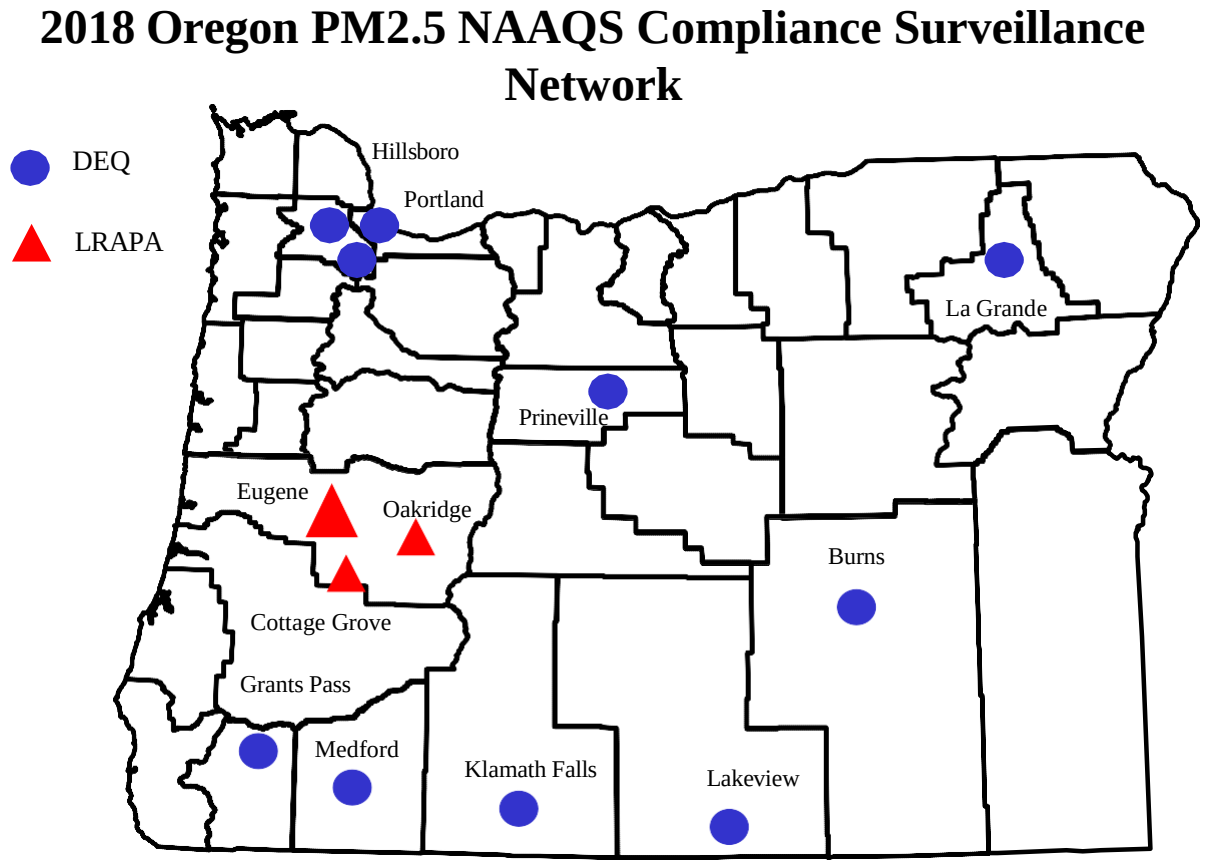


Figure 6. PM2.5 Monitoring Network

Changes to the PM2.5 network in the past year

No changes in the past year.

### 3.2.5 PM10 Network

Oregon DEQ and LRAPA have seven Federal Reference monitoring sites. Two are in the Portland-Metro area, one in each of Eugene-Springfield, Oakridge, Medford, and La Grande. One additional temporary PM10 site is in the Portland Metro area, Eugene, and The Dalles as a benefit from running Air Toxics.

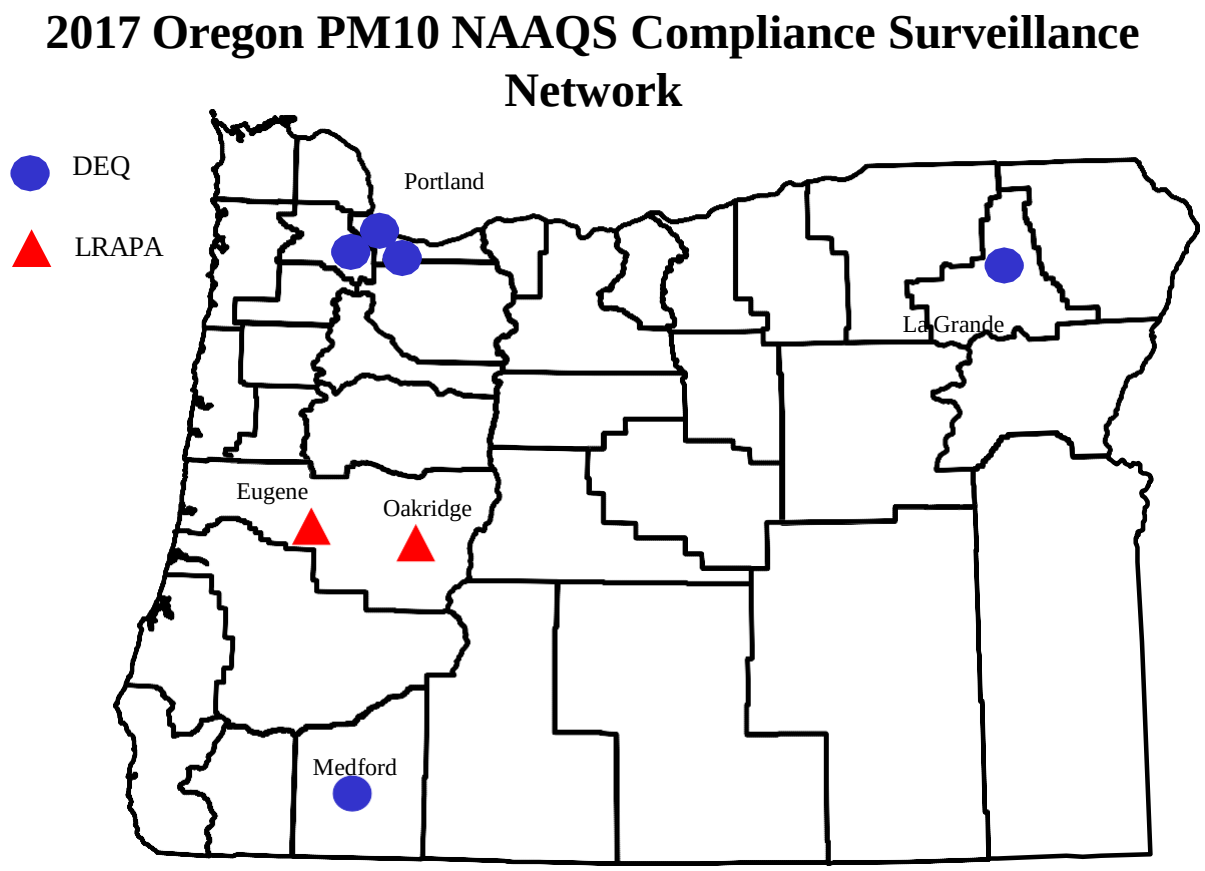


Figure 7. PM10 Monitoring Network

Changes to the PM10 network in the past year

### 3.2.6 PM10-2.5 Network

Oregon DEQ has one PM10-2.5 Federal Reference monitoring site, and it is at the Portland NCORE site.

# 2017 Oregon PM10-2.5 NAAQS Compliance Surveillance Network

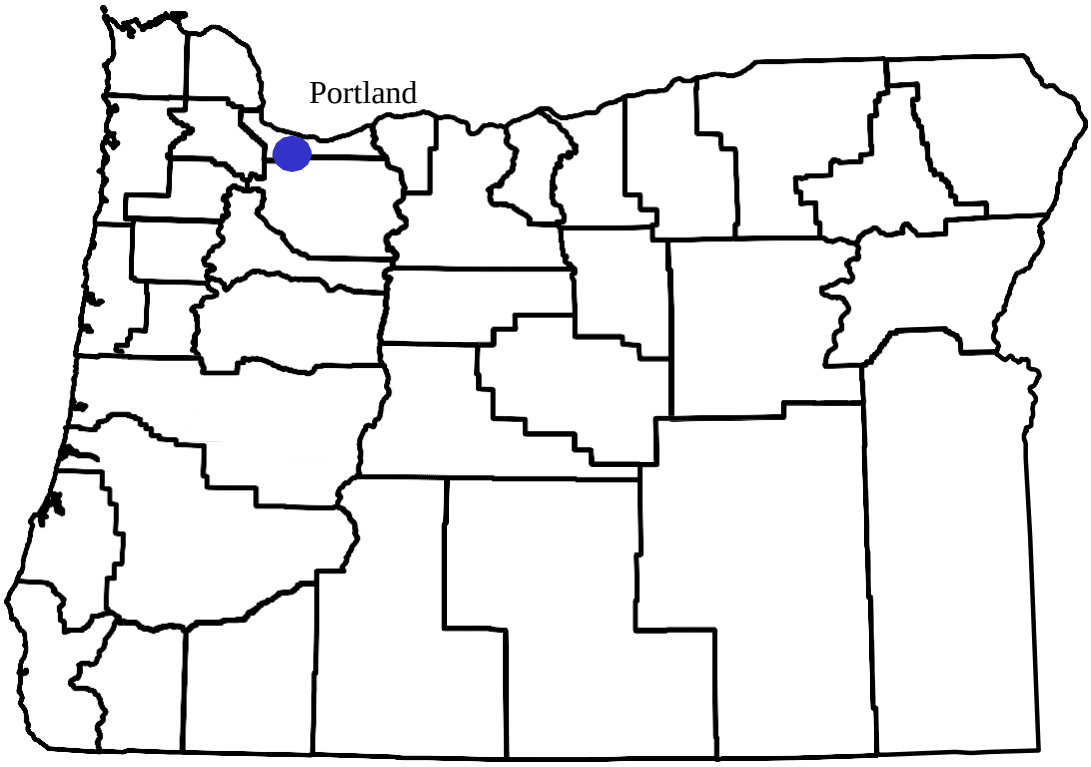


Figure 8. PM10-PM2.5 Monitoring Network

Changes to the PM10-2.5 network in the past year: No changes.

### 3.2.7 Criteria Pollutant Lead Network

Oregon has one Federal Reference monitoring site, and it is in Portland at the NCORE site. Oregon is also required to operate a TSP lead monitor outside Cascade Rolling Mills in McMinnville because it's Plant Site Emission Limit was over 0.5 tons per year. In 2012, DEQ received a waiver to discontinue monitoring because the monitored values were well below the NAAQS. This waiver had to be renew in 2018, and the justification for renewing the waiver is included in Appendix E along with the 2012 waiver.

Changes to the Criteria Pollutant Lead network in the past year: No changes.

### 3.2.8 Sulfur Dioxide (SO2) Network

Oregon has one SO2 site, and it is in Portland. The site is for community monitoring. There are no sources in Oregon that require SO2 monitoring at this time.

Oregon has one point source that meets the threshold that requires monitoring or modeling. That is the PGE Boardman coal power plant. The coal plant will shut down in 2020 but the EPA requires monitoring or modeling to be performed from 2017 to 2020. DEQ will opt to model for this period.

Changes to the SO2 network in the past year: No changes.

### 3.3 PM2.5 Air Quality Index Network

Oregon has a network of PM2.5 real time monitors that are used for hourly reporting of air quality for the Air Quality Index (AQI). The AQI is used by health officials, forestry mangers, and the public to get timely information about air quality health levels. The data is also sent to EPA's AIRNow AQI web page which combines all the states and tribal AQIs in one place. The AQI data is also loaded to the Oregon Smoke Blog which provides emergency information during forest fire smoke inundations.

Oregon and LRAPA have 28 annual PM2.5 AQI sites and an additional nine summer AQI sites. DEQ partners with other government agencies to provide AQI information and sharing resources. Around 10 of these sites are funded by the USFS and BLM. Three of these summer sites are funded by the Oregon Dept. of Ag. for field burning. One summer site each is funded by Jefferson and Union Counties for field burning. DEQ does not need to request EPA approval for changes to non-EPA funded AQI sites but will submit any changes in the Annual Network Plan for public comment and input.

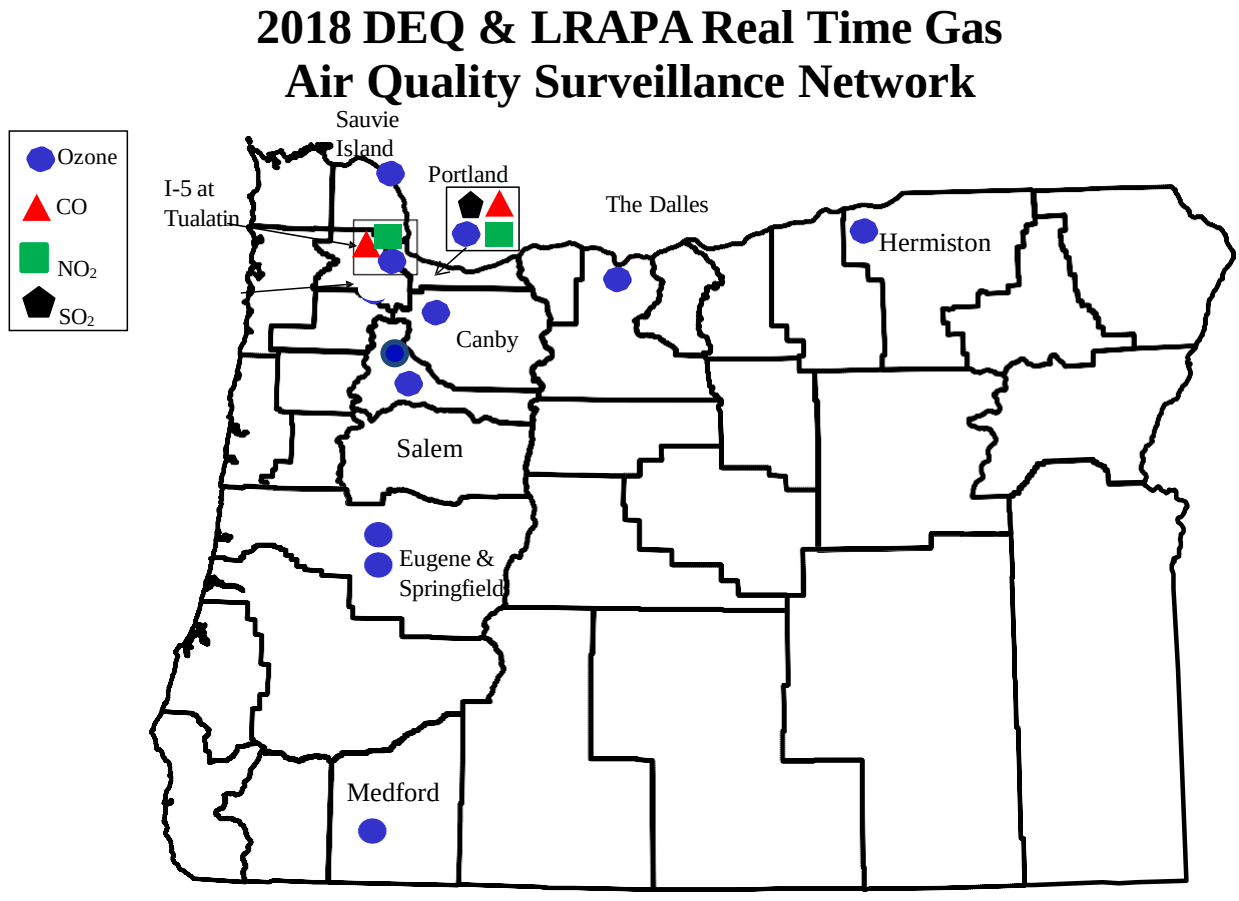


Figure 9. PM2.5 AQI Network

Changes to the PM2.5 AQI Network in the past year:

DEQ has a new AQI web site program and phone app that is vastly improved. The ozone monitor moved from Sherwood to Salem.

### 3.4 Meteorology Network

Oregon DEQ and LRAPA operate a meteorology (met) network in support of the criteria and air toxics pollutant networks. The met network provides modelers, forecasters, and local health officials with information on origin of pollutant emissions and pollutant movement. DEQ does not need to request EPA approval for changes to met network sites but will submit any changes in the Annual Network Plan for public comment and input.

