

DEPARTMENT OF  
**ECOLOGY**  
State of Washington

## **2019 Ambient Air Monitoring Network Plan**

---

June 2019

Publication xxx

# Publication and Contact Information

This document is available on the Department of Ecology's website at:

[www.xx.xx](http://www.xx.xx)

For more information contact:

Air Quality Program  
P.O. Box 47600  
Olympia, WA 98504-7600  
Phone: 360-407-6800

Washington State Department of Ecology – [www.ecology.wa.gov](http://www.ecology.wa.gov)

- Headquarters, Olympia 360-407-6000
- Northwest Regional Office, Bellevue 425-649-7000
- Southwest Regional Office, Olympia 360-407-6300
- Central Regional Office, Union Gap 509-575-2490
- Eastern Regional Office, Spokane 509-329-3400

*To request ADA accommodation including materials in a format for the visually impaired, call Ecology at 360-407-6800 or visit <https://ecology.wa.gov/accessibility>. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.*

# **2019 Ambient Air Monitoring Network Plan**

---

Prepared by  
Jill Schulte  
Air Monitoring Coordinator

Air Quality Program  
Washington State Department of Ecology  
Olympia, Washington

*This page is purposely left blank*

# Table of Contents

2019 Ambient Air Monitoring Network Plan .....	i
Publication and Contact Information .....	ii
2019 Ambient Air Monitoring Network Plan .....	i
Table of Contents .....	v
List of Figures and Tables .....	vii
Figures .....	vii
Tables .....	vii
Acronyms .....	ix
Executive Summary .....	1
Purpose .....	1
Network modifications .....	1
Introduction .....	3
Background Information .....	4
Monitoring Objectives .....	4
Network Evaluation .....	6
Washington Core-Based Statistical Areas .....	6
Maintenance Areas .....	8
Monitoring Network Design .....	10
Carbon monoxide (CO, 42101) .....	13
Nitrogen dioxide (NO <sub>2</sub> , 42602/42612) .....	14
Ozone (O <sub>3</sub> , 44201) .....	16
Sulfur dioxide (SO <sub>2</sub> , 42401) .....	18
Particulate matter 10 (PM <sub>10</sub> , 81102) .....	19
Particulate matter 2.5 (PM <sub>2.5</sub> , 88101/88502) .....	23
Meteorological monitoring (61101/61102/61103/61104/62101) .....	30
Lead (Pb) .....	31
Chemical Speciation Network (CSN) .....	32
National Core (NCore) .....	34
National Air Toxics Trends Station (NATTS) .....	35

Photochemical Assessment Monitoring Station (PAMS).....	35
References.....	37
Appendices.....	38
Appendix A. Criteria Pollutant Design Values.....	38
Appendix B. EPA Response to Ecology’s 2018 Annual Network Plan.....	43
Appendix C. Monitoring Waivers.....	46
Appendix D. Detailed Site and Monitor Information.....	54

# List of Figures and Tables

Page

## Figures

Figure 1. Washington's Core-Based Statistical Areas (CBSAs), U.S. Census Bureau 2013.....	7
Figure 2. Map of all Washington Network monitoring sites. ....	10
Figure 3. Map of Washington Network CO monitoring sites.....	13
Figure 4. Map of Washington Network NO <sub>2</sub> and Trace NO <sub>y</sub> -NO monitoring sites .....	15
Figure 5. Map of Washington Network ozone monitoring sites.....	17
Figure 6. Map of Washington Network SO <sub>2</sub> monitoring sites.....	19
Figure 7. Map of Washington Network PM <sub>10</sub> monitoring sites.....	20
Figure 8. Burbank-Maple St wind rose (February 2018 - April 2019).....	23
Figure 9. Map of Washington Network PM <sub>2.5</sub> monitoring sites .....	25
Figure 10. Map of Washington Network nephelometer monitoring sites .....	29
Figure 11. Map of Washington Network meteorological monitoring sites .....	31
Figure 12. Map of Washington Chemical Speciation Network monitoring sites .....	33

## Tables

Table 1. Summary of applicable spatial scales for criteria pollutants and monitoring objectives..	5
Table 2. Washington's CBSA populations over 50,000 (U.S. Census Bureau).....	8
Table 3. Washington PM <sub>10</sub> maintenance areas and methods of demonstrating NAAQS attainment .....	8
Table 4. Summary of parameters monitored at Washington Network monitoring sites .....	11
Table 5. Washington Network CO monitoring sites.....	13
Table 6. Washington Network NO <sub>2</sub> and Trace NO <sub>y</sub> -NO monitoring sites .....	14
Table 7. Washington Network ozone monitoring sites.....	16
Table 8. EPA minimum monitoring requirements for ozone .....	17
Table 9. Washington Network SO <sub>2</sub> monitoring sites.....	18
Table 10. Washington Network PM <sub>10</sub> monitoring sites.....	20
Table 11. EPA minimum monitoring requirements for PM <sub>10</sub> .....	21
Table 12. Washington Network PM <sub>2.5</sub> monitoring sites .....	23
Table 13. EPA minimum monitoring requirements for FRM/FEM PM <sub>2.5</sub> .....	26

Table 14. PM <sub>2.5</sub> collocation requirements.....	26
Table 15. Washington Network nephelometer monitoring sites .....	27
Table 16. Washington Network meteorological monitoring sites .....	30
Table 17. Washington Network Chemical Speciation Network monitoring sites .....	32
Table 18. Chemical Speciation Network monitoring parameters .....	33
Table 19. NCore parameters monitored at Cheeka Peak and Seattle-Beacon Hill.....	34
Table 20. Required PAMS parameters and implementation schedule .....	36
Table 21. Carbon monoxide (CO) 2018 design values.....	38
Table 22. Nitrogen dioxide (NO <sub>2</sub> ) 2018 design values (ppb) .....	38
Table 23. Ozone (O <sub>3</sub> ) 2018 design values (ppm).....	38
Table 24. Sulfur dioxide (SO <sub>2</sub> ) 2018 design values (ppb) .....	39
Table 25. PM <sub>10</sub> 2018 design values (µg/m <sup>3</sup> ).....	39
Table 26. PM <sub>2.5</sub> 2018 24-hour design values and pseudo-design values (µg/m <sup>3</sup> ) .....	39
Table 27. PM <sub>2.5</sub> 2018 annual design values and pseudo-design values .....	40

# Acronyms

AQS	EPA's Air Quality System database
BAM	Beta Attenuation Monitor
BCAA	Benton County Clean Air Agency
CBSA	Core-Based Statistical Area
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CSA	Combined Statistical Area
CSN	Chemical Speciation Network
DV	Design Value
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
FDMS	Filter Dynamic Measurement System
FEM	Federal Equivalent Method
FRM	Federal Reference Method
IMPROVE	Interagency Monitoring of Protected Visual Environments
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standard
NATTS	National Air Toxics Trends Station
NCore	National Core
NO	Nitrogen Oxide
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Oxides of Nitrogen
NO <sub>y</sub>	Total Reactive Oxides of Nitrogen
NWCAA	Northwest Clean Air Agency
O <sub>3</sub>	Ozone
ORCAA	Olympic Region Clean Air Agency
Pb	Lead
PM <sub>2.5</sub>	Particulate matter ≤ 2.5 micrometers in diameter
PM <sub>10</sub>	Particulate matter ≤ 10 micrometer in diameter
PM <sub>10-2.5</sub>	Particulate matter ≤10 microns and > 2.5 micrometers in diameter
ppb	parts per billion
ppm	parts per million
PAMS	Photochemical Assessment Monitoring Station
PQAO	Primary Quality Assurance Organization
PSCAA	Puget Sound Clean Air Agency
PSD	Prevention of Significant Deterioration
QA	Quality Assurance
QA	Quality Control
SLAMS	State or Local Air Monitoring Station
SO <sub>2</sub>	Sulfur Dioxide
SPMS	Special Purpose Monitoring Site
SRCAA	Spokane Region Clean Air Agency
SWCAA	Southwest Clean Air Agency
STN	Speciation Trends Network
TEOM	Tapered Element Oscillating Microbalance
TSP	Total Suspended Particulate
µg/m <sup>3</sup>	micrograms per cubic meter
VOC	Volatile Organic Compound
YRCAA	Yakima Region Clean Air Agency



## Executive Summary

### Purpose

In accordance with the requirements described in 40 C.F.R. Part 58.10, Ecology reviews its ambient air monitoring network each year to ensure that it collects adequate, representative, and useful air quality data on which to base policy decisions. This report summarizes the results of the 2019 review. The annual review process includes:

- Documenting Ecology's ambient air quality monitoring needs, goals and priorities;
- Identifying modifications to Ecology's ambient air monitoring network since the previous annual network plan; and
- Identifying proposed modifications to the network in the upcoming 18 months.

### Network modifications

#### Recent modifications

##### NO<sub>2</sub> (42602)

The NO<sub>2</sub> monitoring at the temporary Quincy Special Purpose Monitoring Site (SPMS) was discontinued on September 30, 2018. The site will be retained as a meteorological and nephelometer monitoring site until at least December 2020.

##### PM<sub>2.5</sub> (88101)

A collocated Met One BAM 1020 was added to the Tacoma-S 36<sup>th</sup> monitoring site (530530024) on March 2, 2019.

As approved by EPA on December 13, 2018, the Lynnwood-212<sup>th</sup> St site (530610005) operated by the Puget Sound Clean Air Agency (PSCAA) was discontinued on December 31, 2018. The state support and PM<sub>2.5</sub> grant funding were redirected to a new site established by PSCAA at Auburn-M St (530330089). Monitoring at Auburn began on January 1, 2019.

##### Nephelometer PM<sub>2.5</sub> (88502)

The temporary nephelometer monitoring study at Quincy (530251003) was extended until December 2020.

The temporary Okanogan nephelometer SPMS (530470004) was discontinued in June 2018.

Two temporary nephelometer SPMS were established. The Friday Harbor site (530550001) operated from January-May 2019. The White Salmon site was established in June 2018 and will operate indefinitely.

## **Planned modifications**

### **PM<sub>2.5</sub> (88101)**

Ecology is currently evaluating potential locations for a second PM<sub>2.5</sub> monitoring site in the Spokane-Spokane Valley Metropolitan Statistical Area (MSA) and plans to establish a second site by January 1, 2020. The addition of this site will fulfill the minimum monitoring requirements for PM<sub>2.5</sub> described in 40 C.F.R. Part 58 Appendix D.

### **Chemical Speciation Network (CSN)**

In the 2018 Annual Network Plan (ANP), Ecology proposed to relocate the Tacoma-L St (530530029) speciation monitor to the Tacoma-S 36<sup>th</sup> St (530530024) near-road monitoring site. However, since submission of the 2018 ANP, operational challenges to speciation data collection have grown at the Seattle-10<sup>th</sup> and Weller monitoring site (530330030). As these challenges are more urgent than the pending Tacoma relocation, Ecology delayed the relocation of the Tacoma site to evaluate alternate potential locations for Seattle-10<sup>th</sup> and Weller speciation monitoring. Ecology hopes to relocate the speciation monitoring equipment from Seattle-10<sup>th</sup> and Weller to a site in Central Washington but has not yet identified operational resources for this relocation. Ecology will continue to pursue alternatives to speciation monitoring at Seattle-10<sup>th</sup> and Weller in other high-PM<sub>2.5</sub> areas of the state and will revisit relocation of the Tacoma site at a later date.

### **Photochemical Assessment Monitoring Stations (PAMS)**

Based on 40 C.F.R. Part 58, Appendix D, state air monitoring agencies are required to begin making PAMS measurements at their NCore location(s) by June 1, 2019. The equipment needed to measure PAMS parameters were to be purchased by EPA using a nationally negotiated contract and delivered to the monitoring agencies. EPA has announced that due to contract delays, the necessary equipment will not be delivered in time to begin making PAMS measurements by June 1, 2019. EPA has indicated that it is working on a proposed rule to extend the start date of PAMS measurements and expects that this proposed rule change will be signed by June 1, 2019. As a result of the delay, Ecology will not begin making PAMS measurements at the Seattle-Beacon Hill NCore location in 2019, and will work with EPA to begin measurements on or before the final revised start date for this network.

## Introduction

This document summarizes Ecology's annual review of the Washington Ambient Air Monitoring Network (Washington Network) in accordance with 40 C.F.R. Part 58.10.

EPA's ambient air quality surveillance regulations in 40 C.F.R. Part 58 require states to establish air quality surveillance systems in their State Implementation Plans (SIPs). An air quality surveillance system consists of a network of State and Local Air Monitoring Stations (SLAMS). These stations measure ambient concentrations of those air pollutants for which 40 C.F.R. Part 50 sets standards. SLAMS must meet the requirements of 40 C.F.R. Part 58 contained in:

- Appendix A (Quality Assurance Requirements)
- Appendix C (Ambient Air Quality Monitoring Methodology)
- Appendix D (Network Design Criteria)
- Appendix E (Probe and Path Siting Criteria)

States determine if they conform to Appendices A and C in part through periodic system and performance audits. States conform to Appendices D and E by conducting an annual network review of their air quality surveillance systems. This review is documented in an annual network plan that meets the following requirements:

- The plan describes any network modifications planned in the upcoming 18 months. Network modifications are subject to approval of the EPA Regional Administrator.
- For each existing and proposed monitoring site, the plan includes the following information:
  - The AQS site number
  - Geographic information, including street address, geographic coordinates, and the represented MSA, CBSA, CSA or other area
  - The monitoring objective, special scale, sampling and analysis method, and operating schedule for each monitor
- The plan outlines the state's approach to implementing PAMS monitoring requirements where required at National Core (NCore) network sites by June 1, 2019.
- The plan must be made available for public inspection and comment for at least 30 days prior to submission to the EPA. The final plan includes and addresses comments received through the public notification process.

## Background Information

### Monitoring Objectives

The Washington Network was designed to meet the three monitoring objectives defined in 40 C.F.R. Part 58 Appendix D:

- 1. Provide air pollution data to the public in a timely manner.** Ecology provides timely air quality data to the public in a variety of ways, including:
  - Near-real-time data are available on Ecology's monitoring website.
  - Ecology conducts public outreach and issues alerts and bulletins when air quality is compromised.
- 2. Support compliance with National Ambient Air Quality Standards (NAAQS) and development of pollution control strategies.** Ambient air quality data are used to:
  - Determine compliance with the NAAQS
  - Determine the location of maximum pollutant concentrations
  - Track the progress of SIPs
  - Determine the effectiveness of air pollution control programs
  - Develop responsible and cost-effective emission control strategies
  - Assist with permitting work
- 3. Support air pollution research.** Ecology and its partners use ambient air quality data to improve our understanding of air pollution and its consequences. Research applications of air quality include:
  - Improving air quality forecasting
  - Evaluating the effects of air pollution on public health
  - Informing dispersion models
  - Identifying air quality trends and emerging pollution issues
  - Analyzing pollution episodes

In order to meet these three objectives, 40 C.F.R. Part 58 Appendix D calls for the design of SLAMS networks to include several different types of monitors. These general types are sites that:

1. Determine the highest pollutant concentrations expected in the area covered by the network.
2. Determine representative pollutant concentrations in areas of high population density.
3. Determine the impact of significant sources or source categories on pollutant concentrations in the ambient air.
4. Determine general background pollutant concentrations.

5. Determine the regional extent of pollutant transport between populated areas.
6. Determine the impacts on visibility or vegetation (welfare impacts) in more rural and remote areas.

Appendix D also provides guidance on spatial scales of representativeness for stations in a SLAMS network. Ideally, the station is located so that its sample represents the air quality across the scale that the station is intended to represent. Appendix D defines the following spatial scales:

1. **Microscale:** Area dimensions between several and 100 meters.
2. **Middle scale:** Areas between 100 and 500 meters, typically several city blocks.
3. **Neighborhood scale:** Areas between 0.5 and 4 kilometers with relatively uniform land use.
4. **Urban scale:** Areas with city-like dimensions between 4 and 50 kilometers. Urban and neighborhood scales can overlap considerably. Heterogeneous urban areas may not have a single representative site.
5. **Regional scale:** Areas from tens to hundreds of kilometers with relatively homogeneous geography and no large sources.
6. **National and global scales:** Scales representing the nation or globe as a whole.

Table 1 summarizes the appropriate spatial scales for each criteria pollutant and applicable site types.

**Table 1. Summary of applicable spatial scales for criteria pollutants and monitoring objectives**

Scale	SO <sub>2</sub>	CO	O <sub>3</sub>	NO <sub>2</sub>	Pb	PM <sub>10</sub>	PM <sub>2.5</sub>	Site Types
<b>Micro</b>	✓	✓		✓	✓		✓	Highest concentration; source impact
<b>Middle</b>	✓	✓		✓	✓	✓	✓	Highest concentration; source impact
<b>Neighborhood</b>	✓	✓	✓	✓	✓	✓	✓	Highest concentration; population; source impact; general/background
<b>Urban</b>	✓		✓	✓			✓	Highest concentration; population; general/background; regional transport; welfare-related impacts
<b>Regional</b>	✓		✓				✓	General/background; regional transport; welfare-related impacts

## Other ambient monitoring data needs

In addition to its network of criteria pollutant monitoring sites, Ecology also uses nephelometers throughout Washington to estimate PM<sub>2.5</sub> concentrations and inform the public of air quality conditions in communities where criteria pollutant monitoring is not required. Typically, nephelometer monitoring sites use site-specific PM<sub>2.5</sub> correlations developed from collocated Federal Reference Method (FRM) or Federal Equivalent Method (FEM) monitor data. Lower concentration sites may use generalized regional correlations developed at sites with similar geographic and source characteristics. These sites are operated in accordance with 40 C.F.R. Part 58 Appendix A requirements for quality assurance and quality control. At nephelometer sites where PM<sub>2.5</sub> concentrations are consistently measured at or greater than 80 percent of the NAAQS, Ecology transitions to FEM monitoring.

## Network Evaluation

Ecology uses a variety of tools to evaluate how well its monitoring network is meeting these goals and objectives. These tools include:

- EPA minimum monitoring requirements in 40 C.F.R. Part 58 Appendix D
- Results of Ecology's most recent 5-year Ambient Air Quality Monitoring Network Assessment
- Analyses of historic monitoring data
- Census data on population density and demographics
- Dispersion and air quality forecast models
- Planning requirements, including SIPs and maintenance plans
- Jurisdictional boundaries
- Results of special monitoring studies

The suitability of individual monitoring sites is evaluated according to the probe and monitoring path siting criteria described in 40 C.F.R. Part 58 Appendix E.

## Washington Core-Based Statistical Areas

The minimum monitoring requirements listed in 40 C.F.R. Part 58 Appendix D are based on the core-based statistical areas (CBSAs) defined by the U.S. Office of Management and Budget. Washington's CBSAs are shown in the map in Figure 1 (U.S. Census Bureau, 2013). Note that since publication of this map, Pend Oreille County has been removed from the Spokane-Spokane Valley MSA. Population estimates throughout this document are based on the latest available census figures in these CBSAs (2018 Annual Estimates of the Resident Population, U.S. Census Bureau, 2019). The populations of CBSAs in Washington over 50,000 people are listed in Table 2.

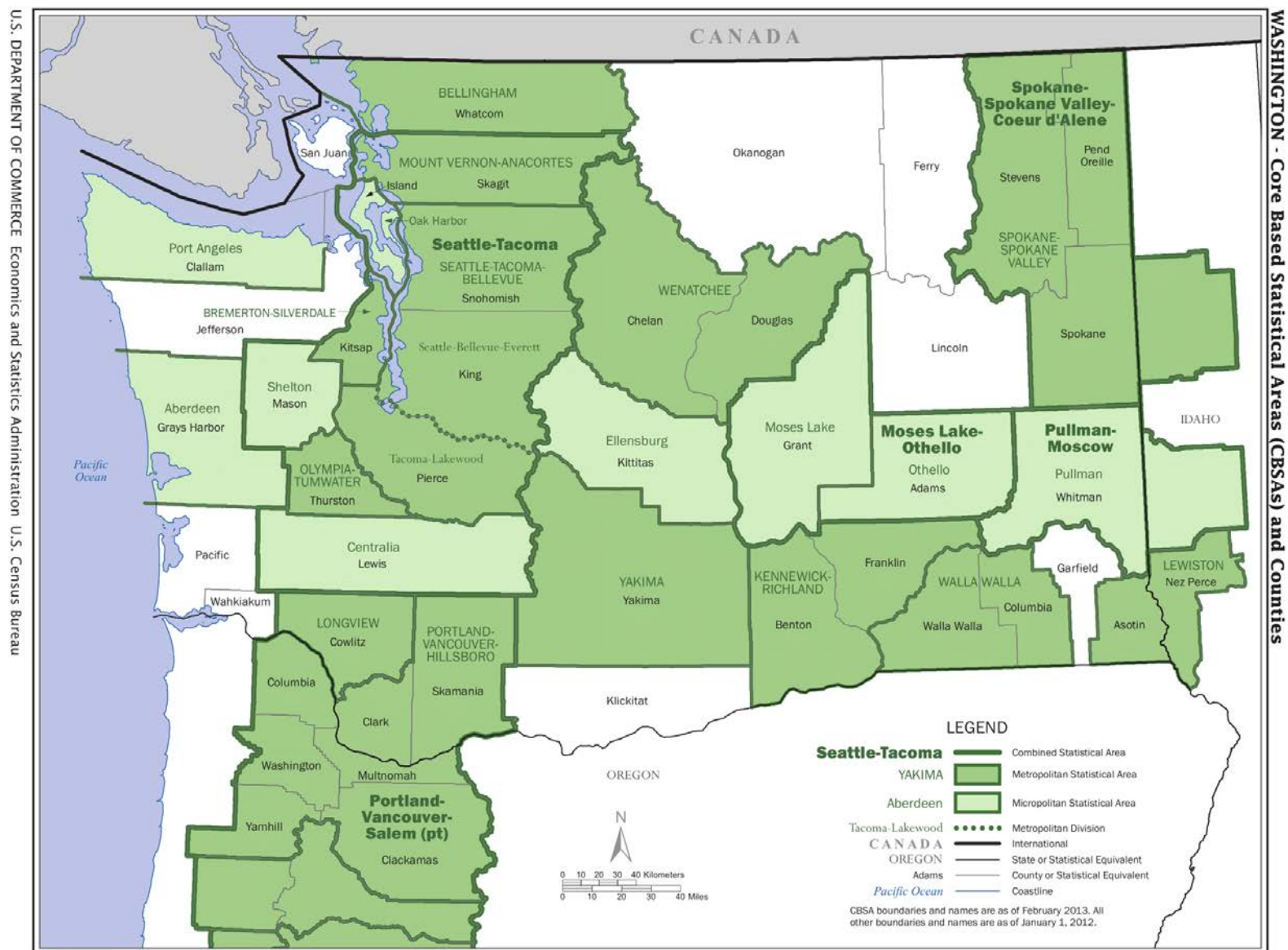


Figure 1. Washington's Core-Based Statistical Areas (CBSAs), U.S. Census Bureau 2013

**Table 2. Washington's CBSA populations over 50,000 (U.S. Census Bureau)**

Core-Based Statistical Area	2018 Population
Seattle-Tacoma-Bellevue, WA	3,939,363
Portland-Vancouver-Hillsboro, OR-WA	2,478,810
Spokane-Spokane Valley, WA	573,493
Kennewick-Richland, WA	296,224
Olympia-Lacey-Tumwater, WA	286,419
Bremerton-Silverdale-Port Orchard, WA	269,805
Yakima, WA	251,446
Bellingham, WA	225,685
Mount Vernon-Anacortes, WA	128,206
Wenatchee, WA	119,943
Longview, WA	108,987
Moses Lake, WA	97,331
Oak Harbor, WA	84,460
Centralia, WA	79,604
Port Angeles, WA	76,737
Aberdeen, WA	73,901
Shelton, WA	65,507
Walla Walla, WA	64,981
Lewiston, ID-WA	63,018

Washington shares the Portland-Vancouver-Hillsboro CBSA with the state of Oregon. The minimum monitoring requirements for PM<sub>10</sub>, PM<sub>2.5</sub> and ozone in this CBSA are met through a combination of monitors operated by Ecology and the Oregon Department of Environmental Quality (DEQ). Ecology and Oregon DEQ are in the process of developing a Memorandum of Understanding to formalize this arrangement.

