

2018

LRAPA

A N N U A L

R E P O R T





Inside cover photo: Filbert grove at Dorris Ranch Park, Springfield 2018.

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Board of Directors

The nine-member Board of Directors is made up of elected officials and appointed seats from LRAPA's dues-paying municipalities and county. The Board appoints the director of the agency, who has overall authority to manage and lead the staff. The director makes policy recommendations to the Board and is responsible for implementing the board decisions.

The Board roster below as of June 30, 2018.

Jay Bozievich
Lane County Commissioner
Chair

Mike Fleck
Cottage Grove City
Councilor
Vice-Chair

Jeannine Parisi
Eugene At-Large

Joe Pishioneri
Springfield City Councilor

Jim Coey
City of Oakridge Mayor

Betty Taylor
Eugene City Councilor

Bill Carpenter
Springfield At-large

Joe Gonzales
Eugene At-large

Charlie Hanna
Eugene At-large



The LRAPA Citizens Advisory Committee is made up of local citizens representing specific areas of interest, including agriculture, fire suppression, industry, public health, and community planning. The committee is called upon to advise the Board and staff on a variety of air quality issues, rules, and policies.

The CAC roster below as of June 30, 2018.



Above: LRAPA Budget Meeting with Board members, budget members, and some CAC members. March 2018.

Citizens Advisory Committee

Maurie Denner
Chair

Chuck Gottfried
Vice-Chair

Jim Daniels

Paul Engelking

Loren Later

Terry Richardson

Laura Seyler

Link Smith

Gary Vander Meer

Kathleen Lamberg

Phebe Howe

Director's Letter - Merlyn Hough



The party is over, LRAPA celebrated its 50th year, and now we are focused on the next 50!

We are very encouraged by the rapid deployment of low-cost sensors to report air quality in neighborhoods and schools. About 18 months ago, we were able to get on the front edge of this movement and co-located inexpensive PurpleAir monitors at all seven of our fixed monitoring sites. This allowed us to evaluate their performance and develop calibration curves. The worldwide PurpleAir website (www.PurpleAir.com) now has a dropdown LRAPA correction option based on our correlation results. These units cost about \$250 compared to \$20,000 for a federal reference monitor and provide a very cost-effective addition to the fixed monitoring network.

A major part of LRAPA's work this coming year will be the implementation of Cleaner Air Oregon, also affectionately known as CAO. Governor Kate Brown launched the Cleaner Air Oregon rulemaking process in April 2016 in response to community concerns about exposure to potentially harmful metals, chemicals and other pollutants from industries and other sources. The Oregon Environmental Quality Commission (the policy-making Board of Directors for the Department of Environmental Quality) adopted CAO rules in November 2018 to close the regulatory gaps remaining after implementation of federal air toxics regulations.

LRAPA will now integrate Cleaner Air Oregon into our permitting rules during the first half of 2019.

The CAO regulations require facilities to report air toxics emissions, assess potential risks, and reduce risks that exceed a health-based action level set in rule. We expect CAO to further improve our permitting process for both new and existing businesses.

As we all know from reading the news, these are polarizing times for so many important issues. Each January, I participate on a panel to report on the State of the State of the Environment in Oregon; this year, after reporting on low-cost sensor progress and the upcoming CAO implementation, I focused on the need for civil discourse among the diverse environmental perspectives. I reviewed the history of a simple 24-word philosophy, born in the 1930s in the rough and tumble world of business, that guided a troubled cookware company through the severe economic times of the depression. Years later, it was adopted by Rotary, a wonderful network of 1.2 million neighbors, friends, leaders and problem-solvers who see a world where people unite and take action to create lasting change – across the globe, in our communities, and in ourselves. The Rotary 4-Way Test is still unchanged from the 24 words authored by Herbert Taylor of Club Aluminum Cookware Company in the 1930s:

Of the things we think, say or do:

1. Is it the TRUTH?
2. Is it FAIR to all concerned?
3. Will it build GOODWILL and better FRIENDSHIPS?
4. Will it be BENEFICIAL to all concerned?

These principles of truth, justice, friendliness and helpfulness are more important than ever in these contentious times. I ask that we all commit to these four principles in the year ahead.

Merlyn Hough, Director

OUR VISION

“Community partners working together to ensure clean air for everyone.”

OUR MISSION

“To protect public health, quality of life and the environment as a leader and advocate for the continuous improvement of air quality in Lane County.”



Photo: Willamette River at Dorris Ranch Park in Springfield, OR 2018

Goals

AIR QUALITY

Air Quality: Ensure healthy air quality for all current and future Lane County citizens.

PARTNERSHIP

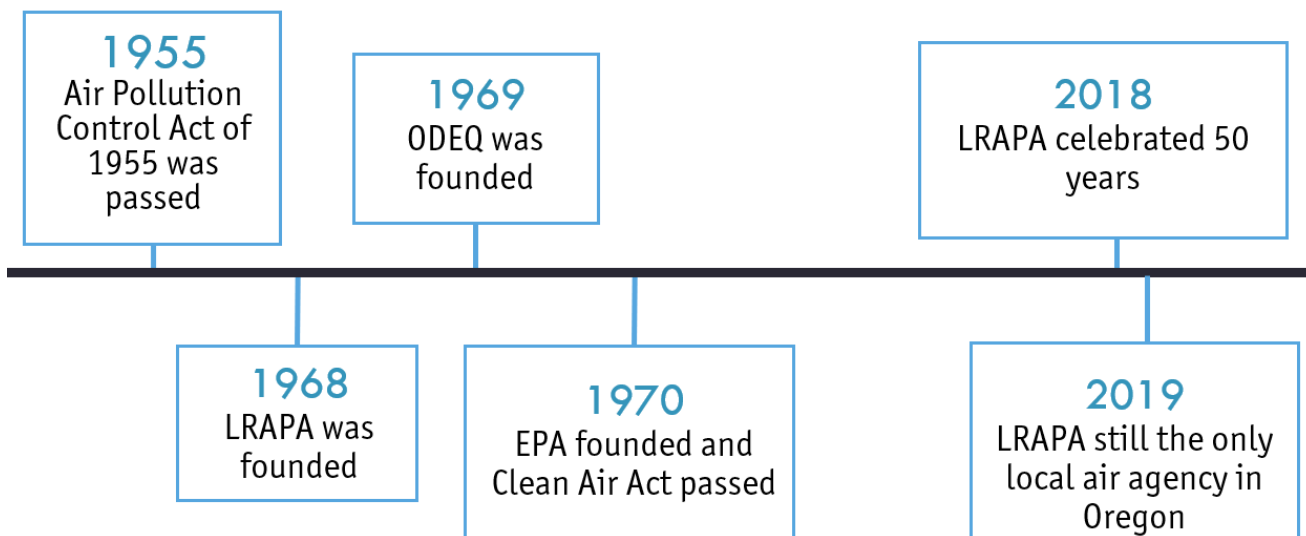
Partnership: Work with our partners to leverage resources to make a difference in local air quality.

INVOLVEMENT

Involvement: Inform and involve all citizens and businesses in improving air quality.

SERVICE

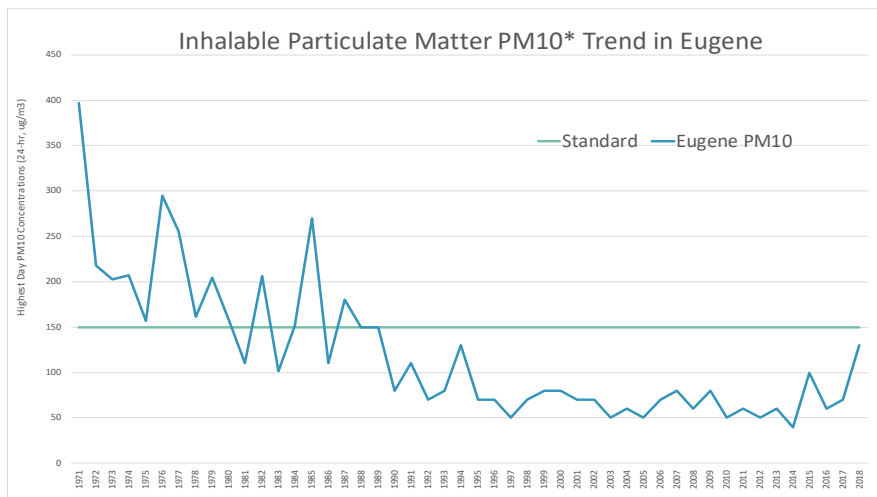
Service: Serve citizens and stakeholders fairly, courteously, and in a timely manner.



Above: LRAPA 50 Year Celebrations with LRAPA and DEQ Staff.

Below: Long term trends for PM 10 from 1971 - 2018 showing great improvement in air quality over the years.

Page 8 Photos, clockwise from top left: Florence, OR 2018, EV display Springfield 2018, LRAPA Monitoring Station 2018, and Fire Life and Safety Event 2018.



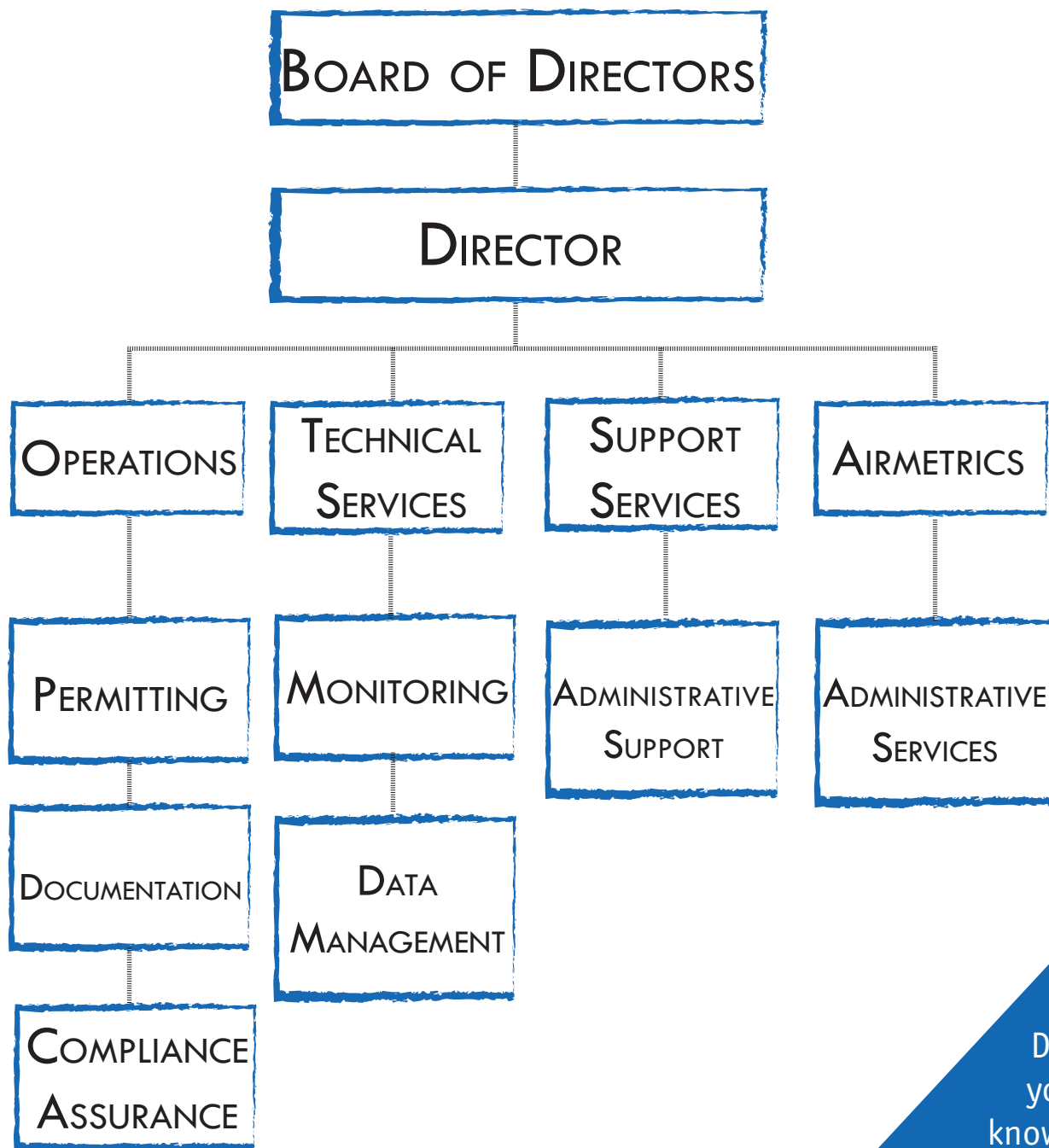
2018 commemorated LRAPA's 50th anniversary! Since its inception in 1968, LRAPA has worked to maintain and improve air quality in Lane County to protect public health, community well-being, and the environment.

