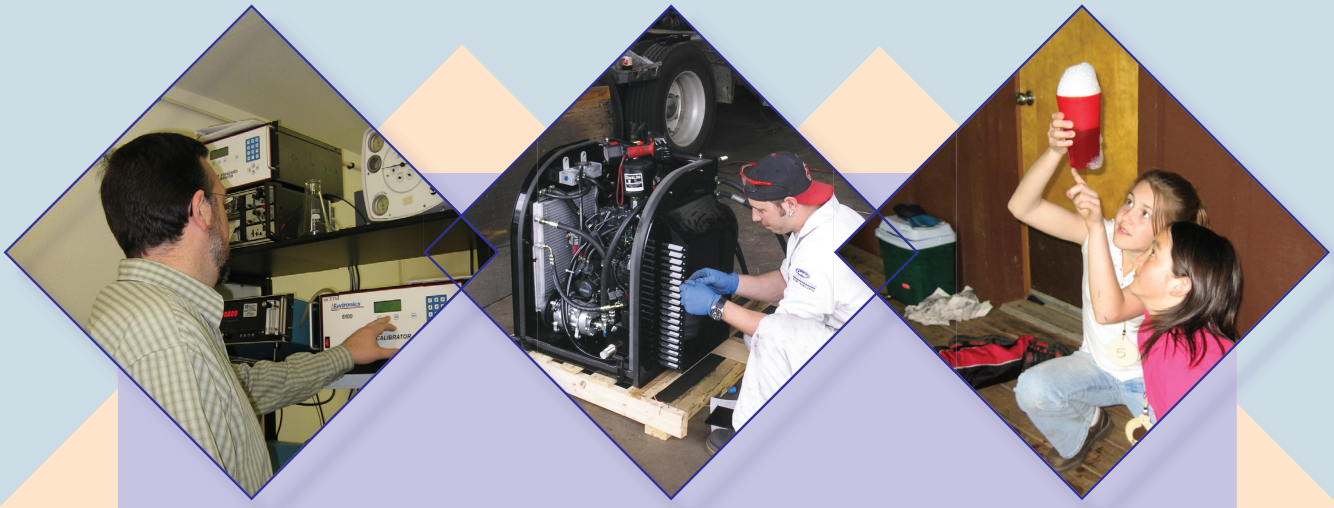

Lane Regional Air Protection Agency

2006 Annual Report

LRAPA
Lane Regional Air Protection Agency

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Vision

Community partners working together to ensure clean air for everyone

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

Goals

Air Quality

Our goal is to ensure healthful air quality for all Lane County citizens.

Involvement

Our goal is to inform and involve citizens and businesses in improving air quality.

Service

Our goal is to serve citizens and other stakeholders fairly, courteously, and in a timely manner.

Partnerships

Our goal is to work with our partners to leverage resources to make a difference in local air quality.

LRAPA
Lane Regional Air Pollution Authority

Letter from the Director

In my first full year as director, 2006 was an especially busy year full of change and prominence for the agency. Innovation, partnerships and public involvement defined a majority of LRAPA's work this past year. LRAPA received numerous national awards and recognitions for its work with particulate matter and hazardous air pollution emissions.

The agency gained several new staff this past year, filling vacant operations manager, permit writer and finance manager positions. Long-time finance manager Sharon Banks left the agency to head Cascade Sierra Solutions, a non-profit organization spearheaded by LRAPA, dedicated to helping reduce diesel emissions from long haul trucks.

LRAPA worked successfully in several innovative partnerships this past year to help improve air quality in the county. Two private/public partnerships helped leverage funds to bring ethanol to the county and expand the Everybody Wins program to the formation of Cascade Sierra Solutions. Another partnership with nine public entities brought Lane County agencies together to collectively provide more than $650,000 to Oakridge residents for home repair, weatherization and heating upgrades, helping the City with its challenge of meeting new federal standards for $PM_{2.5}$. LRAPA will continue its many greatly-valued local, state and federal partnerships to leverage resources and maximize air quality improvements thoughout Lane County.

Public involvement has been a keystone to LRAPA's presence in the community at all levels this past year. Educating school children about the importance of keeping the air clean, participating in local events, hosting public meetings, and providing timely public information has raised awareness of air quality issues in our county. Citizens and neighborhood groups have been active in reviewing and commenting on proposed industrial air permits and emission control requirements. The local communities have high air quality expectations as evidenced by the many concerned residents that contact our office.