## Maintenance Areas

Washington has ten maintenance areas for criteria pollutants. Maintenance areas demonstrate continued attainment of the NAAQS either through monitoring or through EPA-approved alternate methods. These methods are summarized in Table 3.

**Table 3. Washington PM<sub>10</sub> maintenance areas and methods of demonstrating NAAQS attainment**

Maintenance Area (Pollutant)	End of Maintenance Period	NAAQS Attainment Method
Seattle (PM <sub>10</sub> )	5/14/2021	Estimated PM <sub>10</sub> from Seattle-Duwamish PM <sub>2.5</sub> (530330057)
Kent (PM <sub>10</sub> )	5/14/2021	Estimated PM <sub>10</sub> from Kent-Central & James PM <sub>2.5</sub> (530332004)

Maintenance Area (Pollutant)	End of Maintenance Period	NAAQS Attainment Method
Tacoma (PM <sub>10</sub> )	5/14/2021	Estimated PM <sub>10</sub> from Tacoma-Alexander nephelometer PM <sub>2.5</sub> (530530031)
Thurston County (PM <sub>10</sub> )	12/4/2020	Estimated PM <sub>10</sub> from Lacey-College St nephelometer PM <sub>2.5</sub> (530670013)
Wallula (PM <sub>10</sub> )	9/26/2025	Burbank-Maple St PM <sub>10</sub> monitor (530710006)
Spokane (PM <sub>10</sub> )	8/30/2025	Spokane-Augusta PM <sub>10</sub> monitor (530630021)
Yakima (PM <sub>10</sub> )	3/10/2025	Yakima-4 <sup>th</sup> Ave S PM <sub>10</sub> monitor (530770009)
Tacoma (PM <sub>2.5</sub> )	3/12/2035	Tacoma-L St PM <sub>2.5</sub> monitor (530530029)
Yakima (CO)	12/31/2022	Modeled CO vehicle emissions
Spokane (CO)	8/30/2025	Modeled onroad, nonroad and residential wood combustion CO emissions

Washington has several maintenance areas that fall within the jurisdiction of local air agencies. In accordance with the maintenance plans, the local air agencies submitted design values to Ecology for the maintenance areas in their jurisdiction. These design values and their underlying calculations can be found in the document “Verification of Continued Attainment in Limited Maintenance Areas (2019)” submitted concurrently with this plan.

## Monitoring Network Design

On January 1, 2019, Ecology and its partners operated 75 monitoring sites that were part of the Washington Network. Those sites are shown on the map in Figure 2, and the parameters monitored are summarized in Table 4. Detailed site information is provided in Appendix D. All monitoring sites described in this plan are operated under the Ecology Primary Quality Assurance Organization (PQAO). Other monitoring sites, such as IMPROVE sites, are operated in Washington as part of separate PQAOs, but those networks are outside the scope of this document.

In its response to Washington's 2018 Annual Air Monitoring Network Plan, EPA requested that Ecology update the Annual Average Daily Traffic (AADT) counts and roadway distances for each monitoring site. Appendix D includes updated roadway distances and the latest available AADT counts. These values have also been updated in AQS.

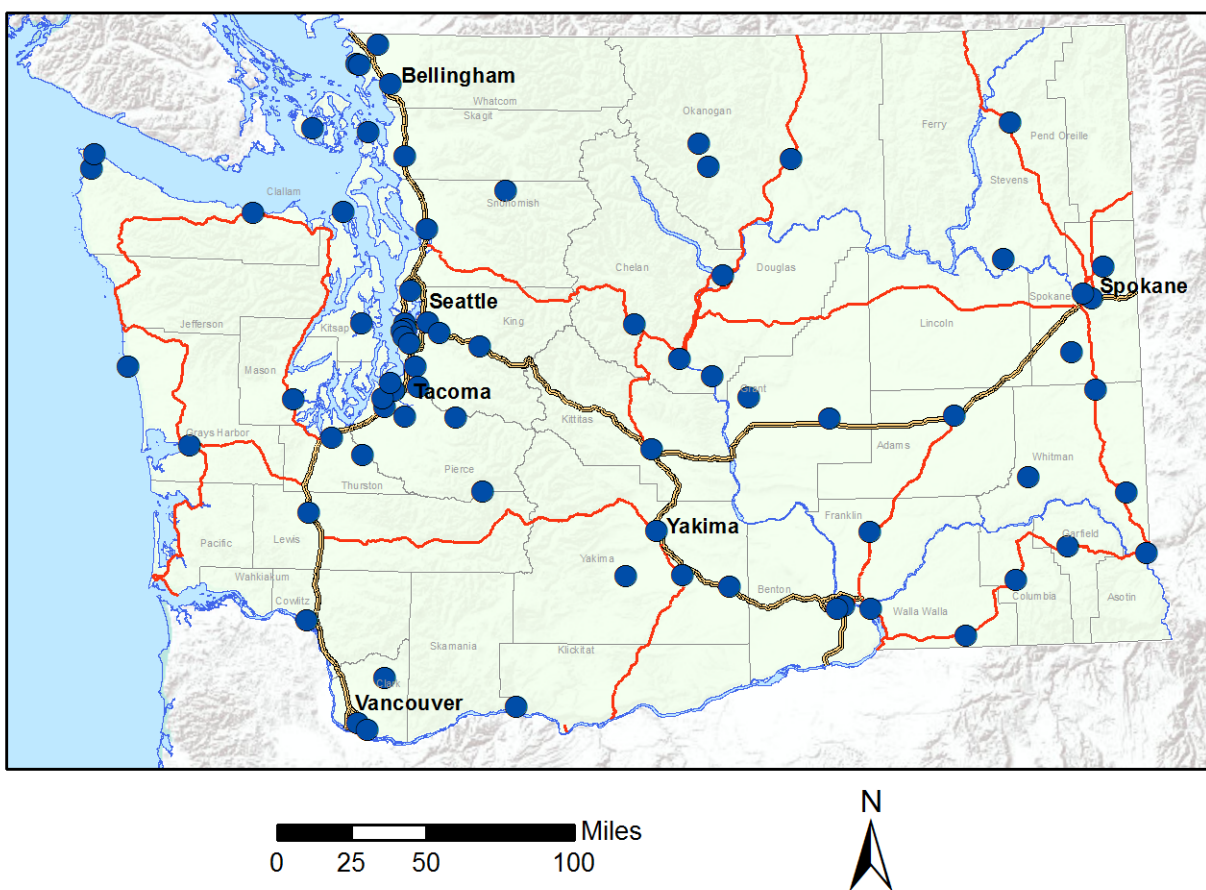


Figure 2. Map of all Washington Network monitoring sites.

**Table 4. Summary of parameters monitored at Washington Network monitoring sites**

Site Name	AQS ID	CO	NO <sub>2</sub> / NO <sub>y</sub>	O <sub>3</sub>	SO <sub>2</sub>	PM <sub>2.5</sub> (FRM/FEM)	PM <sub>2.5</sub> (Non- FRM/FEM)	PM <sub>10</sub>	Meteorological	Other
Aberdeen-Division St	530272002						✓			
Anacortes-202 O Ave	530570011			✓	✓	✓				
Auburn-M St	530330089					✓				
Bellevue-SE 12th St	530330031						✓			
Bellingham-Pacific St	530730019					✓				
Bremerton-Spruce Ave	530350007					✓				
Burbank-Maple St	530710006							✓	✓	
Cheeka Peak	530090013	✓	✓	✓	✓		✓		✓	
Chehalis-Market Blvd	530410004						✓			
Chelan-Woodin Ave	530070007						✓			
Cheney-Turnbull	530630001			✓						
Clarkston-13th St	530030004						✓			
Colville-E 1st St	530650005						✓	✓	✓	
Custer-Loomis	530730005			✓						
Darrington-Fir St	530610020					✓				
Dayton-W Main St	530130002						✓			
Ellensburg-Ruby St	530370002					✓	✓			
Enumclaw-Mud Mtn.	530330023			✓					✓	
Ferndale-Kickerville Road	530730013				✓					
Ferndale-Mountain View Rd	530730017				✓				✓	
Friday Harbor (Temporary)	530550001						✓			
Issaquah-Lake Sammamish	530330010			✓						
Kennewick-Metaline	530050002						✓	✓	✓	
Kennewick-S Clodfelter Rd	530050003			✓						
Kent-Central & James	530332004					✓				
Lacey-College St	530670013						✓			
LaCrosse-Hill St	530750005						✓			
Lake Forest Park	530330024						✓			
Leavenworth-Evans St	530070010						✓			
Longview-30th Ave	530150015						✓			
Malaga-Malaga Hwy	530070012				✓				✓	
Marysville-7th Ave	530611007					✓				
Mesa-Pepiot Way	530210002						✓			
Moses Lake-Balsam St	530251002						✓			
Mt Rainier-Jackson Visitors Ctr	530530012			✓						
Mt Vernon-S Second St	530570015						✓			
Neah Bay-Makah Tribe	530090015						✓			
North Bend-North Bend Way	530330017			✓			✓		✓	
Omak-Colville Tribe	530470013					✓			✓	
Pomeroy (Temporary)	530230001						✓			
Port Angeles- E 5th St	530090017						✓			
Port Townsend-San Juan Ave	530310003						✓			
Pullman-Dexter SE	530750003						✓			
Puyallup-128th St	530531018						✓			
Quincy-3rd Ave NE (Temporary)	530251003						✓		✓	
Ritzville-Alder St	530010003						✓			
Rosalia-Josephine St	530750006						✓			
Seattle-10th & Weller	530330030	✓	✓			✓			✓	CSN
Seattle-Beacon Hill	530330080	✓	✓	✓	✓	✓		✓	✓	CSN, NATTS, PAMS planned
Seattle-Duwamish	530330057					✓				
Seattle-South Park	530331011						✓			
Shelton-W Franklin	530450007						✓			
Spokane-Augusta Ave	530630021					✓		✓	✓	

## Monitoring Network Design

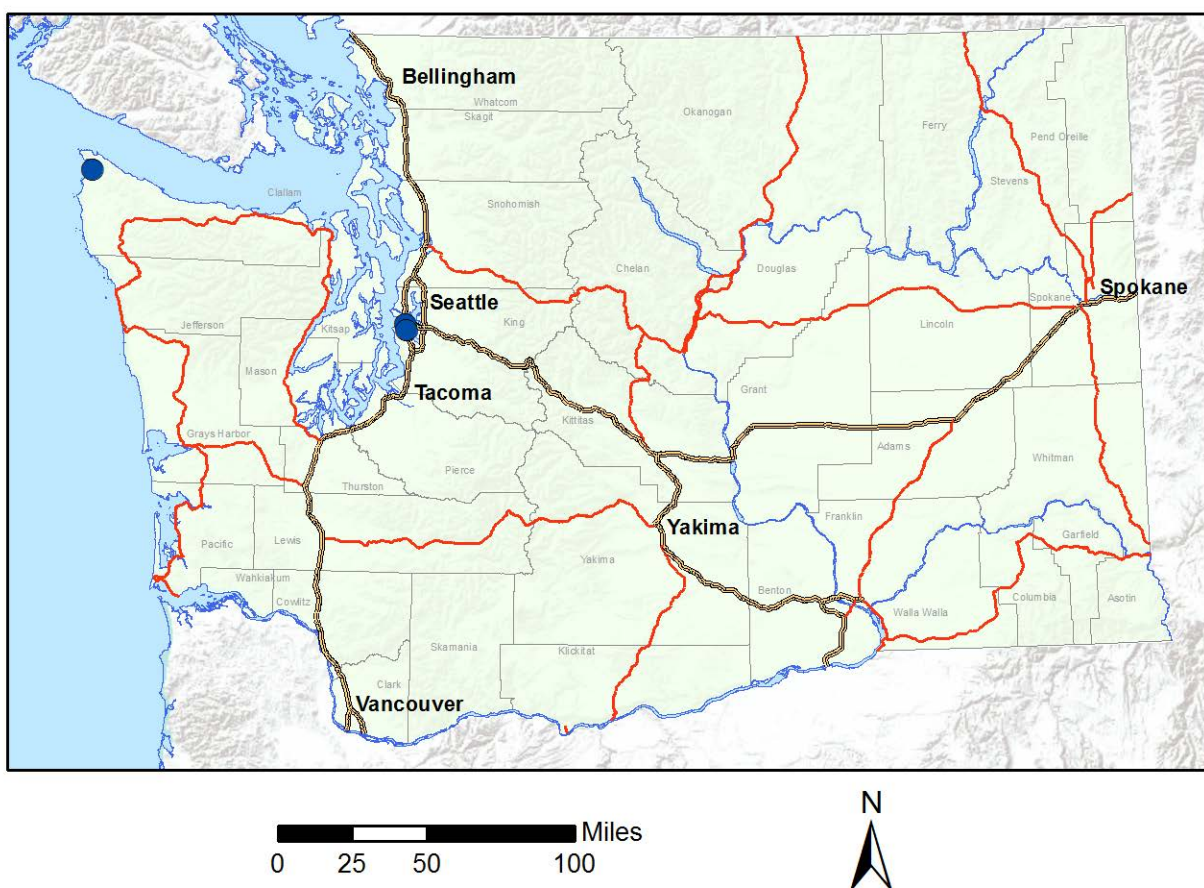
Site Name	AQS ID	CO	NO <sub>2</sub> / NO <sub>y</sub>	O <sub>3</sub>	SO <sub>2</sub>	PM <sub>2.5</sub> (FRM/FEM)	PM <sub>2.5</sub> (Non- FRM/FEM)	PM <sub>10</sub>	Meteorological	Other
Spokane-Greenbluff	530630046			✓						
Spokane-Monroe St	530630047						✓			
Sunnyside-S 16th St	530770005						✓			
Tacoma- L Street	530530029					✓				CSN
Tacoma-Alexander Ave	530530031						✓			
Tacoma-S 36th St	530530024		✓			✓			✓	
Tacoma-Tower Dr	530531016								✓	
Taholah-Quinault Tribe	530270011						✓			
Toppenish-Yakama Tribe	530770015					✓			✓	
Tukwila Allentown	530330069						✓			
Twisp-Glover St	530470009						✓			
Vancouver NE 84th Ave	530110020					✓				
Vancouver-Blairmont Dr	530110011			✓					✓	
Walla Walla-12th St	530710005						✓			
Wellpinit-Spokane Tribe	530650002						✓			
Wenatchee-Fifth St	530070011						✓		✓	
White Salmon (Temporary)	530390006						✓			
White Swan-Yakama Tribe	530770016						✓		✓	
Winthrop-Chewuch Rd	530470010						✓			
Yacolt-Yacolt Rd	530110022						✓			
Yakima-4th Ave	530770009					✓		✓		CSN
Yelm-Northern Pacific	530670005			✓						

## Carbon monoxide (CO, 42101)

There are three CO monitoring sites in the Washington Network. All Washington Network CO monitoring sites collect data under method code 593 (Teledyne API 300 EU). For detailed site and monitor information, see Appendix D.

**Table 5. Washington Network CO monitoring sites**

AQS ID	Site Name	Established	Type	Scale
530090013	Cheeka Peak	05/2006	SLAMS, NCore	Regional
530330030	Seattle-10 <sup>th</sup> & Weller	04/2014	SLAMS, Near-road	Microscale
530330080	Seattle-Beacon Hill	03/2007	SLAMS, NCore	Urban



**Figure 3. Map of Washington Network CO monitoring sites**

### Minimum monitoring requirements

Ecology is required to operate a CO monitor collocated with one required near-road NO<sub>2</sub> monitor in CBSAs with a population of 1,000,000 or more. In the Seattle-Tacoma-Bellevue MSA, this requirement is met at the Seattle-10<sup>th</sup> & Weller near-road monitoring site (530330030).

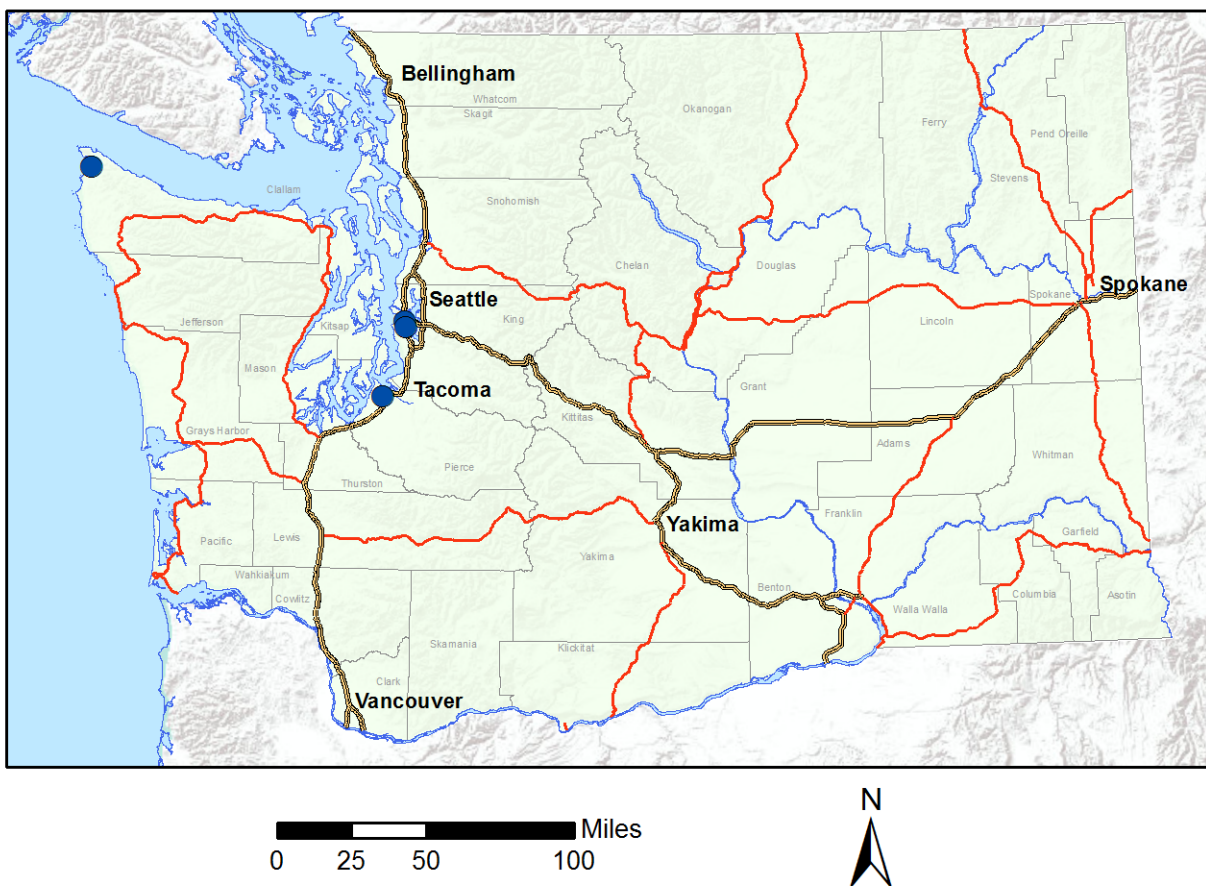
**Recommended/proposed modifications:** None.

## Nitrogen dioxide (NO<sub>2</sub>, 42602/42612)

There are three NO<sub>2</sub> (42602) monitoring sites in the Washington Network and two sites that monitor trace NO<sub>y</sub>-NO (42612). Seattle-Beacon Hill monitors both area-wide NO<sub>2</sub> and trace NO<sub>y</sub>-NO. For detailed site and monitor information, see Appendix D.

**Table 6. Washington Network NO<sub>2</sub> and Trace NO<sub>y</sub>-NO monitoring sites**

AQS ID	Site Name	NO <sub>2</sub>	Trace NO <sub>y</sub> -NO	Established	Type	Scale	Method
530090013	Cheeka Peak		✓	01/2011	SLAMS, NCore	Regional	Teledyne API 200 EU (699)
530330030	Seattle-10 <sup>th</sup> & Weller	✓		04/2014	SLAMS, Near-road	Microscale	Teledyne API 200 EU (599)
530330080	Seattle-Beacon Hill	✓	✓	08/2013	SLAMS, NCore	Urban	NO <sub>2</sub> : Teledyne API T500U (212); Trace NO <sub>y</sub> -NO: Thermo 42C (674)
530530024	Tacoma-S 36 <sup>th</sup>	✓		01/2016	SLAMS, Near-road	Microscale	Teledyne API 200 EU (599)



**Figure 4. Map of Washington Network NO<sub>2</sub> and Trace NO<sub>y</sub>-NO monitoring sites**

### Minimum monitoring requirements

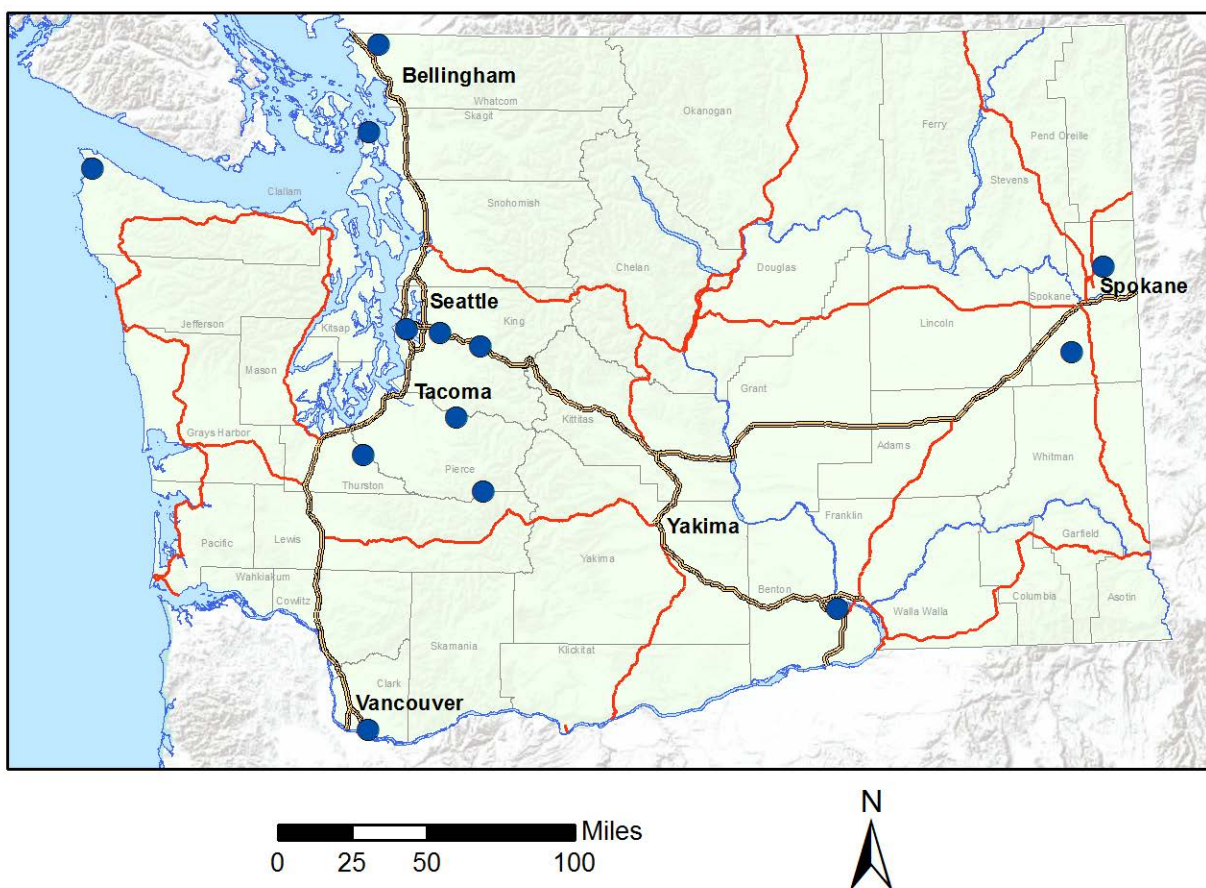
Ecology is required to monitor both near-road and area-wide NO<sub>2</sub> in each CBSA with a population of 1,000,000 or greater. In CBSAs with a population of 2,500,000 or more, two near-road NO<sub>2</sub> monitoring sites are required. Ecology fulfills the near-road monitoring requirements at the Seattle-10<sup>th</sup> & Weller (530330030) and Tacoma-S 36<sup>th</sup> St (530530024) near-road sites. Seattle-Beacon Hill (530330080) fulfills the requirement for area-wide NO<sub>2</sub> monitoring.