Created before the Oregon Department of Environmental Quality, LRAPA remains the only local air agency in the state of Oregon to this day. From the very beginning, LRAPA's dedication to clean air in the valley sparked various initiatives to reduce pollution. Now, our broadened focuses include citizen science, health based industrial emission standards, and increased transparency. Over the years, LRAPA has consistently helped lower particulate matter and ozone levels to improve general air quality and meet national standards.

LRAPA would like to thank Lane County for being home and giving us a wonderful 50 years. Here's to 50 more!

50 years of service

Organizational Chart



Below: LRAPA staff celebrating 50 years of LRAPA's service.



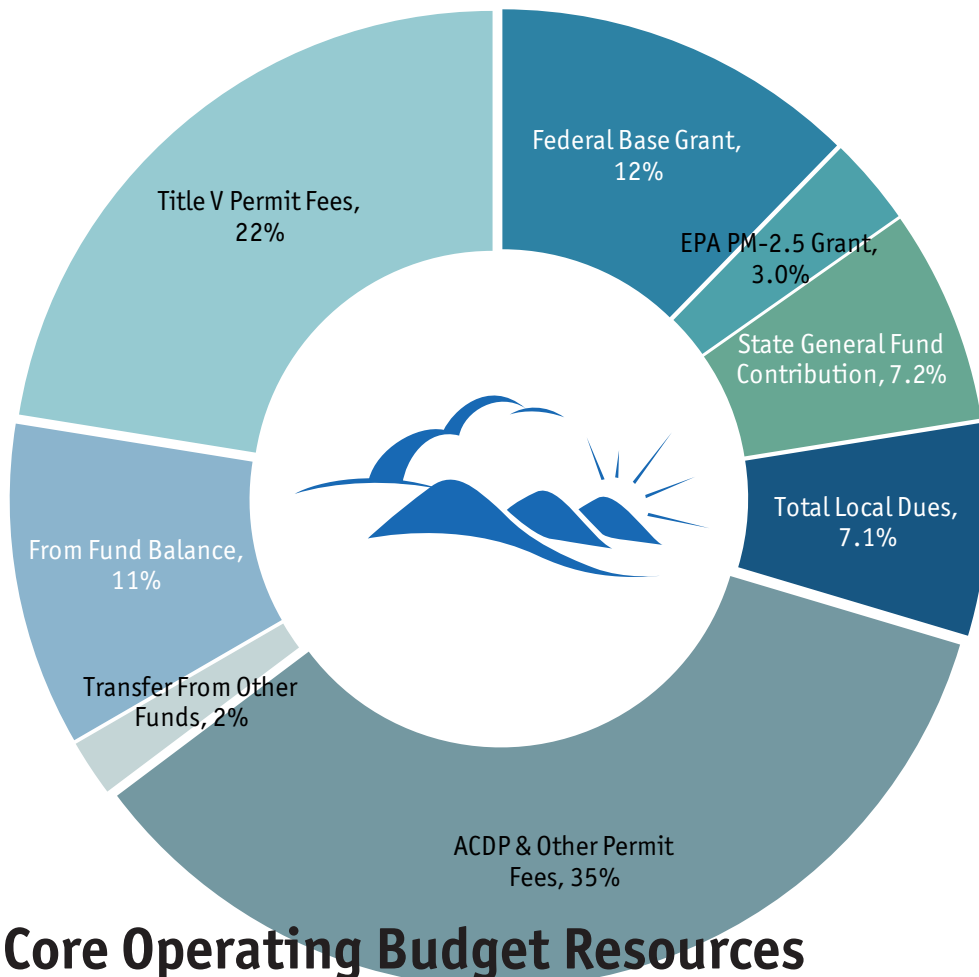
Did you know? LRAPA added three new full time permit writers in 2018. Permitting work increased greatly with the state's Cleaner Air Oregon regulations, requiring LRAPA to grow to meet the demand. We now have 18 full time employees!



Photo: LRAPA Budget Meeting with Board members, budget members, and some CAC members. March 2018.

LRAPA's budget process is reviewed and determined by the LRAPA Budget Committee. This process begins in February each year with a new budget prepared by LRAPA's chief financial officer. Budget committee meetings are held during March and April. These meetings are open to the public, and serve as a transparent process for the agency's fiscal policies and responsibilities.

Once the committee makes final revisions to the proposed budget, a vote is taken to approve the budget. If approved, the budget is published and a public hearing is scheduled. The public may give testimony at the public hearing. Comments from the public are taken into consideration by the LRAPA Board of Directors before a resolution is enacted to formally adopt the budget.



LRAPA Core Operating Budget Resources
FY'18 \$2,127,360

Finances & Budget

THE THREE R'S OF CLEANER AIR OREGON

Report air toxics

Companies to report use of 600 pollutants to state regulators

Risk Assessment

Facilities calculate potential health risks to people who live, work, and go to school nearby

Regulate to reduce risk

Companies would have to act if the levels of air toxics they emit exceed health risk action levels (RALs) and reduce pollution that could harm neighbors' health

Below: RAL Chart 2018, from OR DEQ.

How Risk Action Levels Work – November 2018

For Cleaner Air Oregon, facilities would be required to assess potential health risks of emissions to their neighbors. **Risk Action Levels (RALs)** determine the specific actions required of facilities that pose different levels of health risk. Facilities with higher health risks would be required to take more actions to reduce risk and keep their neighbors informed. Risk Action Levels are different for new and existing facilities. The state legislature set statutory benchmark RALs through 2029. After 2029, RALs for existing facilities will be reevaluated.

New Facility Risk Action Levels*

Cancer Risk	Noncancer Risk	
25	1	No new facilities will receive permits above 25/1.
		New facilities will not be eligible for a risk reduction permit. They are expected to operate with the best controls from the start.
10	1	New facilities must install TBACT without consideration of cost (Toxics Lowest Achievable Emissions Rate or TLAER) to be eligible for a permit above 10/1.
5	1	All new facilities above 5/1 will have community engagement requirements.
0.5	0.5	No additional actions required for permit.

Existing Facility Risk Action Levels*

Cancer Risk	Noncancer Risk	
500	20	Facilities may not receive a permit to operate above 500/20 for any length of time.
200	10	Existing facilities over 200/10 are required to reduce risk over time, even if they already have Toxics Best Available Control Technology or TBACT.
50	5	Existing facilities must have TBACT to be eligible for a permit above 50/5.
25	1	Existing facilities that start below 50/5 and voluntarily reduce risk below 25/1 will not be required to do community engagement.
5	0.5	No additional actions required for permit.

INCREASING HEALTH RISK

Additional actions required as health risk increases

Immediate Curtailment

Mandatory Risk Reduction

Risk Reduction Level

Mandatory Risk Reduction OR Demonstration of TBACT

TBACT Level

Voluntary Risk Reduction OR Community Engagement

Community Engagement Level

Permit Required

Source Permit Level

Emissions Reporting

AND

Screening & Risk Assessment

*There are separate Risk Action Levels for cancer risk and risk of other health effects because scientists assess and describe these risks differently.

• **Cancer Risk** is described in terms of the number of excess cancer cases in 1 million lifetimes that may be caused by long-term exposure to a specific chemical concentration.

• **Noncancer Risk** is presented as a Hazard Index. A Hazard Index compares the total health risk from all air toxics at a facility, to the level of those same air toxics that are not expected to harm health. A Hazard Index below 1 means the facility is below the level that is expected to harm health.





Above: CAO Public Meeting at LCC Downtown Eugene 2018.

In April 2016, Governor Brown directed the DEQ and the Oregon Health Authority (OHA) to develop a health risk-based toxic air contaminant permitting program. The goal of the Cleaner Air Oregon program is to evaluate potential health risks to people near commercial and industrial facilities that emit regulated toxic air contaminants, communicate those results to affected communities, and ultimately reduce those risks below health-based standards.

Cleaner Air Oregon regulations were adopted by the Environmental Quality Commission (EQC) on November 15, 2018, and LRAPA is required to apply the requirements and procedures contained in the state rules within Lane County. DEQ has reviewed LRAPA draft rules, determined they were at least as stringent as state rules and authorized LRAPA to hold a hearing on behalf of the EQC. EPA has also reviewed the draft rules and provided comments. The LRAPA hearing will take place in Spring 2019.

The Cleaner Air Oregon program will use facility toxic air contaminant risk assessments in the implementation of the program. Facility toxic air contaminant risk assessments will rely on emissions data specific to, and provided by, each facility. Facilities will be required to calculate and report estimated risks posed by their emissions where people may be exposed. Regulatory actions are triggered when the risk posed by a facility's emissions exceed specified Risk Action Levels. Risk Action Levels are proposed for new, reconstructed, and existing facilities. Different Risk Action Levels trigger different actions: requirements for community engagement, measures to reduce risk, or a demonstration that the facility has already incorporated all feasible measures to reduce risk.

Cleaner Air Oregon

Permitting

LRAPA-issued operating permits are required for many industries and businesses in Lane County. Of the 297 permitted sources in Lane County, 277 have Air Contaminant Discharge Permits (ACDP), 16 hold Title V Federal Operating Permits, 1 Emission Reduction Credit (ERC) source, and 3 are Registered Sources. Gasoline dispensing facilities (GDFs) account for 38% of the ACDPs (i.e., 105 GDFs out of 277 ACDPs). ACDPs are issued to all industries required by LRAPA rules to obtain permits. Major sources subject to federal operating permit requirements are issued Title V permits. Industrial sources are classified as “major” sources if they have the potential to emit more than 100 tons of any criteria pollutant, or 10 tons or more of any single hazardous air pollutant (HAP) or 25 tons or more of any combination of HAPs on an annual basis.

Source activities in Lane County which require operating permits include: wood products manufacturing, chemical products manufacturing, mineral products manufacturing, metal products manufacturing, waste treatment, fuel burning, fuel transfer operations, coating operations, and sources of toxic air pollutants.

Below: LRAPA staff getting a tour of permitted industry.

Page 15: Asbestos contaminated demolition site



2018 PERMITTING SUMMARY



PERMITS ISSUED
AND RENEWED



PERMITS
MODIFIED



INDUSTRIES
INSPECTED



Asbestos Abatement

2018 ASBESTOS NOTICES	
SCHOOL	24
RESIDENCE	263
COLLEGE	34
INDUSTRY	5
COMMERCIAL	85
OTHER	16
TOTAL	427

2018 ASBESTOS
INSPECTIONS

77

2018 ASBESTOS FEES
RECEIVED

\$164,708.50

LRAPA's Asbestos Permit and Inspection Program handles hundreds of abatement notices per year. In order to legally remove asbestos, an asbestos survey must be conducted by an accredited inspector prior to commencing a building demolition or renovation. Proper asbestos notice needs to be filed with LRAPA and abatement accomplished following criteria outlined in the regulations.

The LRAPA asbestos regulations (Title 43) specify work practices to be followed prior to demolitions and renovations of all structures, buildings, and residential properties with certain exemptions outlined in 43-015-8. The regulations require the owner or the operator of the building to have all asbestos-containing materials abated by a licensed abatement contractor prior to any demolition or renovation of structures.