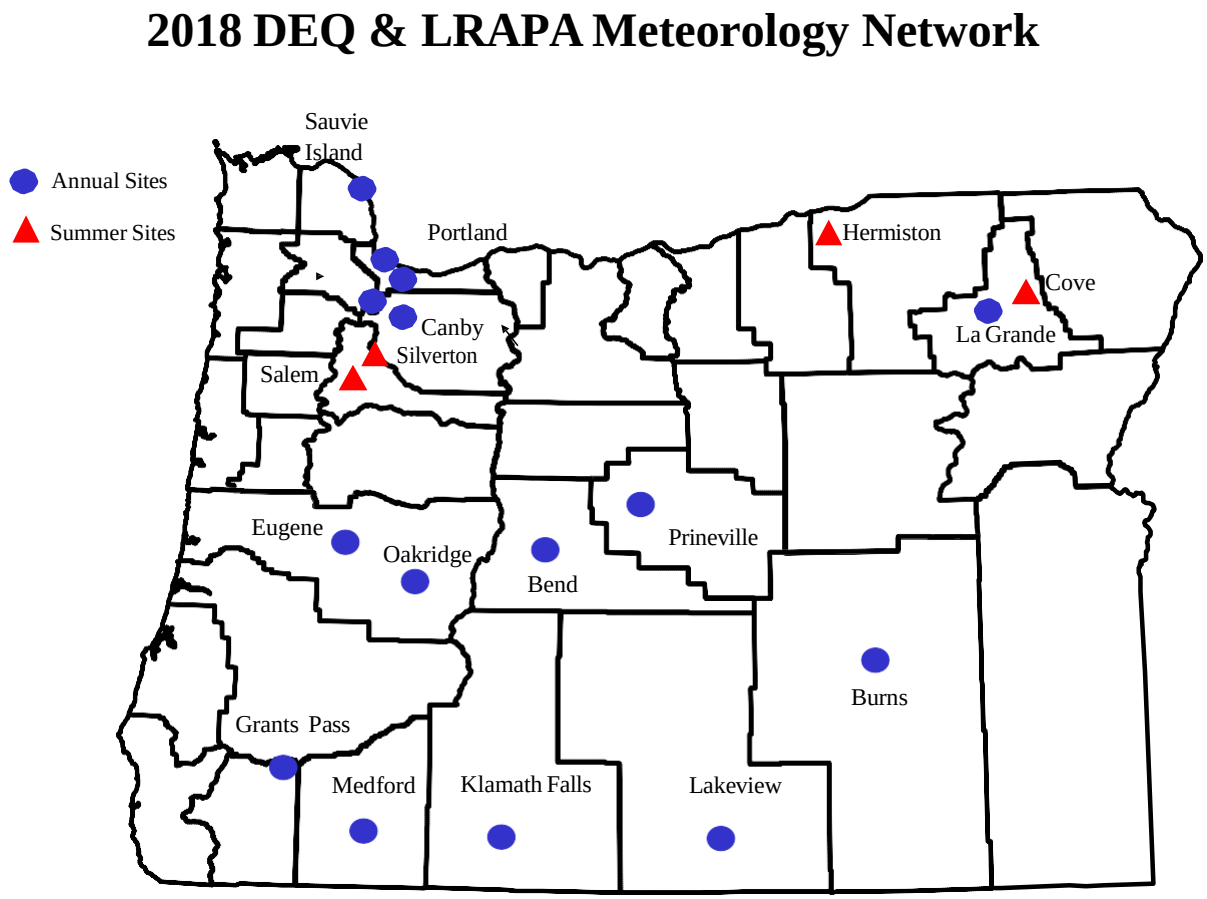


Figure 10. Meteorology Network

Changes to the Meteorological Network in the past year:

The Sherwood summer met site that was associated with the ozone monitor was shut down because the ozone monitor moved to Salem. Salem already has a met summer met site a Turner.

# 4. Planned Changes to Network

All major modifications to the ambient air quality monitoring network required by EPA are submitted to the regional administrator for review and approval in the network assessment. Changes that do not require EPA approval are also mentioned for informational purposes.

## 4.1 Criteria Pollutant Changes

Ozone

No additional ozone monitoring site changes are planned in the next year.

PM2.5

The Klamath Falls and Burns PM2.5 FRM monitors will move from every third day sampling to every day sampling starting January 1st 2019 because their design values are within 5% of the NAAQS. The PM2.5 monitoring method will be changed from filter samplers to continuous monitoring in these two communities.

State and Local PM2.5 speciation will be cut back from three sites to two sites to save resources and fund the daily monitoring.

PM10

A PM10 sampler will be placed in Lakeview for at least one year to satisfy the PM10 maintenance plan requirements. If the PM10 data correlates well with the sites existing PM2.5 sampler, the PM2.5 data will be used as a PM10 surrogate.

A third PM10 monitor is required in the Eugene MSA (which included Oakridge) because of the high 2018 forest fire measurements. DEQ and LRAPA will request a waiver to only operate two PM10 monitors because the high values were non-anthropogenic. Eugene currently has three PM10 sites but one of these is temporary.

TSP Lead

The TSP lead monitoring waiver will be renewed for another five year period because Cascade Rolling Mills has not increased their lead emissions over the 2010-2012 levels when previous sampling occurred.

## Appendix A. Minimum Monitoring Requirements

DEQ and LRAPA meet the minimum monitoring requirements for all criteria pollutants measured as established in 40 CFR 58. The tables in Appendix A list the criteria used to determine compliance with federal regulations.

## Table A. 1. Minimum Monitoring Requirements for NCORE Site.

NCORE Site: SE Lafayette (SEL), AQS# 41-051-0080, Address 57th Avenue and SE Lafayette St., Portland, OR
MSA – Portland-Vancouver, OR-WA (#6440)
Counties represented – (OR) Multnomah, Clackamas, Washington, (WA) Clark
MSA Population (2016)* - 2,424,955

| Pollutant | Std Type | Std | DV | Units | Years | # of Monitors | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Minimum required | Active | needed |
| $PM_{2.5}$ | Daily | 35 | 22 | $\mu g/m^3$ | 15-17 | 1 | 1 | 0 |
| | Annual | 12 | 6.9 | $\mu g/m^3$ | 15-17 | | | |
| $PM_{2.5}$ Speciation | N/A | - | - | - | - | 1 | 1 | 0 |
| $PM_{2.5}$ Continuous estimate | N/A | - | - | - | - | 0 | 1 | 0 |
| $PM_{10}$ | Daily | 150 | 0 | $\mu g/m^3$ | -17 | 1 | 1 | 0 |
| $PM_{10-2.5}$ | N/A | - | - | - | - | 1 | 1 | 0 |
| $PM_{10}$ lead | Annual | 0.15 | 0.03 | $\mu g/m^3$ | 15-17 | 1 | 1 | 0 |
| Ozone | 8 hr Ave | 75 | 60 | ppb | 15-17 | 1 | 1 | 0 |
| $NO_2$ | 1 hour | 100 | 36 | ppb | 15-17 | 1 | 1 | 0 |
| | Annual | 53 | 9 | ppb | 15-17 | | | |
| NOx (substituted for NOy - EPA waiver) | N/A | - | - | - | - | 1 | 1 | 0 |
| Trace $SO_2$ | 1 hour | 75 | 3 | ppb | 15-17 | 1 | 1 | 0 |
| Trace CO | 8 hour | 9 ppm | <1excedencd/yr | | 15-17 | 1 | 1 | 0 |
| Wind Direction | N/A | - | - | - | - | 1 | 1 | 0 |
| Wind Speed | N/A | - | - | - | - | 1 | 1 | 0 |
| Relative Humidity | N/A | - | - | - | - | 1 | 1 | 1 |
| Solar Radiation | N/A | - | - | - | - | 0 | 0 | 0 |
| Barometric Press | N/A | - | - | - | - | 0 | 1 | 0 |
| Outdoor Temp | N/A | - | - | - | - | 1 | 1 | 0 |
| Delta Temp | N/A | - | - | - | - | 0 | 0 | 0 |

*MSA Population (2016) from US Census Bureau Estimate

**Table A. 2. Ozone Minimum Monitoring Requirements**

| MSA | County | Population 2016 estimate | Design Value (ppb) | Site name | Season | Years | # of Monitors | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Minimum required | Active | needed |
| Portland-Vancouver-Beaverton, OR-WA (38900) | Multnomah, Clackamas, Washington, Clark (WA) | 2,453,168 | 72 [a] | Carus (41-005-0004) | May-Sept | 15-17 | 2 | 4 in OR, 1 in WA | 0 |
| Salem (41420) | Marion | 424,982 | 69 | Cascade Sch. Turner (41-047-0004) | May-Sept | 15-17 | 2 | 2 | 0 |
| Eugene-Springfield (21660) | Lane | 374,748 | 66 | Saginaw (41-039-1007) | May-Sept | 15-17 | 1 | 2 | 0 |
| City of The Dalles (17180) | Wasco | 26,437 | *62*[b] | Cherry Heights (41-065-0007) | May-Sept | 16-17 | 0 | 1 | 0 |
| Medford (32780) | Jackson | 217,479 | 65 | Talent (41-029-0201) | May-Sept | 15-17 | 0 | 1 | 0 |
| Pendleton-Hermiston (37820) | Umatilla | 88,151 | 68 | Airport (41-059-1003) | May-Sept | 15-17 | 0 | 1 | 0 |
| Albany-Lebanon (10540) | Linn | 125,047 | - | - | - | - | 0 | 0 | 0 |
| Bend-Redmond (13460) | Deschutes | 186,875 | - | - | - | - | 0 | 0 | 0 |
| Corvallis (18700) | Benton | 90,951 | | - | - | - | 0 | 0 | 0 |
| Grants Pass (24420) | Josephine | 86,352 | - | - | - | - | 0 | 0 | 0 |

a. 2017 Forest Fires caused the DV to go over the NAAQS
b. Only two years of data available.

**Table A. 3. Carbon Monoxide Minimum Monitoring Requirements:**

| MSA (Maintenance areas) | County | Population 2016 estimate | Standard Exceeded more than once per year | Site name | Last Year | # of Monitors | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Minimum required | Active | needed |
| Portland-Vancouver-Beaverton, OR-WA (38900) | Multnomah, Clackamas, Washington, Clark (WA) | 2,453,168 | No | SE Lafayette, Portland (41-051-0080) | 2015 | 2 | 2 | 0 |
| Salem (41420) | Marion | 424,982 | No | - | 2005 | 0 | 0 | 0 |
| Medford (32780) | Jackson | 217,479 | No | Monitor CO with modeling | 2009 | 0 | 0 | 0 |
| Klamath Falls (28900) | Klamath | 66,935 | No | - | 2004 | 0 | 0 | 0 |
| Grants Pass (24420) | Josephine | 86,352 | No | - | 2005 | 0 | 0 | 0 |

## NO2 Minimum Monitoring Requirements:

EPA requires NO2 near roadway monitoring in CBSAs above 500,000. The monitoring is to be next to a freeway at a location with the highest annual average daily traffic and highest heavy duty diesel traffic. Portland-Vancouver is the only CBSA in Oregon required to have near road NO2 monitoring. In addition, EPA requires one neighborhood or larger spatial scale monitoring in CBSA's above one million. The Portland-Vancouver area is the only CBSA in Oregon required to have community scale monitoring. The NCORE site is required to have NO2, NO, NOx, and NOy monitoring. The NCORE site is in Portland and doubles as the community scale site for NO2. EPA granted a waiver under CFR40 Part 58 Appendix D, Section 3 (b.1) to allow NOx to substitute for NOy because DEQ showed there was minimal difference between the two. The table below shows the current monitoring status.

### Table A. 4. NO2, NO, NOx Minimum Monitoring Requirements:

| MSA | County | Population 2016 estimate | Design Value (ppb) | % of Std | Site name | Season/ Frequency | Years | # of Monitors | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Minimum required | Active | needed |
| Portland-Vancouver-Beaverton, OR-WA (38900) | Multnomah, Clackamas, Washington, Clark (WA) | 2,453,168 | 1hr = 36ppb<br>Annual= 8.8 ppb | 1hr = 36%<br>Annual= 17% | Portland, SE Lafayette (41-005-0080) | Annual, Hourly | 15-17 | 1 | 1 | 0 |
| | | | 1hr = 36ppb<br>Annual= 13.0 ppb | 1hr = 36%<br>Annual= 25% | Tualatin Bradbury Ct. (Near Roadway site) (41-067-0005) | Annual, Hourly | 15-17 | 1 | 1 | 0 |

## SO2 Minimum Monitoring Requirements:

EPA devised the Population Weighted Emissions Index to determine where SO2 monitoring is needed. This combines population and SO2 emission estimates. Oregon only had one MSA with a PWEI which required monitoring, Portland-Vancouver. The location measures population exposure in the CBSA which meets the minimum spatial siting requirement. The NCORE site also requires trace SO2 monitoring. The NCORE site is also the PWEI site and operates with a trace SO2 monitor meeting both criteria. The table below shows the current monitoring status.

### Table A. 5. SO2 Minimum Monitoring Requirements:

| MSA | County | Population 2016 estimate | Design Value (ppb) | % of Std | Site name | Season/ Frequency | Years | # of Monitors | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Minimum required | Active | needed |
| Portland-Vancouver-Beaverton, OR-WA (38900) | Multnomah, Clackamas, Washington, Clark (WA) | 2,453,168 | 3 | 4 | Portland, SE Lafayette (41-005-0080) | Annual, Hourly | 15-17 | 1 | 1 | 0 |

## Lead: Minimum Monitoring Requirements:

EPA requires TSP lead monitoring at any source with an annual plant site emission limit of over 1/2 ton/year. In Oregon only one source meets this criterion, Cascade Rolling Mills in McMinnville. DEQ did fence line monitoring at Cascade Rolling Mills for three years (2010-2012) and determined the levels were less than ½ the standard. With these low values and other resource needs, DEQ asked for and received a waiver under CFR40 Part 58 Appendix D, Section 4.5(i) from EPA to suspend monitoring. This waiver will need to be renewed in 2017.

EPA requires monitoring at airports with emission estimates greater than 1 ton/yr CFR40 Part 58 Appendix D, Section 4.5(iii). No airports in Oregon have estimated lead emissions of over 1 ton/yr. EPA is working with the FAA to find a safe substitute for lead in aviation fuel so all airports no matter how small will be free from lead from aviation fuel .

CFR40 Part 58 Appendix D, Section 4.5(b) requires one non-source oriented lead monitor at the NCORE site in CBSAs of over 500,000. Oregon has one site. The table below shows the current monitoring status.

## Table A. 6. Lead Minimum Monitoring Requirements:

| MSA | County | Population 2016 estimate | Design Value $\mu g/m^3$ | % of Std | Site name | Season/ Frequency | Years | # of Monitors | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Minimum required | Active | needed |
| Portland-Vancouver-Beaverton, OR-WA (38900) | Multnomah, Clackamas, Washington, Clark (WA) | 2,453,168 | 0.003[1] | 2% | Portland, SE Lafayette (41-005-0080) | Annual, 1/3 at NCore | 15-17 | 0 | 1 | 0 |
| McMinnville[2] | Yamhill | 32,510 | 0.045 | 30% | McMinnville Lead (41-071-1702) | 1/6 | 10-12 | 0 | 0 | 0 |

1. This is the PM10 lead from the NCORE site and not the lead measured near art glass manufacturers. That lead was not monitored for over one year so the annual average cannot be calculated at the time of this report.
2. EPA granted a waiver to discontinue McMinnville lead because its three year average was less than ½ the NAAQS and the operating funds were needed at the NO2 roadway site. The Portland lead monitoring is not eligible for a waiver even though it is only 3% of the NAAQS. La Grande lead is sampled as part of the NATTS suite.

## PM10 Minimum Monitoring Requirements:

PM10 has dropped significantly since the 1980s when numerous Oregon communities were in non-attainment. These communities are now all under maintenance plans and many have EPA waivers to discontinue PM10 and use PM2.5 as a surrogate. This was done because PM10 is mostly comprised of PM2.5 and the PM10 levels are far below the standard.

## Table A. 7. PM10 Minimum Monitoring Requirements:

| MSA | County | Population 2016 estimate | Exceedence/yr | Site name | Season/ Frequency | Year | # of Monitors | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Minimum required | Active | needed |
| Portland-Vancouver-Beaverton, OR-WA (38900) | Multnomah, Clackamas, Washington, Clark (WA) | 2,453,168 | 0 | SE Lafayette (41-005-0080) N. Roselawn (41-051-0246) | Annual, 1/3 at NCORE & 1/6 other sites | 15-17 | 2-4 | 2 | 0 |
| Eugene-Springfield (21660) | Lane | 374,748 | 2.1 [a] | Eugene Hwy 99 (41-039-0059) Oakridge (41-039-2013) Eugene Amazon Prk (41-039-0060) | Annual 1/6 | 15-17 | 3 | 3 | 0 |
| La Grande (29260) | Union | 16,910 | 0 | Hall & North Sts. (41-067-0123) | Annual, 1/6 | 15-17 | 1 | 1 | 0 |
| Medford (32780) | Jackson | 217,479 | 2 [a] | Grant & Belmont (41-029-2129) | Annual, 1/6 | 15-17 | 1 | 1 | 0 |
| Grants Pass (24420) | Josephine | 86,352 | 0 [b] | Parkside School (41-033-0114) | PM2.5 as surrogate | 15-17 | 1 | 0 | 0* |
| Klamath Falls (28900) | Klamath | 66,935 | 0 [b] | Klamath Falls Petersen Sch. (41-035-0004) | PM2.5 as surrogate | 15-17 | 1 | 0 | 0* |

*a. DV includes forest fire data that impact the 98$^{t}$ percentile. If this has regulatory significance in the future, DEQ will request exceptional event concurrence from EPA. The non- forest fire DVs are 0 exceedences/yr for Eugene and* Medford.

*b. PM2.5 is used as a surrogate for PM10*

**Table A. 8. PM2.5 (FRM) Minimum Monitoring Requirements:**

| MSA | County | Population 2016 estimate | Design Value Daily & Annual (µg/m3) | % of Std | Site name | Season/ Frequency | Years | # of Monitors | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Minimum required | Active | needed |
| Portland-Vancouver-Beaverton, OR-WA (38900) | Multnomah, Clackamas, Washington, Clark (WA) | 2,453,168 | 28<br>7.4 | 79<br>62 | Hillsboro Hare Field (41-067-0004) | Annual<br>1/3 | 15-17 | 3 | 3 | 0 |
| Eugene-Springfield (21660) | Lane | 374,748 | 30<br>8.2 | 85<br>68 | Hwy 99 (41-039-0059) | Annual<br>1/3 | 15-17 | 1 | 2 | 0 |
| | | | 46 [b]<br>9.5 | 130<br>79 | Oakridge (41-039-2013) | Annual<br>1/3 | 15-17 | 0 | 1 | 0 |
| | | | 25<br>7.3 | 70<br>61 | Cottage Grove (41-039-9004) | Annual<br>1/3 | 15-17 | 0 | 1 | 0 |
| Medford (32780) | Jackson | 217,479 | 59[a]<br>11.6 | 166<br>97 | Medford, Grant & Belmont (41-029-2129) | Annual<br>1/3 | 15-17 | 1 | 1 | 0 |
| Grants Pass (24420) | Josephine | 86,352 | 50 [a]<br>10 | 141<br>83 | Parkside Sch. (41-033-0114) | Annual<br>1/6 | 15-17 | 0 | 1 | 0 |
| Klamath Falls (28900) | Klamath | 66,935 | 36[b]<br>9.3 | 101<br>78 | Petersen Sch. (41-035-0004) | Annual<br>1/3 | 15-17 | 0 | 1 | 0 |
| Lakeview (00000) | Lake | 8,015 | 37<br>8.6 | 104<br>72 | Lakeview (41-037-0001) | Annual<br>1/3 | 15-17 | 0 | 1 | 0 |
| Burns-Hines (00000) | Harney | 4,390 | 34<br>9.2 | 96<br>77 | Washington Park (41-025-0003) | Annual<br>1/3 | 15-17 | 0 | 1 | 0 |
| Prineville (39260) | Crook | 23,123 | 41 [a]<br>9.2 | 115<br>77 | Davidson Park (41-013-0100) | Annual<br>1/3 | 15-17 | 0 | 1 | 0 |

*a. DV includes forest fire data that impact the 98$^{t}$ percentile. If this has regulatory significance in the future, DEQ will request exceptional event concurrence from EPA. The non- forest fire DV is 18* µg/m$^3$ *for Grants Pass, 28*µg/m$^3$ for Medford, 28 µg/m$^3$ for Prineville.