## Ozone (O<sub>3</sub>, 44201)

There are 13 ozone monitoring sites in the Washington Network. All Washington Network ozone sites collect data under method code 087 (UV Absorbance) using Teledyne API 400 analyzers. For detailed site and monitor information, see Appendix D.

**Table 7. Washington Network ozone monitoring sites**

AQS ID	Site Name	Established	Type	Scale
530570011	Anacortes-202 O Ave	05/2012	SLAMS	Neighborhood
530090013	Cheeka Peak	05/2006	SLAMS, NCore	Regional
530630001	Cheney-Turnbull	05/1999	SLAMS	Urban
530730005	Custer-Loomis	04/1989	SLAMS	Regional
530330023	Enumclaw-Mud Mtn	07/1998	SLAMS	Urban
530330010	Issaquah-Lake Sammamish	12/1975	SLAMS	Urban
530050003	Kennewick-S Clodfelter Rd	06/2015	SLAMS	Urban
530530012	Mt Rainier-Jackson Visitors Ctr	07/1998	SLAMS	Regional
530330017	North Bend-North Bend Way	06/1998	SLAMS	Neighborhood
530330080	Seattle-Beacon Hill	03/2007	SLAMS, NCore	Urban
530630046	Spokane-Greenbluff	04/1990	SLAMS	Urban
530110011	Vancouver-Blairmont	05/1988	SLAMS	Urban
530670005	Yelm-Northern Pacific	05/2006	SLAMS	Urban



**Figure 5. Map of Washington Network ozone monitoring sites**

### Minimum monitoring requirements

The Washington Network meets the minimum monitoring requirements for ozone defined in 40 C.F.R. Part 58 Appendix D. In each CBSA, the number of existing ozone monitors exceeds the number of required monitors, as summarized in Table 8. The design values listed are the maximum valid design value of all sites within the CBSA. For a full list of design values at all ozone sites in the Washington Network, see Appendix A.

**Table 8. EPA minimum monitoring requirements for ozone**

CBSA	2018 Population Estimate	2018 Design Value (ppm)	Number of Required Monitors	Number of Existing Monitors
Seattle-Tacoma-Bellevue, WA	3,939,363	0.077	2	5
Portland-Vancouver-Hillsboro, OR-WA	2,478,810	0.072	2	6
Spokane-Spokane Valley, WA	573,493	0.065	2	2
Kennewick-Richland, WA	296,224	0.071	1	1

<b>CBSA</b>	<b>2018 Population Estimate</b>	<b>2018 Design Value (ppm)</b>	<b>Number of Required Monitors</b>	<b>Number of Existing Monitors</b>
Olympia-Tumwater, WA	286,419	0.062	1	1
Bellingham, WA	225,685	0.052	0	1
Mount Vernon-Anacortes, WA	128,206	0.045	0	1
Port Angeles, WA	76,737	0.054	0	1

Washington shares the Portland-Vancouver-Hillsboro CBSA with the state of Oregon. The minimum monitoring requirements for ozone in this CBSA are met through a combination of monitors operated by Ecology and Oregon DEQ. Ecology and Oregon DEQ are in the process of developing a Memorandum of Understanding to formalize this arrangement.

**Recommended/proposed modifications:** None.

## Sulfur dioxide (SO<sub>2</sub>, 42401)

There are six SO<sub>2</sub> monitoring sites in the Washington Network. For detailed site and monitor information, see Appendix D.

**Table 9. Washington Network SO<sub>2</sub> monitoring sites**

<b>AQS ID</b>	<b>Site Name</b>	<b>Established</b>	<b>Type</b>	<b>Scale</b>	<b>Method</b>
530570011	Anacortes-202 O Ave	01/2013	SLAMS	Neighborhood	TAPI 100 EU (600)
530090013	Cheeka Peak	05/2006	SLAMS, NCore	Regional	TAPI 100 EU (600)
530730013	Ferndale-Kickerville Rd	01/2017	SLAMS	Microscale	TAPI 100 (077)
530730017	Ferndale-Mountain View Rd	01/2017	SLAMS	Microscale	TAPI 100 (077)
530070012	Malaga-Malaga Hwy	01/2017	SLAMS	Microscale	TAPI 100 (077)
530330080	Seattle-Beacon Hill	03/2007	SLAMS, NCore	Urban	TAPI 100 EU (600)

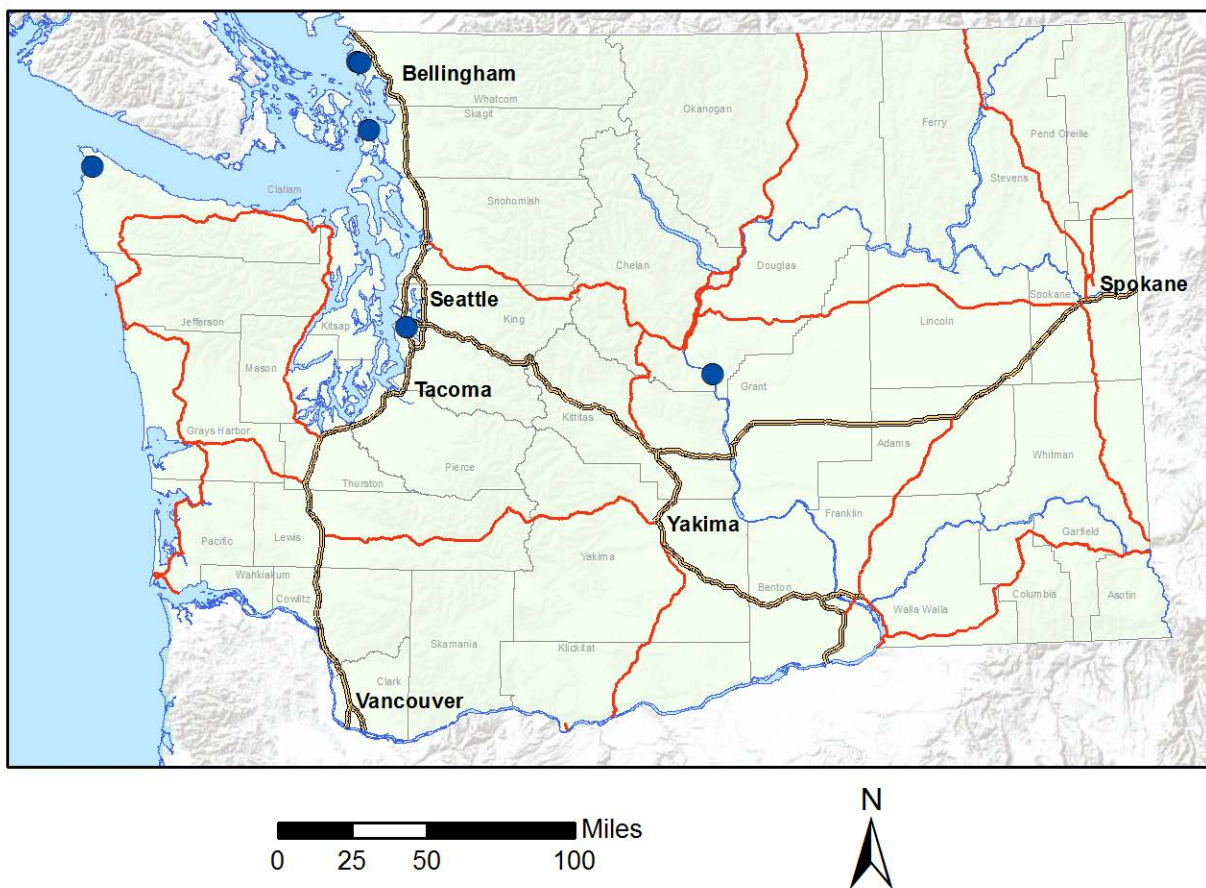


Figure 6. Map of Washington Network SO<sub>2</sub> monitoring sites

### Minimum monitoring requirements

The Seattle-Beacon Hill NCore site (530330080) is used to satisfy the minimum monitoring requirement for a CBSA with minimally required monitors based on the Population Weighted Emissions Index.

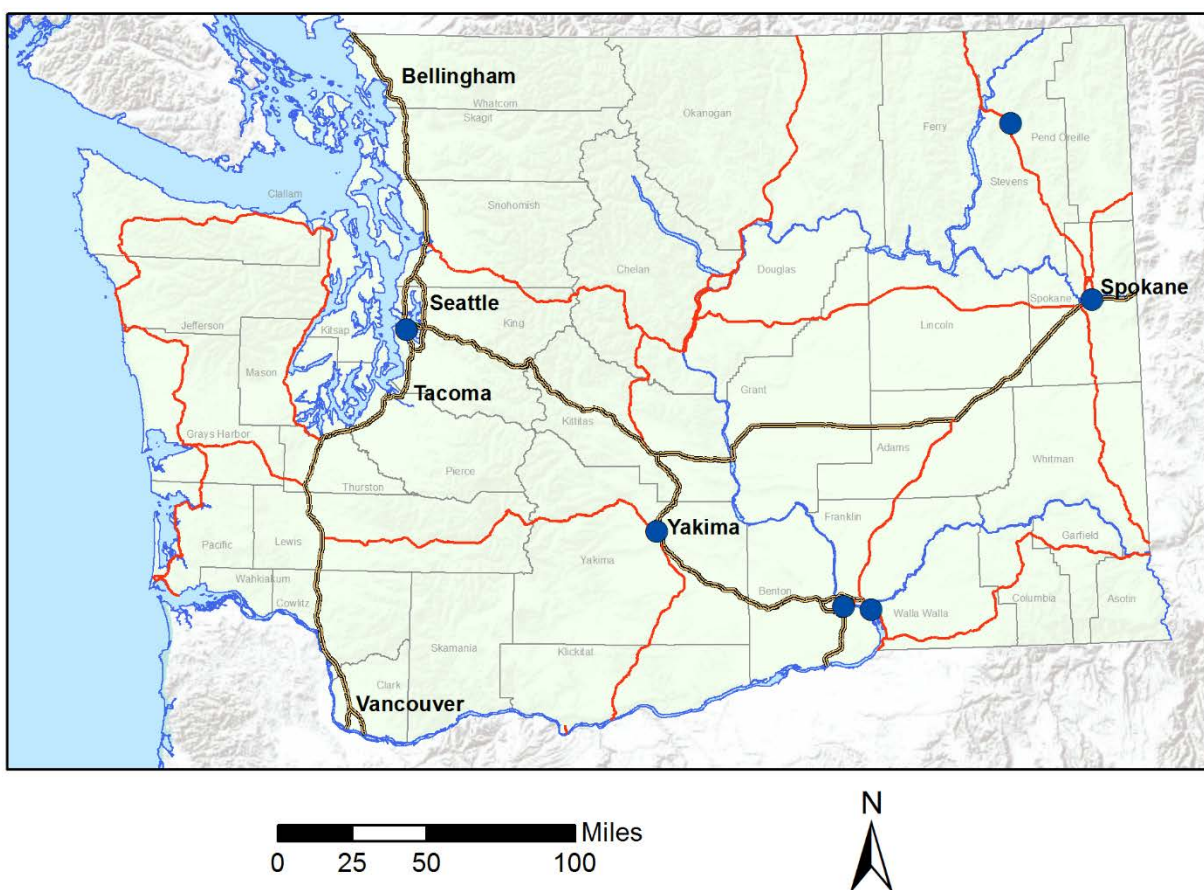
**Recommended/proposed modifications:** None.

## Particulate matter 10 (PM<sub>10</sub>, 81102)

There are six PM<sub>10</sub> monitoring sites in the Washington Network. For detailed site and monitor information, see Appendix D.

**Table 10. Washington Network PM<sub>10</sub> monitoring sites**

AQS ID	Site Name	Established	Type	Scale	Method
530710006	Burbank-Maple St	08/2017	SLAMS	Neighborhood	TEOM-Gravimetric (079)
530650005	Colville-E 1 <sup>st</sup> St	10/2015	SLAMS	Neighborhood	TEOM-Gravimetric (079)
530050002	Kennewick-Metaline	10/1994	SLAMS	Neighborhood	BAM 1020 (122)
530330080	Seattle-Beacon Hill	03/2003	SLAMS, NCore	Urban	R&P 2025 (127)
530630021	Spokane-Augusta Ave	03/2009	SLAMS	Neighborhood	TEOM-Gravimetric (079)
530770009	Yakima-4 <sup>th</sup> Ave S	04/2000	SLAMS	Neighborhood	BAM 1020 (122)

**Figure 7. Map of Washington Network PM<sub>10</sub> monitoring sites**

The Washington Network is currently not meeting the PM<sub>10</sub> minimum monitoring requirements defined in 40 C.F.R. Part 58 Appendix D in four metropolitan areas, as summarized in Table 11.

**Table 11. EPA minimum monitoring requirements for PM<sub>10</sub>**

Metropolitan/Micropolitan Statistical Area	2018 Population Estimate	Annual Average Expected Exceedances (2016-2018)	Number of Required Monitors	Number of Existing Monitors
Seattle-Tacoma-Bellevue, WA	3,939,363	0	2	1
Portland-Vancouver-Hillsboro, OR-WA	2,478,810	0	2	4
Spokane-Spokane Valley, WA	573,493	2	4	2
Kennewick-Richland, WA	296,224	2	3	1
Olympia-Lacey-Tumwater, WA	286,419	0	0	0
Bremerton-Silverdale-Port Orchard, WA	269,805	0	0	0
Yakima, WA	251,446	1.6	3	1

On April 2, 2019, Ecology submitted to EPA Region 10 a request for a waiver for the unmet minimum monitoring requirements. EPA issued Ecology a waiver for the unmet monitoring requirements in the Yakima and Kennewick-Richland MSAs on April 18, 2019. These waivers are provided in Appendix C. EPA is currently evaluating Ecology's request for monitoring waivers in the Seattle-Tacoma-Bellevue and Spokane-Spokane Valley MSAs.

**Burbank site placement:** In the 2018 Ambient Air Monitoring Network Plan, Ecology notified EPA of its intent to reclassify the Burbank PM<sub>10</sub> monitor a permanent SLAMS as of January 1, 2018. Ecology also requested that Burbank be designated the compliance monitor for the Wallula Maintenance Area (WMA) as of the same date. In its response to the 2018 Annual Network Plan, EPA Region 10 approved this change but encouraged Ecology to seek a PM<sub>10</sub> monitoring location closer to a dominant agricultural source further south in the WMA.

Ecology has historically conducted PM<sub>10</sub> monitoring closer to the agricultural source referenced by EPA. The compliance monitor for the WMA was located at Wallula Farm (530711001) from 1986 until 2003, at which time the land owner terminated the lease. Ecology contracted with Washington State University (WSU) to conduct a saturation study in 2001. Based on the results of this study and subsequent monitoring by Ecology at multiple sites in the WMA, Ecology determined that Burbank was the most suitable replacement site. EPA concurred with this assessment and approved relocation to the Burbank site in a letter dated November 4, 2004. This analysis and correspondence can be found in Appendix A of the Ecology publication "A Plan for Maintaining Particulate Matter (PM<sub>10</sub>) Ambient Air Quality Standards in the Wallula PM<sub>10</sub> Maintenance Area."

The Burbank location was chosen as the most suitable location within the WMA for several reasons. First, Burbank is by far the most populous area in the WMA. As of the 2010 census, 63% of people living in the WMA lived in the town of Burbank. In contrast, the agricultural source referenced by EPA in its response letter is located in a sparsely populated area of private land southeast of Burbank. As of the 2010 census, the population density in the encompassing

block group was approximately 10 persons per square mile, relative to a population density of approximately 377 persons per square mile in Burbank. Source-oriented monitoring in this agricultural area would not be representative of population exposure.

The selection of Burbank as a neighborhood-scale site for population-oriented monitoring is consistent with the objectives of Ecology's ambient air monitoring network. In addition, there is a historical PM<sub>10</sub> monitoring record at Burbank from 2002 to 2011, which allows for comparisons between current and past monitoring data. Finally, as noted by EPA, the logistics of establishing and maintaining a long-term monitoring site in an area dominated by private land are exceedingly challenging. As the Burbank School District owns the property on which the Burbank site is located and is amenable to ongoing monitoring, Ecology anticipates that monitoring can continue uninterrupted at Burbank through the duration of the maintenance period.

In its August 13, 2018 response letter to the 2018 ANP, EPA Region 10 asserts that Burbank is not sited to capture impacts from agricultural sources in the WMA under prevailing wind conditions. However, an analysis of the meteorological data collected at the Burbank site from February 2018 – April 2019 shows that the dominant wind direction is from the east, followed by the southeast. As Burbank is located northwest of the source, Ecology maintains that it is well-sited to capture both population-oriented exposure and impacts downwind of nearby agricultural sources.

For the reasons stated above, Ecology has no plans to pursue source-oriented PM<sub>10</sub> monitoring elsewhere in the WMA.

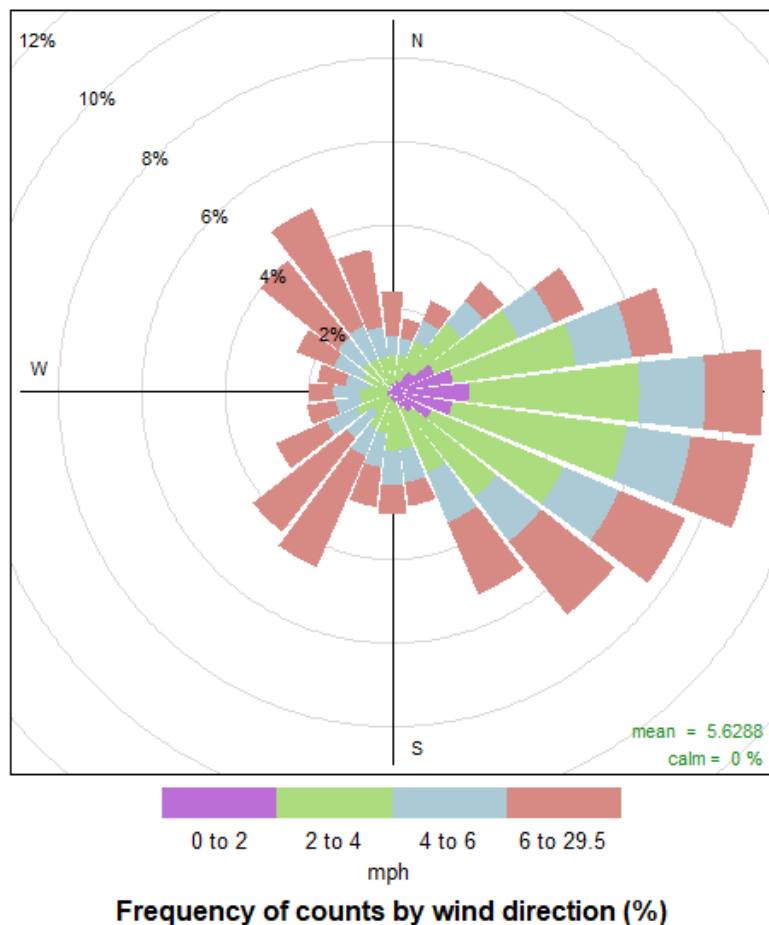


Figure 8. Burbank-Maple St wind rose (February 2018 - April 2019)

**Recommended/proposed modifications:** None.

## Particulate matter 2.5 (PM<sub>2.5</sub>, 88101/88502)

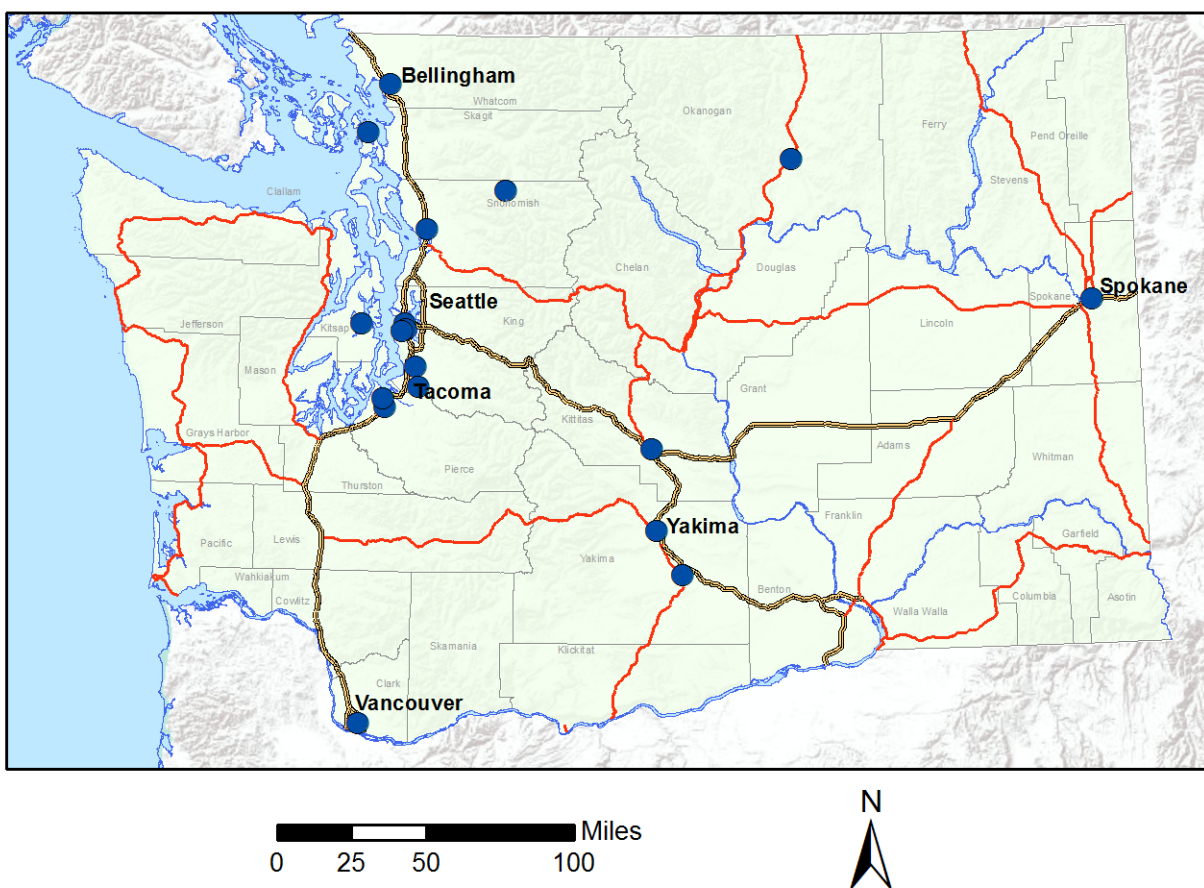
### FRM/FEM PM<sub>2.5</sub> (88101)

There are 18 sites in the Washington Network that monitor PM<sub>2.5</sub> with Class I or Class III FEM monitors. Sites operated with EPA funding through the Section 103 grant for PM<sub>2.5</sub> are noted in the table below. For detailed site and monitor information, see Appendix D.