Complaints

LRAPA investigates citizen complaints whenever one is registered with the agency. Field inspectors also respond based on field observations. People are able to submit complaints online on our website, over the phone, in-person at the office, or through email. Each year, our office receives hundreds of complaints ranging from agricultural to residential to industry. Aside from the formal complaints, LRAPA also receives community inquiries, informal notifications, and agency requests. In 2018, we saw a slight increase in the number of outdoor burning complaints but overall saw a reduction in complaints in general.



Above: LRAPA employee does a compliance check on a RED Home Wood Heating Advisory day, checking opacity levels from chimneys.

LRAPA takes great pride in complaint response and all our staff work hard to respond to almost every complaint received and aim to provide solutions and resolve any issues. The success of our complaint program is reflected in the steady decrease of complaints throughout the years.

Our complaints are logged and investigated. They can result in letters, more education, warnings, or citations.

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COMPLAINTS
IN 2018

LRAPA COMPLAINTS 2009-2018

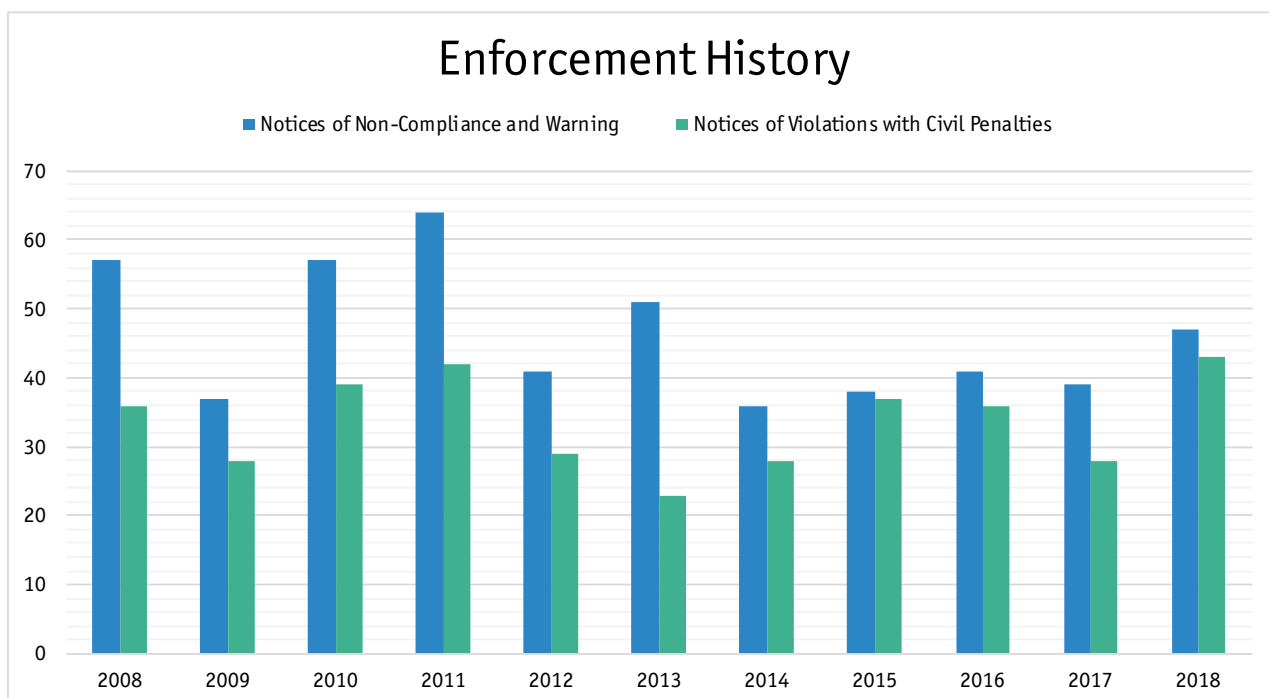
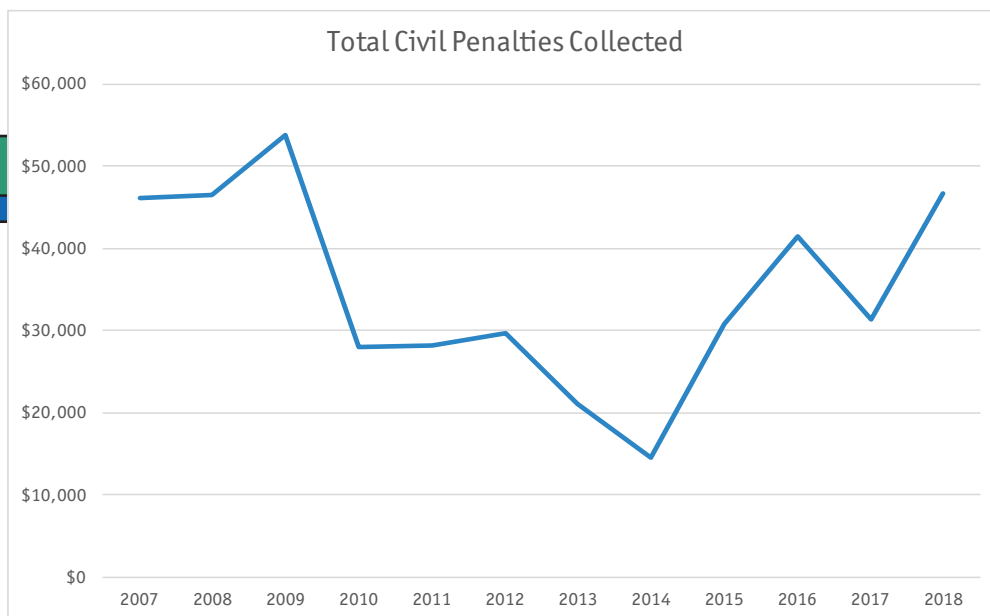
YEAR	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
DUST	21	34	33	44	30	14	25	32	25	26
AG/FIELD BURNING	24	9	13	1	17	4	12	9	1	0
GENERAL AIR QUALITY	21	2	6	6	26	30	15	20	14	6
HOME WOOD HEATING	113	62	135	95	219	121	342	130	197	126
INDUSTRY	270	266	169	128	122	127	52	58	74	50
MISCELLANEOUS	61	77	101	79	52	57	85	164	138	66
OUTDOOR BURNING	277	268	341	268	321	279	251	266	281	351
SLASH BURNING	3	6	16	7	5	7	11	26	13	24
UNKNOWN	25	12	25	17	14	35	46	56	63	29
TOTAL	815	734	839	645	806	674	839	761	806	678

\$46,580
IN PENALTIES
IN 2018



LRAPA initiates enforcement actions in instances of excessive industrial air pollution, illegal outdoor burning activities, improper handling or transport of asbestos-containing materials, failure to obtain necessary air pollution permits prior to construction or operation, and exceeding opacity limits from woodstoves and chimneys.

Typically, the dollar amount of penalties collected annually does not strictly reflect the penalties assessed or settled during the year, due to pending cases and collections received on previous years' penalties. Penalty money collected by LRAPA is transferred to the Lane County general fund.



Enforcement

Public Affairs

The Public Affairs department is the main hub for media relations, communications, public education campaigns, and outreach. The department's priorities are determined by need, urgency, and value.

In 2018, LRAPA celebrated its 50 years of service and focused outreach on citizen science, wildfire smoke intrusions, new outdoor burning regulations, and wintertime wood heating.

Engagement over social media grew rapidly, especially during the smoky wildfire episodes and LRAPA continued to be present at many local community events and neighborhood meetings.



2019 will bring a larger focus on smoke management communication, smoke readiness communities, and the new Cleaner Air Oregon .



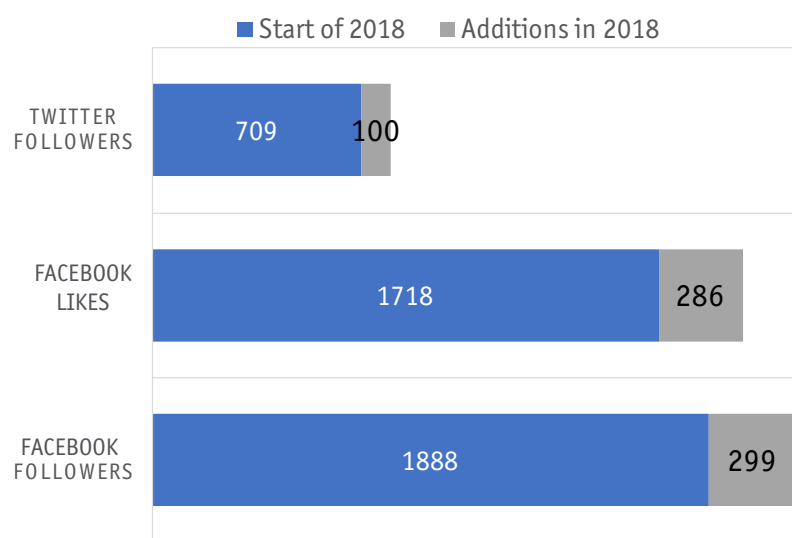
@LaneRegionalAir

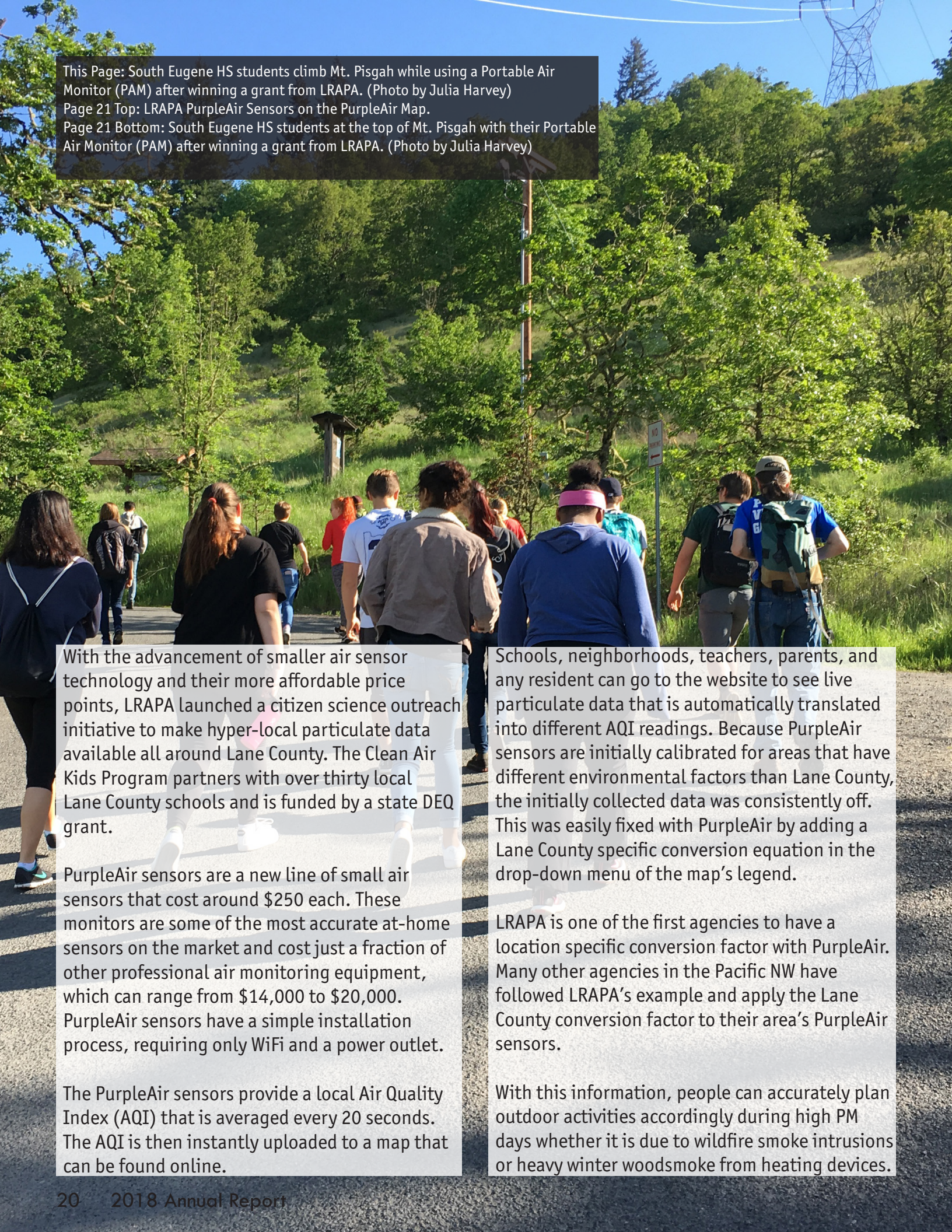
Page 18 Top: LRAPA Public Affairs at Oakridge Outdoor School.
Page 18 Middle: LRAPA booth with FORTH Mobility at a National Drive Electric Event.
Page 18 Bottom: LRAPA booth at Lane Fire Life and Safety event at Jerry's Home Improvement.
This Page: Chihuahua lays by a properly operated home wood heating device.