*b. DEQ is requesting exceptional event concurrence from EPA for forest fire impacts in 2017. If these are approved the DV will be 28µg/m$^3$ for Klamath Falls and 29 µg/m$^3$ for Oakridge.*

AQI (Non-FRM – Informational data). This monitoring allows DEQ to monitor the rest of the state. If a design value is near or above the NAAQS, DEQ considers placing a FRM sampler at the site for comparison to the NAAQS.

### Table A. 9. PM2.5 for AQI (Non-FRM) site information

| MSA | County | 2016 MSA Populatio | Design Value $\mu g/m^3$ | % of Std | Site name | Season/ Frequency | Years | # of Monitors required | Active | needed |
|---|---|---|---|---|---|---|---|---|---|---|
| Salem (41420) | Marion | 424,982 | 22<br>6.1 | 62<br>51 | State Hospital (41-047-0041) | Annual, Hourly | 15-17 | 0 | 1 | 0 |
| Bend-Redmond (13460) | Deschutes | 186,875 | 35<br>6.6 | 99<br>55 | Bend Rd Dept (41-017-0121) | Annual, Hourly | 15-17 | 0 | 1 | 0 |
| | Deschutes | | 73<br>4.8 | 206<br>40 | Sisters USFS (41-017-0004) | Annual, Hourly | 15-17 | 0 | 1 | 0 |
| Albany-Lebanon (10540) | Linn | 125,047 | 24<br>6.0 | 68<br>50 | Albany (41-043-0009) | Annual, Hourly | 15-17 | 0 | 1 | 0 |
| | | | 24<br>6.7 | 68<br>56 | Sweet Home FD (41-043-2002) | Annual, Hourly | 15-17 | 0 | 1 | 0 |
| Corvallis (18700) | Benton | 90,951 | 20<br>5.4 | 56<br>45 | FD 3 (41-003-0013) | Annual, Hourly | 15-17 | 0 | 1 | 0 |
| Roseburg (40700) | Douglas | 109,405 | 29<br>6.4 | 82<br>53 | Forest Service Off (41-019-0002) | Annual, Hourly | 15-17 | 0 | 1 | 0 |
| The Dalles (17180) | Wasco | 26,437 | 32<br>7.8 | 90<br>65 | Cherry Heights (41-065-0007) | Annual, Hourly | 15-17 | 0 | 1 | 0 |
| La Grande (29260) | Union | 26,222 | 31<br>7.8 | 87<br>65 | Hall & North (41-061-0123) | Annual, Hourly | 15-17 | 0 | 1 | 0 |
| Baker City - Ontario (36620) | Baker | 9,890 | 22<br>7.3 | 62<br>61 | Baker City USFS (41-001-0003) | Annual, Hourly | 15-17 | 0 | 1 | 0 |
| Enterprise (00000) | Wallowa | 1,985 | 23<br>6.8 | 65<br>57 | Forest Service Off (41-063-0001) | Annual, Hourly | 15-17 | 0 | 1 | 0 |
| Cave Junction – Grant Pass (24420) | Josephine | 86,352 | 44<br>8.7 | 124<br>73 | Cave Junction USFS (41-033-0036) | Annual, Hourly | 15-17 | 0 | 1 | 0 |
| John Day (00000) | Grant | 2,440 | 27<br>8.9 | 76<br>74 | Forest Service Off (41-063-0001) | Annual, Hourly | 15-17 | 0 | 1 | 0 |

*DV includes 2017 forest fire data that impact the 98$^t$ percentile and elevated some of the cities well beyond what they usually are. Cities in SW Oregon and Eastern Oregon were particularly impacted.*

## Appendix B. Collocation Requirements

PM10, PM2.5, and lead are subject to the collocation requirements described in 40 CFR Part 58, Appendix A, Section 3. These requirements apply at the Primary Quality Assurance Organization levels and DEQ is the PQAO for Oregon. DEQ and LRAPA use method 118 and 145 for SLAMS, PM2.5 FRM samplers. LRAPA has one collocated site for 145 and DEQ has one for 118. DEQ and LRAPA use method 127 and 063 for PM10 samplers. DEQ has one collocated site for each of these methods. PM10 lead monitoring is only done at one site, and DEQ has one collocated monitor for this.

### Table B 1. Collocation Requirements for PM2.5

| Method Code | # of Primary monitors | # of Required Collocated Monitors | # Active Collocated Monitors | # Active Collocated FEM monitors (Same method designation as primary) |
|---|---|---|---|---|
| 145 | 11 | 2 | 2 | 0 |

### Table B 2. Collocation Requirements for PM10

| Method Code | # of Primary monitors | # of Required Collocated Monitors | # Active Collocated Monitors | # Active Collocated FEM monitors (Same method designation as primary) |
|---|---|---|---|---|
| 041 | 2 | 0 | 0 | 0 |
| 127 | 2 | 1 | 1 | 0 |
| 063 | 5 | 1 | 1 | 0 |

### Table B 3. Collocation Requirements for PM10 lead

| Method Code | # of Primary monitors | # of Required Collocated Monitors | # Active Collocated Monitors | # Active Collocated FEM monitors (Same method designation as primary) |
|---|---|---|---|---|
| 811 | 1 | 1 | 1 | 0 |

## Appendix C. Detailed Site Information

This appendix present detailed site information required by 40CFR Part 58.

### Table C 1. Portland, SE Lafayette Site Information

| | | |
|---|---|---|
| Local Site Name | **Portland, SE Lafayette** | |
| AQS ID | **41-051-0080** | |
| GPS Coordinates | 45.4966, -122.6029 | |
| Street address | 5824 SE Lafayette, Portland, OR | |
| County | Multnomah | |
| Distance from roadways (meters) | 80 | |
| Traffic count (AADT, yr) | AADT = 26,000, Yr= 2015 ODOT | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA,) | Portland-Vancouver (#6440) | |
| Pollutant | **PM2.5** | **PM10** |
| Parameter code, POC | 88101,1 | 85101,1 & 81102,1 |
| MSA, CBSA, CSA or area represented | 6440 | 6440 |
| Monitor purpose | NAAQS, NCORE, AQI | |
| Monitoring Objective | Population, Non-source | Population, Max Non-source |
| Spatial scale of Representativeness | Neighborhood | Neighborhood |
| Monitoring types | SLAMS/NCORE | SLAMS/NCORE |
| Instrument type and model | R&P 2025 w/VSCC | R&P 2025 |
| Instrument parameter occurrence code | **Primary** | **Primary** |
| Method number | 145 | 127 |
| FRM/FEM/FRM/other | FRM | FRM |
| Collecting agency | ODEQ (0821) | ODEQ (0821) |
| Analytical lab | ODEQ | ODEQ |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 1/1/1999 | 1/1/1984 |
| Current sampling frequency | 1/3 | 1/3 |
| Sampling season | Annual | Annual |
| Probe height (meters) | 6 | 6 |
| Distance from supporting structure (meters) | No supports | No supports |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 22 | 22 |
| Distance from to furnace or incinerator flue (meters) | 7 | 7 |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Aluminum | Aluminum |
| Residence time for reactive gases (seconds) | NA | NA |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the standard? | Yes | Yes |

| Local Site Name | **Portland, SE Lafayette** | |
|---|---|---|
| AQS ID | **41-051-0080** | |
| GPS Coordinates | 45.4966, -122.6029 | |
| Street address | 5824 SE Lafayette, Portland, OR | |
| County | Multnomah | |
| Distance from roadways (meters) | 80 | |
| Traffic count (AADT, yr) | AADT = 26,000 yr = 2015 ODOT | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Portland-Vancouver (#6440) | |
| Pollutant | **PM10** | **PM10-2.5, 1** |
| Parameter code, POC | 85101,2 & 81102,2 | 86101,1 |
| MSA, CBSA, CSA or area represented | 6440 | 6440 |
| Monitor purpose | NAAQS | NCORE |
| Monitoring Objective | Urban Population, Max concentration, Non-source | Urban, Population, Non-source |
| Spatial scale of Representativeness | Neighborhood | Neighborhood |
| Monitoring types | SLAMS/NCORE | NCORE |
| Instrument type and model | R&P 2025 | R&P 2025 |
| Instrument parameter occurrence code | **Collocated** | **Primary** |
| Method number | 127 | 176 |
| FRM/FEM/FRM/other | FRM | FRM |
| Collecting agency | ODEQ (0821) | ODEQ (0821) |
| Analytical lab | ODEQ | ODEQ |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 7/1/2013 | 1/1/2010 |
| Current sampling frequency | 1/3 | 1/3 |
| Sampling season | Annual | Annual |
| Probe height (meters) | 6 | 6 |
| Distance from supporting structure (meters) | No supports | No supports |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 22 | 22 |
| Distance from to furnace or incinerator flue (meters) | 7 | 7 |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Aluminum | Aluminum |
| Residence time for reactive gases (seconds) | NA | NA |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the standard? | Yes | Yes |

| Local Site Name | **Portland, SE Lafayette** | |
|---|---|---|
| AQS ID | **41-051-0080** | |
| GPS Coordinates | 45.4966, -122.6029 | |
| Street address | 5824 SE Lafayette, Portland, OR | |
| County | Multnomah | |
| Distance from roadways (meters) | 80 | |
| Traffic count (AADT, yr) | AADT = 26,000, Yr= 2015 ODOT | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Portland-Vancouver (#6440) | |
| Pollutant | **PM10 Lead** | **Ozone** |
| Parameter code, POC | 85129, 1 | 44201, 1 |
| MSA, CBSA, CSA or area represented | 6440 | 6440 |
| Monitor purpose | NAAQS, NCORE, AQI | NAAQS, AQI |
| Monitoring Objective | Population, Non-source oriented, NCORE | Population, Non-source |
| Spatial scale of Representativeness | Neighborhood | Urban |
| Monitoring types | SLAMS/NCORE | SLAMS/NCORE |
| Instrument type and model | R&P 2025 | TECO 49C |
| Instrument parameter occurrence code | **Primary** | **Primary** |
| Method number | 811 | 047 |
| FRM/FEM/FRM/other | FRM | FRM |
| Collecting agency | ODEQ (0821) | ODEQ (0821) |
| Analytical lab | ODEQ | ODEQ |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 1/1/2012 | 7/10/2003 |
| Current sampling frequency | 1/3 | Hourly |
| Sampling season | Annual | Annual |
| Probe height (meters) | 6 | 5 |
| Distance from supporting structure (meters) | No supports | 1.5 |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 22 | 24 |
| Distance from to furnace or incinerator flue (meters) | 7 | 9 |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Aluminum | Teflon |
| Residence time for reactive gases (seconds) | NA | 3.5 |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the standard? | Yes | Yes |

| | | |
|---|---|---|
| Local Site Name | **Portland, SE Lafayette** | |
| AQS ID | **41-051-0080** | |
| GPS Coordinates | 45.4966, -122.6029 | |
| Street address | 5824 SE Lafayette, Portland, OR | |
| County | Multnomah | |
| Distance from roadways (meters) | 80 | |
| Traffic count (AADT, yr) | AADT = 26,000, Yr= 2015 ODOT | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Portland-Vancouver (#6440) | |
| Pollutant | **NO2** | |
| Parameter code, POC | 42602, 1 | |
| MSA, CBSA, CSA or area represented | 6440 | |
| Monitor purpose | NAAQS, NCORE | |
| Monitoring Objective | Population, Urban, Non-source | |
| Spatial scale of Representativeness | Urban | |
| Monitoring types | SLAMS/NCORE | |
| Instrument type and model | Ecotech – EC9841A | |
| Instrument parameter occurrence code | **Primary** | |
| Method number | 590 | |
| FRM/FEM/FRM/other | FRM | |
| Collecting agency | ODEQ (0821) | |
| Analytical lab | ODEQ | |
| Reporting agency | ODEQ | |
| Monitoring start date | 01/01/1984 | |
| Current sampling frequency | Hourly | |
| Sampling season | Annual | |
| Probe height (meters) | 6.3 | |
| Distance from supporting structure (meters) | 2.7 | |
| Distance from obstructions on roof (meters) | No obstructions | |
| Distance from obstructions not on roof (meters) | No obstructions | |
| Distance from trees (meters) | 24 | |
| Distance from to furnace or incinerator flue (meters) | 9 | |
| Unrestricted airflow (degrees) | 360˚ | |
| Probe material for reactive gases | Glass, Teflon | |
| Residence time for reactive gases (seconds) | 4.9 | |
| Will there be changes with the next 18 months? | No | |
| Is it suitable for comparison against the standard? | Yes | |

| Local Site Name | **Portland, SE Lafayette** | |
|---|---|---|
| AQS ID | **41-051-0080** | |
| GPS Coordinates | 45.4966, -122.6029 | |
| Street address | 5824 SE Lafayette, Portland, OR | |
| County | Multnomah | |
| Distance from roadways (meters) | 80 | |
| Traffic count (AADT, yr) | AADT = 26,000, Yr= 2015 ODOT | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Portland-Vancouver (#6440) | |
| Pollutant | **CO** | **SO2** |
| Parameter code, POC | 42101, 1 | 42401, 1 |
| MSA, CBSA, CSA or area represented | 6440 | 6440 |
| Monitor purpose | NAAQS, NCORE | NAAQS, NCORE |
| Monitoring Objective | Population, Non-source | Population, Non-source |
| Spatial scale of Representativeness | Micro | Urban |
| Monitoring types | SLAMS/NCORE | SLAMS/NCORE |
| Instrument type and model | ECO Tech EC9830T | ECO Tech EC9850T |
| Instrument parameter occurrence code | **Primary** | **Primary** |
| Method number | 588 | 592 |
| FRM/FEM/FRM/other | FRM | FRM |
| Collecting agency | ODEQ (0821) | ODEQ (0821) |
| Analytical lab | ODEQ | ODEQ |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 10/1/2005 | 2/1/2005 |
| Current sampling frequency | Hourly | Hourly |
| Sampling season | Annual | Annual |
| Probe height (meters) | 6.3 | 6.3 |
| Distance from supporting structure (meters) | 2.7 | 2.7 |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 24 | 24 |
| Distance from to furnace or incinerator flue (meters) | 9 | 9 |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Glass, Teflon | Glass, Teflon |
| Residence time for reactive gases (seconds) | 3.6 | 3.6 |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the standard? | Yes | Yes |

| | |
|---|---|
| Local Site Name | **Portland, SE Lafayette** |
| AQS ID | **41-051-0080** |
| GPS Coordinates | 45.4966, -122.6029 |
| Street address | 5824 SE Lafayette, Portland, OR |
| County | Multnomah |
| Distance from roadways (meters) | 80 |
| Traffic count (AADT, yr) | AADT = 26,000, Yr= 2015 ODOT |
| Groundcover (e.g. asphalt, dirt, grass) | Grass |
| Representative statistical area name (CBSA, MSA) | Portland-Vancouver (#6440) |
| Pollutant | **Chemical Speciation** |
| Parameter code, POC | Numerous parameters<br>POC 6 |
| MSA, CBSA, CSA or area represented | 6440 |
| Monitor purpose | Trend information, NCORE |
| Monitoring Objective | Population, |
| Spatial scale of Representativeness | Neighborhood |
| Monitoring types | NCORE, STN |
| Instrument type and model | Super SASS & URG<br>3000N w/Pall Quartz filter<br>and Cyclone Inlet |
| Instrument parameter occurrence code | **Primary** |
| Method number | 810,811,812,826 831,838,<br>839,840 841,842 |
| FRM/FEM/FRM/other | Other |
| Collecting agency | ODEQ (0821) |
| Analytical lab | ODEQ |
| Reporting agency | ODEQ |
| Monitoring start date | 9/1/2002 |
| Current sampling frequency | Hourly |
| Sampling season | Annual |
| Probe height (meters) | 6 |
| Distance from supporting structure (meters) | 2 |
| Distance from obstructions on roof (meters) | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions |
| Distance from trees (meters) | 24 |
| Distance from to furnace or incinerator flue (meters) | 9 |
| Unrestricted airflow (degrees) | 360˚ |
| Probe material for reactive gases | Aluminum |
| Residence time for reactive gases (seconds) | NA |
| Will there be changes with the next 18 months? | No |
| Is it suitable for comparison against the standard? | No |

## Table C 2. Portland, Humboldt School Site Information

| Local Site Name | **Portland, Humboldt School** | |
|---|---|---|
| AQS ID | **41-051-2010** | |
| GPS Coordinates | 45.558081, -122.670985 | |
| Street address | 4915 N Gantenbein Ave, Portland, | |
| County | Multnomah | |
| Distance from roadways (meters) | 12 from minor road, 108 from major | |
| Traffic count (AADT, yr) | AADT = 5774 (N Alberta St E Of Kerby Ave), yr =2012 PBOT<br>AADT = 254 (N Blandena St E of Haight Ave), yr =2015 PBOT | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Portland-Vancouver (#6440) | |
| Pollutant | **PM10** | **PM10** |
| Parameter code, POC | 81102, 7<br>85101,7 | 81102, 9<br>85101,9 |
| MSA, CBSA, CSA or area represented | 6440 | 6440 |
| Monitor purpose | NAAQS, | NAAQS, |
| Monitoring Objective | Population, Non-source oriented | Population, Non-source oriented |
| Spatial scale of Representativeness | Neighborhood | Neighborhood |
| Monitoring types | SLAMS | SLAMS |
| Instrument type and model | Tisch PM10 HV+ | Tisch PM10 HV+ |
| Instrument parameter occurrence code | **Primary** | **Collocated** |
| Method number | 063 | 063 |
| FRM/FEM/FRM/other | FRM | FRM |
| Collecting agency | ODEQ (0821) | ODEQ (0821) |
| Analytical lab | ODEQ | ODEQ |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 1/04/2005 | 1/1/2013 |
| Current sampling frequency | 1/6 | 1/12 |
| Sampling season | Annual | Annual |
| Probe height (meters) | 6 | 6 |
| Distance from supporting structure (meters) | No supports | No supports |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 25 | 25 |
| Distance from to furnace or incinerator flue (meters) | 15 | 15 |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Aluminum | Aluminum |
| Residence time for reactive gases (seconds) | VOC/Carb= 1.2s | NA |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the annual pm10? | Yes | Yes |