**Table 12. Washington Network PM<sub>2.5</sub> monitoring sites**

AQS ID	Site Name	Est.	Type	Scale	Method	PM <sub>2.5</sub> Grant Funded
530570011	Anacortes-202 O Ave	10/2011	SLAMS	Neighborhood	Met One BAM-1020 (170)	

AQS ID	Site Name	Est.	Type	Scale	Method	PM <sub>2.5</sub> Grant Funded
530330089	Auburn-M St	01/2019	SLAMS	Neighborhood	Met One BAM-1020 (170)	✓
530730019	Bellingham-Pacific St	01/2018	SLAMS	Neighborhood	Met One BAM-1020 (170)	✓
530350007	Bremerton-Spruce Ave	05/2012	SLAMS	Neighborhood	Met One BAM-1020 (170)	✓
530610020	Darrington-Fir St	12/2010	SLAMS	Neighborhood	Met One BAM-1020 (170)	✓
530370002	Ellensburg-Ruby St	10/2007	SLAMS	Neighborhood	Met One BAM-1020 (170)	
530332004	Kent-Central & James	12/2010	SLAMS	Neighborhood	Met One BAM-1020 (170)	✓
530611007	Marysville-7th Ave	02/2010	SLAMS	Neighborhood	Met One BAM-1020 (170)	✓
530470013	Omak-Colville Tribe	10/2010	Tribal	Neighborhood	Met One BAM-1020 (170)	
530330030	Seattle-10th & Weller	06/2014	SLAMS, Near-road	Microscale	Met One BAM-1020 (170)	✓
530330080	Seattle-Beacon Hill	02/2010	SLAMS, NCore	Urban	8500 TEOM (Primary) (181); R&P 2025 (Collocated) (145)	✓
530330057	Seattle-Duwamish	12/2009	SLAMS	Neighborhood	Met One BAM-1020 (170)	✓
530630021	Spokane-Augusta Ave	03/2013	SLAMS	Neighborhood	Met One BAM-1020 (170)	✓
530530029	Tacoma- L Street	01/2010	SLAMS	Neighborhood	R&P 2025 (Primary and Collocated) (145); Met One BAM-1020 (170)	✓
530530024	Tacoma-S 36th St	01/2016	SLAMS, Near-road	Microscale	Met One BAM-1020 (170) (Primary and Collocated)	
530770015	Toppenish-Yakama Tribe	08/2008	Tribal	Neighborhood	Met One BAM-1020 (170)	
530110020	Vancouver NE 84th Ave	12/2014	SLAMS	Neighborhood	Met One BAM-1020 (170)	✓
530770009	Yakima-4th Ave	05/2011	SLAMS	Neighborhood	Met One BAM-1020 (Primary) (170); R&P 2025 (Collocated) (145)	✓



**Figure 9. Map of Washington Network PM<sub>2.5</sub> monitoring sites**

### Minimum monitoring requirements

Minimum monitoring requirements for PM<sub>2.5</sub> are defined in 40 C.F.R. Part 58 Appendix D. Table 16 below summarizes the number of required and existing monitors in each of Washington's CBSAs where monitoring is conducted. The design values listed are the maximum valid design value of all sites within the CBSA. The Washington Network is currently meeting the minimum monitoring requirements in all CBSAs except Spokane-Spokane Valley. The 2018 design value at the Spokane-Augusta site (530630021) exceeded 85% of the PM<sub>2.5</sub> NAAQS for the first time in over 10 years, as a result of the extensive wildfire smoke measured in 2017 and 2018. This increased the number of required monitors from one to two. Ecology is currently evaluating potential locations for a second PM<sub>2.5</sub> monitoring site in the Spokane-Spokane Valley MSA and plans to establish a second site by January 1, 2020.

For a full list of design values at all Washington Network PM<sub>2.5</sub> monitoring sites, see Appendix A.

**Table 13. EPA minimum monitoring requirements for FRM/FEM PM<sub>2.5</sub>**

<b>CBSA</b>	<b>2018 Population Estimate</b>	<b>2018 Design Value (µg/m<sup>3</sup>)</b>	<b>Number of Required Monitors</b>	<b>Number of Existing Monitors</b>
Seattle-Tacoma-Bellevue, WA	3,939,363	39	3	9
Portland-Vancouver-Hillsboro, OR-WA	2,478,810	28	2	4
Spokane-Spokane Valley, WA	573,493	38	2	1
Bremerton-Silverdale, WA	269,805	19	0	1
Yakima, WA	251,446	47	1	2
Bellingham, WA	225,685	21	0	1
Mount Vernon-Anacortes, WA	128,206	18	0	1
Ellensburg, WA	47,364	40	0	1

Washington shares the Portland-Vancouver-Hillsboro CBSA with the state of Oregon. The minimum monitoring requirements for PM<sub>2.5</sub> in this CBSA are met through a combination of monitors operated by Ecology and the Oregon DEQ. Ecology and Oregon DEQ are in the process of developing a Memorandum of Understanding to formalize this arrangement.

### **Collocation requirements**

The monitoring sites listed in Table are used to fulfill the collocation requirements described in 40 C.F.R. Part 58 Appendix A.

**Table 14. PM<sub>2.5</sub> collocation requirements**

<b>Method Code</b>	<b># Primary Monitors</b>	<b># Required Collocated Monitors</b>	<b># Active Collocated Monitors</b>	<b>Site</b>
118	1	1	1	Tacoma-L St (530530029)
170	17	3	2	Yakima-4 <sup>th</sup> Ave S (530770009); Tacoma-S 36 <sup>th</sup> (530530024)
181/581	1	1	1	Seattle-Beacon Hill (530330080)

The 8500 TEOM will be replaced with a BAM 1020 at Seattle-Beacon Hill (530330080) to fulfill the unmet collocation requirement for method code 170. All other PM<sub>2.5</sub> collocation requirements are currently met.

### **Recommended/proposed modifications:**

Ecology is currently evaluating potential locations for a second PM<sub>2.5</sub> monitoring site in the Spokane-Spokane Valley MSA and plans to establish a second site by January 1, 2020.

The 8500 TEOM will be replaced with a BAM 1020 at Seattle-Beacon Hill (530330080) to fulfill the unmet collocation requirement for method code 170.

## Nephelometer PM<sub>2.5</sub> (88502)

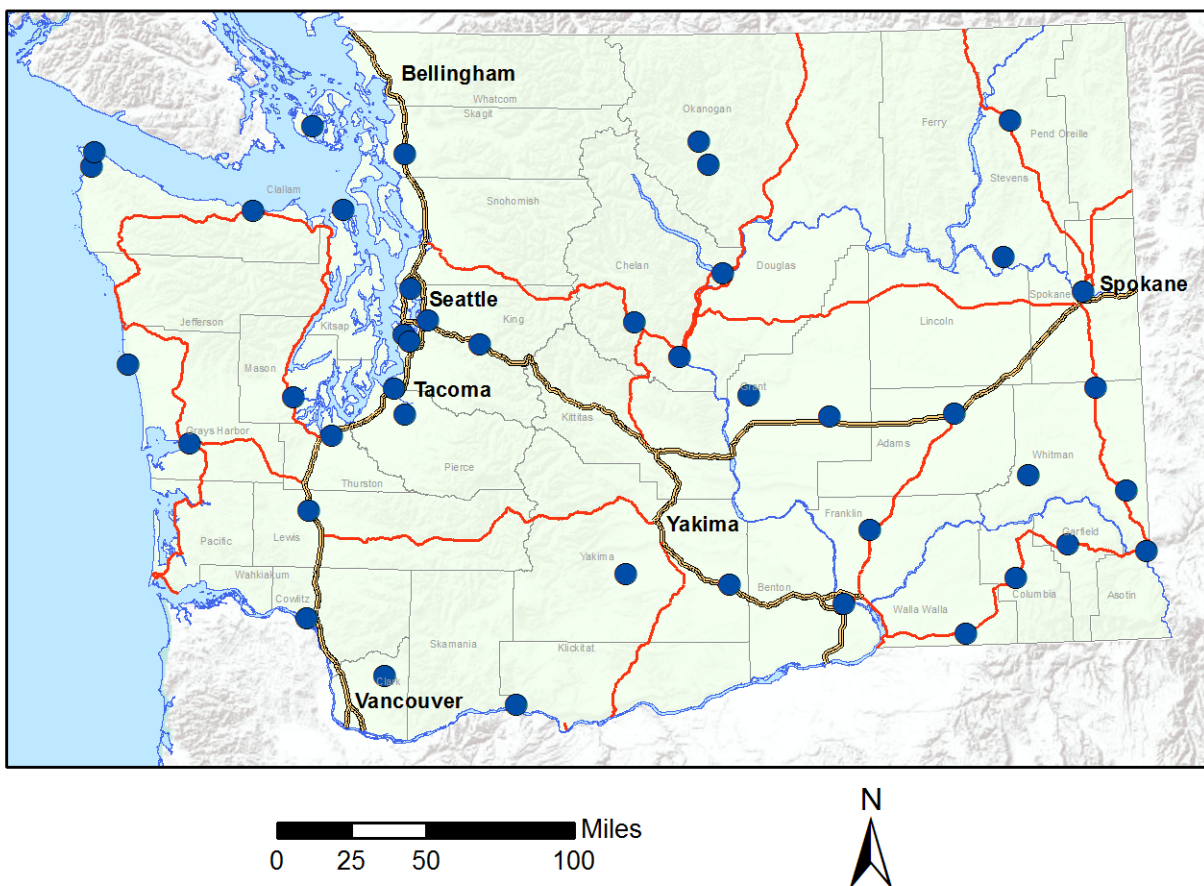
Ecology and its partners operate 42 monitoring sites with correlated nephelometers used to report estimated PM<sub>2.5</sub> concentrations and provide timely information on air quality conditions to the public. Sites operated with EPA funding through the Section 103 grant for PM<sub>2.5</sub> are noted in Table 18.

**Table 15. Washington Network nephelometer monitoring sites**

AQS ID	Site Name	Est.	Type	Scale	Method	PM <sub>2.5</sub> Grant Funded
530272002	Aberdeen-Division St	08/2002	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530330031	Bellevue-SE 12th St	12/2016	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530090013	Cheeka Peak	05/2006	SLAMS, NCore	Regional	Radiance Research M903 (771)	
530410004	Chehalis-Market Blvd	12/2009	SLAMS	Neighborhood	Radiance Research M903 (771)	
530070007	Chelan-Woodin Ave	12/2002	Non-EPA Federal	Neighborhood	Radiance Research M903 (771)	
530030004	Clarkston-13th St	03/2007	SLAMS	Neighborhood	Radiance Research M903 (771)	
530650005	Colville-E 1st St	10/2015	SLAMS	Neighborhood	Radiance Research M903 (771)	
530130002	Dayton-W Main St	02/2009	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530550001	Friday Harbor (temporary)	1/2019	SPMS	Neighborhood	Radiance Research M903 (771)	
530050002	Kennewick-Metaline	08/2004	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530670013	Lacey-College St	09/1990	SLAMS	Neighborhood	Radiance Research M903 (771)	
530750005	LaCrosse-Hill St	10/2002	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530330024	Lake Forest Park	10/2003	SLAMS	Neighborhood	Ecotech M9003 (812)	✓
530070010	Leavenworth-Evans St	07/2005	Non-EPA Federal	Neighborhood	Radiance Research M903 (771)	
530150015	Longview-30th Ave	03/2003	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530210002	Mesa-Pepiot Way	01/2003	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530251002	Moses Lake-Balsam St	01/2004	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530570015	Mt Vernon-S Second St	07/2005	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530090015	Neah Bay-Makah Tribe	02/2010	Tribal	Neighborhood	Radiance Research M903 (771)	

AQS ID	Site Name	Est.	Type	Scale	Method	PM <sub>2.5</sub> Grant Funded
530330017	North Bend-North Bend Way	03/2003	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530230001	Pomeroy (Temporary)	05/2017	SPMS	Neighborhood	Radiance Research M903 (771)	
530090017	Port Angeles- E 5th St	04/2015	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530310003	Port Townsend-San Juan Ave	10/2002	SLAMS	Neighborhood	Radiance Research M903 (771)	
530750003	Pullman-Dexter SE	10/2002	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530531018	Puyallup-128th St	10/2003	SLAMS	Neighborhood	Ecotech M9003 (812)	✓
530251003	Quincy-3rd Ave NE	06/2017	SPMS	Neighborhood	Radiance Research M903 (771)	
530010003	Ritzville-Alder St	03/2001	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530750006	Rosalia-Josephine St	10/2002	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530331011	Seattle-South Park	10/2003	SLAMS	Microscale	Ecotech M9003 (812)	
530450007	Shelton-W Franklin	04/2011	SLAMS	Neighborhood	Radiance Research M903 (771)	
530630047	Spokane-Monroe St	05/2004	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530770005	Sunnyside-S 16th St	09/2015	SLAMS	Neighborhood	Radiance Research M903 (771)	
530530031	Tacoma-Alexander Ave	10/2003	SLAMS	Neighborhood	Ecotech M9003 (812)	✓
530270011	Taholah-Quinault Tribe	04/2004	Tribal	Neighborhood	Radiance Research M903 (771)	
530330069	Tukwila Allentown	07/2017	SLAMS	Neighborhood	Ecotech M9003 (812)	
530470009	Twisp-Glover St	11/2003	Non-EPA Federal	Neighborhood	Radiance Research M903 (771)	
530710005	Walla Walla-12th St	10/2002	SLAMS	Neighborhood	Radiance Research M903 (771)	✓
530650002	Wellpinit-Spokane Tribe	10/2008	Tribal	Neighborhood	Radiance Research M903 (771)	
530070011	Wenatchee-Fifth St	11/2012	SLAMS	Neighborhood	Radiance Research M903 (771)	
530390006	White Salmon (temporary)	6/2018	SPMS	Neighborhood	Radiance Research M903 (771)	
530770016	White Swan-Yakama Tribe	10/2009	Tribal	Neighborhood	Radiance Research M903 (771)	
530470010	Winthrop-Chewuch Rd	11/2003	Non-EPA Federal	Neighborhood	Radiance Research M903 (771)	

AQS ID	Site Name	Est.	Type	Scale	Method	PM <sub>2.5</sub> Grant Funded
530110022	Yacolt-Yacolt Rd	07/2003	SLAMS	Neighborhood	Radiance Research M903 (771)	



**Figure 10. Map of Washington Network nephelometer monitoring sites**

### Recommended/proposed modifications:

The temporary nephelometer monitoring study at Quincy (530251003) was extended until December 2020.

The temporary Friday Harbor nephelometer site (530550001) was discontinued in May 2019.

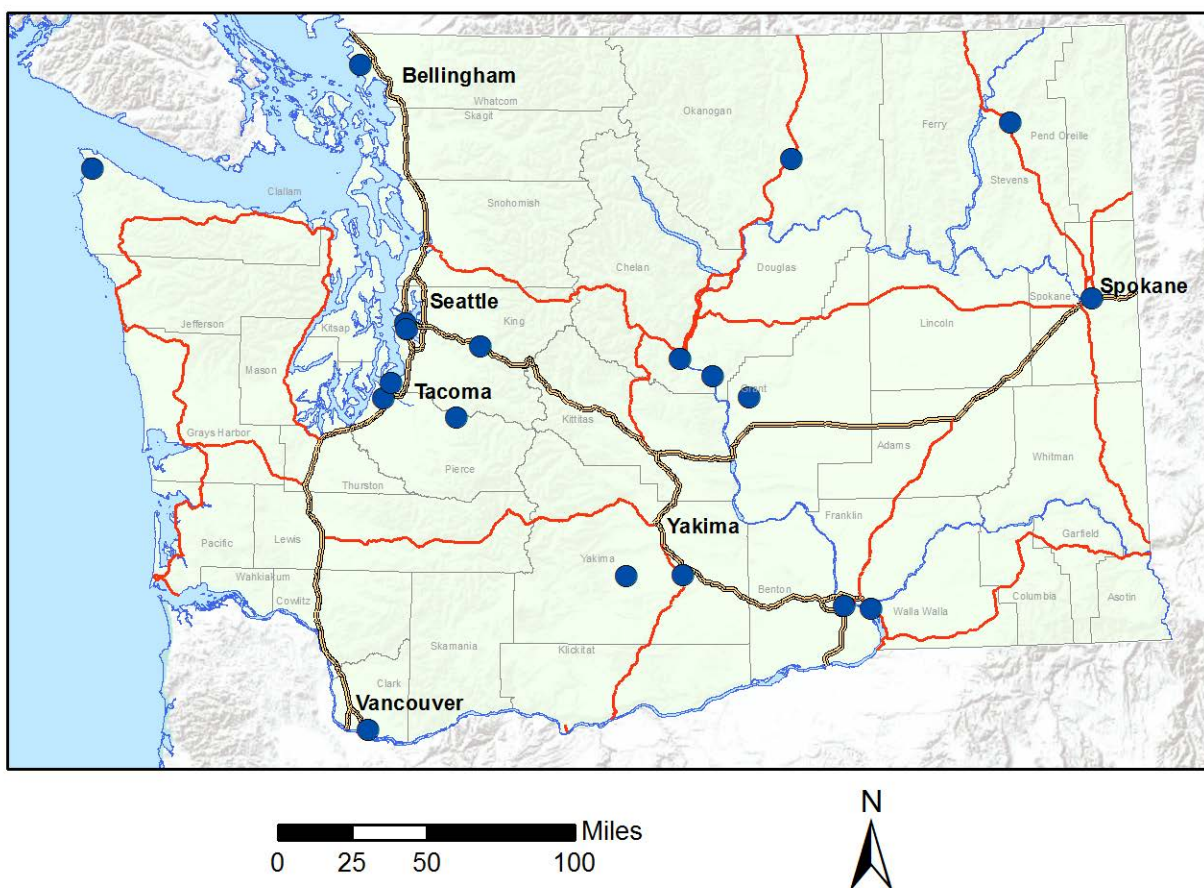
The temporary White Salmon (530390006) and Pomeroy (530230001) SPMS may be relocated in 2019-2020 if monitoring needs arise in other areas.

## Meteorological monitoring (61101/61102/61103/61104/62101)

There are 18 meteorological monitoring sites in the Washington Network. All Washington Network meteorological monitoring sites collect scalar and vector wind speed and direction using RM Young or Vaisala sonic anemometers (method codes 062 and 060, respectively) and ambient temperature under method code 040 (electronic or machine average). All Washington Network meteorological sites follow EPA's monitoring guidelines for prevention of significant deterioration (PSD). For detailed site and monitor information, see Appendix D.

**Table 16. Washington Network meteorological monitoring sites**

AQS ID	Site Name	Established	Type	Scale
530090013	Cheeka Peak	08/2007	SLAMS, NCore	Regional
530650005	Colville-E 1st St	05/2016	SLAMS	Neighborhood
530330023	Enumclaw-Mud Mtn.	02/2004	SLAMS	Urban
530730017	Ferndale-Mountain View Rd	01/2017	SLAMS	Microscale
530050002	Kennewick-Metaline	08/2012	SLAMS	Neighborhood
530070012	Malaga-Malaga Hwy	01/2017	SLAMS	Microscale
530330017	North Bend-North Bend Way	01/2000	SLAMS	Neighborhood
530470013	Omak-Colville Tribe	10/2010	Tribal	Neighborhood
530251003	Quincy-3rd Ave NE	06/2017	SPMS	Neighborhood
530330030	Seattle-10th & Weller	04/2014	SLAMS, Near-road	Microscale
530330080	Seattle-Beacon Hill	01/1991	SLAMS, NCore	Urban
530630021	Spokane-Augusta Ave	07/2009	SLAMS	Neighborhood
530530024	Tacoma-S 36th St	02/2016	SLAMS, Near-road	Microscale
530531016	Tacoma-Tower Dr	01/1991	SLAMS	Urban
530770015	Toppenish-Yakama Tribe	06/2009	Tribal	Neighborhood
530110011	Vancouver-Blairmont Dr	12/2007	SLAMS	Urban
530070011	Wenatchee-Fifth St	11/2012	SLAMS	Neighborhood
530770016	White Swan-Yakama Tribe	11/2009	Tribal	Neighborhood



**Figure 11. Map of Washington Network meteorological monitoring sites**

**Recommended/proposed modifications:** The temporary Quincy meteorological monitoring site will be retained until December 2020.

## Lead (Pb)

Ecology reports Pb in PM<sub>10</sub> concentrations as part of the National Air Toxics Trends Station (NATTS) monitoring at Seattle-Beacon Hill (530330080). At the request of EPA, Ecology ceased reporting to parameter code 85129 and began reporting to parameter code 85128 as of January 1, 2019.

As described in 40 C.F.R. Part 58, Appendix D § 4.5, source-oriented lead monitoring is required in the vicinity of sources that emit 0.5 tons per year or more of lead. According to the 2017 National Emissions Inventory, Washington's only source above this threshold is Ardagh Glass in Seattle. Ecology modeled the impact of this facility on ambient air and demonstrated that it would not contribute to a maximum Pb concentration in ambient air above 50 percent of the NAAQS. On April 18, 2019, EPA issued Ecology a waiver for lead monitoring at Ardagh Glass based on the modeling results. This waiver is provided in Appendix C.