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MEDIA INTERVIEWS IN 2018

LRAPA SOCIAL MEDIA GROWTH





This Page: South Eugene HS students climb Mt. Pisgah while using a Portable Air Monitor (PAM) after winning a grant from LRAPA. (Photo by Julia Harvey)
Page 21 Top: LRAPA PurpleAir Sensors on the PurpleAir Map.
Page 21 Bottom: South Eugene HS students at the top of Mt. Pisgah with their Portable Air Monitor (PAM) after winning a grant from LRAPA. (Photo by Julia Harvey)

With the advancement of smaller air sensor technology and their more affordable price points, LRAPA launched a citizen science outreach initiative to make hyper-local particulate data available all around Lane County. The Clean Air Kids Program partners with over thirty local Lane County schools and is funded by a state DEQ grant.

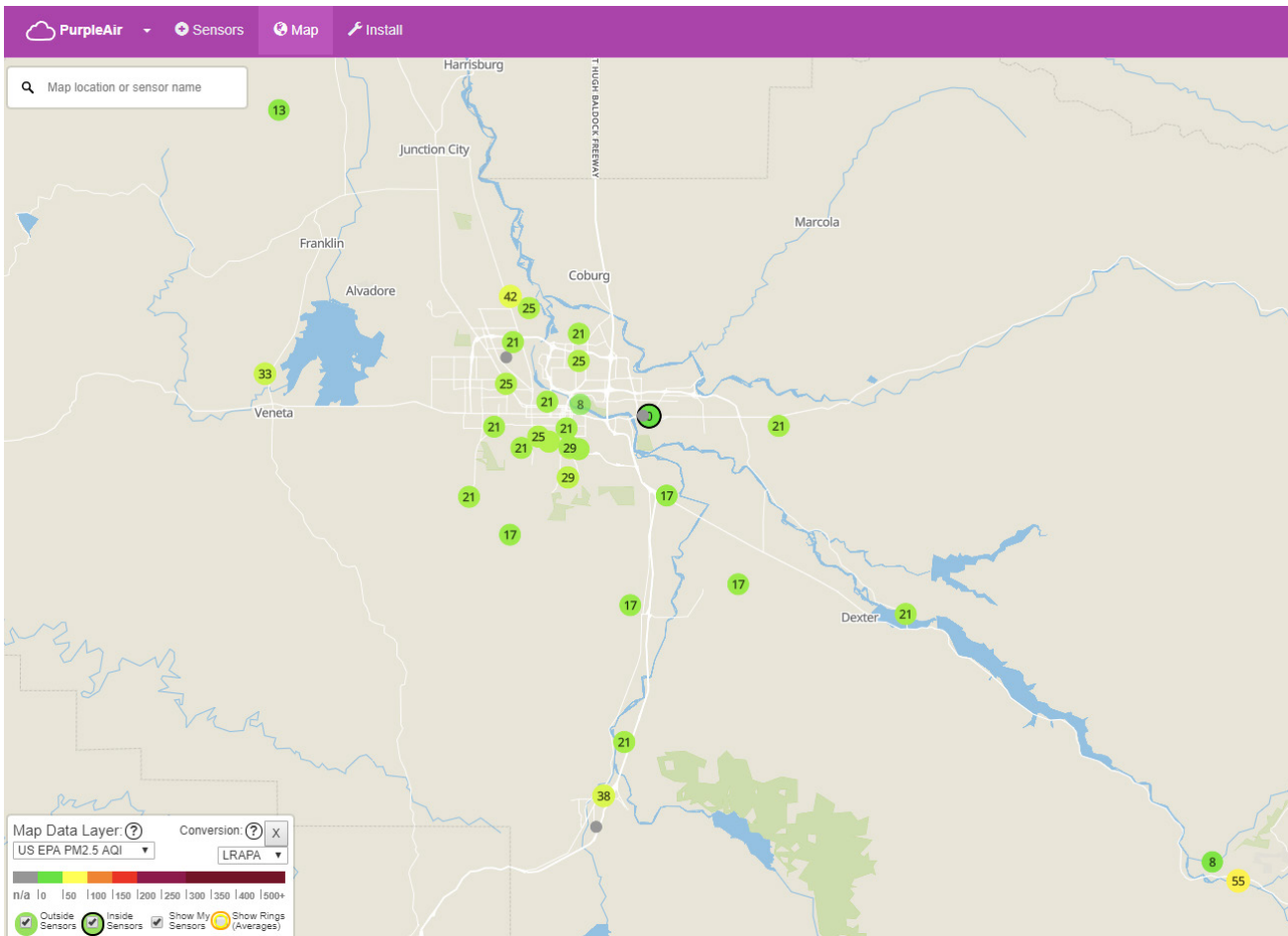
PurpleAir sensors are a new line of small air sensors that cost around \$250 each. These monitors are some of the most accurate at-home sensors on the market and cost just a fraction of other professional air monitoring equipment, which can range from \$14,000 to \$20,000. PurpleAir sensors have a simple installation process, requiring only WiFi and a power outlet.

The PurpleAir sensors provide a local Air Quality Index (AQI) that is averaged every 20 seconds. The AQI is then instantly uploaded to a map that can be found online.

Schools, neighborhoods, teachers, parents, and any resident can go to the website to see live particulate data that is automatically translated into different AQI readings. Because PurpleAir sensors are initially calibrated for areas that have different environmental factors than Lane County, the initially collected data was consistently off. This was easily fixed with PurpleAir by adding a Lane County specific conversion equation in the drop-down menu of the map's legend.

LRAPA is one of the first agencies to have a location specific conversion factor with PurpleAir. Many other agencies in the Pacific NW have followed LRAPA's example and apply the Lane County conversion factor to their area's PurpleAir sensors.

With this information, people can accurately plan outdoor activities accordingly during high PM days whether it is due to wildfire smoke intrusions or heavy winter woodsmoke from heating devices.



Citizen Science

7 AIR QUALITY MONITOR STATIONS

AIR MONITORING STATION IN AMAZON PARK



What does this station do?

This monitoring station collects air samples and reports the data for the South Eugene area. It measures levels of particulate matter, ground level ozone, carbon monoxide, air toxics, temperature, humidity, and pressure. The information from this station is used to assess levels of air pollution in the neighborhood, identify air quality trends, and support the implementation of pollution prevention strategies. You can view our hourly 24/7 data online at www.lrapa.org.

Why is this station here?

There are seven monitoring stations in Lane County; this is one of three monitors in Eugene. This station is situated in Amazon Park because this area is impacted by fine particle pollution (PM2.5). These tiny particles are small enough to enter our bloodstream and cause health problems such as trouble breathing, heart and lung disease, stroke, and even premature death. PM2.5 makes up the smoke from burning wood and fossil fuels. During colder months, most of the air pollution measured at this station comes from burning wood in wood stoves, inserts, and fireplaces.

Who runs this station?

This monitoring station is operated by air quality technicians from Lane Regional Air Protection Agency (LRAPA). Since its inception in 1968, LRAPA has worked to maintain and improve air quality in Lane County in order to protect public health, community well-being, and the environment.

Lane Regional Air Protection Agency • (541) 736-1056 • www.lrapa.org



Beta Attenuation Monitor Particulate Sampler
Measures levels of particulate matter



Ozone Probe
Monitors ground-level ozone



PM 2.5 Particulate Monitor
Measures the amount of fine particulate matter



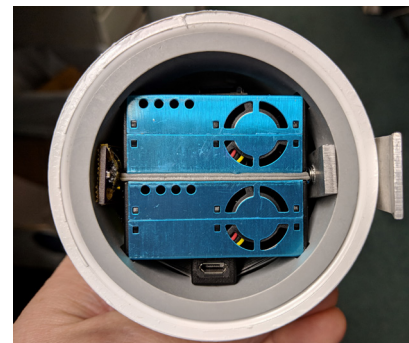
Polyurethane Foam Sampler
Assesses air toxics levels



CO and Air Toxic Probe
Gauges carbon monoxide and air toxics levels



Humidity Sensor
Determines levels of air humidity



Page 22: LRAPA South Eugene monitoring station.

Above: Different types of LRAPA air monitoring equipment and air sensors.

Bottom: Locations of all the federally referenced monitoring stations in Lane County.

LRAPA's air quality monitoring network consists of seven stationary sites that measure a total of 51 parameters. The agency collects over 300,000 hours of pollutant-related data per year.

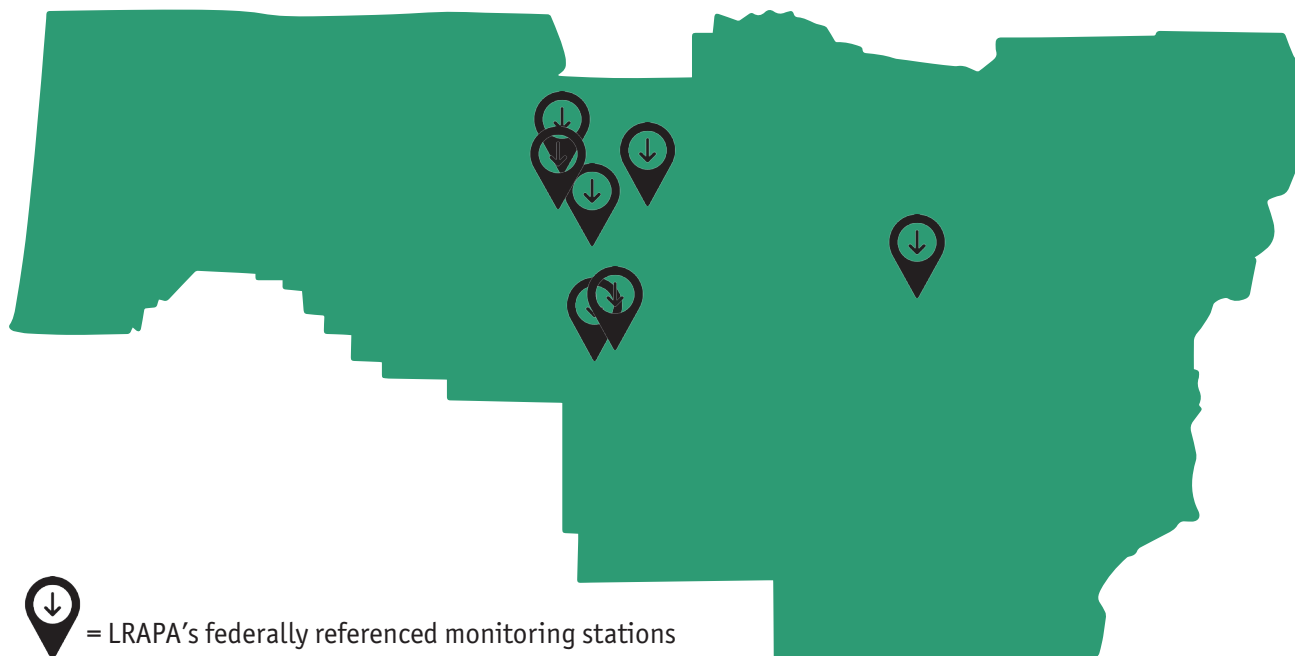
At an estimated operational cost of \$400,000 per year, LRAPA's network provides Lane County with comprehensive data on local air quality. Without the local program, the Lane County network could have as few as four sites with fewer hours of data collection.