Looking to the future, LRAPA will begin a comprehensive strategic planning process in 2007 to guide the agency through the next five years. Emerging and critical issues include new $PM_{2.5}$ health standards, additional air toxics controls, funding challenges and opportunities, and the possibility of more protective health standards for ozone. LRAPA's dedication to air quality improvement through staff innovation, creativity and willingness to accomplish goals will guide the agency through its efforts to develop its strategies and goals for the future.

As an agency, we are up to the challenges and look forward to continuing our mission to ensure the continuous improvement of air quality in Lane County.

Merlyn Hough
Director, Lane Regional Air Protection Agency

LRAPA Organization

2006 LRAPA Board of Directors*

The LRAPA Board of Directors is a nine-member board which meets monthly to establish policy and adopt agency regulations. Board members are appointed by their respective city councils and the Lane County Board of Commissioners. Membership includes three representatives from the city of Eugene, one each from Lane County and the city of Springfield, one from either the city of Cottage Grove or city of Oakridge, and one at-large representative appointed by the board. Cities with more than one member may appoint the second or third member from the public within their jurisdictions.

Dave Ralston - Chair
6 yrs. service
Springfield City Council Appointment

Faye Stewart
2 yrs. service
Lane County Board of Commissioners

Drew Johnson
2 yrs. service
Eugene City Council Appointment

Betty Taylor
10 yrs. service
Eugene City Council

Glenn Fortune
2 yrs. service
Oakridge City Council

Earl Koenig
2 yrs. service
Eugene City Council Appointment

Carol Tannenbaum
10 yrs. service
LRAPA Board Appointment

David Monk
2 yrs. service
Eugene City Council Appointment

Bill Carpenter
2 yrs. service
Springfield City Council Appointment

LRAPA Organization

2006 LRAPA Citizens Advisory Committee*

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

Russ Ayers - 7 yrs. service — Chair
Representing Major Industry
Doug Brooke - 7 yrs. service — Vice-Chair
Representing Industry
Dave Breitenstein - 9 yrs. service
Representing General Public
Larry Dunlap - 8 yrs. service
Representing Public Health
Paul Engleking - 9 yrs. service
Representing General Public
Rick Rogers - 8 yrs. service
Representing Fire Suppression
John Tamulonis - 9 yrs. service
Representing Planning
Bill Young - 6 yrs. service
Representing Agriculture
Jim Leary - 2 yrs. service
Representing Industry
Gary Vander Meer - 4 yrs. service
Representing General Public
Lorena Young - 15 yrs. service
Representing General Public
Bonnie Palmer - 2 yrs. service
Representing General Public
Maurie Denner - 2 yrs. service
Representing General Public

2006 LRAPA Budget Committee*

The LRAPA Budget Committee consists of the LRAPA Board of Directors plus nine board-appointed citizens. The committee meets yearly to review and approve LRAPA's budget request. The nine board-appointed citizens include:

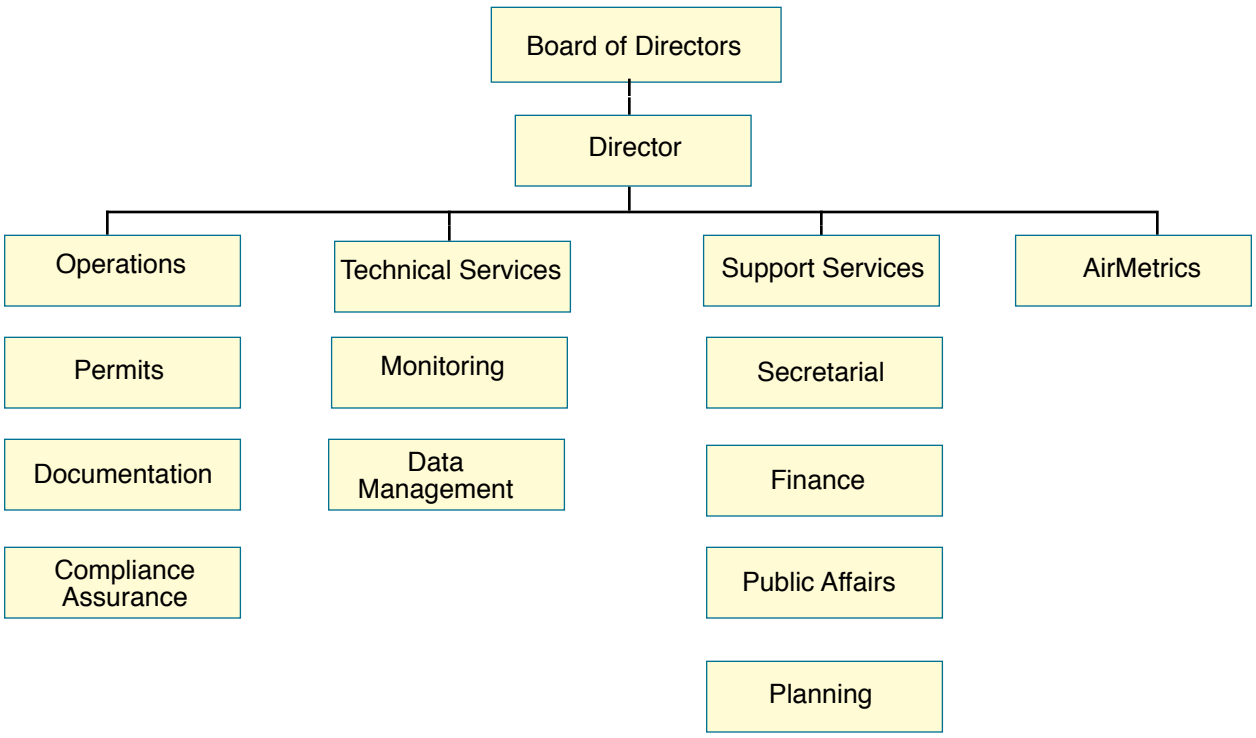
John Woodrow II
Kevin Wells
Landa Gillette
Suzanne Pearce
Kevin Matthews
Eric DeFreest
Don Hampton
Bob Houston
John Ahlen

* This report reflects the 2006 Board and committee members. Changes in memberships have occurred since January 2007.

LRAPA Organization

The board of directors appoints the director of the agency, who has overall authority to appoint and direct the LRAPA staff. The director makes policy recommendations to the board and is responsible for implementing board decisions.

Staff Organizational Chart



LRAPA Phone Numbers

Business Office	736-1056
Home Wood Heating Advisory Line	746-HEAT
Backyard Burning Advisory Line	726-3976
Florence Backyard Burning Advisory Line	997-1757
24-Hour Complaint Line	726-1930
Toll-Free Line	1-877-285-7272
Website	www.lrapa.org
E-mail	lrapa@lrapa.org

Program Operations

The LRAPA staff consists of 22 professional and technical employees who perform permitting, enforcement, planning, clerical, financial, enterprise, and public information and outreach programs.

Operations — Permitting, Compliance and Enforcement

Permitting - establishes conditions under which regulated industrial sources may operate.
Compliance/Enforcement - assures permitted sources comply with permitting requirements; enforces agency rules and regulations through education and enforcement actions.

Technical Services — Monitoring and Data Management

Monitoring- collects ambient air quality data and provides quality assurance.
Data Management - determines whether ambient air quality standards are being met, and provides technical assistance for program priorities and planning.

Administration and Planning — Planning, Finance and Human Resources

Air Quality Planning - identifies present and potential future air quality problems and develops appropriate control strategies.
Finance - provides the agency with full financial management services.
Human Resources - manages agency personnel matters.

Public Information — Public Affairs Program

Public Information/Education - works with all sections of the agency to promote public understanding, education and awareness of the agency and local air quality issues.

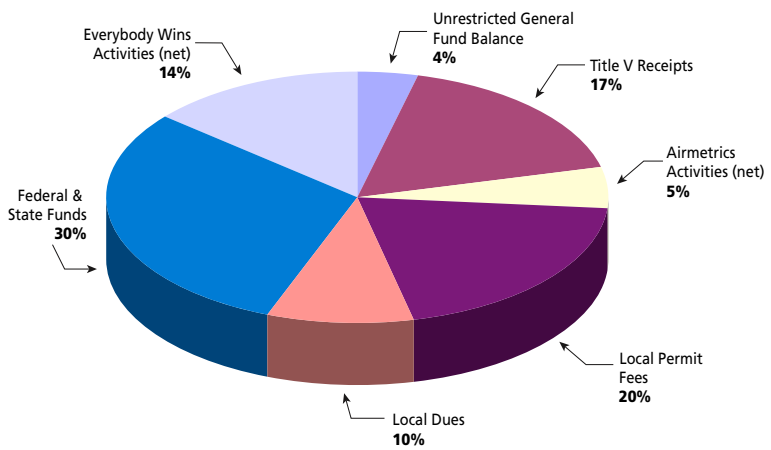
Airmetrics

Manufactures and markets portable air-sampling devices and services.