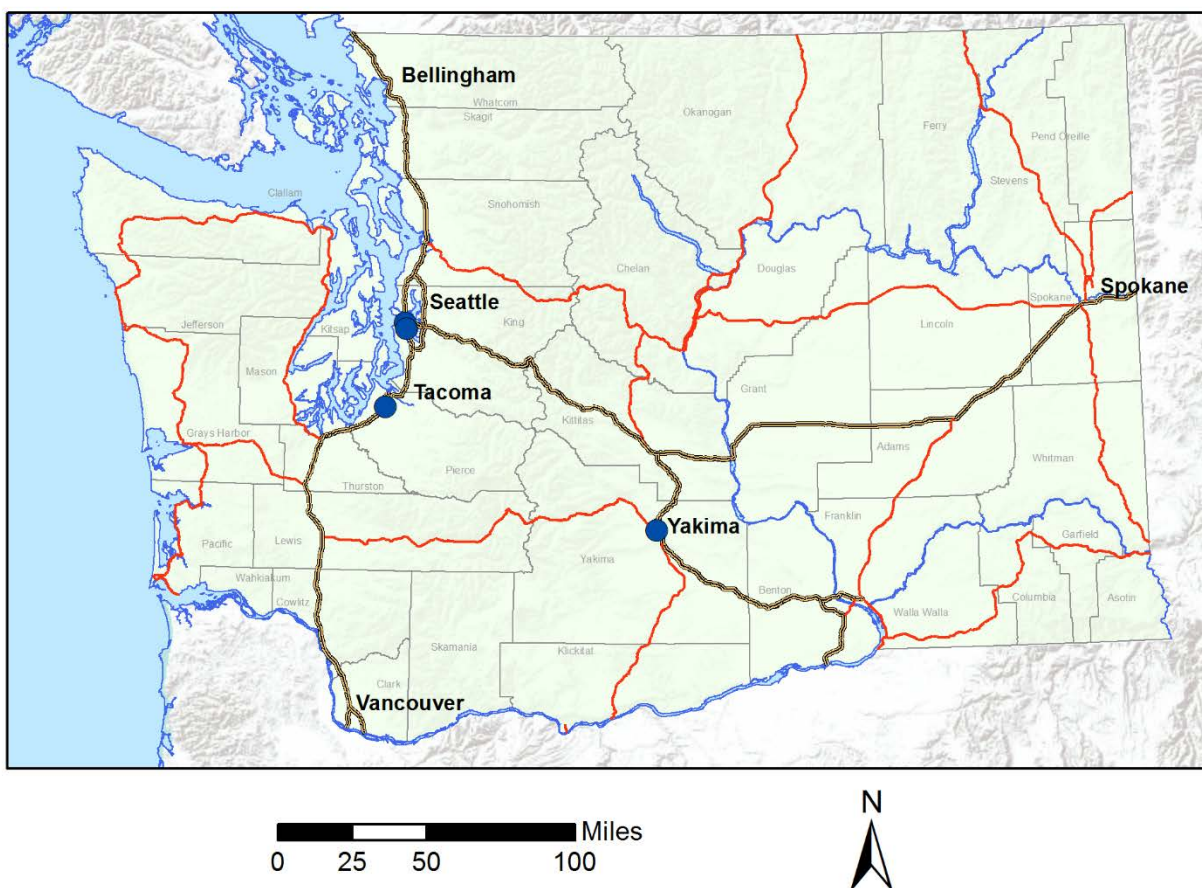
**Recommended/proposed modifications:** None.

## Chemical Speciation Network (CSN)

Ecology and its partners operate 4 speciation monitoring sites as part of the national Chemical Speciation Network.

**Table 17. Washington Network Chemical Speciation Network monitoring sites**

AQS ID	Site Name	Established	Type	Scale
530330030	Seattle-10 <sup>th</sup> & Weller	11/2014	SLAMS, Near-road	Microscale
530330080	Seattle-Beacon Hill	02/2000	SLAMS, NCore	Urban
530530029	Tacoma-L St	01/2006	SLAMS	Neighborhood
530770009	Yakima-4 <sup>th</sup> Ave S	11/2007	SLAMS	Neighborhood



**Figure 12. Map of Washington Chemical Speciation Network monitoring sites**

Each speciation site samples the following parameters:

**Table 18. Chemical Speciation Network monitoring parameters**

Code	Parameter	Code	Parameter	Code	Parameter	Code	Parameter
88102	Antimony	88126	Iron	88167	Zinc	88370	OC CSN Rev Unadjusted
88103	Arsenic	88128	Lead	88168	Strontium	88374	OC1 CSN Rev Unadjusted
88104	Aluminum	88131	Indium	88169	Sulfur	88375	OC2 CSN Rev Unadjusted
88107	Barium	88132	Manganese	88176	Rubidium	88376	OC3 CSN Rev Unadjusted
88109	Bromine	88136	Nickel	88180	Potassium	88377	OC4 CSN Rev Unadjusted
88110	Cadmium	88140	Magnesium	88184	Sodium	88378	OP CSN Rev Unadjusted
88111	Calcium	88152	Phosphorus	88185	Zirconium	88380	EC CSN Rev Unadjusted
88112	Chromium	88154	Selenium	88301	Ammonium Ion	88383	EC1 CSN Rev Unadjusted
88113	Cobalt	88160	Tin	88302	Sodium Ion	88384	EC2 CSN Rev Unadjusted
88114	Copper	88161	Titanium	88303	Potassium Ion	88385	EC3 CSN Rev Unadjusted
88115	Chlorine	88164	Vanadium	88306	Total Nitrate	88388	OP CSN Rev Unadjusted
88117	Cerium	88165	Silicon	88355	OC CSN Rev Unadjusted	88403	Sulfate
88118	Cesium	88166	Silver	88357	EC CSN Rev Unadjusted	88502	PM <sub>2.5</sub> Speciation Mass

**Recommended/proposed modifications:** In its 2018 ANP, Ecology proposed to relocate the Tacoma-L St (530530029) speciation monitor to the Tacoma-S 36<sup>th</sup> St (530530024) near-road monitoring site. However, since submission of the 2018 ANP, operational challenges to speciation data collection have grown at the Seattle-10<sup>th</sup> and Weller monitoring site (530330030). Due to the environment around the near-road monitoring site, Ecology has concerns about operators' safety in accessing the site regularly. Relocating the speciation monitoring equipment to another site would reduce the number of required trips to the near-road monitoring site and help alleviate these safety concerns.

As these challenges are more urgent than the pending Tacoma relocation, Ecology delayed the relocation of the Tacoma site to evaluate alternate potential locations for Seattle-10<sup>th</sup> and Weller speciation monitoring. Ecology hopes to relocate the speciation monitoring equipment from Seattle-10<sup>th</sup> and Weller to a site in Central Washington but has not yet identified operational resources for this relocation. Ecology will continue to pursue alternatives to speciation monitoring at Seattle-10<sup>th</sup> and Weller in other high-PM<sub>2.5</sub> areas of the state and will revisit relocation of the Tacoma site at a later date.

With the passage of the Washington State 2018 supplemental operating budget (Engrossed Substitute Senate Bill 6032), Ecology was directed to use state funding to conduct a multiyear source apportionment study at the monitoring site closest to the Port of Tacoma. Ecology began conducting PM<sub>2.5</sub> speciation monitoring at PSCAA's Tacoma-Alexander Ave (530530031) monitoring site on August 6, 2018. Puget Sound Clean Air Agency is conducting a parallel speciation study at the Seattle-Duwamish monitoring site (530330057) concurrently with the Tacoma study. These studies will continue until August 2021.

## National Core (NCore)

There are two NCore sites in the Washington Network: Seattle-Beacon Hill (530330080) is an urban NCore site, and Cheeka Peak (530090013) is a rural NCore site. The parameters monitored at each site are summarized in Table 22.

**Table 19. NCore parameters monitored at Cheeka Peak and Seattle-Beacon Hill**

Parameter	Cheeka Peak	Seattle-Beacon Hill
Trace CO (42101)	✓	✓
Trace NO <sub>y</sub> (42600)	✓	✓
Area-wide NO <sub>2</sub> (42602)		✓
Ozone (44201)	✓	✓
Trace SO <sub>2</sub> (42401)	✓	✓
Filter-based PM <sub>10</sub> (81102)		✓
Filter-based PM <sub>2.5</sub> (88101)		✓
Continuous FEM PM <sub>2.5</sub> (88101)		✓
Nephelometer PM <sub>2.5</sub> (88502)	✓	
Meteorological (61101/61102/61103/61104/62101/64101/62201)	✓	✓
PM <sub>2.5</sub> speciation		✓
PM <sub>10-2.5</sub> (86101)		✓

**Recommended/proposed modifications:** None.

## **National Air Toxics Trends Station (NATTS)**

Seattle-Beacon Hill (530330080) is a National Air Toxics Trends Station (NATTS) as well as a CSN, NCore and SLAMS site.

**Recommended/proposed modifications:** None.

## **Photochemical Assessment Monitoring Station (PAMS)**

Based on 40 C.F.R. Part 58, Appendix D, state air monitoring agencies are required to begin making PAMS measurements at their NCore location(s) by June 1, 2019. The equipment needed to measure PAMS parameters were to be purchased by EPA using a nationally negotiated contract and delivered to the monitoring agencies. EPA has announced that due to contract delays, the necessary equipment will not be delivered in time to begin making PAMS measurements by June 1, 2019. EPA has indicated that it is working on a proposed rule to extend the start date of PAMS measurements and expects that this proposed rule change will be signed by June 1, 2019. As a result of the delay, Ecology will not begin making PAMS measurements at the Seattle-Beacon Hill NCore location in 2019, and will work with EPA to begin measurements on or before the final revised start date for this network.

Table 20 summarizes the required PAMS parameters and Ecology’s schedule for implementing new monitoring requirements. Parameters that are already monitored at Seattle-Beacon Hill are marked “existing.”

**Table 20. Required PAMS parameters and implementation schedule**

<b>Parameter</b>	<b>Implementation Schedule</b>
Hourly averaged VOCs	Auto-GC received but ancillary equipment has not been provided. Ecology has delayed implementation of hourly average VOC sampling until necessary equipment and/or funding are provided by EPA
Three 8-hour averaged carbonyl samples per day on a 1/3 schedule	Carbonyl sampling is already conducted; Ecology has delayed modification to sampling schedule until funding is provided for additional laboratory analysis costs
Hourly averaged O <sub>3</sub>	Existing
Hourly averaged NO, true nitrogen dioxide (NO <sub>2</sub> ), and total reactive nitrogen (NO <sub>y</sub> )	Existing
Hourly averaged ambient temperature	Existing
Hourly vector-averaged wind direction	Existing
Hourly vector-averaged wind speed	Existing
Hourly average atmospheric pressure	Existing
Hourly averaged relative humidity	Existing
Hourly precipitation	Implementation delayed until equipment or funding provided by EPA
Hourly averaged mixing height	Implementation delayed until equipment or funding provided by EPA
Hourly averaged solar radiation	Implementation delayed until equipment or funding provided by EPA
Hourly averaged ultraviolet radiation	Implementation delayed until equipment or funding provided by EPA

## References

- Ambient Air Monitoring Reference and Equivalent Methods, 40 C.F.R. Part 53, 2016.
- Ambient Air Quality Surveillance, 40 C.F.R. Part 58, 2016.
- Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD), EPA-450/4-87-007, May 1987.
- National Primary and Secondary Ambient Air Quality Standards, 40 C.F.R. Part 50, 2016.
- United States Census Bureau. “Metropolitan and Micropolitan Statistical Areas Population Totals: 2010-2017.” <https://www.census.gov/data/datasets/2017/demo/popest/total-metro-and-micro-statistical-areas.html> (April 18, 2019).
- United States Census Bureau. “State-based Metropolitan and Micropolitan Statistical Areas Maps.” <https://www.census.gov/geo/maps-data/maps/statecbsa.html> (February 2013).
- Washington Department of Ecology. “A Plan for Maintaining Particulate Matter (PM<sub>10</sub>) Ambient Air Quality Standards in the Wallula PM<sub>10</sub> Maintenance Area.” <https://fortress.wa.gov/ecy/publications/SummaryPages/0502008.html> (March 2005).

## Appendices

### Appendix A. Criteria Pollutant Design Values

Tables 21-27 show criteria pollutant design values for all sites in the Washington Network.

**Table 21. Carbon monoxide (CO) 2018 design values**

Site	AQS ID	2018 Exceedances
Cheeka Peak	530090013	0
Seattle 10th & Weller	530330030	0
Seattle Beacon Hill	530330080	0

**Table 22. Nitrogen dioxide (NO<sub>2</sub>) 2018 design values (ppb)**

Site	AQS ID	2016 98 <sup>th</sup> Percentile	2017 98 <sup>th</sup> Percentile	2018 98 <sup>th</sup> Percentile	2018 Design Value
Seattle 10th & Weller	530330030	58.8	NA	63.7	NA
Seattle Beacon Hill	530330080	49.2	NA	44.5	NA
Tacoma S 36th	530530024	45.5	43.8	46.4	45

**Table 23. Ozone (O<sub>3</sub>) 2018 design values (ppm)**

Site	AQS ID	2016 4th Highest D8M*	2017 4th Highest D8M	2018 4th Highest D8M	2018 Design Value
Anacortes 202 Avenue	530570011	0.054	0.041	0.041	0.045
Cheeka Peak	530090013	0.051	0.056	0.056	0.054
Cheney Turnbull	530630001	0.053	0.065	0.063	0.060
Custer Loomis	530730005	0.045	0.050	0.062	0.052
Enumclaw Mud Mtn	530330023	0.061	0.094	0.077	0.077
Issaquah Lake Sammamish	530330010	0.054	0.076	0.067	0.065
Kennewick S Clodfelter	530050003	0.068	0.074	0.073	0.071
Mt Rainier Jackson Visitors Ctr	530530012	0.058	0.069	0.067	0.064
North Bend North Bend Way	530330017	0.054	0.073	0.071	0.066
Seattle Beacon Hill	530330080	0.046	0.047	0.045	0.046
Spokane Greenbluff	530630046	0.056	0.068	0.072	0.065
Vancouver Blairmont Dr	530110011	0.055	0.071	0.062	0.062
Yelm Northern Pacific	530670005	0.058	0.067	0.063	0.062

\*D8M is the daily maximum 8-hour average concentration.

**Table 24. Sulfur dioxide (SO<sub>2</sub>) 2018 design values (ppb)**

Site	AQS ID	2016 99 <sup>th</sup> Percentile	2017 99 <sup>th</sup> Percentile	2018 99 <sup>th</sup> Percentile	2018 Design Value
Anacortes 202 Ave	530570011	4	3	2	3
Cheeka Peak	530090013	NA	NA	1	NA
Ferndale-Kickerville Rd	530730013	NA	70	74	NA
Ferndale-Mountain View Rd	530730017	NA	114	101	NA
Malaga-Malaga Hwy	530070012	NA	1	1	NA
Seattle-Beacon Hill	530330080	NA	NA	8	NA

**Table 25. PM<sub>10</sub> 2018 design values (µg/m<sup>3</sup>)**

Site	AQS ID	2016 Expected Exceedances	2017 Expected Exceedances	2018 Expected Exceedances	3-Year Estimated Exceedances
Burbank Maple St	530710006	NA	NA	2	NA
Colville E 1 <sup>st</sup> St	530650005	1	1	1.2	1.1
Kennewick Metaline	530050002	0	3	3	2
Seattle Beacon Hill	530330080	0	0	0	0
Spokane Augusta	530630021	0	4	2	2
Yakima 4th Ave S	530770009	0	4.7	0	1.6

**Table 26. PM<sub>2.5</sub> 2018 24-hour design values and pseudo-design values (µg/m<sup>3</sup>)**

Design values from FRM and FEM monitoring sites are shaded. Pseudo-design values from nephelometer sites are estimates only and cannot be used to determine compliance with the NAAQS. DVs in parenthesis are estimated from fewer than three years of available data. The 98th percentiles in parenthesis are estimated from quarters between 50% and 75% complete that fail the maximum quarterly value substitution test (FEM/FRMs only). In years with one or more quarters less than 50% complete, 98<sup>th</sup> percentiles are not reported.

Site	AQS ID	98th Percentile 2016	98th Percentile 2017	98th Percentile 2018	24-Hour Design Value 2018
Aberdeen Division St	530272002	10.3	14.5	12.4	12
Anacortes 202 Avenue	530570011	12.6	13.5	27.7	18
Bellevue SE 12 <sup>th</sup>	530330031	7.8	22.9	9.2	13
Bellingham Yew St	530730015	12.1	27.7	24.0	21
Bremerton Spruce Ave	530350007	9.8	24.0	24.0	19
Cheeka Peak	530090013	4.6	35.4	27.4	22
Chehalis Market Blvd	530410004	13.0	25.2	28.5	22
Chelan Woodin Ave	530070007	NA	24.6	123.6	(74)
Clarkston 13th St	530030004	17.0	63.9	37.8	40
Colville E 1 <sup>st</sup> St	530650005	NA	41.8	65.8	(54)
Darrington Fir St	530610020	31.0	44.0	41.9	39
Dayton W Main St	530130002	10.8	37.8	37.3	29
Ellensburg Ruby St	530370002	25.2	47.8	46.5	40

Site	AQS ID	98th Percentile 2016	98th Percentile 2017	98th Percentile 2018	24-Hour Design Value 2018
Kennewick Metaline	530050002	16.5	35.8	32.6	28
Kent Central & James	530332004	18.4	36	32.8	29
Lacey College St	530670013	16.9	28.2	29.6	25
LaCrosse Hill St	530750005	9.6	NA	38.4	(24)
Lake Forest Park	530330024	NA	NA	50.7	(51)
Leavenworth Evans St	530070010	16.4	24.4	60.0	34
Longview 30th Ave	530150015	14.0	16.4	24.8	18
Lynnwood 212	530610005	17.6	NA	34.6	(26)
Marysville 7th Ave	530611007	22.3	(30.8)	31.2	(28)
Mesa Pepiot Way	530210002	12.3	45.9	32.5	30
Moses Lake Balsam St	530251002	13.1	38.6	37.3	30
Mt Vernon S Second St	530570015	8.2	NA	14.5	(11)
Neah Bay 2 Makah Tribe	530090015	6.4	11.3	22.2	13
North Bend North Bend Way	530330017	7.5	43.0	34.6	28
Omak Colville Tribe	530470013	NA	NA	93.5	(94)
Port Angeles E 5th St	530090017	16.3	27.2	41.9	28
Port Townsend San Juan Ave	530310003	10.4	15.6	28.3	18
Pullman Dexter SE	530750003	10.8	30.7	NA	(21)
Puyallup 128th St	530531018	16.5	51.2	37.5	35
Quincy 3 <sup>rd</sup> Ave NE	530251003	NA	NA	58.4	(58)
Ritzville Alder St	530010003	9.1	39.1	44.3	31
Rosalia Josephine St	530750006	11.0	37.2	36.0	28
Seattle 10th & Weller	530330030	17.0	34.4	35.5	29
Seattle Beacon Hill	530330080	13.5	29.9	37.0	27
Seattle Duwamish	530330057	18.0	35.0	41.7	32
Seattle South Park	530331011	NA	50.1	43.8	(47)
Shelton W Franklin	530450007	13.4	20.1	25.7	20
Spokane Augusta Ave	530630021	17.3	48.2	49.5	38
Spokane Monroe St	530630047	15.6	54.4	51.0	40
Sunnyside S 16th	530770005	25.7	48.3	62.4	45
Tacoma Alexander Ave	530530031	17.7	23.5	35.1	25
Tacoma L Street	530530029	22.2	38.7	37.5	33
Tacoma S 36 <sup>th</sup>	530530024	15.1	30.0	29.4	25
Taholah Quinault Tribe	530270011	NA	21.6	25.6	(24)
Toppenish Yakama Tribe	530770015	35.0	54.6	50.4	47
Tukwila Allentown	530330069	NA	NA	51.5	(52)
Twisp Glover St	530470009	22.1	67.5	NA	(45)
Vancouver NE 84th Ave	530110024	(23.6)	(35.1)	30.0	(30)
Walla Walla 12th St	530710005	16.2	38.1	37.7	31
Wellpinit Spokane Tribe	530650002	10.7	39.8	46.5	32
Wenatchee Fifth St	530070011	17.2	74.4	90.1	61
White Swan Yakama Tribe	530770016	18.7	46.2	51.6	39
Winthrop Chewuch Rd	530470010	NA	69.8	71.7	(71)
Yacolt Yacolt Rd	530110022	13.6	30.8	18.4	21
Yakima 4th Ave	530770009	30.6	52.2	47.5	43

**Table 27. PM<sub>2.5</sub> 2018 annual design values and pseudo-design values**

Site	AQS ID	98th Percentile 2016	98th Percentile 2017	98th Percentile 2018	24-Hour Design Value 2018
Aberdeen Division St	530272002	4.8	5.4	4.9	5.1

2019 Ambient Air Monitoring Network Plan

Site	AQS ID	98th Percentile 2016	98th Percentile 2017	98th Percentile 2018	24-Hour Design Value 2018
Anacortes 202 Avenue	530570011	5.3	5.7	6.2	5.8
Bellevue SE 12 <sup>th</sup>	530330031	3.4	4.1	3.5	3.7
Bellingham Yew St	530730015	4.8	5.2	5.2	5.1
Bremerton Spruce Ave	530350007	4.2	4.8	4.8	4.6
Cheeka Peak	530090013	1.9	3.4	3.9	3.1
Chehalis Market Blvd	530410004	5.1	6.5	6.9	6.2
Chelan Woodin Ave	530070007	NA	5.5	12.1	(8.9)
Clarkston 13th St	530030004	7.0	11.7	9.3	9.4
Colville E 1 <sup>st</sup> St	530650005	NA	11.0	11.5	(11.3)
Darrington Fir St	530610020	5.5	8.3	6.6	6.8
Dayton W Main St	530130002	4.1	7.4	5.9	5.8
Ellensburg Ruby St	530370002	6.2	10.9	7.0	8.1
Kennewick Metaline	530050002	5.6	8.5	7.0	7.1
Kent Central & James	530332004	5.5	7.7	7.0	6.8
Lacey College St	530670013	5.5	6.5	5.9	6.0
LaCrosse Hill St	530750005	3.6	NA	5.9	(4.8)
Lake Forest Park	530330024	NA	NA	8.8	(8.8)
Leavenworth Evans St	530070010	5.6	6.2	8.9	7.0
Longview 30th Ave	530150015	5.0	6.0	6.2	5.8
Lynnwood 212	530610005	3.9	NA	5.9	(5.0)
Marysville 7th Ave	530611007	6.0	7.9	8.1	7.4
Mesa Peplot Way	530210002	3.9	7.5	6.5	6.0
Moses Lake Balsam St	530251002	4.8	8.1	7.5	6.8
Mt Vernon S Second St	530570015	3.1	NA	3.4	(3.3)
Neah Bay 2 Makah Tribe	530090015	3.4	3.9	4.5	4.0
North Bend North Bend Way	530330017	3.0	5.5	4.6	4.4
Omak Colville Tribe	530470013	NA	NA	13.4	(13)
Port Angeles E 5th St	530090017	7.0	8.6	9.1	8.3
Port Townsend San Juan Ave	530310003	4.7	5.5	6.3	5.5
Pullman Dexter SE	530750003	3.7	6.6	NA	(5.2)
Puyallup 128th St	530531018	4.7	7.1	7.1	6.3
Quincy 3 <sup>rd</sup> Ave NE	530251003	NA	NA	7.3	(7.3)
Ritzville Alder St	530010003	3.7	6.5	6.0	5.4
Rosalia Josephine St	530750006	4.1	6.8	6.5	5.9
Seattle 10th & Weller	530330030	7.8	8.1	9.3	8.4
Seattle Beacon Hill	530330080	5.4	7.0	6.5	6.4
Seattle Duwamish	530330057	6.5	9.6	8.9	8.4
Seattle South Park	530331011	NA	9.5	9.5	(9.6)
Shelton W Franklin	530450007	5.3	6.3	6.7	6.2
Spokane Augusta Ave	530630021	7.5	10.8	10.3	9.6
Spokane Monroe St	530630047	5.5	10.3	9.4	8.5
Sunnyside S 16th	530770005	7.9	14.0	11.9	11.3
Tacoma Alexander Ave	530530031	5.9	7.4	8.0	7.2
Tacoma L Street	530530029	6.7	8.1	8.0	7.7
Tacoma S 36 <sup>th</sup>	530530024	6.8	8.3	7.8	7.7
Taholah Quinault Tribe	530270011	NA	4.7	5.5	(5.2)
Toppenish Yakama Tribe	530770015	(9.9)	13.5	(10.4)	(11.3)
Tukwila Allentown	530330069	NA	NA	8.6	(8.7)
Twisp Glover St	530470009	7.3	12.5	NA	(9.9)
Vancouver NE 84th Ave	530110024	6.3	8.8	7.3	7.5
Walla Walla 12th St	530710005	5.2	8.2	7.1	6.8
Wellpinit Spokane Tribe	530650002	4.5	7.6	8.1	6.8

Site	AQS ID	98th Percentile 2016	98th Percentile 2017	98th Percentile 2018	24-Hour Design Value 2018
Wenatchee Fifth St	530070011	5.3	12.0	11.2	9.6
White Swan Yakama Tribe	530770016	5.3	6.2	7.3	6.3
Winthrop Chewuch Rd	530470010	NA	9.4	10.8	(10.2)
Yacolt Yacolt Rd	530110022	4.0	6.2	4.7	5.0
Yakima 4th Ave	530770009	8.6	10.3	10.5	9.8

## Appendix B. EPA Response to Ecology's 2018 Annual Network Plan



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION 10**

1200 Sixth Avenue, Suite 155  
Seattle, WA 98101-3140

OFFICE OF  
AIR AND WASTE

**AUG 13 2018**

Ms. Jill Schulte  
Ambient Air Monitoring Coordinator  
Department of Ecology  
State of Washington  
P.O. Box 47600  
Olympia, Washington 98504-7600

Dear Ms. Schulte:

The U.S. Environmental Protection Agency, Region 10 evaluated the Washington Department of Ecology's 2018 Annual Monitoring Network Plan (ANP) received on June 28, 2018. This approval letter documents Region 10's findings from the review of this ANP.