LRAPA's network includes three locations in Eugene, and one each in Springfield, Oakridge, Cottage Grove, and Saginaw.

Monitoring stations have special instruments to measure the amount of specific pollutants in the air. Using information from the monitors, it can be determined whether the air is healthy or unhealthy for people.

LRAPA measures particulate matter at six sites in Lane County: west Eugene, north Eugene, south Eugene, downtown Springfield, Cottage Grove and Oakridge. Particulate matter is measured using two methods. The first method uses a filter that captures particles. The filters are weighed to determine how much pollution is contained in each cubic meter of air that has been drawn into the sampler. The second method measures particles with a nephelometer, which uses a light beam and light detector. Light reflected from the particles determines the concentration of particles in the air.

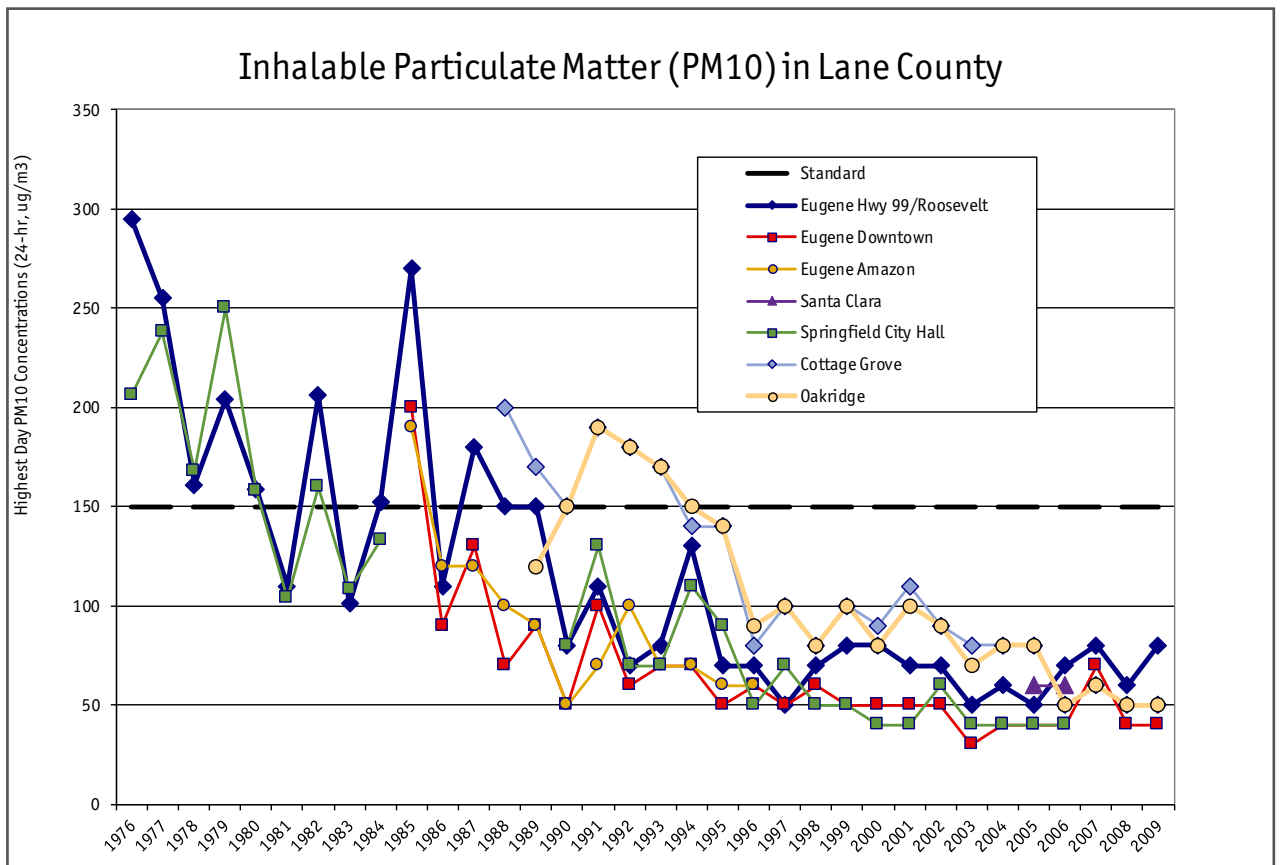
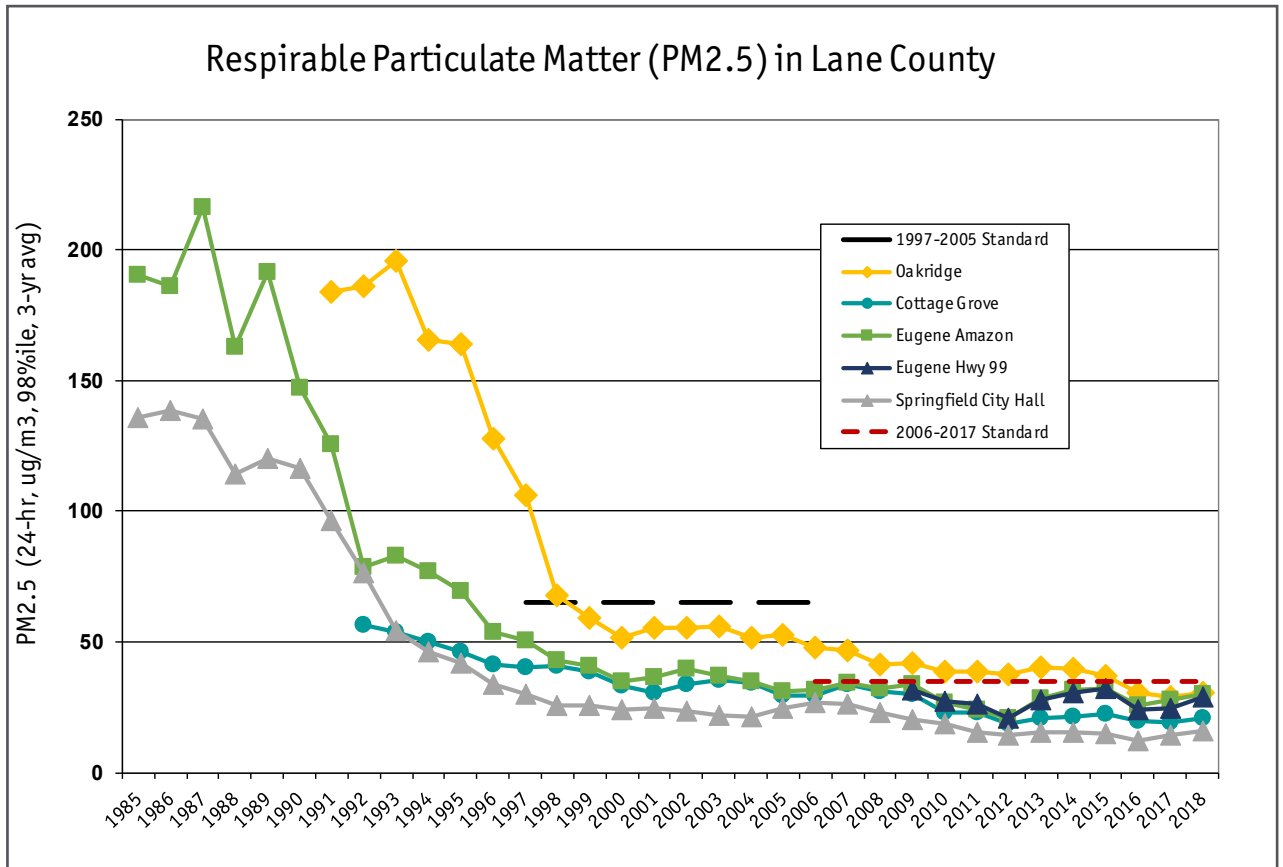
LRAPA measures ozone concentrations at Amazon park in South Eugene and in Saginaw, near Cottage Grove. To determine ozone levels, a pump brings an air sample into equipment that uses ultra-violet light and a two-step process that calculates the amount of ozone in the sample.