Funding/Budget

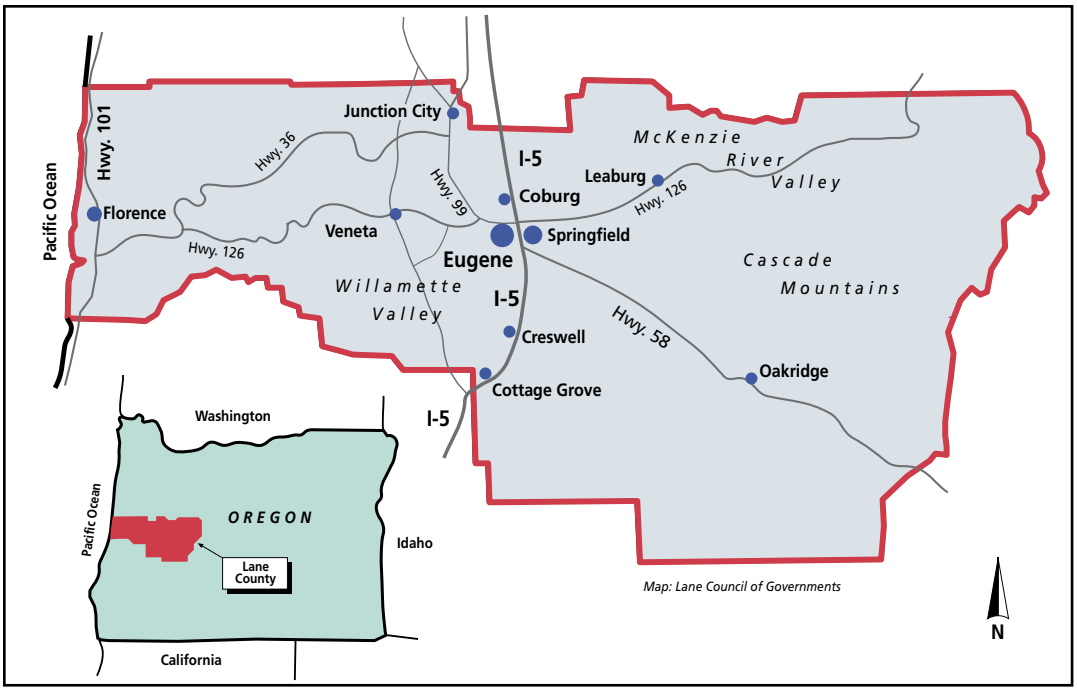
LRAPA's funding sources include: local contributions (Lane County and the cities of Eugene, Springfield, Oakridge and Cottage Grove); state and federal grants; industrial and open burning permit fees; asbestos demolition/renovation fees; Airmetrics sales and services; and miscellaneous contracts.

Funding Resources FY 2006 — $2,849,309



Lane County

The Setting, Topography and Meteorology



The setting: The Willamette Valley

Lane County is located at the southern end of the Willamette Valley and stretches from the Cascade Mountains to the Pacific Ocean. The county's population is around 330,000 or about 10 percent of the state's total population. The incorporated cities of Eugene and Springfield comprise the second largest urban area in Oregon with an estimated 199,990 residents. (*U.S. Census*)

Topography and Meteorology

Many of the inland areas of Lane County experience periods of air stagnation. When this happens during winter months, cold air often becomes trapped near the valley floor with slightly warmer air aloft, creating temperature inversion conditions. The combination of cold, stagnant air and restricted ventilation causes air pollutants to become trapped near the ground. Wintertime temperature inversions contribute to high particulate levels, while summertime inversions contribute to increases in ozone levels, both causing the local air quality to deteriorate.

This summertime photo, taken from Mt. Pisgah looking toward Springfield, illustrates how views are obscured because of area haze. Local topography and weather often cause pollutants to build up and obscure distant backgrounds.

National Ambient Air Quality Standards

The Environmental Protection Agency (EPA) has established health-based National Ambient Air Quality Standards (NAAQS) for six air pollutants (criteria pollutants): particulate matter (PM_{10} and $PM_{2.5}$), ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2) and lead (Pb). Three of the six pollutants are monitored in Lane County: Particulate matter, ozone and carbon monoxide.