## Table C 3. Portland Near Roadway Site Information

| | | |
|---|---|---|
| Local Site Name | **Portland Near Roadway** | |
| AQS ID | **41-067-0005** | |
| GPS Coordinates | 45.8992, -122.7455 | |
| Street address | 6745 SW Bradbury Ct, Tualatin, OR | |
| County | Washington | |
| Distance from roadways (meters) | 27 | |
| Traffic count (AADT, yr) | AADT = 164,420 yr = 2015 ODOT MP 290.14 | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Portland-Vancouver (#6440) | |
| Pollutant | **NO2** | |
| Parameter code, POC | 42602,1 | |
| MSA, CBSA, CSA or area represented | 6440 | |
| Monitor purpose | NAAQS | |
| Monitoring Objective | Source (Freeway) | |
| Spatial scale of Representativeness | Microscale | |
| Monitoring types | SLAMS | |
| Instrument type and model | Ecotech, Serinus 40 | |
| Instrument parameter occurrence code | **Primary** | |
| Method number | 186 | |
| FRM/FEM/FRM/other | FRM | |
| Collecting agency | ODEQ (0821) | |
| Analytical lab | ODEQ | |
| Reporting agency | ODEQ | |
| Monitoring start date | 04/21/2015 | |
| Current sampling frequency | Hourly | |
| Sampling season | Annual | |
| Probe height (meters) | 4 | |
| Distance from supporting structure (meters) | 1 | |
| Distance from obstructions on roof (meters) | No obstructions | |
| Distance from obstructions not on roof (meters) | No obstructions | |
| Distance from trees (meters) | 35 | |
| Distance from to furnace or incinerator flue (meters) | 58 | |
| Unrestricted airflow (degrees) | 360˚ | |
| Probe material for reactive gases | Glass, Teflon | |
| Residence time for reactive gases (seconds) | 3.5 | |
| Will there be changes with the next 18 months? | No | |
| Is it suitable for comparison against the standard? | Yes | |

| Local Site Name | **Portland – Near Roadway Site** | |
|---|---|---|
| AQS ID | **41-067-0005** | |
| GPS Coordinates | 45.8992, -122.7455 | |
| Street address | 6745 SW Bradbury Ct, Tualatin, OR | |
| County | Washington | |
| Distance from roadways (meters) | 27 | |
| Traffic count (AADT, yr) | AADT = 164,420 yr = 2015 ODOT MP 290.14 | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Portland-Vancouver (#6440) | |
| Pollutant | **Ozone** | **CO** |
| Parameter code, POC | 44201,1 | 42101,1 |
| MSA, CBSA, CSA or area represented | 6440 | 6440 |
| Monitor purpose | NAAQS | NAAQS |
| Monitoring Objective | Source (Freeway) | Source (Freeway) |
| Spatial scale of Representativeness | Microscale | Microscale |
| Monitoring types | SLAMS | SLAMS |
| Instrument type and model | Teledyne API 400e | Ecotech 9830T |
| Instrument parameter occurrence code | **Primary** | **Primary** |
| Method number | 087 | 588 |
| FRM/FEM/FRM/other | FRM | FRM |
| Collecting agency | ODEQ (0821) | ODEQ (0821) |
| Analytical lab | ODEQ | ODEQ |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 04/21/2015 | 04/21/2015 |
| Current sampling frequency | Hourly | Hourly |
| Sampling season | Annual | Annual |
| Probe height (meters) | 3.8 | 4 |
| Distance from supporting structure (meters) | 1 | 1 |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 35 | 35 |
| Distance from to furnace or incinerator flue (meters) | 58 | 58 |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Teflon | Glass, Teflon |
| Residence time for reactive gases (seconds) | 7.1 | 3.7 |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the standard? | Yes | Yes |

| | | |
|---|---|---|
| Local Site Name | **Portland – Near Roadway Site** | |
| AQS ID | **41-067-0005** | |
| GPS Coordinates | 45.8992, -122.7455 | |
| Street address | 6745 SW Bradbury Ct, Tualatin, OR | |
| County | Washington | |
| Distance from roadways (meters) | 27 | |
| Traffic count (AADT, yr) | AADT = 164,420 yr = 2015 ODOT MP 290.14 | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Portland-Vancouver (#6440) | |
| Pollutant | **PM2.5** | |
| Parameter code, POC | 88101,1 | |
| MSA, CBSA, CSA or area represented | 6440 | |
| Monitor purpose | NAAQS | |
| Monitoring Objective | Source (Freeway) | |
| Spatial scale of Representativeness | Microscale | |
| Monitoring types | SLAMS | |
| Instrument type and model | R&P 2025 w/VSCC | |
| Instrument parameter occurrence code | **Primary** | |
| Method number | 145 | |
| FRM/FEM/FRM/other | FRM | |
| Collecting agency | ODEQ (0821) | |
| Analytical lab | ODEQ | |
| Reporting agency | ODEQ | |
| Monitoring start date | 04/21/2015 | |
| Current sampling frequency | Hourly | |
| Sampling season | Annual | |
| Probe height (meters) | 4 | |
| Distance from supporting structure (meters) | 1 | |
| Distance from obstructions on roof (meters) | No obstructions | |
| Distance from obstructions not on roof (meters) | No obstructions | |
| Distance from trees (meters) | 35 | |
| Distance from to furnace or incinerator flue (meters) | 58 | |
| Unrestricted airflow (degrees) | 360˚ | |
| Probe material for reactive gases | Glass tubing | |
| Residence time for reactive gases (seconds) | NA | |
| Will there be changes with the next 18 months? | No | |
| Is it suitable for comparison against the Standard? | Yes | |

**Table C 4. Hillsboro, Hare Field Site Information**

| Local Site Name | **Hillsboro, Hare Field** | |
|---|---|---|
| AQS ID | **41-067-0004** | |
| GPS Coordinates | 45.5285, - | |
| Street address | 1151 NE Grant St, Hillsboro, OR | |
| County | Washington | |
| Distance from roadways (meters) | 88 | |
| Traffic count (AADT, yr) | AADT = 27,090 (Cornell & Grant), Yr | |
| Groundcover (e.g. asphalt, dirt, grass) | Asphalt | |
| Representative statistical area name (CBSA, MSA) | Portland-Vancouver (#6440) | |
| Pollutant | **PM2.5** | **PM2.5** |
| Parameter code, POC | 88101,1 | 88101,2 |
| MSA, CBSA, CSA or area represented | 6440 | 6440 |
| Monitor purpose | NAAQS, AQI | NAAQS Co- |
| Monitoring Objective | Population | Population, |
| Spatial scale of Representativeness | Neighborhood | Neighborhood |
| Monitoring types | SLAMS | SLAMS |
| Instrument type and model | R&P 2025 w/VSCC | R&P 2025 w/VSCC |
| Instrument parameter occurrence code | **Primary** | **Primary** |
| Method number | 145 | 145 |
| FRM/FEM/FRM/other | FRM | FRM |
| Collecting agency | ODEQ (0821) | ODEQ (0821) |
| Analytical lab | ODEQ | ODEQ |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 1/28/2005 | 1/28/2005 |
| Current sampling frequency | 1/3 | 1/12 |
| Sampling season | Annual | Annual |
| Probe height (meters) | 2 | 2 |
| Distance from supporting structure (meters) | No supports | No supports |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 125 | 125 |
| Distance from to furnace or incinerator flue (meters) | 150 | 150 |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Aluminum | Aluminum |
| Residence time for reactive gases (seconds) | NA | NA |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the standard? | Yes | Yes |

## Table C 5. Portland, Sauvie Island Site Information

| | | |
|---|---|---|
| Local Site Name | **Portland, Sauvie Island** | |
| AQS ID | **41-009-0004** | |
| GPS Coordinates | 45.7685, -122.7721 | |
| Street address | Social Security Beach, Sauvie Island, OR | |
| County | Columbia | |
| Distance from roadways (meters) | 94 | |
| Traffic count (AADT, yr) | AADT = No Data, rural area | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Portland-Vancouver (#6440) | |
| Pollutant | **Ozone** | |
| Parameter code, POC | 44201,1 | |
| MSA, CBSA, CSA or area represented | 6440 | |
| Monitor purpose | Upwind of Urban, Transport | |
| Monitoring Objective | Urban Scale | |
| Spatial scale of Representativeness | Rural | |
| Monitoring types | SLAMS | |
| Instrument type and model | Teledyne API 400 – Ultraviolet | |
| Instrument parameter occurrence code | **Primary** | |
| Method number | 087 | |
| FRM/FEM/FRM/other | FRM | |
| Collecting agency | ODEQ (0821) | |
| Analytical lab | ODEQ | |
| Reporting agency | ODEQ | |
| Monitoring start date | 1/1/1980 | |
| Current sampling frequency | Hourly | |
| Sampling season | May-Sept | |
| Probe height (meters) | 4.3 | |
| Distance from supporting structure (meters) | 1 | |
| Distance from obstructions on roof (meters) | No obstructions | |
| Distance from obstructions not on roof (meters) | No obstructions | |
| Distance from trees (meters) | 105 | |
| Distance from to furnace or incinerator flue (meters) | NA | |
| Unrestricted airflow (degrees) | 360˚ | |
| Probe material for reactive gases | Teflon | |
| Residence time for reactive gases (seconds) | 7.1 | |
| Will there be changes with the next 18 months? | No | |
| Is it suitable for comparison against the standard? | Yes | |

## Table C 6. Portland - Carus – Spangler Rd. Site Information

| | |
|---|---|
| Local Site Name | **Portland - Carus – Spangler Rd.** |
| AQS ID | **41-005-0004** |
| GPS Coordinates | 45.2593, -122.5882 |
| Street address | 13575 Spangler Rd., Carus, OR |
| County | Clackamas |
| Distance from roadways (meters) | 12 |
| Traffic count (AADT, yr) | ADT = 550 yr = 2015<br>Clackamas Co. |
| Groundcover (e.g. asphalt, dirt, grass) | Grass |
| Representative statistical area name (CBSA, MSA) | Portland-Vancouver (#6440) |
| Pollutant | **Ozone** |
| Parameter code, POC | 44201,1 |
| MSA, CBSA, CSA or area represented | 6440 |
| Monitor purpose | NAAQS |
| Monitoring Objective | Downwind of<br>Urban,<br>Maximum<br>Concentration |
| Spatial scale of Representativeness | Urban Scale |
| Monitoring types | SLAMS |
| Instrument type and model | Dasibi 1003–<br>Ultraviolet |
| Instrument parameter occurrence code | **Primary** |
| Method number | 019 |
| FRM/FEM/FRM/other | FRM |
| Collecting agency | ODEQ (0821) |
| Analytical lab | ODEQ |
| Reporting agency | ODEQ |
| Monitoring start date | 7/23/1976 |
| Current sampling frequency | Hourly |
| Sampling season | May-Sept |
| Probe height (meters) | 6.4 |
| Distance from supporting structure (meters) | 2.7 |
| Distance from obstructions on roof (meters) | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions |
| Distance from trees (meters) | 250 |
| Distance from to furnace or incinerator flue (meters) | NA |
| Unrestricted airflow (degrees) | 360˚ |
| Probe material for reactive gases | Teflon |
| Residence time for reactive gases (seconds) | 2.8 |
| Will there be changes with the next 18 months? | No |
| Is it suitable for comparison against the standard? | Yes |

## Table C 7. Salem – State Hospital Information

| | |
|---|---|
| Local Site Name | **Salem State Hospital** |
| AQS ID | **41-047-0041** |
| GPS Coordinates | 44.9431, -123.0059 |
| Street address | 867 Medical Center |
| County | Marion |
| Distance from roadways (meters) | 30 meters |
| Traffic count (AADT, yr) | ADT = 6720 4/21/2015 |
| Groundcover (e.g. asphalt, dirt, grass) | Grass |
| Representative statistical area name (CBSA, MSA) | Salem |
| Pollutant | **Ozone** |
| Parameter code, POC | 44201,1 |
| MSA, CBSA, CSA or area represented | 6440 |
| Monitor purpose | NAAQS |
| Monitoring Objective | In urban core |
| patial scale of Representativeness | Urban Scale |
| Monitoring types | SLAMS |
| Instrument type and model | TECO 49C–<br>Ultraviolet |
| Instrument parameter occurrence code | **Primary** |
| Method number | 047 |
| FRM/FEM/FRM/other | FRM |
| Collecting agency | ODEQ (0821) |
| Analytical lab | ODEQ |
| Reporting agency | ODEQ |
| Monitoring start date | 5/1/2018 |
| Current sampling frequency | Hourly |
| Sampling season | May-Sept |
| Probe height (meters) | 3 |
| Distance from supporting structure (meters) | 1 |
| Distance from obstructions on roof (meters) | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions |
| Distance from trees (meters) | 18 |
| Distance from to furnace or incinerator flue (meters) | NA |
| Unrestricted airflow (degrees) | 360˚ |
| Probe material for reactive gases | Teflon |
| Residence time for reactive gases (seconds) | 3.5 |
| Will there be changes with the next 18 months? | No |
| Is it suitable for comparison against the standard? | Yes |

## Table C 8. Salem/Turner - Cascade Jr. High Site Information

| | | |
|---|---|---|
| Local Site Name | **Salem/Turner - Cascade Jr. High** | |
| AQS ID | **41-047-0004** | |
| GPS Coordinates | 44.8103, -122.9151 | |
| Street address | 10226 Marion Rd SE, Turner, OR | |
| County | Marion | |
| Distance from roadways (meters) | 60 | |
| Traffic count (AADT, yr) | ADT = 1584, Yr = 2016 (9/20/2016)<br>Shaff Rd & W Stayton Rd.<br>Marion Co. | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Salem | |
| Pollutant | **Ozone** | |
| Parameter code, POC | 44201,1 | |
| MSA, CBSA, CSA or area represented | 7080 | |
| Monitor purpose | NAAQS, AQI | |
| Monitoring Objective | Downwind of Urban, Max concentration, Non-source oriented | |
| Spatial scale of Representativeness | Urban Scale | |
| Monitoring types | SLAMS | |
| Instrument type and model | Dasibi 1003H–Ultraviolet | |
| Instrument parameter occurrence code | **Primary** | |
| Method number | 019 | |
| FRM/FEM/FRM/other | FRM | |
| Collecting agency | ODEQ (0821) | |
| Analytical lab | ODEQ | |
| Reporting agency | ODEQ | |
| Monitoring start date | 6/23/1995 | |
| Current sampling frequency | Hourly | |
| Sampling season | May-Sept | |
| Probe height (meters) | 4.5 | |
| Distance from supporting structure (meters) | 1.5 | |
| Distance from obstructions on roof (meters) | No obstructions | |
| Distance from obstructions not on roof (meters) | No obstructions | |
| Distance from trees (meters) | 620 | |
| Distance from to furnace or incinerator flue (meters) | 45 | |
| Unrestricted airflow (degrees) | 360˚ | |
| Probe material for reactive gases | Teflon | |
| Residence time for reactive gases (seconds) | 2.8 | |
| Will there be changes with the next 18 months? | No | |
| Is it suitable for comparison against the standard? | Yes | |

## Table C 9. Eugene – Amazon Park Site Information

| Local Site Name | **Eugene – Amazon Park** | |
|---|---|---|
| AQS ID | **41-039-0060** | |
| GPS Coordinates<br>Street address | 44.0263, -123.0837<br>E. 29th Amazon Park, Eugene, OR | |
| County | Lane | |
| Distance from roadways (meters) | 61 | |
| Traffic count (AADT, yr) | AADT = 1700, Yr = 2013<br>Central Lane MPO | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Eugene-Springfield | |
| Pollutant | **Ozone** | **PM2.5** |
| Parameter code, POC | 44201,1 | 88101,1 |
| MSA, CBSA, CSA or area represented | 2400 | 2400 |
| Monitor purpose | NAAQS, AQI | NAAQS, AQI |
| Monitoring Objective | Urban Population | Urban Population |
| Spatial scale of Representativeness | Urban Scale | Neighborhood |
| Monitoring types | SLAMS | SLAMS |
| Instrument type and model | Teledyne API 400 – Ultraviolet | R&P 2025 w/ VSCC |
| Instrument parameter occurrence code | **Primary** | **Primary** |
| Method number | 087 | 145 |
| FRM/FEM/FRM/other | FRM | FRM |
| Collecting agency | LRAPA | LRAPA |
| Analytical lab | LRAPA | LRAPA |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 1/1/1985 | 1/1/1999 |
| Current sampling frequency | Hourly | 1/3 |
| Sampling season | May-Sept | Annual |
| Probe height (meters) | 4 | 5 |
| Distance from supporting structure (meters) | 1 | 2 |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 29 | 29 |
| Distance from to furnace or incinerator flue (meters) | NA | NA |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Teflon | Aluminum |
| Residence time for reactive gases (seconds) | NA | NA |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the standard? | Yes | Yes |

| Local Site Name | **Eugene – Amazon Park** | |
|---|---|---|
| AQS ID | **41-039-0060** | |
| GPS Coordinates<br>Street address | 44.0263, -123.0837<br>E. 29th Amazon Park, Eugene, OR | |
| County | Lane | |
| Distance from roadways (meters) | 61 | |
| Traffic count (AADT, yr) | AADT = 1700, Yr = 2013<br>Central Lane MPO | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Eugene-Springfield | |
| Pollutant | **PM2.5** | **PM10** |
| Parameter code, POC | 88101,2 | 81102,7 |
| MSA, CBSA, CSA or area represented | 2400 | |
| Monitor purpose | NAAQS | Air Toxics |
| Monitoring Objective | Population | Population |
| Spatial scale of Representativeness | Neighborhood | Neighborhood |
| Monitoring types | SLAMS | SPM |
| Instrument type and model | R&P 2025<br>w/ VSCC | Tisch HV Plus |
| Instrument parameter occurrence code | Collocated | Primary |
| Method number | 145 | 063 |
| FRM/FEM/FRM/other | FRM | FRM |
| Collecting agency | LRAPA | LRAPA |
| Analytical lab | LRAPA | ODEQ |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 1/2/2002 | 5/1/2018 |
| Current sampling frequency | 1/12 | 1/6 |
| Sampling season | Annual | Annual |
| Probe height (meters) | 5 | 4 |
| Distance from supporting structure (meters) | 2 | 2 |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 29 | 29 |
| Distance from to furnace or incinerator flue (meters) | NA | NA |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Aluminum | Aluminum |
| Residence time for reactive gases (seconds) | NA | NA |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the standard? | Yes | Yes |