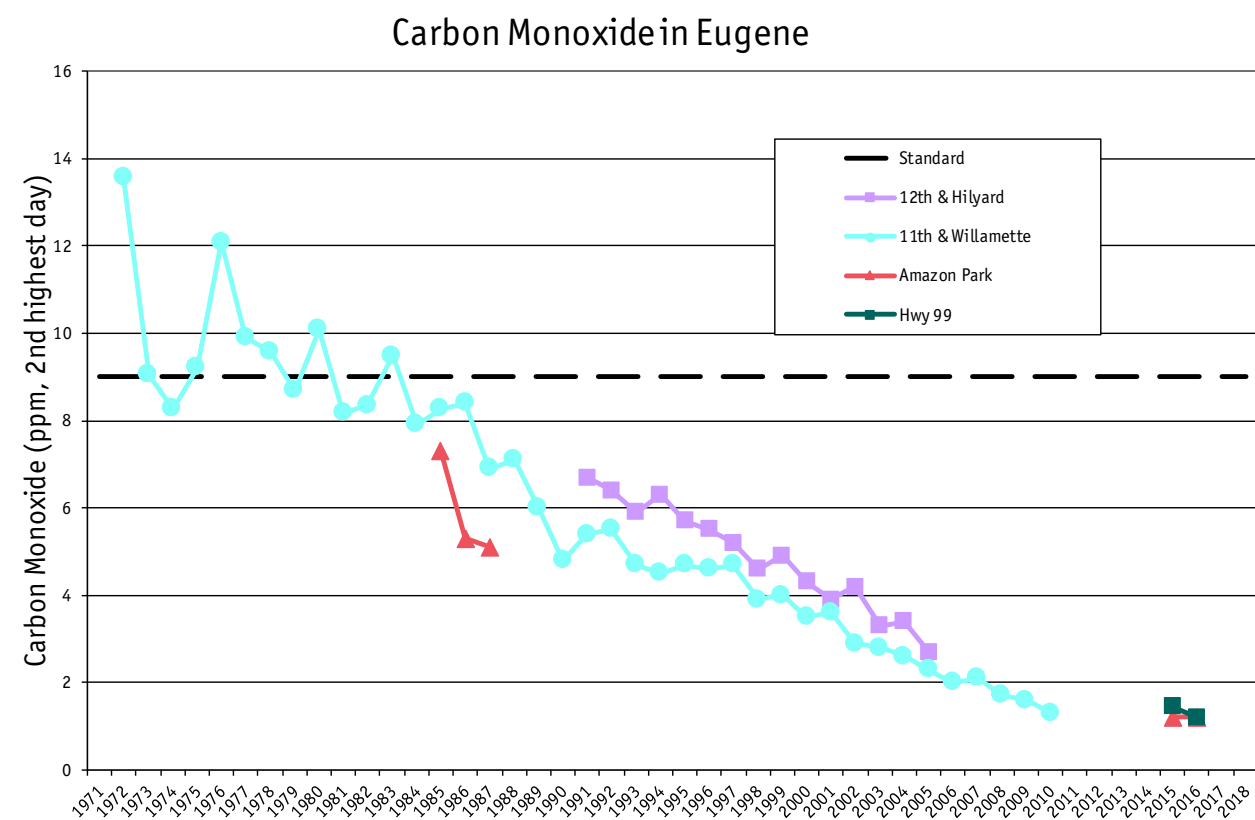
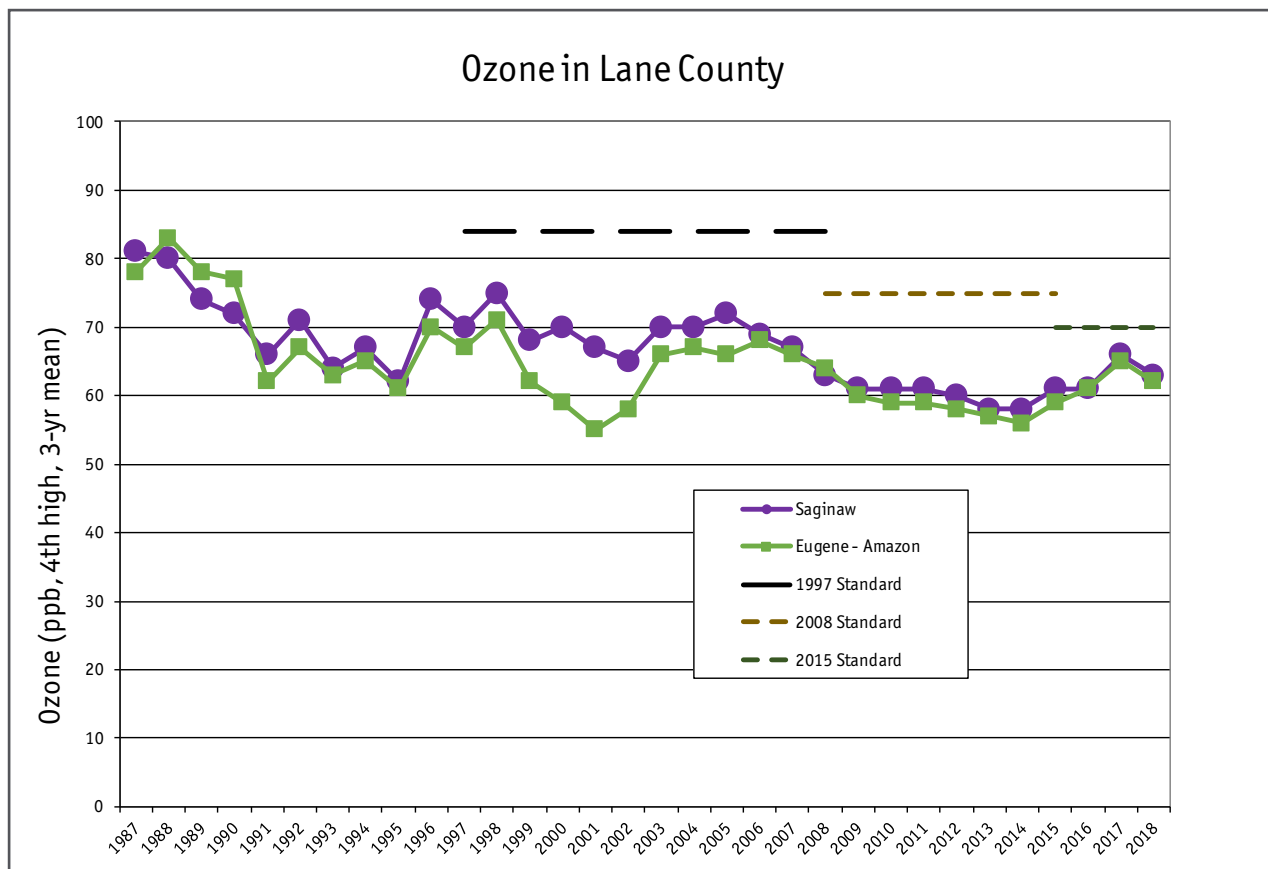


= LRAPA's federally referenced monitoring stations

Monitoring

Long-term data





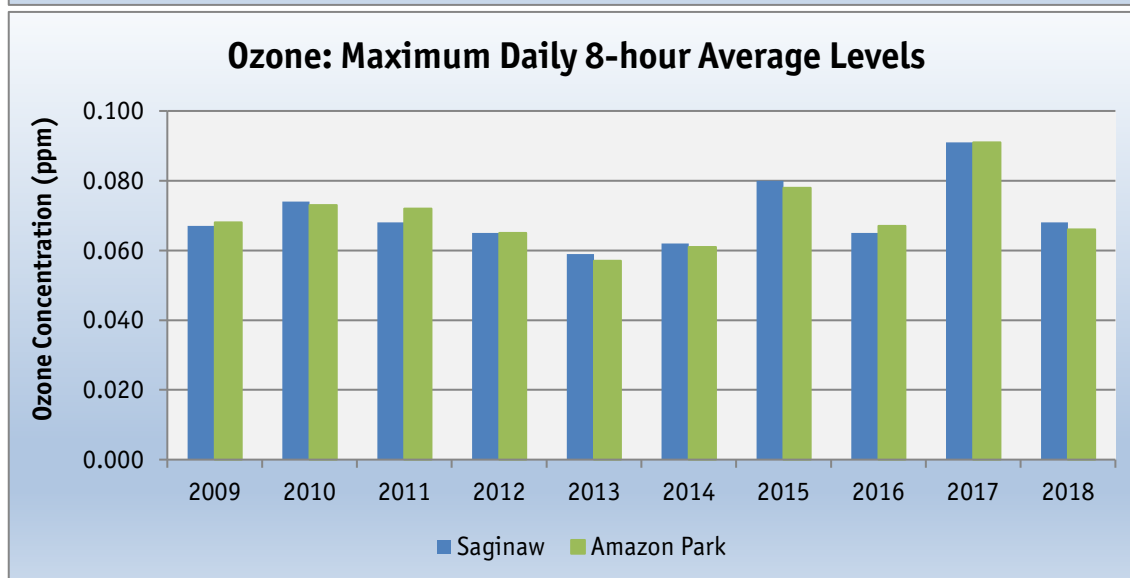
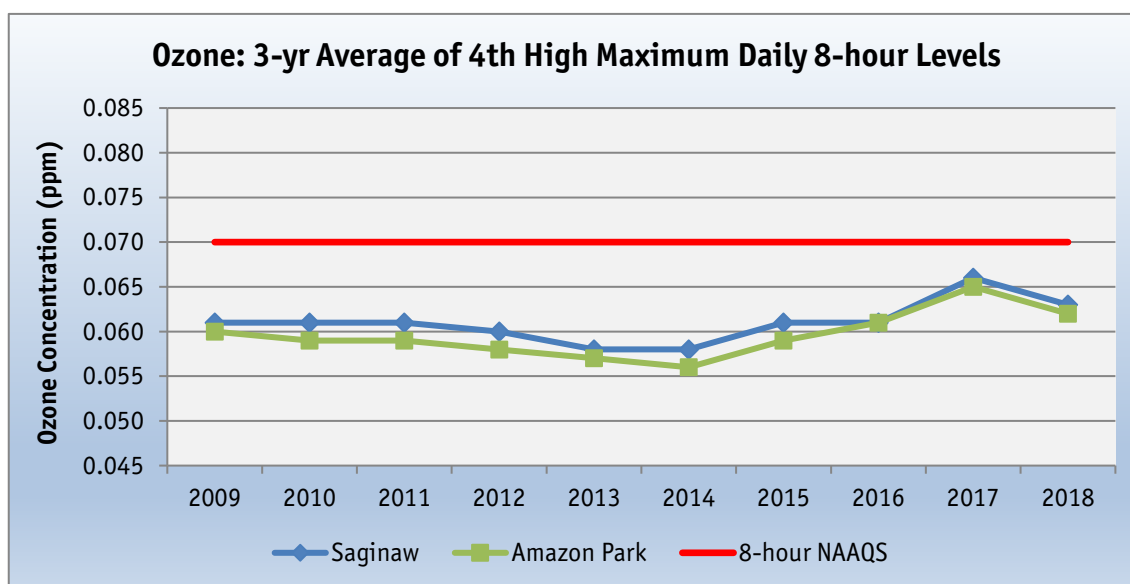
Long-term data

OZONE DATA

EPA has designated the following National Ambient Air Quality Standards (NAAQS) for Ozone:

Level	Averaging Time	Description
0.070 ppm	8-hour	To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.070 ppm. (effective October 1, 2015)

8-HOUR AVERAGE OZONE LEVELS 2009 – 2018 (ppm)											
Site Name		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Saginaw	Maximum	0.067	0.074	0.068	0.065	0.059	0.062	0.080	0.065	0.091	0.068
	4th highest	0.065	0.060	0.059	0.062	0.058	0.058	0.071	0.056	0.073	0.061
	3-year 4th high	0.061	0.061	0.061	0.060	0.058	0.058	0.061	0.061	0.066	0.063
	# Exceedances	0	1	0	0	0	0	4	0	4	0
Amazon Park	Maximum	0.068	0.073	0.072	0.065	0.057	0.061	0.078	0.067	0.091	0.066
	4th highest	0.063	0.056	0.059	0.059	0.053	0.058	0.068	0.058	0.070	0.060
	3-year 4th high	0.060	0.059	0.059	0.058	0.057	0.056	0.059	0.061	0.065	0.062
	# Exceedances	0	1	1	0	0	0	3	0	3	0



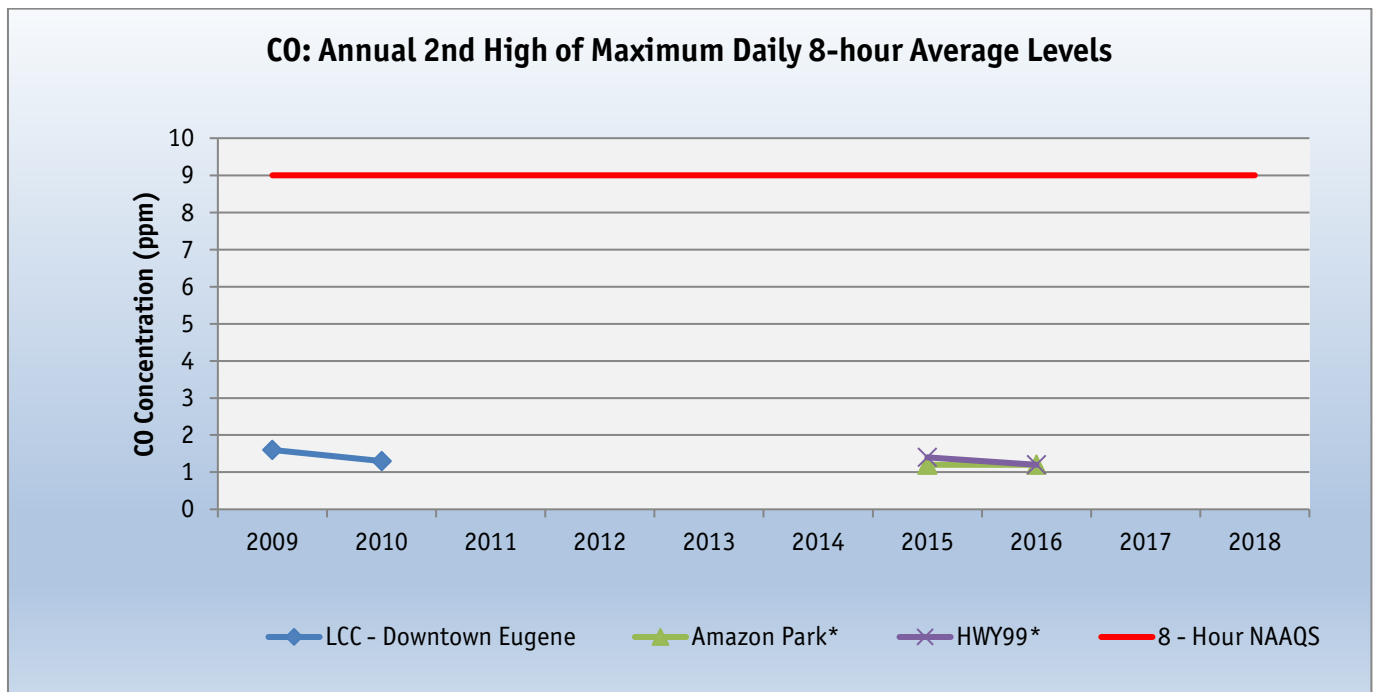
CARBON MONOXIDE DATA

EPA has designated the following National Ambient Air Quality Standards (NAAQS) for CO:

Level	Averaging Time	Description
9 ppm	8-Hour	Not to be exceeded more than once per year.
35 ppm	1-Hour	Not to be exceeded more than once per year.