In 2006, The United States Environmental Protection Agency (EPA) lowered the daily $PM_{2.5}$ standard from 65 to 35 micrograms per cubic meter and retained the three year annual mean standard at 15 micrograms per cubic meter. The three year annual standard for PM_{10} was revoked while the 24 hour standard was retained. The new standards were put in effect in December, 2006.

Particulate Matter (PM)- Federal Standards

There are four particulate standards: two for particles 10 microns and smaller in size, and two for fine particulates measuring no larger than 2.5 microns in size.

- Annual PM_{10} Standard — In December 2006, The Environmental Protection Agency revoked the annual PM_{10} standard citing a lack of evidence linking long-term PM_{10} exposure at current levels to health problems.
- 24-hour PM_{10} Standard — The standard is met when the second highest value at each monitoring site is less than or equal to 150 micrograms per cubic meter.
- Annual $PM_{2.5}$ Standard — The standard is met when the three-year annual mean at each monitoring site is less than or equal to 15 micrograms per cubic meter.
- 24-hour $PM_{2.5}$ Standard — The standard is met when the three-year average of the 98th percentile value at each monitoring site is less than or equal to 35 micrograms per cubic meter.

Federal Ambient Air Quality Standards

Pollutant	Federal Standard	Monitoring Status in Lane County
Particulate ($PM_{2.5}$)		
24-hour standard	35 ug/m^3	Required
Annual standard	15 ug/m^3	Required
Particulate (PM_{10})		
24-hour standard	150 ug/m^3	Required
Annual standard	Revoked	Required
Carbon Monoxide (CO)		
8-hour average	9 ppm	Required
1-hour average	35 ppm	Required
Ozone (O_3)		
8-hour average	0.08 ppm	Required
Sulfur Dioxide (SO_2)		
24-hour average	0.14 ppm	Not required
1-hour average	0.10 ppm	Not required
Nitrogen Dioxide (NO_2)		
Annual average	0.05 ppm	Not required
Lead (Pb)	1.5 ug/m^3	Not required

ug/m^3: micrograms per cubic meter

ppm: parts per million

Ozone - Federal Standard

The ozone standard is attained when the consecutive three-year average of the annual fourth highest daily maximum eight-hour average concentration does not exceed 0.08 parts per million.

Carbon Monoxide - Federal Standard

There are two carbon monoxide standards, a one-hour and an eight-hour standard.

- One-hour Standard — The standard is met when the maximum one-hour average concentration does not exceed 35 parts per million.
- The Eight-hour Standard — The standard is met when the maximum eight-hour average concentration does not exceed nine parts per million.

NAAQS and Local Air Quality

Lane County Attainment History

In Lane County, three criteria pollutants have historically been of concern: particulate matter, ozone, and carbon monoxide. The Eugene/Springfield area is monitored for all three pollutants, while the city of Oakridge is monitored for particulate matter only.

Particulate Matter (PM)

Particulate matter is measured at three locations in Eugene, two locations in Springfield, and one each in Oakridge, Cottage Grove, and Saginaw. In Lane County, two areas, the Eugene/Springfield urban area and the city of Oakridge, have been designated "non-attainment" for PM_{10}. Both areas currently meet the standard and are in the process of regaining attainment status.

- The Eugene/Springfield area was designated a "non-attainment" area on January 10, 1980, for exceeding the 24-hour secondary "total suspended particulate" (TSP) standard.
- The TSP standard was changed to the PM_{10} standard (particulate matter 10 microns in size or smaller) in 1987.
- The Eugene/Springfield area was redesignated a PM_{10} "non-attainment" area on August 7, 1987.
  — Last exceeded the standard in 1987.
- Oakridge was proposed a PM_{10} "non-attainment" area in September 1992, and designated on January 20, 1994.
  — Last exceeded the standard in 1993.
- On September 16, 1997, EPA established daily and annual $PM_{2.5}$ standards that were immediately challenged by industry.
- In March 1998, $PM_{2.5}$ monitoring began in Eugene/Springfield.
- In November 1998, $PM_{2.5}$ monitoring began in Oakridge.
- On February 27, 2000, the U.S. Supreme Court unanimously upheld the new standards.
  — Both Eugene/Springfield and Oakridge currently meet the $PM_{2.5}$ standards.
  — Oakridge occasionally experiences high concentrations of $PM_{2.5}$ but so far has not exceeded the standards.
- In December 2006, EPA formally adopted new standards for $PM_{2.5}$. The 2006 standards tighten the 24-hour fine particle standard from 65 micrograms per cubic meter (µg/m3) to 35 µg/m3, and retain the current annual fine particle standard at 15 µg/m3. The EPA also revoked the three year annual standard for PM_{10}, but retained the 24-hour standard of 150 µg/m3.