## Table C 10. Eugene – Saginaw Site Information

| | |
|---|---|
| Local Site Name | **Eugene – Saginaw** |
| AQS ID | **41-039-1007** |
| GPS Coordinates | 43.8345, -123.0353 |
| Street address | Delight Vlly Sch Rd., Saginaw, OR |
| County | Lane |
| Distance from roadways (meters) | 140 |
| Traffic count (AADT, yr) | No data available |
| Groundcover (e.g. asphalt, dirt, grass) | Grass |
| Representative statistical area name (CBSA, MSA) | Eugene-Springfield |
| Pollutant | **Ozone** |
| Parameter code, POC | 44201,1 |
| MSA, CBSA, CSA or area represented | 2400 |
| Monitor purpose | NAAQS, AQI |
| Monitoring Objective | Downwind of Urban, Highest Concentration |
| Spatial scale of Representativeness | Urban Scale |
| Monitoring types | SLAMS |
| Instrument type and model | Teledyne API 400 – Ultraviolet |
| Instrument parameter occurrence code | **Primary** |
| Method number | 087 |
| FRM/FEM/FRM/other | FRM |
| Collecting agency | LRAPA |
| Analytical lab | LRAPA |
| Reporting agency | ODEQ |
| Monitoring start date | 5/1/1994 |
| Current sampling frequency | Hourly |
| Sampling season | May-Sept |
| Probe height (meters) | 5 |
| Distance from supporting structure (meters) | 1 |
| Distance from obstructions on roof (meters) | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions |
| Distance from trees (meters) | 43 |
| Distance from to furnace or incinerator flue (meters) | 36 |
| Unrestricted airflow (degrees) | 360˚ |
| Probe material for reactive gases | Teflon |
| Residence time for reactive gases (seconds) | 3.5 |
| Will there be changes with the next 18 months? | No |
| Is it suitable for comparison against the standard? | Yes |

## Table C 11. Eugene – Hwy 99 Site Information

| Local Site Name | **Eugene – Hwy 99** | |
|---|---|---|
| AQS ID | **41-039-0059** | |
| GPS Coordinates | 44.0672, -123.1414 | |
| Street address | 450 Pacific Hwy 99, Eugene, OR | |
| County | Lane | |
| Distance from roadways (meters) | 75 | |
| Traffic count (AADT, yr) | AADT= 29,000, yr = 2013<br>Central Lane MPO | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Eugene-Springfield | |
| Pollutant | **PM2.5** | **PM10** |
| Parameter code, POC | 88101,1 | 81102,1 &<br>85101,1 |
| MSA, CBSA, CSA or area represented | 2400 | 2400 |
| Monitor purpose | NAAQS, AQI | NAAQS |
| Monitoring Objective | Population | Population |
| Spatial scale of Representativeness | Neighborhood | Neighborhood |
| Monitoring types | SLAMS | SLAMS |
| Instrument type and model | R&P 2025<br>w/ VSCC | R&P 2025 |
| Instrument parameter occurrence code | **Primary** | **Primary** |
| Method number | 145 | 127 |
| FRM/FEM/FRM/other | FRM | FRM |
| Collecting agency | LRAPA | LRAPA |
| Analytical lab | LRAPA | LRAPA |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 7/1/2011 | 1/1/2012 |
| Current sampling frequency | 1/3 | 1/6 |
| Sampling season | Annual | Annual |
| Probe height (meters) | 5 | 5 |
| Distance from supporting structure (meters) | 2 | 2 |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 19 | 19 |
| Distance from to furnace or incinerator flue (meters) | 19 | 19 |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Aluminum | Aluminum |
| Residence time for reactive gases (seconds) | NA | NA |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the standard? | Yes | Yes |

## Table C 12. Cottage Grove, City Shops Site Information

| | |
|---|---|
| Local Site Name | **Cottage Grove, City Shops** |
| AQS ID | **41-039-9004** |
| GPS Coordinates | 43.7995, -123.0535 |
| Street address | Cottage Grove, OR |
| County | Lane |
| Distance from roadways (meters) | 177 |
| Traffic count (AADT, yr) | No Data Available |
| Groundcover (e.g. asphalt, dirt, grass) | Dirt |
| Representative statistical area name (CBSA, MSA) | Other |
| Pollutant | **PM2.5** |
| Parameter code, POC | 88101,1 |
| MSA, CBSA, CSA or area represented | 0000 |
| Monitor purpose | NAAQS,AQI |
| Monitoring Objective | Population |
| Spatial scale of Representativeness | Neighborhood |
| Monitoring types | SLAMS |
| Instrument type and model | R&P 2025 w/VSCC |
| Instrument parameter occurrence code | **Primary** |
| Method number | 145 |
| FRM/FEM/FRM/other | FRM |
| Collecting agency | LRAPA |
| Analytical lab | LRAPA |
| Reporting agency | ODEQ |
| Monitoring start date | 1/1/2008 |
| Current sampling frequency | 1/3 |
| Sampling season | Annual |
| Probe height (meters) | 5 |
| Distance from supporting structure (meters) | 2 |
| Distance from obstructions on roof (meters) | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions |
| Distance from trees (meters) | 36 |
| Distance from to furnace or incinerator flue (meters) | 60 |
| Unrestricted airflow (degrees) | 360˚ |
| Probe material for reactive gases | Aluminum |
| Residence time for reactive gases (seconds) | NA |
| Will there be changes with the next 18 months? | No |
| Is it suitable for comparison against the standard? | Yes |

## Table C 13. Oakridge, Willamette Center Site Information

| Local Site Name | **Oakridge, Willamette Center** | |
|---|---|---|
| AQS ID | **41-039-2013** | |
| GPS Coordinates | 43.7443, -122.4805 | |
| Street address | School St., Oakridge, OR | |
| County | Lane | |
| Distance from roadways (meters) | 115 | |
| Traffic count (AADT, yr) | AADT = 6600, yr =2012 | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Other | |
| Pollutant | **PM2.5** | **PM10** |
| Parameter code, POC | 88101,1 | 81102,1 &, 85101,1 |
| MSA, CBSA, CSA or area represented | 0000 | 0000 |
| Monitor purpose | NAAQS, AQI | NAAQS |
| Monitoring Objective | Population | Population |
| Spatial scale of Representativeness | Neighborhood | Neighborhood |
| Monitoring types | SLAMS | SLAMS |
| Instrument type and model | R&P 2025 w/ VSCC | R&P 2025 |
| Instrument parameter occurrence code | **Primary** | **Primary** |
| Method number | 145 | 145 |
| FRM/FEM/FRM/other | FRM | FRM |
| Collecting agency | LRAPA | LRAPA |
| Analytical lab | LRAPA | LRAPA |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 1/1/1999 | 11/1/1989 |
| Current sampling frequency | 1/3 | 1/6 |
| Sampling season | Annual | Annual |
| Probe height (meters) | 5 | 5 |
| Distance from supporting structure (meters) | 2 | 2 |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 20 | 20 |
| Distance from to furnace or incinerator flue (meters) | 63 | 63 |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Aluminum | Aluminum |
| Residence time for reactive gases (seconds) | NA | NA |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the standard? | Yes | Yes |

## Table C 14. Grants Pass, Parkside School Site Information

| | |
|---|---|
| Local Site Name | **Grants Pass, Parkside School** |
| AQS ID | **41-035-0114** |
| GPS Coordinates | 42.4342, -123.3485 |
| Street address | 735 SW Wagner Meadows Dr., Grants Pass, OR |
| County | Josephine |
| Distance from roadways (meters) | 85 |
| Traffic count (AADT, yr) | AADT = 4900, yr = 2012 |
| Groundcover (e.g. asphalt, dirt, grass) | Grass |
| Representative statistical area name (CBSA, MSA) | Other |
| Pollutant | **PM2.5** |
| Parameter code, POC | 88101,1 |
| MSA, CBSA, CSA or area represented | 0000 |
| Monitor purpose | NAAQS, AQI |
| Monitoring Objective | Population |
| Spatial scale of Representativeness | Neighborhood |
| Monitoring types | SLAMS |
| Instrument type and model | R&P 2025 w/VSCC |
| Instrument parameter occurrence code | **Primary** |
| Method number | 145 |
| FRM/FEM/FRM/other | FRM |
| Collecting agency | ODEQ |
| Analytical lab | ODEQ |
| Reporting agency | ODEQ |
| Monitoring start date | 8/31/1999 |
| Current sampling frequency | 1/6 |
| Sampling season | Annual |
| Probe height (meters) | 3 |
| Distance from supporting structure (meters) | 2 |
| Distance from obstructions on roof (meters) | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions |
| Distance from trees (meters) | 27 |
| Distance from to furnace or incinerator flue (meters) | 87 |
| Unrestricted airflow (degrees) | 360˚ |
| Probe material for reactive gases | Aluminum |
| Residence time for reactive gases (seconds) | NA |
| Will there be changes with the next 18 months? | No |
| Is it suitable for comparison against the standard? | Yes |

## Table C 15. Medford, Welch and Jackson Information

| Local Site Name | **Medford, Welch and Jackson** | |
|---|---|---|
| AQS ID | **41-029-2129** | |
| GPS Coordinates | 42.3315, -122.8803 | |
| Street address | 711 Welch St | |
| County | Jackson | |
| Distance from roadways (meters) | 43 meters | |
| Traffic count (AADT, yr) | AADT 7200 | |
| Groundcover (e.g. asphalt, dirt, grass) | Dirt | |
| Representative statistical area name (CBSA, MSA) | Other | |
| Pollutant | **PM2.5** | **PM10** |
| Parameter code, POC | 88101,1 | 88101,1 |
| MSA, CBSA, CSA or area represented | 0000 | 0000 |
| Monitor purpose | NAAQS, AQI | NAAQS |
| Monitoring Objective | Population | Population |
| Spatial scale of Representativeness | Neighborhood | Neighborhood |
| Monitoring types | SLAMS | SLAMS |
| Instrument type and model | R&P 2025 W/VSCC | R&P 2025 |
| Instrument parameter occurrence code | **Primary** | **Collocated** |
| Method number | 145 | 127 |
| FRM/FEM/FRM/other | FRM | FRM |
| Collecting agency | ODEQ | ODEQ |
| Analytical lab | ODEQ | ODEQ |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 4/1/2018 | 7/20/1989 |
| Current sampling frequency | 1/3 | 1/6 |
| Sampling season | Annual | Annual |
| Probe height (meters) | 3 | 3 |
| Distance from supporting structure (meters) | 2 | 2 |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 34 | 34 |
| Distance from to furnace or incinerator flue (meters) | 32 | 32 |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Aluminum | Aluminum |
| Residence time for reactive gases (seconds) | NA | NA |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the standard? | Yes | Yes |

## Table C 16. Medford - Talent Site Information

| | | |
|---|---|---|
| Local Site Name | **Medford - Talent** | |
| AQS ID | **41-029-0201** | |
| GPS Coordinates | 42.2299, -122.7877 | |
| Street address | 7120 Rapp ln, Talent, OR | |
| County | Jackson | |
| Distance from roadways (meters) | 220 | |
| Traffic count (AADT, yr) | AADT = 764, yr = 2006 | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Medford-Ashland | |
| Pollutant | **Ozone** | |
| Parameter code, POC | 44201,1 | |
| MSA, CBSA, CSA or area represented | 0000 | |
| Monitor purpose | NAAQS, AQI | |
| Monitoring Objective | Downwind of Urban, Highest Concentration | |
| Spatial scale of Representativeness | Urban Scale | |
| Monitoring types | SLAMS | |
| Instrument type and model | Dasibi 1003 | |
| Instrument parameter occurrence code | **Primary** | |
| Method number | 019 | |
| FRM/FEM/FRM/other | FRM | |
| Collecting agency | ODEQ (0821) | |
| Analytical lab | ODEQ | |
| Reporting agency | ODEQ | |
| Monitoring start date | 5/12/1992 | |
| Current sampling frequency | Hourly | |
| Sampling season | May-Sept | |
| Probe height (meters) | 7 | |
| Distance from supporting structure (meters) | 1 | |
| Distance from obstructions on roof (meters) | No obstructions | |
| Distance from obstructions not on roof (meters) | No obstructions | |
| Distance from trees (meters) | 49 | |
| Distance from to furnace or incinerator flue (meters) | NA | |
| Unrestricted airflow (degrees) | 360˚ | |
| Probe material for reactive gases | Teflon | |
| Residence time for reactive gases (seconds) | 2.8 | |
| Will there be changes with the next 18 months? | No | |
| Is it suitable for comparison against the standard? | Yes | |

## Table C 17. Klamath Falls, Petersen School Site Information

| | | |
|---|---|---|
| Local Site Name | **Klamath Falls, Petersen School** | |
| AQS ID | **41-035-0004** | |
| GPS Coordinates | 42.1903, -121.7314 | |
| Street address | 4856 Clinton Ave, KlamathFalls,OR | |
| County | Klamath | |
| Distance from roadways (meters) | 8 | |
| Traffic count (AADT, yr) | AADT = 9090 (Clinton & Summers) , Yr = 2011 | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Other | |
| Pollutant | **PM2.5** | |
| Parameter code, POC | 88101,1 | |
| MSA, CBSA, CSA or area represented | 0000 | |
| Monitor purpose | NAAQS, AQI | |
| Monitoring Objective | Population | |
| Spatial scale of Representativeness | Neighborhood | |
| Monitoring types | SLAMS | |
| Instrument type and model | R&P 2025 w/ VSCC | |
| Instrument parameter occurrence code | **Primary** | |
| Method number | 145 | |
| FRM/FEM/FRM/other | FRM | |
| Collecting agency | ODEQ | |
| Analytical lab | ODEQ | |
| Reporting agency | ODEQ | |
| Monitoring start date | 1/5/1998 | |
| Current sampling frequency | 1/1 | |
| Sampling season | Annual | |
| Probe height (meters) | 3 | |
| Distance from supporting structure (meters) | 2 | |
| Distance from obstructions on roof (meters) | No obstructions | |
| Distance from obstructions not on roof (meters) | No obstructions | |
| Distance from trees (meters) | 43 | |
| Distance from to furnace or incinerator flue (meters) | 46 | |
| Unrestricted airflow (degrees) | 360˚ | |
| Probe material for reactive gases | Aluminum | |
| Residence time for reactive gases (seconds) | NA | |
| Will there be changes with the next 18 months? | No | |
| Is it suitable for comparison against the standard? | Yes | |

## Table C 18. Lakeview, Center and M Sts Site Information

| | | |
|---|---|---|
| Local Site Name | **Lakeview,** | |
| AQS ID | **41-037-0001** | |
| GPS Coordinates | 42.1892, -120.3540 | |
| Street address | 8 South M St., | |
| County | Lake | |
| Distance from roadways (meters) | 25 | |
| Traffic count (AADT, yr) | AADT = 3100 (Hwy 20 & L St., yr = 2012 | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Other | |
| Pollutant | **PM2.5** | **PM10** |
| Parameter code, POC | 88101,1 | 81102,1 |
| MSA, CBSA, CSA or area represented | 0000 | 0000 |
| Monitor purpose | NAAQS, AQI | NAAQS |
| Monitoring Objective | Population | Population |
| Spatial scale of Representativeness | Neighborhood | Neighborhood |
| Monitoring types | SLAMS | SLAMS |
| Instrument type and model | R&P 2025 W/VSCC | R&P 2025 |
| Instrument parameter occurrence code | **Primary** | **Primary** |
| Method number | 145 | 127 |
| FRM/FEM/FRM/other | FRM | FRM |
| Collecting agency | ODEQ | ODEQ |
| Analytical lab | ODEQ | ODEQ |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 1/5/1998 | 10/1/2018 |
| Current sampling frequency | 1/3 | 1/6 |
| Sampling season | Annual | Annual |
| Probe height (meters) | 3 | 3 |
| Distance from supporting structure (meters) | 2 | 2 |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 19 | 19 |
| Distance from to furnace or incinerator flue (meters) | 19 | 19 |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Aluminum | Aluminum |
| Residence time for reactive gases (seconds) | NA | NA |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the standard? | Yes | Yes |

## Table C 19. Burns, Washington Street Site Information

| | |
|---|---|
| Local Site Name | **Burns, Washington Street** |
| AQS ID | **41-025-0003** |
| GPS Coordinates | 43.5892, -119.0487 |
| Street address | E. Washington St., Burns, OR |
| County | Harney |
| Distance from roadways (meters) | 16 |
| Traffic count (AADT, yr) | AADT=3200 (Hwy20 & A St.),<br>Yr = 2012 |
| Groundcover (e.g. asphalt, dirt, grass) | Grass |
| Representative statistical area name (CBSA, MSA) | Other |
| Pollutant | **PM2.5** |
| Parameter code, POC | 88101,1 |
| MSA, CBSA, CSA or area represented | 0000 |
| Monitor purpose | NAAQS, AQI |
| Monitoring Objective | Population |
| Spatial scale of Representativeness | Neighborhood |
| Monitoring types | SLAMS |
| Instrument type and model | R&P 2025<br>W/VSCC |
| Instrument parameter occurrence code | **Primary** |
| Method number | 145 W/VSCC |
| FRM/FEM/FRM/other | FRM |
| Collecting agency | ODEQ |
| Analytical lab | ODEQ |
| Reporting agency | ODEQ |
| Monitoring start date | 9/19/2009 |
| Current sampling frequency | 1/1 |
| Sampling season | Annual |
| Probe height (meters) | 3 |
| Distance from supporting structure (meters) | 2 |
| Distance from obstructions on roof (meters) | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions |
| Distance from trees (meters) | 80 |
| Distance from to furnace or incinerator flue (meters) | 41 |
| Unrestricted airflow (degrees) | 360˚ |
| Probe material for reactive gases | Aluminum |
| Residence time for reactive gases (seconds) | NA |
| Will there be changes with the next 18 months? | No |
| Is it suitable for comparison against the standard? | Yes |