(The carbon monoxide levels, relating to the 1-hour standard in Lane County, are less than 10% of the standard)

CARBON MONOXIDE (CO) LEVELS 2009 - 2018 (ppm)											
Site Name		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
LCC - Downtown Eugene	Highest 8-hour	1.6	1.5	---	---	---	---	---	---	---	---
	2nd high 8-hour	1.6	1.3	---	---	---	---	---	---	---	---
	# Exceedances	0	0	---	---	---	---	---	---	---	---
Amazon Park*	Highest 8-hour	---	---	---	---	---	---	1.3	1.3	---	---
	2nd high 8-hour	---	---	---	---	---	---	1.2	1.2	---	---
	# Exceedances	---	---	---	---	---	---	0	0	---	---
HWY99*	Highest 8-hour	---	---	---	---	---	---	1.6	1.4	---	---
	2nd high 8-hour	---	---	---	---	---	---	1.4	1.2	---	---
	# Exceedances	---	---	---	---	---	---	0	0	---	---



*These are special purpose monitoring sites and do not conform to NAAQS siting criteria. The data from these sites is used for comparison purposes only and is not used to determine NAAQS compliance.

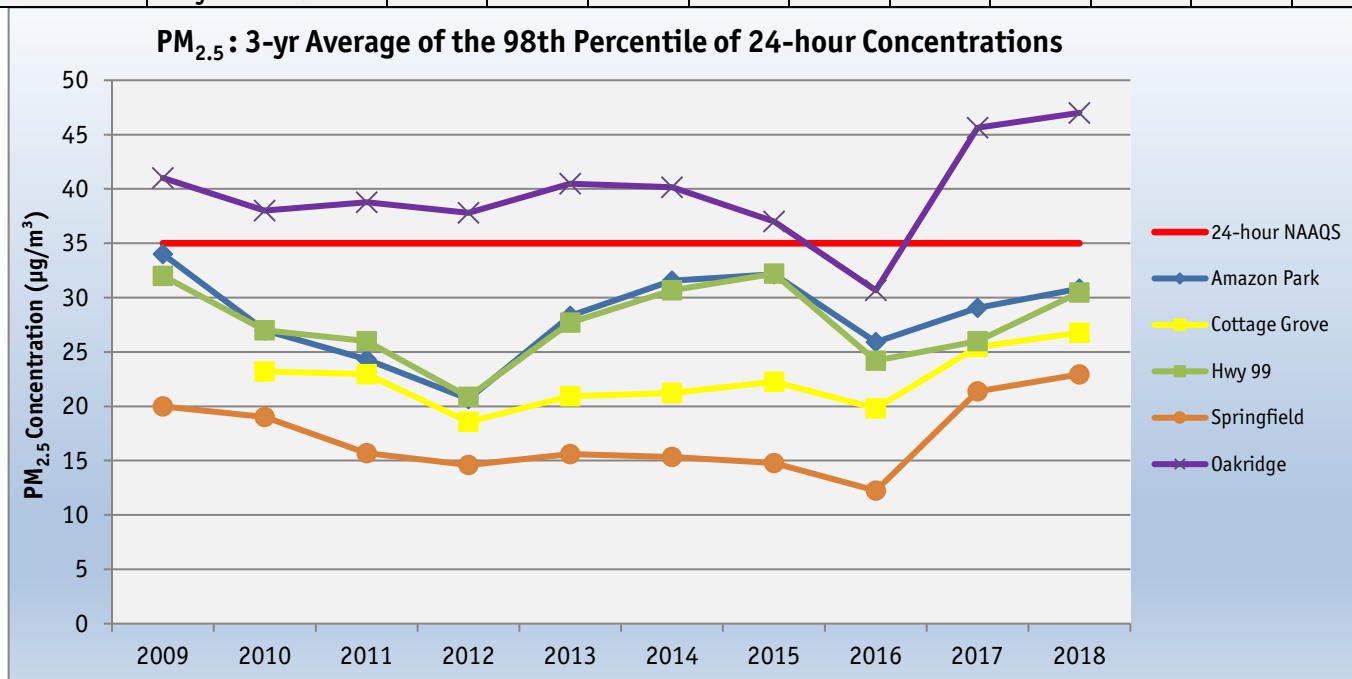
Short-term CO data

PARTICULATE MATTER DATA – PM_{2.5}, INCLUDES WILDFIRE DATA*

EPA has designated the following National Ambient Air Quality Standards (NAAQS) for PM_{2.5}:

Level	Averaging Time	Description
12.0 µg/m ³	Annual (Arithmetic Average)	To attain this standard, the 3-year average of the annual mean PM _{2.5} concentrations from monitors must not exceed 12.0 µg/m ³ (effective December 14, 2012).
35 µg/m ³	24-hour	To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations must not exceed 35 µg/m ³ (effective December 17, 2006).

24-HOUR AVERAGE PM _{2.5} LEVELS 2009 - 2018 (µg/m ³)											
Site Name		2009	2010	2011	2012	2013	2014	2015	2016	2017*	2018
Amazon Park	Annual mean	8.5	5.7	6.5	6.4	7.8	7.2	7.4	5.4	7.9	7.5
	Highest 24-hour	59.9	21.0	24.6	31.6	51.9	35.5	55.3	38.2	43.0	40.4
	Annual 98 th %-ile	36	16	21	25	39	31	27	20	40	32
	3 year 98 th %-ile	34	27	24	21	28	32	32	26	29	31
Cottage Grove City Shops	Annual mean	8.5	6.9	7.1	6.7	7.5	6.9	7.3	5.8	8.8	7.8
	Highest 24-hour	33.6	21.1	32.1	24.7	38.1	34.0	39.6	26.2	116.0	43.5
	Annual 98 th %-ile	30	18	21	17	25	21	20	18	38	24
	3 year 98 th %-ile	---	23	23	19	21	21	22	20	25	27
Hwy 99 - Four Corners	Annual mean	8.2	6.3	6.8	6.5	8.3	7.2	8.0	5.7	8.3	8.7
	Highest 24-hour	47.9	22.9	26.7	30.0	54.6	43.6	56.4	18.0	46.8	45.6
	Annual 98 th %-ile	36	20	22	21	40	31	26	16	36	39
	3 year 98 th %-ile	32	27	26	21	28	31	32	24	26	30
Springfield City Hall	Annual mean	6.5	5.8	5.6	5.5	6.3	6.4	6.3	4.7	7.5	6.1
	Highest 24-hour	21.9	17.9	18.8	18.3	18.8	35.6	54.0	10.4	41.9	18.2
	Annual 98 th %-ile	18	14	15	15	17	14	13	9	41	18
	3 year 98 th %-ile	20	19	16	15	16	15	15	12	21	23
Oakridge	Annual mean	11.0	8.9	10.0	7.6	9.8	10.0	8.9	6.7	13.0	9.0
	Highest 24-hour	44.1	43.1	47.9	49.9	54.9	46.1	39.3	30.7	200.0	62.0
	Annual 98 th %-ile	41	33	42	38	41	41	29	22	86	33
	3 year 98 th %-ile	41	38	39	38	40	40	37	31	46	47



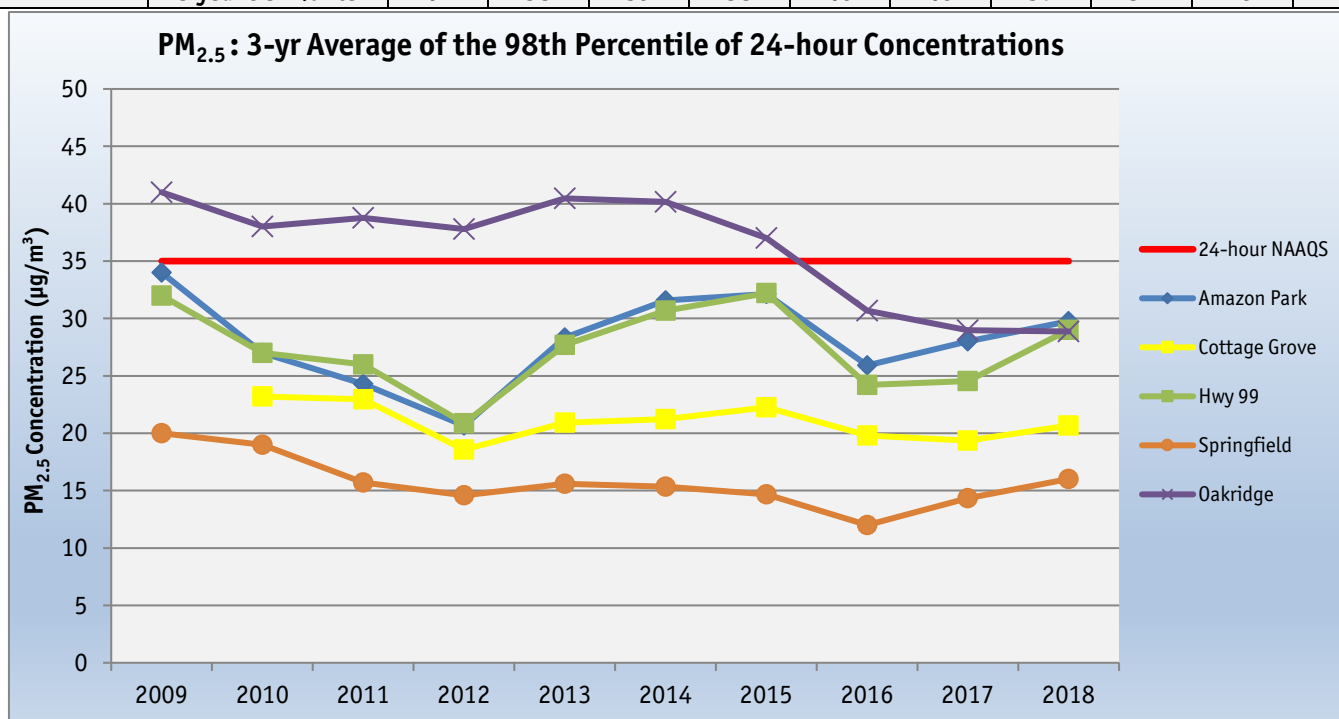
*Smoke from wildfires in 2017-18 caused elevated levels of PM during summer months. LRAPA is requesting the EPA exclude the wildfire data as an [Exceptional Event](#). The data on this page **INCLUDES** the wildfire smoke data.

PARTICULATE MATTER DATA – PM_{2.5}, EXCLUDES WILDFIRE DATA*

EPA has designated the following National Ambient Air Quality Standards (NAAQS) for PM_{2.5}:

Level	Averaging Time	Description
12.0 µg/m ³	Annual (Arithmetic Average)	To attain this standard, the 3-year average of the annual mean PM _{2.5} concentrations from monitors must not exceed 12.0 µg/m ³ (effective December 14, 2012).
35 µg/m ³	24-hour	To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations must not exceed 35 µg/m ³ (effective December 17, 2006).