Ozone (O3)

Ozone is measured at one site in Eugene and one in Saginaw. Lane County is in attainment with the federal ozone standards.

- In 1970, EPA established a one-hour ozone standard.
- In May 1974, the Eugene/Springfield area began monitoring ozone and has continued to measure ozone, although the area has remained in attainment.
- In 1997, the standard was changed to an eight-hour standard, but this was challenged by industry.
- In 2000, the U.S. Supreme Court unanimously upheld the eight-hour standard.

NAAQS and Local Air Quality

Carbon Monoxide (CO)

The Eugene/Springfield area was designated a "non-attainment" area for CO in the late 1970s, but was later redesignated an attainment area.

- In 1970, EPA established an eight-hour CO standard.
- In 1971, LRAPA began monitoring CO in downtown Eugene.
- On March 3, 1978, the Eugene/Springfield area was designated a "non-attainment" area for CO.
  — Last exceeded the standard in 1986.
- On February 4, 1994, the Eugene/Springfield area was redesignated an "attainment" area.

Criteria Pollutants

Pollutant	Description	Sources	Health Effects	Environmental Effects
Particulate Matter PM	PM_{10} — Respirable particles less than 10 microns in size $PM_{2.5}$ — Respirable particles less than 2.5 microns in size	Wood burning; industry; fugitive dust; construction activities; street sand application; combustion sources; transportation; open burning; NOx, SO_2, VOC gases	Aggravates ailments such as bronchitis and emphysema; especially bad for those with chronic heart and lung disease, as well as the very young and old, and pregnant women	Causes reduced visibility and haze
Carbon Monoxide CO	An odorless, colorless gas which is emitted primarily from any form of incomplete combustion	Gasoline and diesel-powered mobile sources, such as autos, trucks, buses and locomotives; wood burning; open burning; Industrial combustion sources	Deprives the body of oxygen by reducing the blood's capacity to carry it; harmful to unborn children; causes headaches, dizziness, nausea; high doses may cause death	(None)
Ozone O_3	A gas associated with smog; formed when nitrogen oxides (NOx) and volatile organic compounds (VOC) react with one another in the presence of sunlight and warm temperatures	VOCs and NOx from gasoline-powered mobile sources; industry; power plants; gasoline transfer and storage; paints and solvents; consumer products	Irritates eyes, nose, throat and respiratory system; especially bad for those with chronic heart and lung disease, as well as the very young and old, and pregnant women	Can cause damage to plants and trees; smog can cause reduced visibility; attacks rubber products
Nitrogen Dioxide NO_2	A gas produced as a by-product of high burning temperatures	Combustion processes — fossil fuel power, motor vehicles, industry; home heating; fertilizer manufacturing	Harmful to lungs, irritates bronchial and respiratory systems; increases adverse symptoms in asthmatic patients	Contributes to acid fog and rain, which can damage plant and aquatic life; can cause reduced visibility; precursor to smog
Sulfur Dioxide SO_2	A pungent, colorless gas that combines with water vapor to become sulfurous acid (H_2SO_3), which, when combined with oxygen, produces sulfuric acid (H_2SO_4), a very corrosive and irritating chemical	Fossil fuel power plants; nonferrous smelters; Kraft pulp production	Irritates respiratory system; Increases the risk of adverse symptoms in asthmatic patients	Contributes to acid fog and rain, which can damage plant and aquatic life; dissolves stone and corrodes iron and steel; can contribute to reduced visibility
Lead Pb	A widely used metal, which may accumulate in the body	Leaded gasoline; battery manufacturing; battery recycling; smelting; paint	Causes intestinal distress, anemia and damage to the central nervous system, kidneys and brain; children more adversely affected than adults	Harmful to wildlife

Air Quality Index

The EPA developed the Air Quality Index to provide the public with timely and easy-to-understand information on the health implications of local air quality.

◆ "Good"

Air quality is considered satisfactory and air pollution poses little or no risk.

◆ "Moderate"

Air quality is acceptable; however, at these levels there may be a moderate health concern for a very small number of individuals.

◆ "Unhealthy for Sensitive Groups"

Certain groups of people who are particularly sensitive to the harmful effects of certain pollutants are likely to be affected at this level.