Based on our review of the ANP, we did not identify any monitoring deficiencies for Washington State's ambient air monitoring network. However, we did identify the following potential network issues, which should be assessed during the remainder of CY 2018. If monitoring is found to be required through this review, Region 10 requests that Ecology identify these network modifications in the 2019 ANP:

1. Regulatory ambient air monitoring for Lead (Pb) is currently not performed by Ecology or its local air programs. Based on EPA's 2014 National Emission Inventory (NEI), two facilities in the State of Washington have ambient air Pb emissions above the 0.5 tons/year threshold that require source oriented Pb monitoring. See 40 CFR Part 58 Appendix D §4.5(a). These facilities are:
  - a. Alcoa Primary Metals Intalco Works  
NEI Pb reported emissions at 0.83 Tons/Yr  
EIS ID: 4937811  
4050 Mountain View Rd, Ferndale WA  
Whatcom County
  - b. Ardagh Glass  
NEI Pb reported emissions at 0.57 Tons/Yr  
EIS ID: 4985311  
5801 E Marginal Way S, Seattle WA  
King County

Region 10 recommends that Ecology assess whether the 2014 NEI Pb emissions accurately represent these facilities. If these emission estimates are accurate, Ecology should begin investigating locations suitable for Pb monitoring around these facilities and begin monitoring January 1, 2019. Please notify Region 10 if siting or logistical considerations prohibit Ecology to begin monitoring by this date. Alternatively, if Ecology determines that the 2014 NEI Pb

emissions are incorrect for either or both of these facilities, then instead of siting additional monitors, Ecology should update the annual lead emission estimates in EPA's NEI.

2. As identified in Table 11 of the ANP, multiple Metropolitan Statistical Areas (MSAs) in the State of Washington have fewer PM<sub>10</sub> monitors than the minimum network sizes specified in Table D-4 of 40 CFR Part 58 Appendix D. During 2018, Ecology and Region 10 plan to assess whether PM<sub>10</sub> air quality trends and geographical patterns can be accurately represented with the current PM<sub>10</sub> networks. For those MSAs where additional monitors are not needed to meet these objectives, Region 10 may provide waivers to operate a smaller network than is specified in Section 4.6 of 40 CFR Part 58 Appendix D.

In our review of the ANP, Region 10 made the following observations and provide them for your consideration.

3. Region 10 recommends providing Annual Average Daily Traffic (AADT) counts for each ambient air monitoring site. Without both roadway distances and AADT counts, it is not possible to verify that monitoring scales are appropriate for the specifications provided in Section 6.3 and Figure E-1 of 40 CFR Part 58 Appendix E. Region 10 requests that roadway distances and AADT also be updated in AQS.
4. Region 10 requests that Ecology keep us updated with its plan for establishing an interagency agreement with the Oregon Department of Environmental Quality for jointly meeting minimum monitoring requirements for the Portland-Vancouver-Hillsboro, OR-WA MSA.

Region 10 approves the monitor type change at the Burbank PM<sub>10</sub> monitor (AQS ID: 53-071-0006) from SPM to SLAMS. Region 10 requests that the effective date of the SLAMS designation for this monitor be January 1, 2018. Emission estimates indicate that an agricultural tilling area source and a point source facility (Simplot Feeders) are the primary anthropogenic PM<sub>10</sub> sources for this area. The Burbank monitoring location represents the area wide agricultural tilling source and most of the population exposure in the Wallula maintenance area. However, monitoring scales for PM<sub>10</sub> point sources (e.g., Simplot) are typically neighborhood scale (4 km) or less in size and the Burbank monitor is approximately 10 km from this facility. Furthermore, the Burbank monitoring location is located off axis from the prevailing wind direction. Review of windrose plots indicates that the prevailing winds are from the southwest. Burbank is northwest of the Simplot Feeders facility. As such, the Burbank monitor may not be representative of the ambient air near the Simplot Facility.

Region 10 acknowledges the logistical obstacles in acquiring access to a monitoring location in the Wallula Maintenance Area due to the extensive agricultural land use. This is particularly true near the Simplot Facility. As such, since the Burbank monitor is the sole PM<sub>10</sub> monitor in the Wallula Maintenance Area, Region 10 approves this monitor as a compliance monitor. However, Region 10 also encourages Ecology to continue to search for a monitoring location closer to the Simplot facility so that the monitoring network would be representative of both the emissions from the maintenance area's predominate point as well as the area sources in the maintenance area.

Region 10 approves the State of Washington's 2018 ANP. Region 10 appreciates the timeliness and detail provided in the ANP. If you have any questions about our approval of the ANP, please contact Doug Jager at (206) 553-2961.

Sincerely,



Gina Bonifacino, Acting Manager  
Air Planning Unit

## **Appendix C. Monitoring Waivers**

### **Lead (Pb)**

In 2014, EPA approved the use of lead in PM<sub>10</sub> measurements as a surrogate for lead in TSP at Seattle-Beacon Hill (530330080). Ecology met this requirement through lead analysis of low-vol PM<sub>10</sub> filters analyzed through the NATTS program. In 2016, EPA discontinued the requirement for lead monitoring at NCore sites. Ecology continues to report measurements of lead in PM<sub>10</sub> at Seattle-Beacon Hill as a NATTS parameter. In 2017, at the request of EPA Region 10, Ecology redesignated the Seattle-Beacon Hill lead monitor a “NAAQS-exclusion” type monitor. At the further request of EPA, Ecology ceased reporting to parameter code 85129 and began reporting to parameter code 85128 as of January 1, 2019. It is no longer used to demonstrate compliance with the NAAQS.

On April 18, 2019, EPA issued Ecology a waiver for the source-oriented lead monitoring requirement at Ardagh Glass in Seattle. That waiver is provided below.

2019 Ardagh Glass Pb Waiver Approval

The U.S. Environmental Protection Agency has completed our review of your supporting information for waiving ambient air lead monitoring for the Ardagh Glass facility in Seattle, Washington (EIS ID: 4985311). Based on the information you provided in Attachment E of your correspondence and the available data in AQS, Region 10 agrees that the ambient air lead monitoring for this facility based on the results of the AERMOD dispersion modeling conducted by your staff meet the regulatory requirements for waiving ambient air lead monitoring for this facility.

According to 40 CFR Part 58, Appendix D §4.5(a)(ii), the Regional Administrator may waive the requirement for lead source monitoring if the state can demonstrate that the source will not contribute to a maximum lead concentration in ambient air in excess of 50 percent of the NAAQS. The modeling approach and protocol for the Ardagh Glass facility conducted by the Department of Ecology was consistent with the EPA's guidance and modeling requirements found in 40 CFR Part 51, Appendix W. The results of this modeling demonstrate that the maximum ambient air 3-month rolling average lead concentration at the facility does not exceed 50 percent of the lead NAAQS.

Monitoring regulations require that this waiver must be renewed every five years. As such, this waiver will be due for renewal in calendar year 2023 if the NEI emission estimates for this facility continue to be above 0.5 tons/year. The EPA reserves the right to rescind this waiver should a future need arise (e.g., increased production or emissions at the facility, monitoring regulation changes, or revisions to the NAAQS).

Enclosure 3

## **Yakima CO**

In 2006, EPA approved the discontinuation of the Yakima CO monitor based on the low concentrations measured at the monitor and predicted reductions in onroad mobile source emissions in Yakima. Below is the approval letter from EPA approving discontinuation of the monitor.



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

MAR 03 2006

Reply to  
Attn Of: OAWT-107

Mr. Mike Ragan  
Air Monitoring Coordinator  
Air Quality Program  
P.O. Box 47600  
Olympia, WA 98504-7600

Re: Approval of the Washington 2006 Ambient Monitoring Network

Dear Mr. Ragan:

We have evaluated the Washington 2005 Ambient Air Monitoring Network Assessment and Ecology's proposed monitoring network for 2006. As you know, in December 2005 EPA proposed a lower 24-hour PM<sub>2.5</sub> monitoring standard of 35 ug/m<sup>3</sup>, and a new 24-hour PM<sub>coarse</sub> standard of 70 ug/m<sup>3</sup> to replace the current PM<sub>10</sub> standard. The implementation of these new standards will have a significant effect on the future number and locations of PM monitors in the State's monitoring network. This should be a major consideration in your 2006 annual monitoring network assessment. In order to ensure continued PM<sub>2.5</sub> monitoring at sites required by population (40 CFR Part 58), and at sites reporting values near or above the proposed PM<sub>2.5</sub> standard, Region 10 developed a list of monitoring priorities for a "core" PM<sub>2.5</sub> monitoring network (Attachment 1). In response to these monitoring priorities, Ecology has proposed to discontinue PM<sub>2.5</sub> FRM monitors at the following sites:

<u>Monitoring Site</u>	<u>AIRS#</u>
1. Moose Lodge -- Vancouver	530110013
2. Benton County -- Kennewick	530050002
3. Monroe Street - Spokane	530630047

The PM<sub>2.5</sub> design values for these sites, based on monitoring data collected over the past 3 years, are below the current PM<sub>2.5</sub> and proposed PM<sub>2.5</sub> standards. Therefore, I approve the discontinuation of these PM<sub>2.5</sub> FRM monitors. Ecology is authorized to operate all PM<sub>2.5</sub> "core" monitors for 2006 including:

1. PM<sub>2.5</sub> FRMs (or FEMs, if approved) at the Beacon Hill, Duwamish (primary and co-located), Crown Zellerbach (primary and co-located), and Tacoma/L Street sites.
2. PM<sub>2.5</sub> speciation monitors located at the following sites:
  - a. Beacon Hill
  - b. Spokane
  - c. Duwamish
  - d. Tacoma



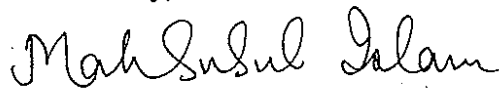
- e. Lake Forest Park
- 3. Pre-cursor gas monitors operated at the Beacon Hill site

Operation of any additional PM2.5 monitors, in addition to the PM2.5 “core” network, are authorized as funding permits. Ecology is authorized to operate all ozone, SO<sub>2</sub>, NO<sub>x</sub>, other CO, and PM10 monitors identified in the 2005 Washington Ambient Air Monitoring Network Review.

The Yakama Regional Clean Air Authority has requested permission to discontinue operations of its CO monitor at the Tattoo Parlor site in Yakama. The rationale for discontinuing this monitor is that CO 8-hour design values at this site have decreased from a value of 5.1 ppm in 1998-1999, to a value of 3.5 ppm in 2002-2003. In addition, EPA’s MOBILE6.2 model predicts that on-road mobile source emissions of CO in Yakama will decrease by 12.4% compared to the 1999 mobile source emissions. This should ensure that the 8-hour CO design values remain substantially below the CO standard of 9 ppm. Therefore, I approve the discontinuation of this CO monitor.

If you have any questions about our approval of the WA monitoring network, please contact Keith Rose at (206) 553-1949.

Sincerely,



Mahbubul Islam, Manager  
State and Tribal Program Unit  
Office of Air, Waste and Toxics

cc: William Puckett, OEA

## Spokane CO

On July 14, 2016, Federal Register #81 FR 45417, the EPA approved an alternate method of verification of attainment of the CO NAAQS in Spokane and qualification for the limited maintenance plan option under 40 C.F.R. Part 58.14(c) in the Spokane Maintenance Area. Under this alternative, EPA considers the limited maintenance plan criteria met and continued verification of attainment of the CO NAAQS if the total of the three predominant CO emission source categories calculated as part of the triennial emissions inventory (onroad mobile, nonroad, and residential wood combustion) remain below the corresponding total of the 2002 emission inventory source categories approved at the time the Spokane area was redesignated to attainment. SRCAA and Ecology will compare future year 2017, 2020 and 2023 triennial emission analysis results to the baseline 2002.

## PM<sub>10</sub>

In the summers of 2017 and 2018, Washington experienced extended smoke events from regional wildfires in the Pacific Northwest. These smoke events caused repeated exceedances of the PM<sub>10</sub> standard in Yakima and Kennewick, which triggered additional monitoring requirements as detailed in 40 C.F.R. Part 58 Appendix D, Table D-4. In addition, Kennewick routinely experiences high wind dust events that cause exceedances of the PM<sub>10</sub> standard. Due to the regional and exceptional nature of these events, EPA issued Ecology waivers for the unmet PM<sub>10</sub> monitoring requirements in the Yakima and Kennewick-Richland MSAs on April 18, 2019. The waivers are provided below.

Yakima PM10 Waiver Approval

The U.S. Environmental Protection Agency has completed our review of your supporting information for waiving additional PM<sub>10</sub> monitoring in the Yakima MSAs. Based on the information you provided in Attachment C of your correspondence and the available data in AQS, Region 10 agrees that the high concentration PM<sub>10</sub> air quality episodes were broad scale events driven by wildfires. As such, Region 10 also concurs that the existing PM<sub>10</sub> monitor in the Yakima MSA (AQS ID: 53-077-0009) is adequate for characterizing the PM<sub>10</sub> air quality trends and spatial geographical patterns in this MSA. Per 40 CFR Part 58, Appendix D §4.6(a), Region 10 waives the minimum PM<sub>10</sub> network size specified by Table D-4 of 40 CFR Part 58, Appendix D for the Yakima MSA and allows the Department of Ecology to use the existing PM<sub>10</sub> monitor (AQS ID: 53-077-0009) for meeting minimum regulatory monitoring requirements for this MSA.

This monitoring waiver is effective for five years and may need to be renewed in calendar year 2023 to keep the minimum monitoring requirements set at a single PM<sub>10</sub> monitor. The EPA reserves the right to reinstate the additional PM<sub>10</sub> monitoring requirements in the MSA sooner than five years should a future need arise (e.g., changes in air quality due to local sources, monitoring regulation changes, or revisions to the NAAQS).

Enclosure 1

2019 Kennewick PM10 Waiver Approval

The U.S. Environmental Protection Agency has completed our review of your supporting information for waiving additional PM<sub>10</sub> monitoring in the Kennewick-Richland MSAs. Based on the information you provided in Attachment B of your correspondence and the available data in AQS, Region 10 agrees that the high concentration PM<sub>10</sub> air quality episodes were broad scale events driven by high winds and wildfires. As such, Region 10 also concurs that the existing PM<sub>10</sub> monitor in the Kennewick-Richland MSA (AQS ID: 53-005-0002) is adequate for characterizing the PM<sub>10</sub> air quality trends and spatial geographical patterns in this MSA. Per 40 CFR Part 58, Appendix D §4.6(a), Region 10 waives the minimum PM<sub>10</sub> network size specified by Table D-4 of 40 CFR Part 58, Appendix D for the Kennewick-Richland MSA and allows the Department of Ecology to use the existing PM<sub>10</sub> monitor (AQS ID: 53-005-0002) for meeting minimum regulatory monitoring requirements for this MSA.

This monitoring waiver is effective for five years and may need to be renewed in calendar year 2023 to keep the minimum monitoring requirements set at a single PM<sub>10</sub> monitor. The EPA reserves the right to reinstate the additional PM<sub>10</sub> monitoring requirements in the MSA sooner than five years should a future need arise (e.g., changes in air quality due to local sources, monitoring regulation changes, or revisions to the NAAQS).

Enclosure 2

## Appendix D. Detailed Site and Monitor Information

The tables below describe the detailed site and monitor information for each monitoring site in the Washington Network. This information demonstrates compliance with the probe and monitoring path siting criteria described in 40 C.F.R. Part 58 Appendix E.

<b>Aberdeen-Division St</b>	<b>Site Information</b>	
	AQS ID	530272002
	Street Address	359 N Division St (Harbor High School)
	Zip Code	98520
	Latitude	46.97228
	Longitude	-123.83173
	Date Site Established	20021001
	MSA/CBSA/CSA Represented	Aberdeen
	County	Grays Harbor
	Distance from roadway (m)	200
	Traffic count (AADT)	12000
	Ground cover	Asphalt
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20021001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	5
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

<b>Anacortes-202 Ave</b>		<b>Site Information</b>
	AQS ID	530570011
	Street Address	202 O Ave
	Zip Code	98221
	Latitude	48.52059
	Longitude	-122.61428
	Date Site Established	20120501
	MSA/CBSA/CSA Represented	Mount Vernon-Anacortes
	County	Skagit
	Distance from roadway (m)	135
	Traffic count (AADT)	410
	Ground cover	Asphalt, gravel
<b>Ozone (44201, POC 1)</b>	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	20111012
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Northwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Oct
	Probe height (m)	3
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Tygon
	Residence time (sec) (sec)	9.5
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20111012
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Northwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	N/A

<b>Anacortes-202 Ave</b>	<b>Site Information</b>	
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
<b>Sulfur Dioxide (42401, POC 2)</b>	Sampling/Analysis Method	TAPI 100 EU (600)
	Parameter Begin Date	20111012
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Northwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec) (sec)	9.5
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Auburn-M St		Site Information
	AQS ID	530330089
	Street Address	2301 M Street SE
	Zip Code	98002
	Latitude	48.2875
	Longitude	-122.2144
	Date Site Established	20190101
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	25
	Traffic count (AADT)	5548
	Ground cover	Grass
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20190101
	Monitor Type Begin Date	20190101
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Monitoring start date	20190101
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	5
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Bellevue-SE 12th		Site Information
	AQS ID	530330031
	Street Address	14310 SE 12th St
	Zip Code	98007
	Latitude	47.600863
	Longitude	-122.148397
	Date Site Established	20161201
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	200
	Traffic count (AADT)	11000
	Ground cover	Asphalt, concrete, grass
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20161201
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	2
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	30
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

<b>Bellingham-Pacific St</b>		<b>Site Information</b>
	AQS ID	530730019
	Street Address	2221 Pacific Street
	Zip Code	98229
	Latitude	48.760036
	Longitude	-122.456463
	Date Site Established	20180102
	MSA/CBSA/CSA Represented	Bellingham
	County	Skagit
	Distance from roadway (m)	25
	Traffic count (AADT)	2399
	Ground cover	Roof
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20180102
	Monitor Type Begin Date	20180102
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Northwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Monitoring start date	20180101
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

<b>Bremerton-Spruce</b>	<b>Site Information</b>	
	AQS ID	530350007
	Street Address	3250 Spruce Ave
	Zip Code	98310
	Latitude	47.592675
	Longitude	-122.627397
	Date Site Established	20120501
	MSA/CBSA/CSA Represented	Bremerton-Silverdale
	County	Kitsap
	Distance from roadway (m)	160
	Traffic count (AADT)	35000
	Ground cover	Grass
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20120501
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	150
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

<b>Burbank-Maple St Site Information</b>	
	AQS ID
	Street Address
	Zip Code
	Latitude
	Longitude
	Date Site Established
	MSA/CBSA/CSA Represented
	County
	Distance from roadway (m)
	Traffic count (AADT)
	Ground cover
<b>PM<sub>10</sub> (81102, POC 3)</b>	Sampling/Analysis Method
	Parameter Begin Date
	Monitor Type Begin Date
	Monitor Objective
	Measurement Scale
	Monitor type
	Collecting agency
	Analytical lab
	Reporting agency
	Sampling frequency
	Sampling season
	Probe height (m)
	Distance from supporting structure (m)
	Distance from obstruction on roof (m)
	Distance from obstruction not on roof (m)
	Distance from trees (m)
	Distance from furnace or incinerator flue (m)
	Unrestricted airflow (deg)
	Changes in next 18 months?
	Suitable for NAAQS comparison?
<b>Meteorological</b>	Sampling/Analysis Method
	Parameter Begin Date
	Monitor Objective
	Measurement Scale
	Monitor type
	Collecting agency
	Analytical lab
	Reporting agency
	Sampling frequency
	Sampling season
	Probe height (m)

Burbank-Maple St	Site Information	
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A

Cheeka Peak		Site Information
	AQS ID	530090013
	Street Address	Located In A Tree Farm (Cheeka Peak)
	Zip Code	98381
	Latitude	48.29786
	Longitude	-124.62491
	Date Site Established	20060517
	MSA/CBSA/CSA Represented	Port Angeles
	County	Clallam
	Distance from roadway (m)	8500
	Traffic count (AADT)	1000
	Ground cover	Shrubs, grass, gravel/dirt
<b>Trace NO<sub>y</sub> (42600/42601/42612, POC 2)</b>	Sampling/Analysis Method	TAPI 200 EU (699)
	Parameter Begin Date	20110101
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	8
	Distance from supporting structure (m)	0.3
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	21
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	175
	Probe material	Teflon
	Residence time (sec)	1.6
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
<b>Carbon Monoxide (42101, POC 2)</b>	Sampling/Analysis Method	TAPI 300 EU (593)
	Parameter Begin Date	20080101
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A

<b>Cheeka Peak</b>	<b>Site Information</b>	
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	0.3
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	21
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	175
	Probe material	Teflon
	Residence time (sec)	1.9
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20110101
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale
	Monitor type	SLAMS, NCore
<b>Meteorological</b>	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	40
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20060517
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20060517
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale

<b>Cheeka Peak</b>	<b>Site Information</b>	
	Monitor type	SLAMS, NCore
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	0.3
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	21
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	175
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
	<b>Ozone (44201, POC 1)</b>	Sampling/Analysis Method
	Parameter Begin Date	20101217
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	0.3
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	21
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	175
	Probe material	Teflon
	Residence time (sec)	1.9
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
	<b>Sulfur Dioxide (42401, POC 2)</b>	Sampling/Analysis Method
	Parameter Begin Date	20110101