24-HOUR AVERAGE PM _{2.5} LEVELS 2009 - 2018 (µg/m ³)											
Site Name		2009	2010	2011	2012	2013	2014	2015	2016	2017*	2018
Amazon Park	Annual mean	8.5	5.7	6.5	6.4	7.8	7.2	7.4	5.4	7.0	7.5
	Highest 24-hour	59.9	21.0	24.6	31.6	51.9	35.5	55.3	38.2	41.6	40.4
	Annual 98 th %-ile	36	16	21	25	39	31	27	20	37	32
	3 year 98 th %-ile	34	27	24	21	28	32	32	26	28	31
Cottage Grove City Shops	Annual mean	8.5	6.9	7.1	6.7	7.5	6.9	7.3	5.8	6.8	7.8
	Highest 24-hour	33.6	21.1	32.1	24.7	38.1	34.0	39.6	26.2	27.7	43.5
	Annual 98 th %-ile	30	18	21	17	25	21	20	18	20	24
	3 year 98 th %-ile	---	23	23	19	21	21	22	20	19	27
Hwy 99 - Four Corners	Annual mean	8.2	6.3	6.8	6.5	8.3	7.2	8.0	5.7	7.2	8.7
	Highest 24-hour	47.9	22.9	26.7	30.0	54.6	43.6	56.4	18.0	46.8	45.6
	Annual 98 th %-ile	36	20	22	21	40	31	26	16	32	39
	3 year 98 th %-ile	32	27	26	21	28	30	32	24	25	30
Springfield City Hall	Annual mean	6.5	5.8	5.6	5.5	6.3	6.4	6.3	4.7	6.2	6.1
	Highest 24-hour	21.9	17.9	18.8	18.3	18.8	35.6	54.0	10.4	27.9	18.2
	Annual 98 th %-ile	18	14	15	15	17	14	13	9	21	18
	3 year 98 th %-ile	20	19	16	15	16	15	15	12	14	16
Oakridge	Annual mean	11.0	8.9	10.0	7.6	9.8	10.0	8.9	6.7	9.5	8.5
	Highest 24-hour	44.1	43.1	47.9	49.9	54.9	46.1	39.3	30.7	38.6	35.3
	Annual 98 th %-ile	41	33	42	38	41	41	29	22	36	29
	3 year 98 th %-ile	41	38	39	38	40	40	37	31	29	29



*Smoke from wildfires in 2017-18 caused elevated levels of PM during summer months. LRAPA is requesting the EPA exclude the wildfire data as an [Exceptional Event](#). The data on this page **EXCLUDES** the wildfire smoke data.

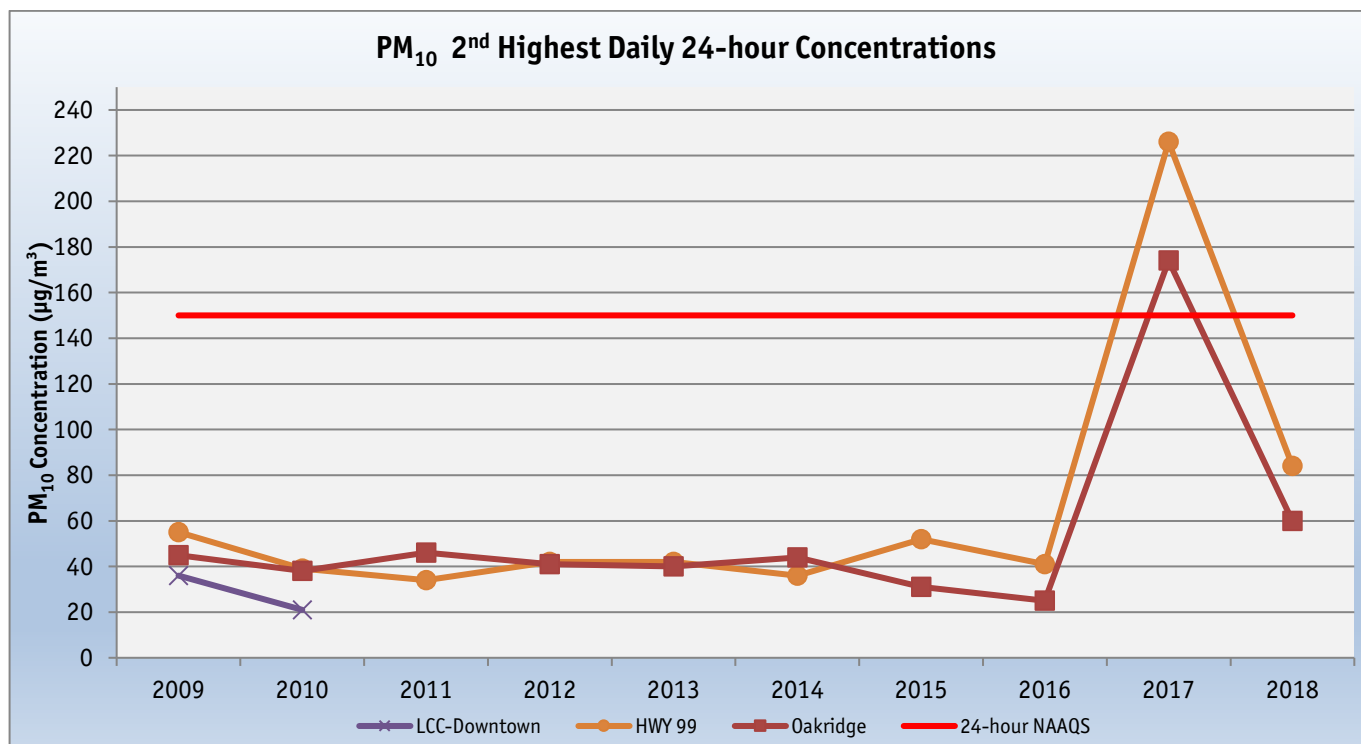
Short-term PM_{2.5} no wildfire data

PARTICULATE MATTER DATA – PM10, INCLUDES WILDFIRE DATA*

EPA has designated the following National Ambient Air Quality Standards (NAAQS) for PM₁₀:

Level	Averaging Time	Description
150 µg/m ³	24-hour	Not to be exceeded more than once per year on average over 3 years.

PM ₁₀ Levels 2009 - 2018 (µg/m ³)											
Site Name		2009	2010	2011	2012	2013	2014	2015	2016	2017*	2018
LCC - Downtown	Highest 24-hour	36	36	---	---	---	---	---	---	---	---
	2 nd Highest 24-hour	36	21	---	---	---	---	---	---	---	---
	Exceedances	0	0	---	---	---	---	---	---	---	---
	3yr Avg. of Exceedances	0.0	0.0	---	---	---	---	---	---	---	---
Hwy 99	Highest 24-hour	80	49	57	46	59	42	96	56	239	134
	2 nd Highest 24-hour	55	39	34	42	42	36	52	41	226	84
	Exceedances	0	0	0	0	0	0	0	0	3	0
	3yr Avg. of Exceedances	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Oakridge	Highest 24-hour	47	48	49	44	53	51	37	30	211	76
	2 nd Highest 24-hour	45	38	46	41	40	44	31	25	174	60
	Exceedances	0	0	0	0	0	0	0	0	4	0
	3yr Avg. of Exceedances	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3



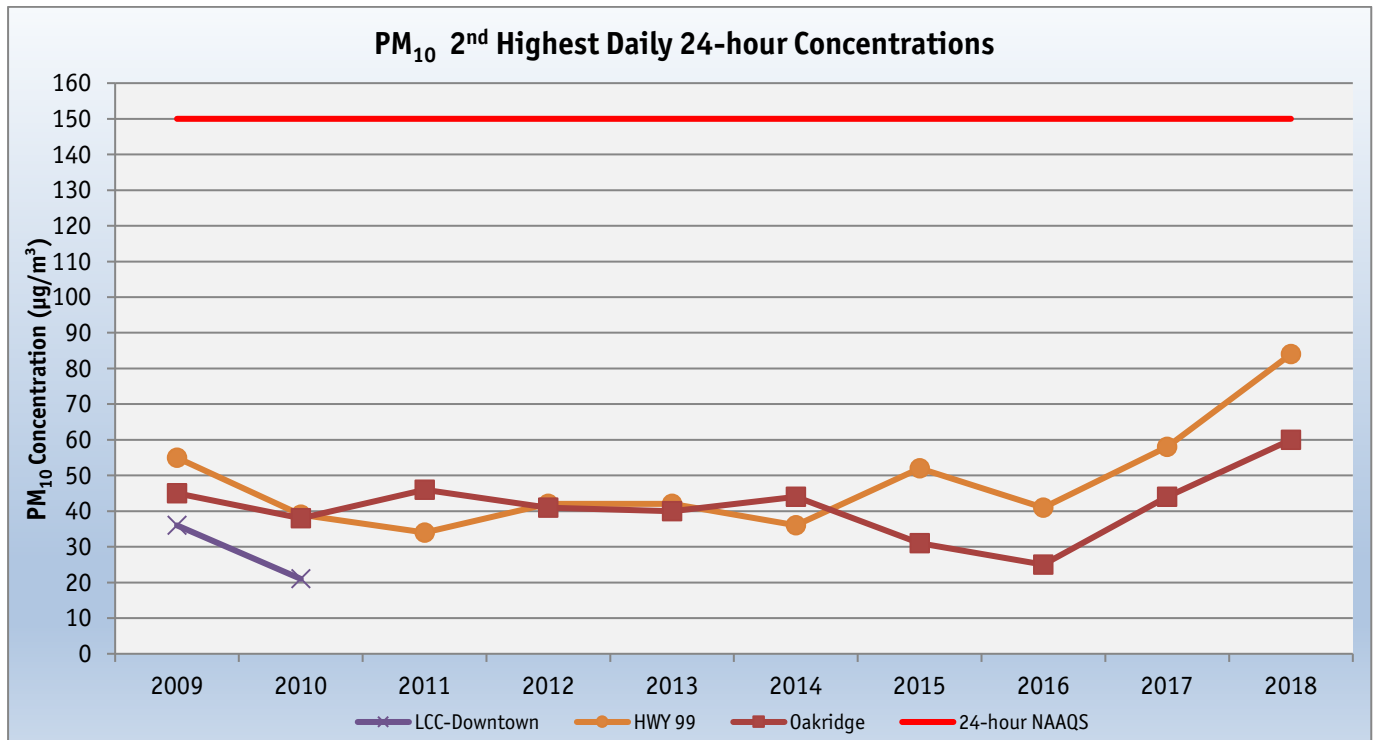
*Smoke from wildfires in 2017 caused elevated levels of PM during summer months. LRAPA is requesting the EPA exclude the wildfire data as an [Exceptional Event](#). The data on this page **INCLUDES** the wildfire smoke data.

PARTICULATE MATTER DATA – PM10, EXCLUDES WILDFIRE DATA*

EPA has designated the following National Ambient Air Quality Standards (NAAQS) for PM₁₀:

Level	Averaging Time	Description
150 µg/m ³	24-hour	Not to be exceeded more than once per year on average over 3 years.

PM ₁₀ Levels 2009 - 2018 (µg/m ³)											
Site Name		2009	2010	2011	2012	2013	2014	2015	2016	2017*	2018
LCC - Downtown	Highest 24-hour	36	36	---	---	---	---	---	---	---	---
	2 nd Highest 24-hour	36	21	---	---	---	---	---	---	---	---
	Exceedances	0	0	---	---	---	---	---	---	---	---
	3yr Avg. of Exceedances	0.0	0.0	---	---	---	---	---	---	---	---
Hwy 99	Highest 24-hour	80	49	57	46	59	42	96	56	69	134
	2 nd Highest 24-hour	55	39	34	42	42	36	52	41	58	84
	Exceedances	0	0	0	0	0	0	0	0	0	0
	3yr Avg. of Exceedances	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Oakridge	Highest 24-hour	47	48	49	44	53	51	37	30	55	76
	2 nd Highest 24-hour	45	38	46	41	40	44	31	25	44	60
	Exceedances	0	0	0	0	0	0	0	0	0	0
	3yr Avg. of Exceedances	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3



*Smoke from wildfires in 2017 caused elevated levels of PM during summer months. LRAPA is requesting the EPA exclude the wildfire data as an [Exceptional Event](#). The data on this page **EXCLUDES** the wildfire smoke data.

Short-term PM 10 no wildfire data

Back cover photo: Sunset on the Willamette River, Dorris Ranch Park, Springfield 2018.