## Table C 20. Prineville, Davidson Park Site Information

| Local Site Name | **Prineville, Davidson Park** | |
|---|---|---|
| AQS ID | **41-013-0100** | |
| GPS Coordinates | 44.2998, -120.8448 | |
| Street address | 251 SE Court St, Prineville, OR | |
| County | Crook | |
| Distance from roadways (meters) | 10 | |
| Traffic count (AADT, yr) | 8800 (Hwy 26 & OR 27), 2012 | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Other | |
| Pollutant | **PM2.5** | **Chemical Speciation** |
| Parameter code, POC | 88101,1 | Numerous POC 5 |
| MSA, CBSA, CSA or area represented | 0000 | 6440 |
| Monitor purpose | NAAQS, AQI | Informational |
| Monitoring Objective | Population | Population, |
| Spatial scale of Representativeness | Neighborhood | Neighborhood |
| Monitoring types | SLAMS | STN |
| Instrument type and model | R&P 2025 W/VSCC | Super SASS & URG3000N Quartz filter Cyclone Inlet |
| Instrument parameter occurrence code | **Primary** | **Primary** |
| Method number | 145 | 810,811,812,826 831,838,839,840 841,842 |
| FRM/FEM/FRM/other | FRM | Other |
| Collecting agency | ODEQ | ODEQ (0821) |
| Analytical lab | ODEQ | ODEQ |
| Reporting agency | ODEQ | ODEQ |
| Monitoring start date | 1/1/2009 | 9/1/2002 |
| Current sampling frequency | 1/3 | Hourly |
| Sampling season | Annual | Annual |
| Probe height (meters) | 3 | 6 |
| Distance from supporting structure (meters) | 2 | 2 |
| Distance from obstructions on roof (meters) | No obstructions | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions | No obstructions |
| Distance from trees (meters) | 37 | 24 |
| Distance from to furnace or incinerator flue (meters) | 39 | 9 |
| Unrestricted airflow (degrees) | 360˚ | 360˚ |
| Probe material for reactive gases | Aluminum | Aluminum |
| Residence time for reactive gases (seconds) | NA | NA |
| Will there be changes with the next 18 months? | No | No |
| Is it suitable for comparison against the standard? | Yes | No |

## Table C 21. La Grande, Hall and North Site Information

| | |
|---|---|
| Local Site Name | **La Grande, Hall and North Street** |
| AQS ID | **41-061-0119** |
| GPS Coordinates | 45.32363, -118.07806 |
| Street address | 1305 N Willow St, La Grande, OR |
| County | Union |
| Distance from roadways (meters) | 18 |
| Traffic count (AADT, yr) | No data |
| Groundcover (e.g. asphalt, dirt, grass) | Grass |
| Representative statistical area name (CBSA, MSA) | Other |
| Pollutant | **PM10** |
| Parameter code, POC | 81102,1 |
| MSA, CBSA, CSA or area represented | 0000 |
| Monitor purpose | NAAQS, AQI |
| Monitoring Objective | Population |
| Spatial scale of Representativeness | Neighborhood |
| Monitoring types | SLAMS |
| Instrument type and model | Tisch PM10 HV+ |
| Instrument parameter occurrence code | **Primary** |
| Method number | 063 |
| FRM/FEM/FRM/other | FRM |
| Collecting agency | ODEQ |
| Analytical lab | ODEQ |
| Reporting agency | ODEQ |
| Monitoring start date | 9/1/2017 |
| Current sampling frequency | 1/6 |
| Sampling season | Annual |
| Probe height (meters) | 3 |
| Distance from supporting structure (meters) | 2 |
| Distance from obstructions on roof (meters) | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions |
| Distance from trees (meters) | 26 |
| Distance from to furnace or incinerator flue (meters) | 39 |
| Unrestricted airflow (degrees) | 360˚ |
| Probe material for reactive gases | Aluminum |
| Residence time for reactive gases (seconds) | NA |
| Will there be changes with the next 18 months? | No |
| Is it suitable for comparison against the standard? | Yes |

## Table C 22. Hermiston Municipal Airport Site Information

| | | |
|---|---|---|
| Local Site Name | **Hermiston Municipal Airport** | |
| AQS ID | **41-059-1003** | |
| GPS Coordinates | 45.8290, -119.2630 | |
| Street address | 1498 Airport Way, Hermiston, OR | |
| County | Umatilla | |
| Distance from roadways (meters) | 888, | |
| Traffic count (AADT, yr) | AADT = 7300 (MP 8.7, US395 or Hwy 54), Yr = 2012 | |
| Groundcover (e.g. asphalt, dirt, grass) | Grass | |
| Representative statistical area name (CBSA, MSA) | Hermiston (0000) | |
| Pollutant | **Ozone** | |
| Parameter code, POC | 44201,1 | |
| MSA, CBSA, CSA or area represented | 0000 | |
| Monitor purpose | NAAQS, AQI | |
| Monitoring Objective | Population | |
| Spatial scale of Representativeness | Urban | |
| Monitoring types | SLAMS | |
| Instrument type and model | Dasibi 1003 – Ultraviolet | |
| Instrument parameter occurrence code | **Primary** | |
| Method number | 019 | |
| FRM/FEM/FRM/other | FRM | |
| Collecting agency | ODEQ | |
| Analytical lab | ODEQ | |
| Reporting agency | ODEQ | |
| Monitoring start date | 2/27/2007 | |
| Current sampling frequency | Hourly | |
| Sampling season | May-Sept | |
| Probe height (meters) | 4 | |
| Distance from supporting structure (meters) | 1 | |
| Distance from obstructions on roof (meters) | No obstructions | |
| Distance from obstructions not on roof (meters) | No obstructions | |
| Distance from trees (meters) | 134 | |
| Distance from to furnace or incinerator flue (meters) | 72 | |
| Unrestricted airflow (degrees) | 360˚ | |
| Probe material for reactive gases | Teflon | |
| Residence time for reactive gases (seconds) | 2.8 | |
| Will there be changes with the next 18 months? | No | |
| Is it suitable for comparison against the standard? | Yes | |

## Table C 23. The Dalles Site Information

| | |
|---|---|
| Local Site Name | **The Dalles Cherry Lane** |
| AQS ID | **41-065-0007** |
| GPS Coordinates | 45.6024, -122.2034 |
| Street address | 1112 Cherry Heights Rd., The Dalles, OR |
| County | Wasco |
| Distance from roadways (meters) | 22 |
| Traffic count (AADT, yr) | (375 ADT, 2008) |
| Groundcover (e.g. asphalt, dirt, grass) | Scrubby ground |
| Representative statistical area name (CBSA, MSA) | The Dalles |
| Pollutant | **Ozone** |
| Parameter code, POC | 44201,1 |
| MSA, CBSA, CSA or area represented | 0000 |
| Monitor purpose | NAAQS, AQI |
| Monitoring Objective | Population |
| Spatial scale of Representativeness | Urban |
| Monitoring types | SPM |
| Instrument type and model | Teledyne API 400E – uv absorption |
| Instrument parameter occurrence code | **Primary** |
| Method number | 087 |
| FRM/FEM/FRM/other | FRM |
| Collecting agency | ODEQ |
| Analytical lab | ODEQ |
| Reporting agency | ODEQ |
| Monitoring start date | 5/1/2016 |
| Current sampling frequency | Hourly |
| Sampling season | May-Sept |
| Probe height (meters) | 4 |
| Distance from supporting structure (meters) | 1 |
| Distance from obstructions on roof (meters) | No obstructions |
| Distance from obstructions not on roof (meters) | No obstructions |
| Distance from trees (meters) | 39 |
| Distance from to furnace or incinerator flue (meters) | NA |
| Unrestricted airflow (degrees) | 360˚ |
| Probe material for reactive gases | Teflon |
| Residence time for reactive gases (seconds) | 7.1 |
| Will there be changes with the next 18 months? | No |
| Is it suitable for comparison against the standard? | Yes |

# Appendix D. Site Evaluation Checklist

## Region 10 ANNUAL AIR MONITORING NETWORK PLAN CHECKLIST

Year: 2018
Agency: Oregon DEQ and Lane Regional Air Protection Agency

40 CFR 58.10(a)(1) requires that each Annual Network Plan (ANP) include information regarding the following types of monitors: SLAMS monitoring stations including FRM, FEM, and ARM monitors that are part of SLAMS, NCore stations, STN stations, State speciation stations, SPM stations, and/or, in serious, severe and extreme ozone nonattainment areas, PAMS stations, and SPM monitoring stations.

| **ANP requirement** | **Citation within 40 CFR 58** | **Was the info submitted?[1] If yes, page #s. Flag if incorrect[2]?** | **Does the information provided[3] meet the req?[4]** |
|---|---|---|---|
| **1.** Submit plan by July 1 | CFR 58.10 (a)(1) | Yes | Yes |
| **2.** Statement of purpose for each monitor including | CFR 58.10 (a)(1) | Yes Appendix C.<br>Yes SPMs per 58.20(a) | Yes |
| **3.** 30-day public comment / inspection period[5] | CFR 58.10 (a)(1) &58.10(a)(2 | Yes | |

1. Response options: NA (Not Applicable), Yes, No, Incomplete, Incorrect. The responses "Incomplete" and "Incorrect" assume that some information has been provided.
2. To the best of our knowledge.
3. Assuming the information is correct
4. Response options: NA (Not Applicable) – [reason], Yes, No, Insufficient to Judge.
5. The affected state or local agency must document the process for obtaining public comment and include any comments received through the public notification process within their submitted plan.
6. See 58.14(c)

| | ANP requirement | Citation within 40 CFR 58 | Was the info submitted?[1] If yes, page #s. Flag if incorrect[2]? | Does the information provided[3] meet the req?[4] | Notes |
|---|---|---|---|---|---|
| **4.** | Modifications to SLAMS network – case when we are not approving actual system modifications (i.e., we will do it outside the ANP process[6]) | 58.10 (a)(2)<br>58.10(e) | No | NA – no changes | |
| **5.** | Modifications to SLAMS network – case when we are approving actual system modifications per 58.14(c) | 58.10 (a)(2)<br>58.10 (b)(5)<br>58.10(e)<br>58.14 (c) | Yes, page 18 | NA – no changes | |
| **6.** | Does plan include documentation (e.g., attached approval letter) for system modifications that have been approved since last ANP approval? | | No | NA – no changes | |
| **7.** | NCore site operational | 58.10 (a)(3) | Yes, page 30 | Yes | |
| **8.** | Pb site for 0.5-1.0 tpy sources operational | 58.10 (a)(4) | No | Yes, Appendix E – Waivers | The only Pb source site was discontinued in the 2012 ANP with a waiver granted by EPA. |
| **9.** | NO2 plan for area-wide and RA40 sites submitted by 7/1/2012 | 58.10 (a)(5) | Previously. The site is operating. | NA | |
| ***10.*** | *NO2 area-wide and RA40 sites operational by 1/1/2015* | *58.10 (a)(5)* | Previously. The site is operating. | *NA* | *Starting date was 4/15/2015.* |
| **11.** | NO2 plan for near-road sites submitted by 7/1/2013 | 58.10 (a)(5) | Previously. The site is operating. | NA | . |
| ***12.*** | SO2 sites operational (by 1/1/2013) | *58.10 (a)(6) And 58. 13 (d)* | Previously. The site is operating. | *NA* | |
| **13.** | AQS site identification number for each site | 58.10 (b)(1) | Yes, pages 30 to 60. | Yes | |

| | ANP requirement | Citation within 40 CFR 58 | Was the info submitted?[1] If yes, page #s. Flag if incorrect[2]? | Does the information provided[3] meet the req?[4] | Notes |
|---|---|---|---|---|---|
| **14.** | Location of each site: street address and geographic coordinates | 58.10 (b)(2) | Yes, pages 30 to 60 | Yes | |
| **15.** | Sampling and analysis method(s) for each measured parameter | 58.10 (b)(3) | Yes, pages 30 to 60. | Yes | |
| **16.** | Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal | 58.10 (b)(5) | Yes, page 23 | Yes | Two NATTS site moves needed. |
| **17.** | Scale of representativeness for each monitor as defined in Appendix D | 58.10(b)(6); App D | Yes, pages 30 to 60. | Yes | |
| **18.** | Identification of sites suitable and sites not suitable for comparison to the annual PM2.5 NAAQS as described in Part 58.30 | 58.10 (b)(7) | Yes, pages 30 to 60. | Yes | |
| **19.** | MSA, CBSA, CSA or other area represented by the monitor | 58.10 (b)(8) | Yes, pages 30 to 60. | Yes | |
| **20.** | Designation of any Pb monitors as either source-oriented or non-source-oriented | 58.10 (b)(9) | Yes, page 32. | Yes | |
| **21.** | Any source-oriented Pb site for which a waiver has been requested or granted by EPA RA | 58.10 (b)(10) | Yes, page 78. | Yes | |
| **22.** | Any Pb monitor for which a waiver has been requested or granted by EPA RA for use of Pb-PM10 in lieu of Pb-TSP | 58.10 (b)(11) | Yes, page 78. | Yes | |
| **23.** | Identification of required NO2 monitors as either near-road or area-wide, or vulnerable and susceptible population monitors | *58.10 (b)(12)* | Yes, pages 30 to 60. | *Yes* | *One Area wide site, one near-road site* |

| | ANP requirement | Citation within 40 CFR 58 | Was the info submitted?[1] If yes, page #s. Flag if incorrect[2]? | Does the information provided[3] meet the req?[4] | Notes |
|---|---|---|---|---|---|
| **24.** | Identification of any PM2.5 FEMs and/or ARMs not eligible to be compared to the NAAQS *(Note 1: must include required data assessment.) (Note 2: Required SLAMS must monitor PM2.5 with NAAQS-comparable monitor at the required sample frequency.)* | *58.10 (b)(13) 58.11 (e)* | *No* | *NA* | *We are not submitting FEMs or ARMs for comparison to the NAAQS. DEQ and LRAPA are running PM2.5 FEMS for informational purposes.* |
| **25.** | For SPMs listed as non-regulatory, note the start Date of FRM/FEM/ARM at SPM. If > 24 months, and monitor is eligible for comparison to the NAAQS per 58.11 (e) and 58.30, the agency must supply information that App A, C or E requirements were not met. | *58.20(c)* | Yes, page 61. | Yes | Springfield City Hall PM2.5 FRM |
| **26.** | Document how states and local agencies provide for the review of changes to a PM2.5 monitoring network that impact the location of a violating PM2.5 monitor. | 58.10 (c) | No. | Yes | There have been no changes to the PM2.5 monitoring network but DEQ will document how any future changes will be processed. |
| **27.** | Does the plan include a request for approval for and alternative to appendix A requirements for SPMs operating a FRM/FEM/ARM which also meets appendix E? | *58.11 (a) (2)* | *NA* | *NA* | *No such monitoring sties* |

| | ANP requirement | Citation within 40 CFR 58 | Was the info submitted?[1] If yes, page #s. Flag if incorrect[2]? | Does the information provided[3] meet the req?[4] | Notes |
|---|---|---|---|---|---|
| **28.** | Start date for each monitor | Required to determine if other req. (e.g., min # and co-lo) are met | Yes, pages 30 to 60. | Yes | |
| **29.** | Instrument monitor type for each monitor | Required to determine if other req. (e.g., min # and co-lo) are met | Yes, pages 30 to 60 and Appendix A. | Yes | |
| **30.** | Monitoring objective for each instrument | App D 1.1 58.10 (b)(6) | Yes, pages 30 to 60. | Yes | |
| **31.** | Site type for each instrument | App D 1.1.1 | Yes, pages 30 to 60. | Yes | |
| **32.** | Instrument parameter code for each instrument | Required to determine if other req. (e.g., min # and co-lo) are met | Yes, pages 30 to 60. | Yes | |

| | ANP requirement | Citation within 40 CFR 58 | Was the info submitted?[1] If yes, page #s. Flag if incorrect[2]? | Does the information provided[3] meet the req?[4] | Notes |
|---|---|---|---|---|---|
| **33.** | Instrument parameter occurrence code for each instrument | Required to determine if other req. (e.g., min # and co-lo) are met | Yes, pages 30 to 60. | Yes | |
| **34.** | Sampling season for ozone (note: date of waiver approval must be included if the sampling season deviates from requirement) | 58.10 (b)(4) App D, 4.1(i) | Yes, pages 30 to 60. | Yes | |
| **35.** | Sampling schedule for PM2.5 - applies to year-round and seasonal sampling schedules (note: date of waiver approval must be included if the sampling season deviates from requirement) | 58.10 (b)(4) 58.12(d) App D 4.7 | Yes, pages 30 to 60. | Yes | |
| **36.** | Sampling schedule for PM10 | 58.10 (b)(4) 58.12(e) App D 4.6 | Yes, pages 30 to 60. | Yes | |
| **37.** | Sampling schedule for Pb | 58.10 (b)(4) 58.12(b) App D 4.5 | Yes, pages 30 to 60. | Yes | |
| **38.** | Sampling schedule for PM10-2.5 | 58.10 (b)(4) 58.12(f) App D 4.8 | Yes, pages 30 to 60. | Yes | |

| | ANP requirement | Citation within 40 CFR 58 | Was the info submitted?[1] If yes, page #s. Flag if [2] | Does the information provided[3] meet the req?[4] | Notes |
|---|---|---|---|---|---|
| **39.** | Minimum # of monitors for O3 met? [Note: should be supported by MSA ID, MSA population, DV, # monitors, and # required monitors] *(see footnote)*[7] | App D, 4.1(a) & Table D-2 | Yes, pages 20 to 28. | Yes | |
| **40.** | Identification of max. conc. O3 monitor(s) | App D 4.1 (b) | Yes, pages 30 to 60. | Yes | |
| **41.** | Minimum monitoring requirements met for near-road NO2 (2015 start date) | *App D 4.3.2* | Yes, pages 20 to 28. | Yes | |
| **42.** | Minimum monitoring requirements met for area-wide NO2 | *App D 4.3.3* | Yes, pages 20 to 28. | Yes | |
| **43.** | Minimum monitoring requirements met for SO2 *[Note: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.]* | App D 4.4 | Yes, pages 20 to 28. | Yes | |
| ***44.*** | Minimum monitoring requirements met for Pb *[Note: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.]* | App D 4.5 58.13(a) | Yes, pages 20 to 28. | *Yes* | |