Cheeka Peak	Site Information	
	Monitor Objective	General/Background
	Measurement Scale	Regional Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	0.3
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	21
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	175
	Probe material	Teflon
	Residence time (sec)	5.8
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Chehalis-Market Blvd		Site Information
	AQS ID	530410004
	Street Address	350 N Market Blvd
	Zip Code	98532
	Latitude	46.66409
	Longitude	-122.96732
	Date Site Established	20091229
	MSA/CBSA/CSA Represented	Centralia
	County	Lewis
	Distance from roadway (m)	30
	Traffic count (AADT)	3769
	Ground cover	Roof
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20091229
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	0.3
	Distance from obstruction on roof (m)	11
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	25
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Chelan-Woodin Ave		Site Information
	AQS ID	530070007
	Street Address	428 W Woodin Ave. , Chelan, WA (Chelan Ranger Station)
	Zip Code	98816
	Latitude	47.83861
	Longitude	-120.023076
	Date Site Established	20020915
	MSA/CBSA/CSA Represented	Wenatchee
	County	Chelan
	Distance from roadway (m)	275
	Traffic count (AADT)	5100
	Ground cover	Grass, dirt
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20160906
	Monitor Objective	General/Background
	Measurement Scale	Neighborhood
	Monitor type	Non-EPA federal
	Collecting agency	USDA Forest Service
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	10
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Cheney-Turnbull Site Information		
	AQS ID	530630001
	Street Address	S 26010 Smith Road (Turnbull Slough National Wildlife Refuge)
	Zip Code	99004
	Latitude	47.41645
	Longitude	-117.52997
	Date Site Established	19710701
	MSA/CBSA/CSA Represented	Spokane-Spokane Valley
	County	Spokane
	Distance from roadway (m)	1900
	Traffic count (AADT)	992
	Ground cover	Grass, dirt
<b>Ozone (44201, POC 1)</b>	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	19990501
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Oct
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	70
	Distance from trees (m)	100
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	3.8
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Clarkston-13th St		Site Information
	AQS ID	530030004
	Street Address	13Th St And Port Way (Clarkston Stp)
	Zip Code	99403
	Latitude	46.425416
	Longitude	-117.060445
	Date Site Established	19930616
	MSA/CBSA/CSA Represented	Lewiston
	County	Asotin
	Distance from roadway (m)	600
	Traffic count (AADT)	8200
	Ground cover	Grass
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20070307
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Colville-E 1st St		Site Information
	AQS ID	530650005
	Street Address	261 E 1St St
	Zip Code	99114
	Latitude	48.544448
	Longitude	-117.903425
	Date Site Established	20151025
	MSA/CBSA/CSA Represented	Spokane-Spokane Valley
	County	Spokane
	Distance from roadway (m)	190
	Traffic count (AADT)	7300
	Ground cover	Roof
Meteorological	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20160520
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	50
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20151025
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round

<b>Colville-E 1st St</b>	<b>Site Information</b>	
	Probe height (m)	15
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	50
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
<b>PM<sub>10</sub> (81102, POC 3)</b>	Sampling/Analysis Method	TEOM-Gravimetric (079)
	Parameter Begin Date	20151025
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	15
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	50
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Custer-Loomis		Site Information
	AQS ID	530730005
	Street Address	1330 Loomis Trail Rd
	Zip Code	98240
	Latitude	48.95074
	Longitude	-122.55441
	Date Site Established	19890413
	MSA/CBSA/CSA Represented	Bellingham
	County	Whatcom
	Distance from roadway (m)	65
	Traffic count (AADT)	837
	Ground cover	Grass
<b>Ozone (44201, POC 1)</b>	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	20090606
	Monitor Objective	Regional Transport
	Measurement Scale	Regional Scale
	Monitor type	SLAMS
	Collecting agency	Northwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	130
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	9
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

<b>Darrington-Fir St</b>	<b>Site Information</b>	
	AQS ID	530610020
	Street Address	1085 Fir St
	Zip Code	98241
	Latitude	48.2469
	Longitude	-121.6031
	Date Site Established	20060721
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	Snohomish
	Distance from roadway (m)	1000
	Traffic count (AADT)	3800
	Ground cover	Asphalt
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20101228
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	25
	Distance from trees (m)	200
	Distance from furnace or incinerator flue (m)	200
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Dayton-W Main	Site Information	
	AQS ID	530130002
	Street Address	206 W Main St
	Zip Code	99328
	Latitude	46.318
	Longitude	-117.985
	Date Site Established	20090205
	MSA/CBSA/CSA Represented	Walla Walla
	County	Walla Walla
	Distance from roadway (m)	27
	Traffic count (AADT)	5500
	Ground cover	Gravel, asphalt
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20090205
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Ellensburg-Ruby St	Site Information	
	AQS ID	530370002
	Street Address	201 N. Ruby
	Zip Code	98926
	Latitude	46.99364
	Longitude	-120.545
	Date Site Established	19951104
	MSA/CBSA/CSA Represented	Ellensburg
	County	Kittitas
	Distance from roadway (m)	35
	Traffic count (AADT)	3625
	Ground cover	Roof
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20141001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20180401
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A

Ellensburg-Ruby St	Site Information	
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Enumclaw-Mud Mtn	Site Information	
	AQS ID	530330023
	Street Address	30525 Se Mud Mountain Road
	Zip Code	98022
	Latitude	47.1411
	Longitude	-121.9379
	Date Site Established	19980708
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	3300
	Traffic count (AADT)	2600
	Ground cover	Gravel, dirt, grass
<b>Meteorological</b>	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20040201
	Monitor Objective	Regional Transport
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
<b>Ozone (44201, POC 1)</b>	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	19980708
	Monitor Objective	Regional Transport
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Oct
	Probe height (m)	3
	Distance from supporting structure (m)	0.5
	Distance from obstruction on roof (m)	N/A

Enumclaw-Mud Mtn	Site Information	
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	5.7
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Ferndale-Kickerville Rd Site Information		
	AQS ID	530730013
	Street Address	6036 Kickerville Road
	Zip Code	98248
	Latitude	48.855274
	Longitude	-122.7047
	Date Site Established	20170101
	MSA/CBSA/CSA Represented	Bellingham
	County	Whatcom
	Distance from roadway (m)	28
	Traffic count (AADT)	777
	Ground cover	Grass, gravel
<b>Sulfur Dioxide (42401, POC 2)</b>	Sampling/Analysis Method	TAPI 100 (077)
	Parameter Begin Date	20170101
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS
	Collecting agency	Intalco
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	15
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

**Ferndale-Mountain  
View Rd**

**Site Information**

	AQS ID	530730017
	Street Address	4050 Mountain View Rd
	Zip Code	98248
	Latitude	48.848065
	Longitude	-122.688888
	Date Site Established	20170101
	MSA/CBSA/CSA Represented	Bellingham
	County	Whatcom
	Distance from roadway (m)	460
	Traffic count (AADT)	1001
	Ground cover	Grass
<b>Meteorological</b>	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20170101
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS
	Collecting agency	Intalco
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	55
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
<b>Sulfur Dioxide (42401, POC 2)</b>	Sampling/Analysis Method	TAPI 100 (077)
	Parameter Begin Date	20170101
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS
	Collecting agency	Intalco
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1

**Ferndale-Mountain  
View Rd**

<b>Site Information</b>		
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	55
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	15
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Friday Harbor (temporary)	Site Information	
	AQS ID	530050001
	Street Address	115 2 <sup>nd</sup> Street North
	Zip Code	98250
	Latitude	48.535474
	Longitude	-123.019731
	Date Site Established	20190107
	MSA/CBSA/CSA Represented	N/A
	County	San Juan
	Distance from roadway (m)	100
	Traffic count (AADT)	N/A
	Ground cover	Grass, gravel
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20190107
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

**Statement of Purpose:** This temporary nephelometer monitoring SPMS monitoring site was established in 2017 to evaluate the need for ongoing monitoring in a previously unmonitored community.

Issaquah-Lake Sammamish		Site Information
	AQS ID	530330010
	Street Address	2000 NW Sammamish Rd
	Zip Code	98027
	Latitude	47.5525
	Longitude	-122.064722
	Date Site Established	19751201
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	65
	Traffic count (AADT)	10901
	Ground cover	Gravel, grass
<b>Ozone (44201, POC 1)</b>	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	19810101
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Oct
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	2.8
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

<b>Kennewick-Metaline</b>		<b>Site Information</b>
	AQS ID	530050002
	Street Address	5929 W Metaline (Kennewick Skills Center)
	Zip Code	99336
	Latitude	46.21835
	Longitude	-119.204153
	Date Site Established	19941001
	MSA/CBSA/CSA Represented	Kennewick-Richland
	County	Benton
	Distance from roadway (m)	150
	Traffic count (AADT)	8476
	Ground cover	Roof
<b>Meteorological</b>	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20120807
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	18
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	66
	Distance from furnace or incinerator flue (m)	
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20051019
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Benton Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round

Kennewick-Metaline	Site Information	
	Probe height (m)	7
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	18
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	66
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
PM <sub>10</sub> (81102, POC 3)	Sampling/Analysis Method	Met One BAM 1020 (122)
	Parameter Begin Date	20041001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Benton Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	7
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	18
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	66
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

<b>Kennewick-S Clodfelter</b>	<b>Site Information</b>	
	AQS ID	530050003
	Street Address	526 S Clodfelter Rd
	Zip Code	99336
	Latitude	46.204582
	Longitude	-119.243743
	Date Site Established	20150610
	MSA/CBSA/CSA Represented	Kennewick-Richland
	County	Benton
	Distance from roadway (m)	90
	Traffic count (AADT)	12261
	Ground cover	Grass, asphalt
<b>Ozone (44201, POC 1)</b>	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	20150610
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Benton Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Oct
	Probe height (m)	15
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	9
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Kent-James & Central Site Information		
	AQS ID	530332004
	Street Address	614 Railroad Ave N, Kent
	Zip Code	98030
	Latitude	47.386111
	Longitude	-122.230278
	Date Site Established	19870702
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	65
	Traffic count (AADT)	24100
	Ground cover	Asphalt
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20101217
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	120
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Lacey-College St		Site Information
	AQS ID	530670013
	Street Address	1900 College St Se (Mountain View Elementary School)
	Zip Code	98503
	Latitude	47.029396
	Longitude	-122.821548
	Date Site Established	19840401
	MSA/CBSA/CSA Represented	Olympia-Tumwater
	County	Thurston
	Distance from roadway (m)	65
	Traffic count (AADT)	21346
	Ground cover	Grass
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20140401
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	2
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

LaCrosse-Hill St		Site Information
	AQS ID	530750005
	Street Address	111 Hill Street, Lacrosse, WA
	Zip Code	99143
	Latitude	46.8153
	Longitude	-117.8739
	Date Site Established	20020719
	MSA/CBSA/CSA Represented	Pullman
	County	Whitman
	Distance from roadway (m)	2000
	Traffic count (AADT)	1800
	Ground cover	Grass
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20021001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Lake Forest Park		Site Information
	AQS ID	530330024
	Street Address	17171 Bothell Way NE
	Zip Code	98155
	Latitude	47.7550
	Longitude	-122.2806
	Date Site Established	20171211
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	230
	Traffic count (AADT)	42000
	Ground cover	Grass, asphalt
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Ecotech M9003 Aurora (812)
	Parameter Begin Date	20171211
	Monitor Objective	Population Exposure
	Measurement Scale	Middle
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	8
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Leavenworth-Evans St		Site Information
	AQS ID	530070010
	Street Address	330 Evans St (Cascade School District)
	Zip Code	98826
	Latitude	47.598863
	Longitude	-120.664702
	Date Site Established	20050202
	MSA/CBSA/CSA Represented	Wenatchee
	County	Chelan
	Distance from roadway (m)	375
	Traffic count (AADT)	10000
	Ground cover	Grass, dirt
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20050701
	Monitor Objective	General/Background
	Measurement Scale	Neighborhood
	Monitor type	Non-EPA federal
	Collecting agency	USDA Forest Service
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	12
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	5
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	25
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Longview-30th Ave		Site Information
	AQS ID	530150015
	Street Address	1324 30th Ave (Olympic Elementary School)
	Zip Code	98632
	Latitude	46.139444
	Longitude	-122.961944
	Date Site Established	20010401
	MSA/CBSA/CSA Represented	Longview
	County	Cowlitz
	Distance from roadway (m)	900
	Traffic count (AADT)	23000
	Ground cover	Grass, asphalt
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20030306
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Southwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	20
	Distance from supporting structure (m)	0.5
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Malaga-Malaga Hwy	Site Information	
	AQS ID	530070012
	Street Address	8100 Malaga Alcoa Highway
	Zip Code	98831
	Latitude	47.33444
	Longitude	-120.095544
	Date Site Established	20170101
	MSA/CBSA/CSA Represented	Wenatchee
	County	Chelan
	Distance from roadway (m)	910
	Traffic count (AADT)	8800
	Ground cover	Grass, gravel
<b>Meteorological</b>	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor
	Parameter Begin Date	20170101
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS
	Collecting agency	Intalco
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
<b>Sulfur Dioxide (42401, POC 2)</b>	Sampling/Analysis Method	TAPI 100 (077)
	Parameter Begin Date	20170101
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS
	Collecting agency	Intalco
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A

Malaga-Malaga Hwy	Site Information	
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	15
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Marysville-7th Ave		Site Information
	AQS ID	530611007
	Street Address	1799 7th St
	Zip Code	98270
	Latitude	48.054315
	Longitude	-122.171529
	Date Site Established	19910927
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	Snohomish
	Distance from roadway (m)	275
	Traffic count (AADT)	23000
	Ground cover	Grass
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20110106
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	75
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Mesa-Pepiot Way		Site Information
	AQS ID	530210002
	Street Address	200 Pepiot Way (Mesa Elementary School)
	Zip Code	99343
	Latitude	46.5754
	Longitude	-119.0021
	Date Site Established	20030115
	MSA/CBSA/CSA Represented	Kennewick-Richland
	County	Franklin
	Distance from roadway (m)	150
	Traffic count (AADT)	4800
	Ground cover	Grass
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20030115
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	33
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Moses Lake-Balsam St		Site Information
	AQS ID	530251002
	Street Address	412 S Balsam St, Moses Lake, WA
	Zip Code	98837
	Latitude	47.1303
	Longitude	-119.2737
	Date Site Established	20030119
	MSA/CBSA/CSA Represented	Moses Lake-Othello, WA
	County	Grant
	Distance from roadway (m)	280
	Traffic count (AADT)	17000
	Ground cover	Grass
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20040101
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	2
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	25
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

**Mt Rainier-  
Jackson Visitor  
Ctr**

<b>Site Information</b>	
AQS ID	530530012
Street Address	Jackson Visitor's Center Mt Rainier, WA
Zip Code	98321
Latitude	46.7841
Longitude	-121.740367
Date Site Established	19980710
MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
County	Pierce
Distance from roadway (m)	14000
Traffic count (AADT)	1100
Ground cover	Asphalt, rock, snow
<b>Ozone (44201, POC 1)</b>	
Sampling/Analysis Method	UV Absorption (087)
Parameter Begin Date	19980710
Monitor Objective	General/Background
Measurement Scale	Regional Scale
Monitor type	SLAMS
Collecting agency	Washington State Department of Ecology (1136)/National Park Service
Analytical lab	N/A
Reporting agency	Washington State Department of Ecology (1136)
Sampling frequency	Continuous
Sampling season	Year-round
Probe height (m)	6
Distance from supporting structure (m)	1
Distance from obstruction on roof (m)	N/A
Distance from obstruction not on roof (m)	1
Distance from trees (m)	35
Distance from furnace or incinerator flue (m)	N/A
Unrestricted airflow (deg)	180
Probe material	Teflon
Residence time (sec)	4
Changes in next 18 months?	No
Suitable for NAAQS comparison?	Yes

Mt Vernon-Second Ave		Site Information
	AQS ID	530570015
	Street Address	1600 South Second Street
	Zip Code	98273
	Latitude	48.4102
	Longitude	-122.3376
	Date Site Established	20020807
	MSA/CBSA/CSA Represented	Mount Vernon-Anacortes
	County	Skagit
	Distance from roadway (m)	25
	Traffic count (AADT)	14040
	Ground cover	Roof
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20050701
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Northwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Neah Bay 2-Makah Tribe	Site Information	
	AQS ID	530090015
	Street Address	1321 Bay View Avenue, Neah Bay
	Zip Code	98381
	Latitude	48.366058
	Longitude	-124.610045
	Date Site Established	20100216
	MSA/CBSA/CSA Represented	Port Angeles
	County	Clallam
	Distance from roadway (m)	100
	Traffic count (AADT)	1000
	Ground cover	Grass, dirt
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20100216
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Makah Nation
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	9
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	270
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

North Bend-North Bend Way		Site Information
	AQS ID	530330017
	Street Address	42404 Se North Bend Way
	Zip Code	98045
	Latitude	47.49022
	Longitude	-121.77278
	Date Site Established	19980601
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	175
	Traffic count (AADT)	3149
	Ground cover	Grass
<b>Meteorological</b>	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20000111
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	20
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20030310
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round

North Bend-North Bend Way	Site Information	
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	20
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
Ozone (44201, POC 1)	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	19980601
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Oct
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	20
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	2.8
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Omak-Colville Tribe	Site Information	
	AQS ID	530470013
	Street Address	Corner of 8th Ave & Omak Okanogan E
	Zip Code	98841
	Latitude	48.39999
	Longitude	-119.51896
	Date Site Established	20101020
	MSA/CBSA/CSA Represented	NA
	County	Okanogan
	Distance from roadway (m)	420
	Traffic count (AADT)	6900
	Ground cover	Grass, dirt
<b>Meteorological</b>	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20101020
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20161011
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Colville Tribe
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	N/A

Omak-Colville Tribe	Site Information	
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	100
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Pomeroy (Temporary)	Site Information	
	AQS ID	530230001
	Street Address	572 Pataha St
	Zip Code	99347
	Latitude	46.474438
	Longitude	-117.614764
	Date Site Established	20170504
	MSA/CBSA/CSA Represented	NA
	County	Garfield
	Distance from roadway (m)	225
	Traffic count (AADT)	1900
	Ground cover	Asphalt, grass
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20170504
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SPMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	Temporary site may be relocated in 2019 or 2020.
	Suitable for NAAQS comparison?	No

**Statement of Purpose:** This temporary nephelometer monitoring SPMS monitoring site was established in 2017 to evaluate the need for ongoing monitoring in a previously unmonitored community.

Port Angeles-5th St		Site Information
	AQS ID	530090017
	Street Address	102 E 5th St
	Zip Code	98362
	Latitude	48.115
	Longitude	-123.436434
	Date Site Established	20150406
	MSA/CBSA/CSA Represented	Port Angeles
	County	Clallam
	Distance from roadway (m)	110
	Traffic count (AADT)	8300
	Ground cover	Asphalt, grass
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20150406
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	15
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Port Townsend-San Juan	Site Information	
	AQS ID	530310003
	Street Address	3939 San Juan Ave (Blue Heron Middle School)
	Zip Code	98368
	Latitude	48.12919
	Longitude	-122.77897
	Date Site Established	20000113
	MSA/CBSA/CSA Represented	NA
	County	Jefferson
	Distance from roadway (m)	85
	Traffic count (AADT)	3450
	Ground cover	Grass
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20021001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	12
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

<b>Pullman-Dexter Ave</b>	<b>Site Information</b>	
	AQS ID	530750003
	Street Address	240 SE Dexter (Pullman Administration Building)
	Zip Code	99163
	Latitude	46.72447
	Longitude	-117.18014
	Date Site Established	20000119
	MSA/CBSA/CSA Represented	Pullman
	County	Whitman
	Distance from roadway (m)	410
	Traffic count (AADT)	15000
	Ground cover	Asphalt, grass
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20150101
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	5
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	20
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

<b>Puyallup-128th St</b>		<b>Site Information</b>
	AQS ID	530531018
	Street Address	9616 128th St E
	Zip Code	98373
	Latitude	47.14
	Longitude	-122.3003
	Date Site Established	19911207
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	Pierce
	Distance from roadway (m)	560
	Traffic count (AADT)	44000
	Ground cover	Gravel, grass
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Ecotech M9003 Aurora (812)
	Parameter Begin Date	20051116
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	80
	Distance from furnace or incinerator flue (m)	100
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Quincy-3rd Ave NE		Site Information
	AQS ID	530251003
	Street Address	330 3rd Ave NE
	Zip Code	98848
	Latitude	47.241153
	Longitude	-119.847824
	Date Site Established	20170601
	MSA/CBSA/CSA Represented	Moses Lake-Othello, WA
	County	Grant
	Distance from roadway (m)	800
	Traffic count (AADT)	13000
	Ground cover	Grass
Meteorological	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20170601
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SPMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20170601
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SPMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round

Quincy-3rd Ave NE	Site Information	
	Probe height (m)	4
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

**Statement of Purpose:** The Quincy SPMS was established for a 1-year study to evaluate markers of diesel exhaust pollution. The small town of Quincy has a number of diesel exhaust sources, including two state highways, an active rail line, and a number of data centers with diesel-powered generators. Due to ongoing interest in the meteorological data, the meteorological and nephelometer data collection was extended until at least December 2020.