[7] Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements. In addition, ozone monitors that do not meet traffic count/distance requirements to be neighborhood scale (40 CFR 58 Appendix E, Table E-1) cannot be counted towards minimum monitoring requirements.

| | ANP requirement | Citation within 40 CFR 58 | Was the info submitted?[1] If yes, page #s. Flag if incorrect[2]? | Does the information provided[3] meet the req?[4] | Notes |
|---|---|---|---|---|---|
| **45.** | Minimum # of monitors for PM2.5 met? [Note 1: should be supported by MSA ID, MSA population, DV, # monitors, and # required monitors] *[Note 2: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.]* | App D, 4.7.1(a) and Table D-5 | Yes, pages 20 to 28. | Yes | |
| **46.** | Minimum monitoring requirements for continuous PM2.5 met? | App D 4.7.2 | Yes, pages 20 to 28. | Yes | These are used for the Air Quality Index only. |
| **47.** | Minimum # of monitors for PM10 met? | App D, 4.6 (a) and Table D-4 | Yes, pages 20 to 28. | | |
| **48.** | Minimum monitoring requirements met for PM10-2.5 mass at NCore sites? | App D 4.8 App D 4.7.2 | Yes, pages 20 to 28. | Yes | |
| **49.** | Distance of site from nearest road | App E 6 | Yes, pages 30 to 60. | Yes | |

[7] Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements. In addition, ozone monitors that do not meet traffic count/distance requirements to be neighborhood scale (40 CFR 58 Appendix E, Table E-1) cannot be counted towards minimum monitoring requirements.

| | ANP requirement | Citation within 40 CFR 58 | Was the info submitted?[1] If yes, page #s. Flag if [illegible][2] | Does the information provided[3] meet the req?[4] | Notes |
|---|---|---|---|---|---|
| **50.** | Traffic count of nearest road | App E | Yes, pages 30 to 71. | Yes | Where traffic counts to the nearest road was unavailable, the traffic count to the nearest road with data was provided. |
| **51.** | Probe height | App E 5<br>App E 2 | Yes, pages 30 to 60. | Yes | |
| **52.** | Distance from supporting structure | App E 3(b)<br>App E 2 | Yes, pages 30 to 60. | Yes | |
| ***53.*** | Distance from obstructions on roof | App E, 4(a)&4(b)<br>App E4(b) | Yes, pages 30 to 60. | Yes | |
| ***54.*** | Distance from obstructions not on roof | App E 9<br>& E4(a) | Yes, pages 30 to 60. | Yes | |
| ***55.*** | Distance from trees | App E 9<br>App E 5 | Yes, pages 30 to 60. | Yes | |
| **56.** | Distance to furnace or incinerator flue | App E 3(b) | Yes, pages 30 to 60. | Yes | |
| **57.** | Unrestricted airflow | App E, 4(a)&4(b) | Yes, pages 30 to 60. | Yes | |
| **58.** | Probe material (if applicable) | App E 9 | Yes, pages 30 to 60. | Yes | |
| **59.** | Residence time (if applicable) | App E 9 | Yes, pages 30 to 60. | Yes | |

# Appendix E. Waivers

EPA Region 10 has granted DEQ and LRAPA waivers to discontinue required monitoring that was of lower value in order to keep higher value monitors operational and start up new required monitoring. The tables below show the monitoring sites with waivers and their required reported values from surrogate sources.

## 1. TSP Lead Waiver

EPA approved ODEQ's request to discontinue TSP lead monitoring at Cascade Mills in McMinnville. The measured TSP lead levels were far below the standard and the monitoring resources were needed for the new Portland, Near Roadway site monitoring. The table below shows the waiver parameters.

### Table D 1. McMinnville, Cascade Steel TSP lead Waiver

| | Waiver requirement | TSP Lead levels | Comments |
|---|---|---|---|
| McMinnville, Cascade Steel (41-071-1702) | Three year average is < 50% of NAAQS (Std is 0.15ug/m3) | 2010 to 2012 three year average was 0.04 ug/m3 or 24% of NAAQS | Waiver approved by EPA |

This waiver is due to be reapproved. The Cascade Rolling Mills (Permit # 36-5034) 2011, 2014, and 2017 TSP lead emissions PSELs and actual emissions estimates are shown below and show no increase from when monitoring was done. None of the lead control equipment has been removed from the plant.

| Year | PSEL[1] (tpy) | Actual Emissions Estimates[2] |
|---|---|---|
| 2011 | 0.5 | 0.5 |
| 2014 | 0.5 | 0.5 |
| 2017 | 0.5 | 0.4 |

1. *Plant Site Emission Limits in TV permit.*
2. *Actual Emissions Calculated every third year by DEQ using reported production information.*

## 2. Carbon monoxide Waivers

The Medford is a CO maintenance areas but its monitoring site was discontinued in 2010 because of very low concentrations and funding cuts. The maintenance plan requires monitoring however, so EPA and ODEQ agreed upon an alternative method to track CO. The Metropolitan Planning Organization periodically updates their transportation plan and runs a CO emission model. This model is used to track CO. The model is not run every year so the latest result is reported in the table below.

### Table D 2. CO emission estimates from the Rogue Valley.

| Analysis Year | Medford Area Estimated CO Emissions (tons/yr) |
|---|---|
| 2015 | 3,485 |
| 2020 | 3,650 |
| 2026 | 3,559 |
| 2034 | 3,871 |

## 3. PM10 Waivers

In 2010, Klamath Falls and Grants Pass $PM_{10}$ monitors were discontinued because their values had dropped far below the NAAQS and funding was cut. The $PM_{10}$ maintenance plans for these sites required continued monitoring so EPA and ODEQ agreed upon an alternate method to track $PM_{10}$. EPA allowed ODEQ to discontinue $PM_{10}$ monitoring if we used $PM_{2.5}$ monitoring as a surrogate. In the 2010 network plan, we showed that the $PM_{10}$ consisted predominantly of $PM_{2.5}$. We developed correlation equations and calculated 2015 $PM_{10}$ estimates for these sites based on $PM_{2.5}$. Klamath Falls also has trigger point values which would lead to restarting the monitor. The $PM_{10}$ standard is 150$\mu g/m^3$.

### Table D 3. Linear regression equations used to estimate PM10 using PM2.5.

| | Klamath Falls | Grants Pass |
|---|---|---|
| Linear Regression Equation | y = 1.4x + 3.2 | y = 1.2x + 2.6 |

Y = $PM_{10}$, X = $PM_{2.5}$

### Table D 4. 2013 PM10 estimates for Klamath Falls and Grants Pass.

| | with Forest Fire Days Included [a] | | No Forest Fire Days Included | |
|---|---|---|---|---|
| | $PM_{2.5}$ 98th Percentile ($\mu g/m^3$) | $PM_{10}$ 98th Estimate ($\mu g/m^3$) | $PM_{2.5}$ 98th Percentile ($\mu g/m^3$) | $PM_{10}$ 98th Estimate ($\mu g/m^3$) |
| Klamath Falls (41-035-0004) | 55 | 80 | 32 | 47 |
| Grants Pass (41-033-0114) | 115 | 164 | 19 | 30 |

a. All of the $PM_{2.5}$ days higher than and including the 98th percentile were from forest fire impacts.

## 4. Existing Monitoring Waivers.

4.1 2005 - Klamath Falls CO Monitoring Waiver Approval
4.2 2011 - Klamath Falls PM10, Grants Pass PM10, and Medford CO Monitoring Waiver Request and Approval
4.3 2012 - McMinnville Lead Monitoring Waiver Request and Approval
4.4 2012 - NCORE NOy Monitoring Waiver Request and Approval

## 5. New Monitoring Waiver Request

5.1 2018 - Grants Pass PM2.5 Monitoring Frequency Waiver Request

## 4.1. 2005 Klamath Falls CO Monitoring Waiver Approval

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 10**
1200 Sixth Avenue
Seattle, WA 98101

Reply to
Attn Of: AWT-107

20 JUL 2005

David Collier, Manager
Program Operations Division
Oregon Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390

Subject: Removal of Klamath Falls Carbon Monoxide Monitor

Dear Mr. Collier:

Thank you for your letter of July 11, 2005 explaining your decision to discontinue CO monitoring in Klamath Falls, Oregon. Current CO levels have been about one half of the standard and future trends suggest that CO concentrations will decrease further as the local motor vehicles and fuels continue to be replaced by cleaner vehicles and fuels.

Periodic review of area growth rates and emission inventory estimates for CO in Klamath Falls, as part of the 3-year periodic statewide emission inventory cycle, will assure that CO levels continue to remain below the CO standard. In the unlikely event that CO emissions in Klamath Falls increase significantly, ODEQ agrees that the monitor will be restarted. This approach will ensure that CO monitoring will resume before CO levels reach the 8-hour CO standard and is acceptable to EPA.

Sincerely,

Mahbubul Islam, Manager
State and Tribal Air Programs Unit

cc: Jeff Smith, ODEQ
Connie Robinson
Keith Rose

## 4.2. 2011 - Klamath Falls PM10, Grants Pass PM10, and Medford CO Monitoring Waiver

### Request and Approval

Waiver Request:

**Justification for Discontinuation of Monitoring in Carbon Monoxide and PM10 Maintenance Areas (This document is too large to post here and is available upon request)**

Waiver Approval:

*Note that page two is missing but the page one has the approval of the waiver.*

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

JAN 06 2012

OFFICE OF
AIR, WASTE AND TOXICS

Dept of Environmental Quality
Air Quality Division

JAN 09 2012

RECEIVED

Mr. Anthony Barnack
Air Monitoring Program
Oregon Department of Environmental Quality
811 SW Sixth Avenue
Portland, Oregon 97204-1390

Dear Mr. Barnack:

We have evaluated the 2011 Oregon Ambient Air Monitoring Network Plan, which describes changes to the OR monitoring network for 2011-12. The proposed changes, and EPA's responses, are listed below:

Discontinued Monitors:

1) Discontinued PM2.5 FRM sampling at Bend, Pump Station (41-017-0120). This site has been consistently below 75% of the NAAQS. A nephelometer remains at the site for the woodstove advisory program. EPA approves this change.

2) Discontinued PM2.5 FRM duplicate sampling at Hillsboro, Hare Field (41-067-0004). The reductions in PM2.5 FRM samplers in 2011 resulted in a lowering of the requirement duplicate sites from three to two. EPA approves this change.

3) Discontinued air toxics monitoring at Salem, State Hospital (41-047-0041). Site was deemed to have enough data. Resources were moved to support an air toxics site in Klamath Falls. EPA approves this change.

4) Discontinued the Halsey field burning meteorology site. EPA approves this change.

5) Discontinued monitoring for wet Mercury Deposition January 1, 2011 at Beaverton Highland Park (41-067-0111). The grant's funding ended. EPA approves this change.

6) Discontinued PM10 FRM sampling at Eugene, Lane Community College (41-039-0013). This site was redundant as discussed in the five year plan. EPA approves this change.

7) Discontinue CO monitors in Eugene, at the Lane Community College site (41-039-0013), and in Medford, the Rogue Valley Mall site (41-029-0018). EPA approves discontinuing these monitors, and the justification for discontinuing these monitors provided in the ODEQ report "Justification for Discontinuing of Monitoring in Carbon Monoxide and PM10 Maintenance Areas" (October 2011).

a) Portland/SE Lafayette
b) Eugene/Amazon Park
c) Medford/Grant & Belmont
d) Klamath Fall

3. Pre-cursor gas monitors at the Portland/SE Lafayette NCore site

"Core" monitors are those monitors in the network that must be operated with available PM2.5 monitoring funds. The "non-core" PM2.5 monitors in the State's network can be operated at ODEQ's discretion with any remaining federal funds or State funds. If you have any questions about our approval of the Oregon monitoring network, please contact Keith Rose at (206) 553-1949.

Sincerely,

Debra Suzuki

Debra Suzuki, Manager
State and Tribal Program Unit

## 4.3. 2012 - McMinnville Lead Monitoring Waiver Request and Approval

Waiver Request

***Note that the Re: statement is labeled NOy but the content is for TSP lead.***

Oregon
John A. Kitzhaber, MD, Governor

Department of Environmental Quality
Laboratory and Environmental Assessment Division
3150 NW 229th, Suite 150
Hillsboro, OR 97124
Voice & TTY (503) 693-5700
FAX (503) 693-4999

Dennis McLerran
Region Ten Administrator
U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

Re: Waiver request for substituting NOx for NOy monitoring at the Oregon NCORE site.

Dear Mr. McLerran,

Oregon DEQ requests a waiver to discontinue TSP lead monitoring at our McMinnville, Cascade Steel fence line monitoring site. This is allowed by EPA as stated in CFR. Part 58, App D, sec 4.5(a) (ii):

> 'The Regional Administrator may waive the requirement in paragraph 4.5(a) for monitoring near Pb sources if the State or, where appropriate, local agency can demonstrate the Pb source will not contribute to a maximum Pb concentration in ambient air in excess of 50 percent of the NAAQS (based on historical monitoring data, modeling, or other means). The waiver must be renewed once every 5 years as part of the network assessment required under §58.10(d).'

The TSP lead monitor operational funds will be transferred to the Portland $NO_2$ roadway site to operate the required CO monitor. The CO monitor is not required until 2017 but ODEQ would like to start monitoring for CO early to get a more complete data set for the roadway site.

Low Lead Levels

In 2010, ODEQ started TSP lead monitoring in McMinnville outside the Cascade Steel (41-072-1702). The annual maximum three month rolling average for the first 2 ½ years is below 1/3 of the NAAQS (Figure 1). The CFR allows a waiver if the levels are below ½ of the NAAQS.

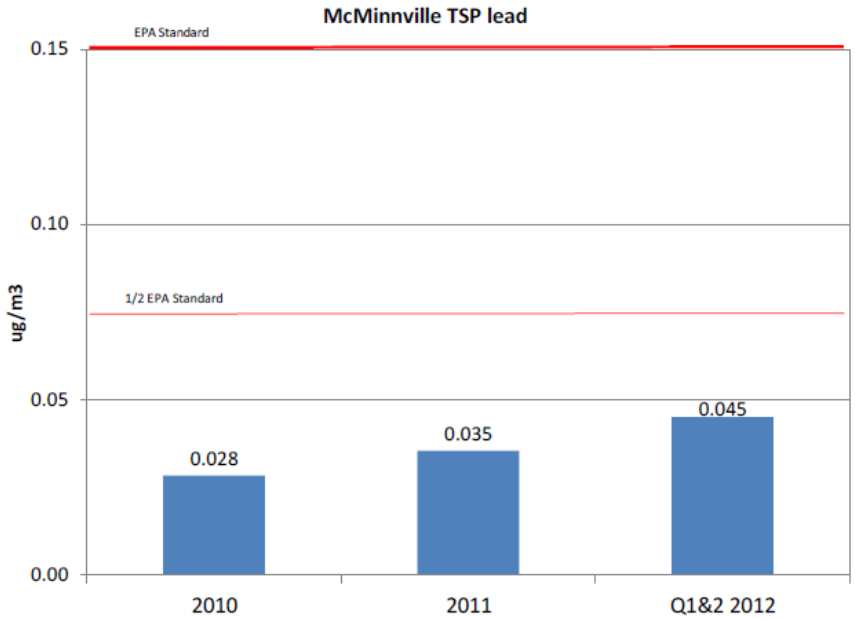

Figure 1. McMinnville, Cascade Rolling Mill's maximum three month rolling average TSP Lead.

Cascade Rolling Mills has a Title V permit and it will continue to be inspected by ODEQ staff. The facility is required to continue reporting their annual production levels which will be used to calculate their emissions inventory.

Sincerely,

Jeff Smith
Air Quality Monitoring Manager
Oregon DEQ

Cc Keith Rose, EPA, Region 10, Chris Hall, EPA, Region 10

Waiver Approval:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OCT 25 2012

OFFICE OF
AIR, WASTE AND TOXICS

DEQ - HQ
AIR QUALITY DIVISION

OCT 29 2012

RECEIVED

Mr. Anthony Barnack
Air Monitoring Program
Oregon Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390

Dear Mr. Barnack:

We have evaluated the 2012 Oregon Ambient Air Monitoring Network Plan, which describes changes to the OR monitoring network for 2012-13. The proposed changes, and EPA's responses, are listed below:

1. ODEQ submitted an NO2 Roadway monitoring site plan which proposed an NO2 near roadway site in Portland, to be installed and operated in 2013, pending identification of a specific monitoring location and funding to operate this site. EPA cannot approve the monitoring site until a specific location has been selected and ODEQ commits to operating it. When these conditions have been met, ODEQ should modify its NO2 near roadway plan, and resubmit the plan to EPA for review and approval.
2. ODEQ desires to discontinue the NOy monitor at the Portland NCore site, and use data from the collocated NO2 as a substitute for the NOy data. If ODEQ can demonstrate that NOy and NOx concentrations are nearly identical at this site, then EPA can approve discontinuing the NOy monitor as long as the NO2 monitoring continues operation. EPA can approve this request upon the demonstration by ODEQ that there is a negligible difference between the NOy and NOx levels at this site, as explained in Part 58, Appendix D, section 3(b)(1):

   *'Although the measurement of NOy is required in support of a number of monitoring objectives, available commercial instruments may indicate little difference in their measurement of NOy compared to the conventional measurement of $NO_X$, particularly in areas with relatively fresh sources of nitrogen emissions. Therefore, in areas with negligible expected difference between NOy and $NO_X$ measured concentrations, the Administrator may allow for waivers that permit $NO_X$ monitoring to be substituted for the required NOy monitoring at applicable NCore sites.*
3. ODEQ intends to discontinue the Pb TSP monitoring at the fence line of Cascade Rolling Mills in McMinnville, Oregon in 2013. Funding saved by this discontinuation will be transferred to support the operation of a CO monitor at the NO2 roadway site. To date, the results of the McMinnville Pb monitor are below ¼ of the NAAQS. Shut down of the Pb monitor is allowed under CFR Pt 58, App D, sec 4.5(a)(ii), with the condition that the state demonstrates that the design value is less than 50% of the NAAQS. ODEQ will have to submit the data, and calculation of the design value, to EPA for review before we can approve shutting down this site.

c) Medford/Grant & Belmont
d) Klamath Fall

3. Pre-cursor gas monitors at the Portland/SE Lafayette NCore site

With this letter, EPA is approving the Oregon Annual Monitoring Network Plan, including the area-wide NO2 monitor at the Portland NCore site, but is not approving the plan for NO2 near roadway monitoring. As explained above, ODEQ should modify its NO2 near roadway monitoring plan to identify a specific monitoring location and resubmit the plan to EPA for approval. If you have any questions about our approval of the Oregon monitoring network, please contact Keith Rose at (206) 553-1949.