Ritzville-Alder		Site Information
	AQS ID	530010003
	Street Address	109 W Alder, Ritzville, WA
	Zip Code	99169
	Latitude	47.12
	Longitude	-118.3819
	Date Site Established	20001021
	MSA/CBSA/CSA Represented	Moses Lake-Othello, WA
	County	Adams
	Distance from roadway (m)	1730
	Traffic count (AADT)	14000
	Ground cover	Asphalt, gravel
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20021001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	8
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Rosalia-Josephine		Site Information
	AQS ID	530750006
	Street Address	906 South Josephine Avenue (Rosalia Elementary School)
	Zip Code	99170
	Latitude	47.23136
	Longitude	-117.36856
	Date Site Established	20020619
	MSA/CBSA/CSA Represented	Pullman
	County	Whitman
	Distance from roadway (m)	750
	Traffic count (AADT)	5000
	Ground cover	Asphalt
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20021001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	15
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Seattle-10th & Weller		Site Information
	AQS ID	530330030
	Street Address	10th & Weller
	Zip Code	98104
	Latitude	47.597222
	Longitude	-122.319722
	Date Site Established	20140401
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	13
	Traffic count (AADT)	150000
	Ground cover	Concrete, grass
<b>Carbon Monoxide (42101, POC 2)</b>	Sampling/Analysis Method	TAPI 300 EU (593)
	Parameter Begin Date	20140401
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS, Near-road
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	3
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	1.6
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
<b>Meteorological</b>	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20140416
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS, Near-road
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous

Seattle-10th & Weller	Site Information	
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
<b>Nitrogen Dioxide (42602, POC 1)</b>	Sampling/Analysis Method	TAPI 200 EU (599)
	Parameter Begin Date	20140401
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS, Near-road
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	3.2
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20140519
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS, Near-road
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous

Seattle-10th & Weller	Site Information	
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Seattle-Beacon Hill		Site Information
	AQS ID	530330080
	Street Address	4103 Beacon Hill S
	Zip Code	98108
	Latitude	47.568236
	Longitude	-122.308628
	Date Site Established	19790604
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	110
	Traffic count (AADT)	12000
	Ground cover	Grass, gravel
<b>Trace NO<sub>y</sub> (42600/42601/42612, POC 2)</b>	Sampling/Analysis Method	Thermo 42C (674)
	Parameter Begin Date	20100801
	Monitor Objective	General/Background
	Measurement Scale	Urban Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	10
	Distance from trees (m)	20
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	5.5
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No
<b>Carbon Monoxide (42101, POC 2)</b>	Sampling/Analysis Method	TAPI 300 EU (593)
	Parameter Begin Date	20070207
	Monitor Objective	General/Background
	Measurement Scale	Urban Scale
	Monitor type	SLAMS, NCore

Seattle-Beacon Hill	Site Information	
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	20
	Distance from trees (m)	20
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	15
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
<b>Meteorological</b>	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20110101
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No

Seattle-Beacon Hill	Site Information	
	Suitable for NAAQS comparison?	N/A
<b>Nitrogen Dioxide (42602)</b>	Sampling/Analysis Method	TAPI 200 EU (599)
	Parameter Begin Date	20120801
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	20
	Distance from trees (m)	20
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	3.7
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes
<b>Ozone (44201, POC 1)</b>	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	20080208
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS, NCore
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A

Seattle-Beacon Hill		Site Information	
	Distance from obstruction not on roof (m)	20	
	Distance from trees (m)	20	
	Distance from furnace or incinerator flue (m)	N/A	
	Unrestricted airflow (deg)	360	
	Probe material	Teflon	
	Residence time (sec)	15	
	Changes in next 18 months?	No	
	Suitable for NAAQS comparison?	Yes	
<b>PM<sub>2.5</sub> (88101)</b>		<b>Primary (POC 3)</b>	<b>Collocated (POC 1)</b>
	Sampling/Analysis Method	8500 TEOM (181)	R & P 2025 (145)
	Parameter Begin Date	19981101	19981101
	Monitor Objective	General/Background	General/Background
	Measurement Scale	Urban Scale	Urban Scale
	Monitor type	SLAMS, NCore	SLAMS, NCore
	Collecting agency	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)
	Analytical lab	N/A	Washington State Department of Ecology (1136)
	Reporting agency	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous	1/3
	Sampling season	Year-round	Year-round
	Probe height (m)	4	2
	Distance from supporting structure (m)	N/A	2
	Distance from obstruction on roof (m)	N/A	N/A
	Distance from obstruction not on roof (m)	N/A	N/A
	Distance from trees (m)	N/A	N/A
	Distance from furnace or incinerator flue (m)	N/A	N/A
	Unrestricted airflow (deg)	360	360
	Changes in next 18 months?	No	No
	Suitable for NAAQS comparison?	Yes	Yes
<b>Sulfur Dioxide (42401, POC 2)</b>	Sampling/Analysis Method	TAPI 100 EU (600)	
	Parameter Begin Date	20000214	
	Monitor Objective	General/Background	
	Measurement Scale	Urban Scale	
	Monitor type	SLAMS, NCore	

Seattle-Beacon Hill	Site Information	
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	20
	Distance from trees (m)	20
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	15
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Seattle-Duwamish		Site Information
	AQS ID	530330057
	Street Address	4700 East Marginal Way South
	Zip Code	98134
	Latitude	47.55975
	Longitude	-122.338265
	Date Site Established	19710802
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	80
	Traffic count (AADT)	52400
	Ground cover	Asphalt
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20101227
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Seattle-South Park		Site Information
	AQS ID	530331011
	Street Address	8201 10th Avenue South
	Zip Code	98108
	Latitude	47.53091
	Longitude	-122.3208
	Date Site Established	20030106
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	1.5
	Traffic count (AADT)	N/A
	Ground cover	Asphalt
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Ecotech M9003 Aurora (812)
	Parameter Begin Date	20030106
	Monitor Objective	Population Exposure
	Measurement Scale	Microscale
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	180
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Shelton-W Franklin		Site Information
	AQS ID	530450007
	Street Address	122 W Franklin
	Zip Code	98584
	Latitude	47.21355
	Longitude	-123.10081
	Date Site Established	20110420
	MSA/CBSA/CSA Represented	Shelton
	County	Mason
	Distance from roadway (m)	100
	Traffic count (AADT)	3800
	Ground cover	Roof
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20110420
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Olympic Region Clean Air Agency (0815)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	15
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	10
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	320
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

<b>Spokane-Augusta Ave</b>	<b>Site Information</b>	
	AQS ID	530630021
	Street Address	3104 E Augusta Ave
	Zip Code	99207
	Latitude	47.672482
	Longitude	-117.364852
	Date Site Established	20090329
	MSA/CBSA/CSA Represented	Spokane-Spokane Valley
	County	Spokane
	Distance from roadway (m)	70
	Traffic count (AADT)	12700
	Ground cover	Roof
<b>Meteorological</b>	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20090713
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	Site will be relocated by 2021 due to highway construction.
	Suitable for NAAQS comparison?	N/A
<b>PM<sub>10</sub> (81102, POC 3)</b>	Sampling/Analysis Method	TEOM-Gravimetric (079)
	Parameter Begin Date	20120620
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Spokane Regional Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6

<b>Spokane-Augusta Ave</b>	<b>Site Information</b>	
	Distance from supporting structure (m)	0.5
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	Site will be relocated by 2021 due to highway construction.
	Suitable for NAAQS comparison?	Yes
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20090329
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Spokane Regional Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	Site will be relocated by 2021 due to highway construction.
	Suitable for NAAQS comparison?	Yes

Spokane-Greenbluff		Site Information
	AQS ID	530630046
	Street Address	E 9814 Greenbluff Rd, Greenbluff
	Zip Code	99005
	Latitude	47.82728
	Longitude	-117.27422
	Date Site Established	19900401
	MSA/CBSA/CSA Represented	Spokane-Spokane Valley
	County	Spokane
	Distance from roadway (m)	41
	Traffic count (AADT)	334
	Ground cover	Grass, gravel
<b>Ozone (44201, POC 1)</b>	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	19900401
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	5.7
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Spokane-Monroe St		Site Information
	AQS ID	530630047
	Street Address	N 4601 Monroe St
	Zip Code	99205
	Latitude	47.69978
	Longitude	-117.42635
	Date Site Established	19890101
	MSA/CBSA/CSA Represented	Spokane-Spokane Valley
	County	Spokane
	Distance from roadway (m)	35
	Traffic count (AADT)	15800
	Ground cover	Roof
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20040517
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	12
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	40
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Sunnyside-S 16th		Site Information
	AQS ID	530770005
	Street Address	810 16th St (Harrison Middle School)
	Zip Code	98944
	Latitude	46.31932
	Longitude	-119.999677
	Date Site Established	19980821
	MSA/CBSA/CSA Represented	Yakima
	County	Yakima
	Distance from roadway (m)	1450
	Traffic count (AADT)	3900
	Ground cover	Roof
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20150915
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Yakima Region Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Tacoma-Alexander Ave		Site Information
	AQS ID	530530031
	Street Address	2301 Alexander Ave, Tacoma, WA
	Zip Code	98421
	Latitude	47.2656
	Longitude	-122.3858
	Date Site Established	19870101
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	Pierce
	Distance from roadway (m)	65
	Traffic count (AADT)	638
	Ground cover	Grass, gravel
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Ecotech M9003 Aurora (812)
	Parameter Begin Date	20030101
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

<b>Tacoma-L St</b>				
<b>Site Information</b>				
	AQS ID	530530029		
	Street Address	7802 South L Street		
	Zip Code	98408		
	Latitude	47.1864		
	Longitude	-122.4517		
	Date Site Established	19991003		
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue		
	County	Pierce		
	Distance from roadway (m)	570		
	Traffic count (AADT)	14349		
	Ground cover	Asphalt, grass		
<b>PM<sub>2.5</sub> (88101)</b>		<b>Primary (POC 1)</b>	<b>Collocated (POC 2)</b>	<b>Collocated (POC 5)</b>
	Sampling/Analysis Method	R & P 2025 (145)	R & P 2025 (145)	Met One BAM-1020 (170)
	Parameter Begin Date	19991003	19991003	19991003
	Monitor Type Begin Date	19991003		
	Monitor Objective	Population Exposure	Population Exposure	Population Exposure
	Measurement Scale	Neighborhood	Neighborhood	Neighborhood
	Monitor type	SLAMS	SLAMS	SLAMS
	Collecting agency	Puget Sound Clean Air Agency	Puget Sound Clean Air Agency	Puget Sound Clean Air Agency
	Analytical lab	N/A	N/A	N/A
	Reporting agency	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)	N/A
	Sampling frequency	1/1	1/12	Continuous
	Sampling season	Year-round	Year-round	Year-round
	Probe height (m)	2	2	3
	Distance from supporting structure (m)	N/A	N/A	N/A
	Distance from obstruction on roof (m)	N/A	N/A	N/A
	Distance from obstruction not on roof (m)	N/A	N/A	N/A
	Distance from trees (m)	60	60	60
	Distance from furnace or incinerator flue (m)	N/A	N/A	N/A
	Unrestricted airflow (deg)	360	360	360
	Changes in next 18 months?	No	No	No
	Suitable for NAAQS comparison?	Yes	Yes	Yes

Tacoma-S 36th		Site Information
	AQS ID	530530024
	Street Address	1802 S 36Th St
	Zip Code	98408
	Latitude	47.22634
	Longitude	-122.46256
	Date Site Established	20160101
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	Pierce
	Distance from roadway (m)	15
	Traffic count (AADT)	134000
	Ground cover	Asphalt, grass
<b>Meteorological</b>	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor
	Parameter Begin Date	20160204
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS, Near-road
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
<b>Nitrogen Dioxide (42602, POC 1)</b>	Sampling/Analysis Method	TAPI 200 EU (599)
	Parameter Begin Date	20160101
	Monitor Objective	Source Oriented
	Measurement Scale	Microscale
	Monitor type	SLAMS, Near-road
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)

<b>Tacoma-S 36th</b>	<b>Site Information</b>		
	Sampling frequency	Continuous	
	Sampling season	Year-round	
	Probe height (m)	6	
	Distance from supporting structure (m)	1	
	Distance from obstruction on roof (m)	N/A	
	Distance from obstruction not on roof (m)	N/A	
	Distance from trees (m)	N/A	
	Distance from furnace or incinerator flue (m)	N/A	
	Unrestricted airflow (deg)	360	
	Probe material	Teflon	
	Residence time (sec)	3.2	
	Changes in next 18 months?	No	
	Suitable for NAAQS comparison?	Yes	
<b>PM<sub>2.5</sub> (88101)</b>		<b>Primary (POC 5)</b>	<b>Collocated (POC 6)</b>
	Sampling/Analysis Method	Met One BAM-1020 (170)	Met One BAM-1020 (170)
	Parameter Begin Date	20160204	20190301
	Monitor Objective	Highest Concentration	Highest Concentration
	Measurement Scale	Microscale	Microscale
	Monitor type	SLAMS, Near-road	SLAMS, Near-road
	Collecting agency	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)
	Analytical lab	N/A	N/A
	Reporting agency	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous	Continuous
	Sampling season	Year-round	Year-round
	Probe height (m)	4	4
	Distance from supporting structure (m)	1	1
	Distance from obstruction on roof (m)	N/A	N/A
	Distance from obstruction not on roof (m)	N/A	N/A
	Distance from trees (m)	N/A	N/A
	Distance from furnace or incinerator flue (m)	N/A	N/A
	Unrestricted airflow (deg)	360	360
	Changes in next 18 months?	No	No
	Suitable for NAAQS comparison?	Yes	Yes

Tacoma-Tower Dr		Site Information
	AQS ID	530531016
	Street Address	5225 Tower Drive Ne
	Zip Code	98422
	Latitude	47.304444
	Longitude	-122.412
	Date Site Established	19910101
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	Pierce
	Distance from roadway (m)	33
	Traffic count (AADT)	N/A
	Ground cover	Asphalt, shrubs
<b>Meteorological</b>	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor
	Parameter Begin Date	19910101
	Monitor Objective	General/Background
	Measurement Scale	Urban
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A

<b>Taholah-Quinault Tribe</b>	<b>Site Information</b>	
	AQS ID	530270011
	Street Address	Chitwin Drive, Taholah, WA
	Zip Code	98571
	Latitude	47.20637
	Longitude	-124.1722
	Date Site Established	20040428
	MSA/CBSA/CSA Represented	Aberdeen
	County	Grays Harbor
	Distance from roadway (m)	340
	Traffic count (AADT)	1300
	Ground cover	Grass
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20150818
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Quinault Tribe
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

<b>Toppenish-Yakama Tribe</b>	<b>Site Information</b>	
	AQS ID	530770015
	Street Address	141 Ward Rd., Toppenish, WA
	Zip Code	98948
	Latitude	46.38024
	Longitude	-120.33266
	Date Site Established	20060131
	MSA/CBSA/CSA Represented	Yakima
	County	Yakima
	Distance from roadway (m)	310
	Traffic count (AADT)	14000
	Ground cover	Grass
<b>Meteorological</b>	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor
	Parameter Begin Date	20090608
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20151105
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Yakama Tribe
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A

<b>Toppenish-Yakama Tribe</b>	<b>Site Information</b>	
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

<b>Tukwila-Allentown</b>	<b>Site Information</b>	
	AQS ID	530330069
	Street Address	11675 44th Ave S, Tukwila
	Zip Code	98168
	Latitude	47.498535
	Longitude	-122.278385
	Date Site Established	20170622
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	King
	Distance from roadway (m)	300
	Traffic count (AADT)	32000
	Ground cover	Grass
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Ecotech M9003 Aurora (812)
	Parameter Begin Date	20170701
	Monitor Type Begin Date	20170701
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Puget Sound Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Twisp-Glover St		Site Information
	AQS ID	530470009
	Street Address	118 S Glover St
	Zip Code	98856
	Latitude	48.36451
	Longitude	-120.121113
	Date Site Established	20031105
	MSA/CBSA/CSA Represented	NA
	County	Okanogan
	Distance from roadway (m)	100
	Traffic count (AADT)	4000
	Ground cover	Roof
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20031105
	Monitor Objective	General/Background
	Measurement Scale	Neighborhood
	Monitor type	Non-EPA federal
	Collecting agency	USDA Forest Service
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	6
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	25
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

<b>Vancouver-Blairmont</b>	<b>Site Information</b>	
	AQS ID	530110011
	Street Address	1500 SE Blairmont Dr (Mountain View High School)
	Zip Code	98683
	Latitude	45.616667
	Longitude	-122.516667
	Date Site Established	19880501
	MSA/CBSA/CSA Represented	Portland-Vancouver-Hillsboro
	County	Clark
	Distance from roadway (m)	520
	Traffic count (AADT)	8939
	Ground cover	Grass, asphalt
<b>Meteorological</b>	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor
	Parameter Begin Date	20071220
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
<b>Ozone (44201, POC 1)</b>	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	19880501
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Oct
	Probe height (m)	10

Vancouver- Blairmont	Site Information	
	Distance from supporting structure (m)	0.5
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	12
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	15
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Vancouver-NE 84th Ave		Site Information
	AQS ID	530110024
	Street Address	2722 Ne 84th Ave
	Zip Code	98662
	Latitude	45.64336
	Longitude	-122.58737
	Date Site Established	20140901
	MSA/CBSA/CSA Represented	Portland-Vancouver-Hillsboro
	County	Clark
	Distance from roadway (m)	365
	Traffic count (AADT)	11559
	Ground cover	Grass
<b>PM<sub>2.5</sub> (88101, POC 5)</b>	Sampling/Analysis Method	Met One BAM-1020 (170)
	Parameter Begin Date	20151125
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Southwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3
	Distance from supporting structure (m)	0.5
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	25
	Distance from trees (m)	31
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes

Walla Walla-12th St	Site Information	
	AQS ID	530710005
	Street Address	200 S 12th, Walla Walla, WA
	Zip Code	99362
	Latitude	46.05881
	Longitude	-118.35147
	Date Site Established	19890501
	MSA/CBSA/CSA Represented	Walla Walla
	County	Walla Walla
	Distance from roadway (m)	415
	Traffic count (AADT)	19000
	Ground cover	Roof
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20021001
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Wellpinit-Spokane Tribe	Site Information	
	AQS ID	530650002
	Street Address	6208 Ford Wellpinit Road, Wellpinit, WA
	Zip Code	99040
	Latitude	47.88528
	Longitude	-117.98865
	Date Site Established	20061010
	MSA/CBSA/CSA Represented	Spokane-Spokane Valley
	County	Spokane
	Distance from roadway (m)	10200
	Traffic count (AADT)	1200
	Ground cover	Asphalt, gravel
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20081015
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	4
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Wenatchee-Fifth St		Site Information
	AQS ID	530070011
	Street Address	1300 Fifth Street
	Zip Code	98801
	Latitude	47.43061
	Longitude	-120.34195
	Date Site Established	20121105
	MSA/CBSA/CSA Represented	Wenatchee
	County	Chelan
	Distance from roadway (m)	90
	Traffic count (AADT)	10691
	Ground cover	Gravel, grass
Meteorological	Sampling/Analysis Method	RM Young Sonic Anemometer 85004 (062)
	Parameter Begin Date	20121105
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20170401
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	3

Wenatchee-Fifth St	Site Information	
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

**White Swan-Yakama  
Tribe**
**Site Information**

	AQS ID	530770016
	Street Address	321 Signal Peak Rd, White Swan
	Zip Code	98952
	Latitude	46.37543
	Longitude	-120.72932
	Date Site Established	20091027
	MSA/CBSA/CSA Represented	Yakima
	County	Yakima
	Distance from roadway (m)	25000
	Traffic count (AADT)	16000
	Ground cover	Grass
<b>Meteorological</b>	Sampling/Analysis Method	Vaisala WMT700 Ultrasonic Sensor
	Parameter Begin Date	20091109
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	10
	Distance from supporting structure (m)	N/A
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	N/A
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20091027
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	Tribal
	Collecting agency	Yakama Tribe
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	2
	Distance from supporting structure (m)	N/A

White Swan-Yakama Tribe		Site Information
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Winthrop-Chewuch Rd	Site Information	
	AQS ID	530470010
	Street Address	24 West Chewuch Rd
	Zip Code	98862
	Latitude	48.47724
	Longitude	-120.19057
	Date Site Established	20031106
	MSA/CBSA/CSA Represented	NA
	County	Okanogan
	Distance from roadway (m)	50
	Traffic count (AADT)	2700
	Ground cover	Roof
<b>Non-compliance PM<sub>2.5</sub> (88502, POC 4)</b>	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20031106
	Monitor Type Begin Date	20031106
	Monitor Objective	General/Background
	Measurement Scale	Neighborhood
	Monitor type	Non-EPA federal
	Collecting agency	USDA Forest Service
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	5
	Distance from supporting structure (m)	1
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	1
	Distance from trees (m)	7
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	180
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

Yacolt-Yacolt Rd		Site Information
	AQS ID	530110022
	Street Address	406 W Yacolt Rd
	Zip Code	98675
	Latitude	45.8639
	Longitude	-122.410889
	Date Site Established	20030717
	MSA/CBSA/CSA Represented	Portland-Vancouver-Hillsboro
	County	Clark
	Distance from roadway (m)	4700
	Traffic count (AADT)	2900
	Ground cover	Asphalt, grass
Non-compliance PM <sub>2.5</sub> (88502, POC 4)	Sampling/Analysis Method	Radiance Research M903 Nephelometer (771)
	Parameter Begin Date	20070502
	Monitor Objective	Population Exposure
	Measurement Scale	Neighborhood
	Monitor type	SLAMS
	Collecting agency	Southwest Clean Air Agency
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	Year-round
	Probe height (m)	18
	Distance from supporting structure (m)	0.5
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	N/A
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	No

**Yakima-  
4th Ave S**
**Site Information**

	AQS ID	530770009	
	Street Address	402 South 4Th Ave	
	Zip Code	98901	
	Latitude	46.598056	
	Longitude	-120.499167	
	Date Site Established	20000421	
	MSA/CBSA/CSA Represented	Yakima	
	County	Yakima	
	Distance from roadway (m)	65	
	Traffic count (AADT)	7372	
	Ground cover	Roof	
<b>PM<sub>10</sub> (81102)</b>	Sampling/Analysis Method	TEOM-Gravimetric (079)	
	Parameter Begin Date	20150916	
	Monitor Objective	Population Exposure	
	Measurement Scale	Neighborhood	
	Monitor type	SLAMS	
	Collecting agency	Yakima Region Clean Air Agency	
	Analytical lab	N/A	
	Reporting agency	Washington State Department of Ecology (1136)	
	Sampling frequency	Continuous	
	Sampling season	Year-round	
	Probe height (m)	14	
	Distance from supporting structure (m)	N/A	
	Distance from obstruction on roof (m)	7	
	Distance from obstruction not on roof (m)	N/A	
	Distance from trees (m)	34	
	Distance from furnace or incinerator flue (m)	N/A	
	Unrestricted airflow (deg)	360	
	Changes in next 18 months?	No	
	Suitable for NAAQS comparison?	Yes	
<b>PM<sub>2.5</sub> (88101)</b>		<b>Primary (POC 5)</b>	<b>Collocated (POC 1)</b>
	Sampling/Analysis Method	Met One BAM-1020 (170)	R & P 2025 (145)
	Parameter Begin Date	20070202	20070202
	Monitor Objective	Population Exposure	Population Exposure
	Measurement Scale	Neighborhood	Neighborhood
	Monitor type	SLAMS	SLAMS
	Collecting agency	Yakima Region Clean Air Agency	Yakima Region Clean Air Agency
	Analytical lab	N/A	N/A

<b>Yakima- 4th Ave S</b>	<b>Site Information</b>		
	Reporting agency	Washington State Department of Ecology (1136)	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous	1/3
	Sampling season	Year-round	Year-round
	Probe height (m)	16	16
	Distance from supporting structure (m)	1	1
	Distance from obstruction on roof (m)	7	7
	Distance from obstruction not on roof (m)	N/A	N/A
	Distance from trees (m)	34	34
	Distance from furnace or incinerator flue (m)	N/A	N/A
	Unrestricted airflow (deg)	360	360
	Changes in next 18 months?	No	No
	Suitable for NAAQS comparison?	Yes	Yes

**Yelm-Northern  
Pacific****Site Information**

	AQS ID	530670005
	Street Address	931 Northern Pacific Road
	Zip Code	98597
	Latitude	46.952562
	Longitude	-122.59527
	Date Site Established	20060501
	MSA/CBSA/CSA Represented	Seattle-Tacoma-Bellevue
	County	Thurston
	Distance from roadway (m)	1250
	Traffic count (AADT)	14000
	Ground cover	Gravel, grass
<b>Ozone (44201, POC 1)</b>	Sampling/Analysis Method	UV Absorption (087)
	Parameter Begin Date	20060501
	Monitor Objective	Population Exposure
	Measurement Scale	Urban Scale
	Monitor type	SLAMS
	Collecting agency	Washington State Department of Ecology (1136)
	Analytical lab	N/A
	Reporting agency	Washington State Department of Ecology (1136)
	Sampling frequency	Continuous
	Sampling season	May-Oct
	Probe height (m)	3
	Distance from supporting structure (m)	0.7
	Distance from obstruction on roof (m)	N/A
	Distance from obstruction not on roof (m)	N/A
	Distance from trees (m)	50
	Distance from furnace or incinerator flue (m)	N/A
	Unrestricted airflow (deg)	360
	Probe material	Teflon
	Residence time (sec)	4.4
	Changes in next 18 months?	No
	Suitable for NAAQS comparison?	Yes