Sincerely,

Debra M. Suzuki, Manager
State and Tribal Program Unit

cc: Paul Kaprowski, OOO
Keith Rose, OAWT
Chris Hall, OEA
Jeff Smith, ODEQ
Claudia Vaupel, OAWT

## 4.4. 2012 - NCORE NOy Monitoring Waiver Request and Approval

Waiver Request

Oregon
John A. Kitzhaber, MD, Governor

Department of Environmental Quality
Headquarters
811 SW Sixth Avenue
Portland, OR 97204-1390
(503) 229-5696
FAX (503) 229-6124
TTY: 711

November 27, 2012

Dennis McLerran
Region Ten Administrator
U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

Re: Waiver request for substituting NOx for NOy monitoring at the Oregon NCORE site.

Dear Mr. McLerran,

For many years the Oregon Department of Environmental Quality (ODEQ) has operated a required NOx monitor at our population orientated site in SE Portland for the purpose of collecting $NO_2$ data to determine our compliance with the National Ambient Air Quality Standards (NAAQS). With the development of the EPA's NCORE network of multi-pollutant sites, a monitor for NOy was added to this site. An NOy monitor does not provide reference method NO2 data, so it was necessary to operate both NOx and NOy monitors at the same location.

The Oregon Department of Environmental Quality (ODEQ) requests a waiver to discontinue NOy monitoring at our Portland NCORE site at SE Lafayette (41-051-0080) and use the existing NOx monitor at the site as a surrogate. This is allowed by EPA as stated in CFR. Pt 58, App D, sec 3(b) (1):

> *"Although the measurement of NOy is required in support of a number of monitoring objectives, available commercial instruments may indicate little difference in their measurement of NOy compared to the conventional measurement of NOx, particularly in areas with relatively fresh sources of nitrogen emissions. Therefore, in areas with negligible expected difference between NOy and NOx measured concentrations, the Administrator may allow for waivers that permit NOx monitoring to be substituted for the required NOy monitoring at applicable NCore sites."*

We request this waiver for two reasons:

1) The NOx and NOy values measured at this site are almost identical. To continue to collect near identical data provides no additional environmental benefit, and

2) As part of the recent revisions to the National Ambient Air Quality Standards (NAAQS) for $NO_2$ there is a new requirement to operate a near roadway site in the Portland area. EPA has not provided any additional funds to support the operation of the required Portland $NO_2$ roadway monitor. States are expected to reduce or eliminate low priority or redundant monitoring to fund the operation of these new sites. Funds currently supporting the NOy monitor would be shifted to operate the $NO_2$ roadway monitor.

**Redundant NOx and NOy values**

The data from the most recent five calendar quarters shows that NOy and NOx at the Portland NCORE site are nearly identical. Continuing monitoring for both will not provide any additional environmental benefit. Three statistical approaches where used to determine redundancy: diurnal average comparison, linear regression, and t-test.

Diurnal Averages
Each hour of the day was average over the year and graphed for NOy and NOx (figure 1). This provides a qualitative and visual analysis of the similarity of the pollutants. The NOy and NOx levels at the NCORE site are very similar.

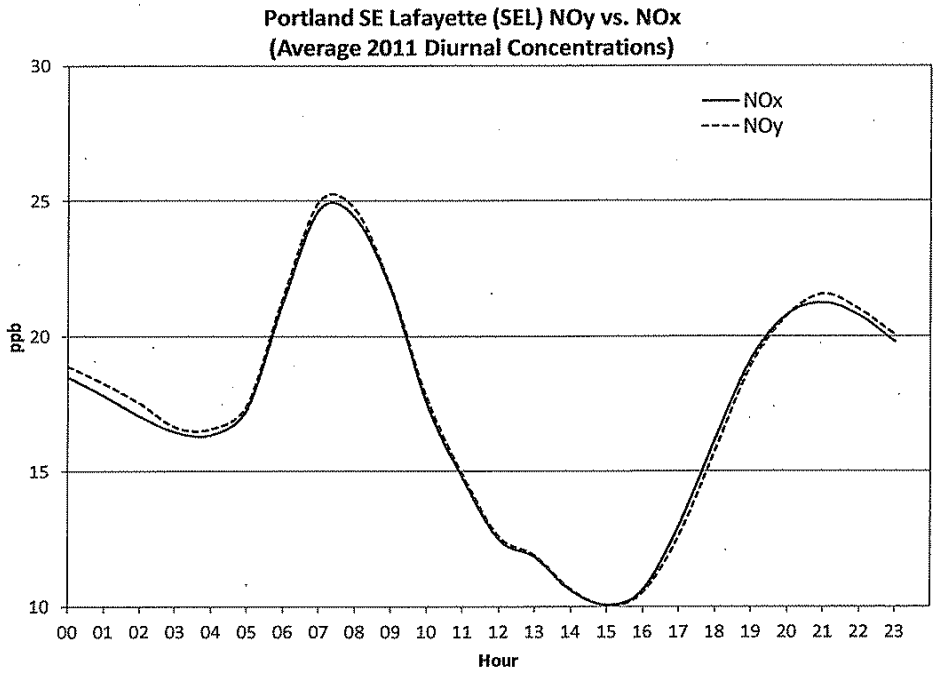


Figure 1. NCORE site NOx and NOy diurnal concentration comparison. *(2011 data)*

Linear Regression

Linear regression is a quantitative comparison of the difference between NOx and NOy (Figure 2). Similarity is determined by the slope, the y-intercept, and the variance of the data ($R^2$). The linear regression showed very good correlation with a slope of 0.98, a y-intercept of 0.3 ppb, and a very high $R^2$ at 0.99. All this shows the two data sets are almost identical.

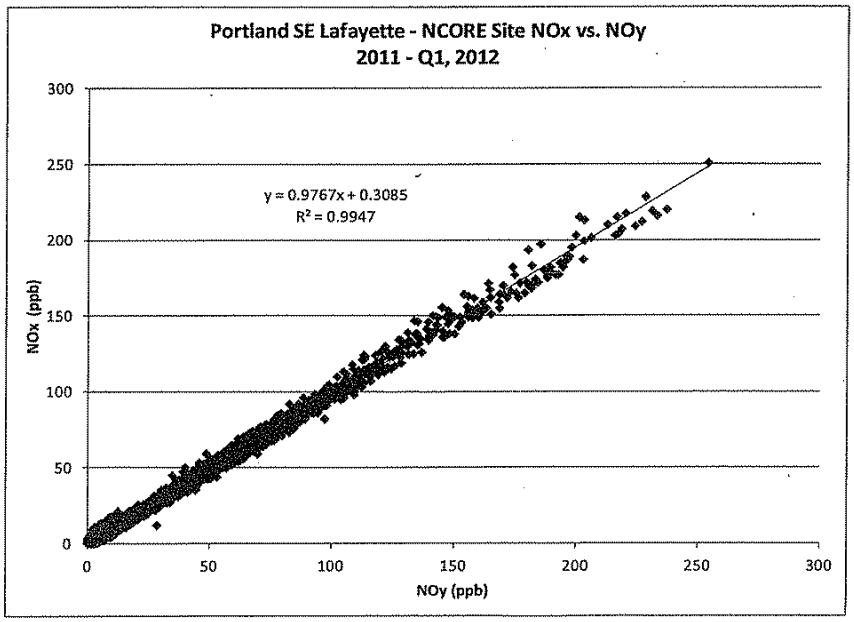


Figure 2. NCORE site NOx and NOy linear regression comparison. *(2011 & Q1 2012 data)*

T-Test
A t-test is used to see if the difference between two independent data sets is significant. The difference between two independent data sets is generally considered insignificant when the P value > 0.05. The t-test of NOy and NOx results in a value of P = 0.71. The t-test shows that the difference between NOy and NOx are insignificant. *(2011 & Q1 2012 data).*

**Best Use of Monitoring Funds**
Over the past decade, ODEQ has worked with EPA Region 10 to examine and adjust monitoring priorities to implement both budget cuts and new monitoring requirements. A successful approach has been to repurpose funds from low priority or redundant monitors to the new required monitors. To fund the operation of $NO_2$ monitoring at the new roadway site, we will have to do this again. The NOy monitor at the NCORE site is the best candidate to discontinue because it is redundant with the collocated NOx monitor. The monitoring costs for NOy and $NO_2$ are similar and shifting the funds from the NOy monitor to the $NO_2$ roadway monitoring should not require any additional monitoring cuts.

In conclusion, the NOy monitor resources are an ideal source of funding for the $NO_2$ monitor at the new required near roadway site. The operational costs for NOy and $NO_2$ monitoring are very similar. Discontinuing NOy will not result in a loss of meaningful data at the NCORE site because the existing NOx monitor data is almost identical.

Thank you for considering our request for this waiver.

Sincerely,

Andrew Ginsburg
Air Quality Administrator,
Oregon Department of Environmental Quality

cc Keith Rose, Region 10, EPA, Chris Hall, Region 10, EPA

Waiver Approval

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

February 20, 2014

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

Mr. Andrew Ginsburg
Air Quality Administrator
Oregon Department of Environmental Quality
811 SW Sixth Avenue
Portland, Oregon 97204-1390

Dear Mr. Ginsburg:

In a letter dated November 27, 2012, you requested a waiver to substitute NOx (nitric oxide + nitrogen dioxide) data for the required measurement of NOy (reactive oxides of nitrogen) at the Portland National Core (NCore) network station (AQS site ID: 41-051-0080). On April 8th of 2013, Region 10 provided you a letter with their approval of that request. However, EPA's monitoring regulations provide that these types of approvals are made by the EPA Administrator or designee. This authority has been delegated to the Director of the Air Quality Assessment Division in EPA's Office of Air Quality Planning and Standards. Therefore, this letter transmits our approval of your request to substitute NOx data for NOy data at your Portland NCore station in accordance with the applicable monitoring regulations in Appendix D to Part 58, section 3(b)(1).

In considering your waiver request to use NOx monitoring data in place of NOy monitoring data we reviewed your letter and associated assessments, dialogued with Region 10, performed our own analysis such as examining the $PM_{2.5}$ and ozone design values for the Portland CBSA, and solicited input from a variety of interested technical users here in our office. We also factored in the resource constraints you identified in your letter, which include measuring $NO_2$ at a near-road and an area-wide monitoring station in the Portland CBSA. While there are a number of reasons data users value the NOy data (e.g., consistency with all other NCore stations, ability to measure more of the reactive nitrogen, and evaluating models) given your unique situation, on balance we are supporting your waiver request. However, we reserve the right to request NOy monitoring at a future date based upon the need for data at that time (e.g., SIP planning), changes in air quality, changes in NAAQS, or better use and interpretation of the NOy data (especially when collocated with a true $NO_2$ monitor).

Thank you for your program's efforts in operating your NCore station. For questions you may contact Tim Hanley at hanley.tim@epa.gov and 919-541-4417.

Sincerely,

Richard A. Wayland

Richard A. Wayland
Director
Air Quality Assessment Division

cc: Debra Suzuki, EPA Region 10
Keith Rose, EPA Region 10

## 5.1. 2018 Grants Pass PM2.5 Monitoring Frequency Waiver Request

Waiver Request

Oregon
Kate Brown, Governor

**Department of Environmental Quality**
**Laboratory and Environmental Assessment Division**
7202 NE Evergreen Parkway, Suite 150
Hillsboro, OR 97124
Voice & TTY (503) 693-5700
FAX (503) 693-4999

January 22, 2018

Doug Jager

U.S. EPA, Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

Re: Waiver to operate the Grants Pass, 103 funded PM2.5 SLAMs site on a one in six schedule.

Oregon DEQ requests a waiver to operate the Grants Pass, Parkside School (41-033-0114) PM2.5 Federal Reference Method monitor on a one in six schedule instead of the requisite one in three schedule. The waiver is allowed per 40 CFR Part 58.12 (d)(1)(i, ii). This section states,

"The EPA Regional Administrator may grant sampling frequency reductions after consideration of factors (including but not limited to the historical $PM_{2.5}$ data quality assessments, the location of current $PM_{2.5}$ design value sites, and their regulatory data needs) if the Regional Administrator determines that the reduction in sampling frequency will not compromise data needed for implementation of the NAAQS. Required SLAMS stations whose measurements determine the design value for their area and that are within ±10 percent of the annual NAAQS, and all required sites where one or more 24-hour values have exceeded the 24-hour NAAQS each year for a consecutive period of at least 3 years are required to maintain at least a 1-in-3 day sampling frequency until the design value no longer meets these criteria for 3 consecutive years."

The Grants Pass Parkside School PM2.5 FRM is the only monitoring site in the Grants Pass Metropolitan Statistical Area and thus is the station that determines the design value. The design value for Grants Pass is below 10% of the daily and annual NAAQS, for at least the past eight consecutive years. The table below provides the design values for the past eight years and that they are outside the ±10 threshold required for every third day monitoring. These data are compared to the value that is 10% below the NAAQS used in 2018 of 35.5($\mu g/m^3$) and 12 ($\mu g/m^3$) respectively. All data is from the EPA AQS AMP480 Design Value Report.

**Table 1. Grants Pass, Parkside School PM2.5 Design Values**

| All Values - $\mu g/m^3$ | 98th Percentile design Value | 3yr Aver. 98th Percentile | Is the 3yr aver. 98th percentile <32.0 | Annual Average Design Value | 3yr Aver. Of Annual Average | Is the 3yr aver. of the Annual Average <10.8 |
|---|---|---|---|---|---|---|
| 2007 | 28.8 | | | 8.2 | | |
| 2008 | 28.3 | | | 9.4 | | |
| 2009 | 34.8 | 30.6 | Yes | 8.5 | 8.7 | Yes |
| 2010 | 20.1 | 27.7 | Yes | 6.4 | 8.1 | Yes |
| 2011 | 30 | 28.3 | Yes | 7.6 | 7.5 | Yes |
| 2012 | 17.8 | 22.6 | Yes | 6.9 | 7.0 | Yes |
| 2013 | 35.5 | 27.8 | Yes | 11.9 | 8.8 | Yes |
| 2014 | 25.7 | 26.3 | Yes | 7.4 | 8.7 | Yes |
| 2015 | 18.4 | 26.5 | Yes | 8.3 | 9.2 | Yes |
| 2016 | 15.2 | 19.8 | Yes | 5.8 | 7.2 | Yes |

If you have any questions, contact Anthony Barnack at 503.693.5708 or email at barnack.anthony@deq.state.or.us . Thank you for your consideration.

Sincerely,

Anthony Barnack
Ambient Air Monitoring Coordinator, Oregon DEQ

Waiver Approval

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 10**
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

MAR 2 6 2018

OFFICE OF
AIR AND WASTE

Mr. Anthony Barnack
Air Monitoring Program
Oregon Department of Environmental Quality
811 SW Sixth Avenue
Portland, Oregon 97204-1390

Dear Mr. Barnack:

This letter is in response to your request to perform $PM_{2.5}$ sample collection at a frequency of every sixth day (1:6) at the Grants Pass air monitoring station. The required every third day (1:3) sample collection frequency for a State and Local Air Monitoring Station (SLAMS) $PM_{2.5}$ monitor can be reduced if the operating schedule requirements are met for the $PM_{2.5}$ monitor. See 40 CFR Part 58.12 (d)(1)(ii).

The EPA Region 10's review of the information provided by the Oregon Department of Environmental Quality and the data in the Air Quality System determined that the reduction in sampling frequency will not compromise data needed for implementation of the $PM_{2.5}$ National Ambient Air Quality Standards. As such, the EPA Region 10 grants a waiver from the required 1:3 sample collection at the SLAMS Grants Pass monitoring station (AQS ID: 41-033-0114) and substitutes the required $PM_{2.5}$ sample collection with a 1:6 sample frequency.

The ODEQ should continue to periodically verify that the Design Value at the Grants Pass monitor is not within ±10% of the $PM_{2.5}$ Annual NAAQS and ensure that this monitor does not exceed the Daily NAAQS for a period of 3 consecutive years. ODEQ and the EPA Region 10 will annually reassess the data supporting maintaining a 1:6 sample collection frequency for this monitor in the State of Oregon's Annual Network Plan. If you have any questions regarding this approval, please contact Doug Jager of my staff at (206) 553-2961.

Sincerely,

Gina M Bonifacino

acting for Gina Bonifacino
Acting Manager, Air Planning Unit

## Appendix F. Review of Violating monitor changes.

DEQ, LRAPA, and EPA may decide that a monitoring location, method, frequency, or other properties needs to be changed to provide more accurate or representative information for an area. Any changes will go through public notice and be approved by Region 10 EPA, Oregon DEQ or (Lane Regional Air Protection Agency depending on the location). Changes will meet the siting criteria in 40 CFR Part 58.