◆ "Unhealthy"

The general public may begin to experience adverse health effects. Members of sensitive groups may experience more serious health effects.

Air Quality Index Summary				
Eugene/Springfield (number of days)				
Year	Good	Moderate	Unhealthy (Sensitive)	Unhealthy
2006	339	25	1	0
2005	294	69	2	0
2004	349	17	0	0
2003	343	22	0	0
2002	302	56	7	0

Totals using CO, $PM_{2.5}$ and O_3 data.

Air Quality Index Summary				
Oakridge (number of days)				
Year	Good	Moderate	Unhealthy (Sensitive)	Unhealthy
2006	289	70	6	0
2005	268	76	20	1
2004	277	75	9	1
2003	288	62	12	1
2002	247	94	14	3

Totals using CO, $PM_{2.5}$ and O_3 data.

Ozone Data

Yearly Eight-Hour Ozone Levels — 1996 - 2006 (ppm)

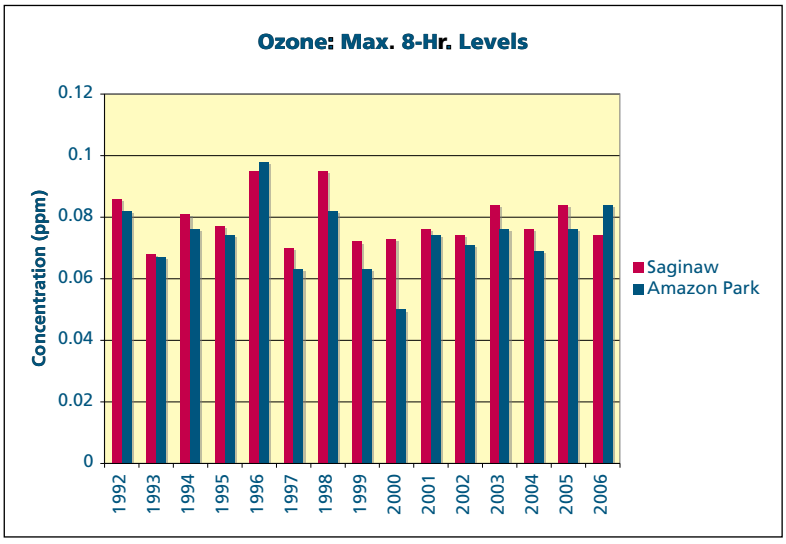
Site #	Site Name	Notes	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
2000036	Delight Valley School — Saginaw	a	.095	.070	.095	.072	.073	.076	.074	.084	.076	.084	.074
		b	.089	.059	.078	.069	.065	.067	.065	.079	.068	.071	.070
		c	6*	0	2	0	0	0	0	0	0	0	0
2018060	Amazon Park	a	.098	.063	.082	.063	.050	.074	.071	.076	.069	.076	.084
		b	.084	.057	.073	.057	.047	.062	.067	.071	.064	.064	.076
		c	0	3*	0	0	0	0	0	0	0	0	0

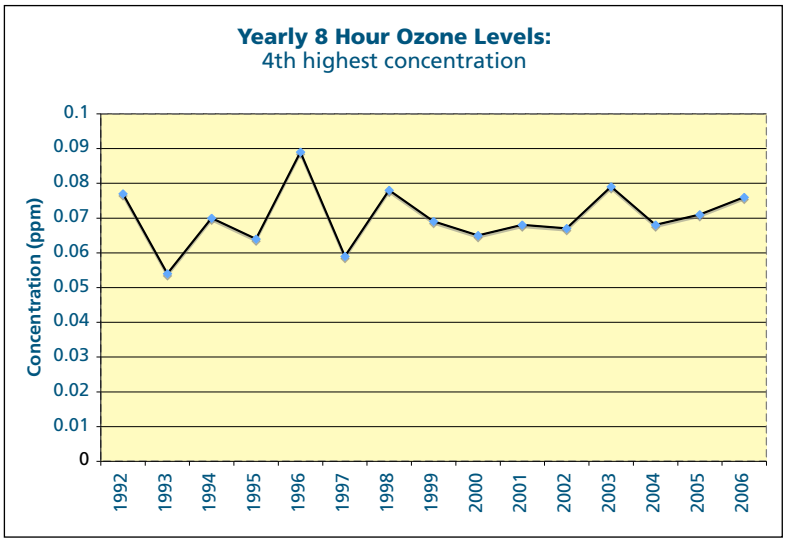
Standard:

Fourth highest 8-hour average: 0.08 parts per million
(technically must be ≥ 0.085 ppm for an exceedance)

Notes:

a Highest 8-hour concentration
b 4th highest 8-hour concentration
c Number of exceedances
--- No data collected at site during year
* Prior to the 1998 established standard; not a formal exceedance





Particulate Matter Data - PM_{10}

Yearly PM_{10} Levels — 1996 - 2006 (ug/m³)

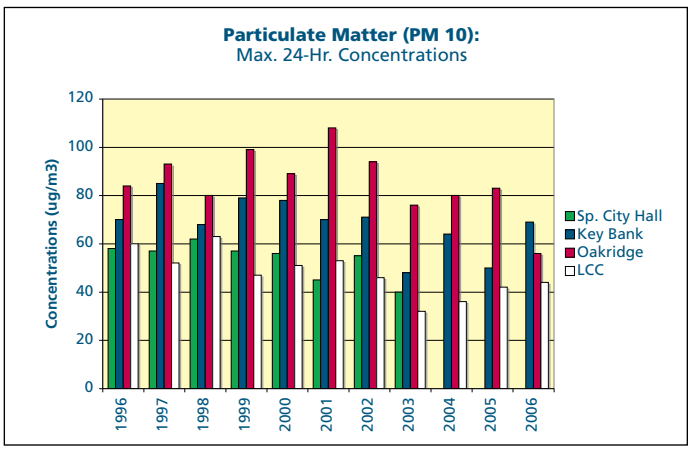
Site #	Site Name	Notes	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
2018056	Lane Community College (dwntwn)	a	18	21	17	19	19	19	17	15	15	15	14
		b	60	52	63	47	51	53	46	32	36	42	44
		c	46	49	56	45	50	35	45	30	35	40	38
		d	0	0	0	0	0	0	0	0	0	0	0
2018058	Key Bank— Hwy 99N	a	22	22	19	20	21	21	21	19	18	18	20
		b	70	85	68	79	78	70	71	48	64	50	69
		c	64	62	67	67	54	65	67	47	44	47	57
		d	0	0	0	0	0	0	0	0	0	0	0
2018060	Amazon Park	a	17	19	15	18	18	18	---	---	---	---	---
		b	61	54	59	60	58	62	---	---	---	---	---
		c	45	53	49	46	55	35	---	---	---	---	---
		d	0	0	0	0	0	0	---	---	---	---	---
2030003	Willamette Activity Ctr.— Oakridge	a	22	21	19	20	23	24	25	21	18	17	17
		b	84	96	80	99	89	108	94	76	80	83	56
		c	78	90	79	73	73	80	83	63	53	76	50
		d	0	0	0	0	0	0	0	0	0	0	0
2033060	Springfield City Hall	a	19	21	19	16	20	19	17	15	---	---	---
		b	58	57	62	57	56	45	55	40	---	---	---
		c	55	49	59	56	46	38	51	36	---	---	---
		d	0	0	0	0	0	0	0	0	---	---	---
2009002	Harrison Elem. Sch. — Cottage Grove	a	19	20	17	19	18	17	19	16	14	14	15
		b	52	75	50	49	38	44	57	44	38	38	42
		c	49	54	48	41	35	37	54	41	32	36	41
		d	0	0	0	0	0	0	0	0	0	0	
2018063	Santa Clara	a	17	---	---	---	---	---	---	---	---	---	---
		b	59	56	---	---	---	---	---	---	---	---	---
		c	56	32	---	---	---	---	---	---	---	---	---
		d	0	0	---	---	---	---	---	---	---	---	---
2000037	North Coburg Road	a	---	---	---	---	---	---	---	---	---	15	16
		b	---	---	---	---	---	---	---	---	---	60	62
		c	---	---	---	---	---	---	---	---	---	57	54
		d	---	---	---	---	---	---	---	---	---	0	0

Standards:

24-hour average — 150 micrograms/cubic meter
Annual arithmetic mean — 50 micrograms/ cubic meter

Notes:

- a Annual arithmetic mean
- b Highest 24-hour concentration
- c 2nd highest 24-hour concentration
- d Number of days over 24-hour standard
- --- No data collected at site during year



Particulate Matter Data - $PM_{2.5}$

Standards:

Annual arithmetic mean: 15 micrograms/cubic meter

24-hour average:* 65 micrograms/cubic meter of the 98th percentile of measured concentrations

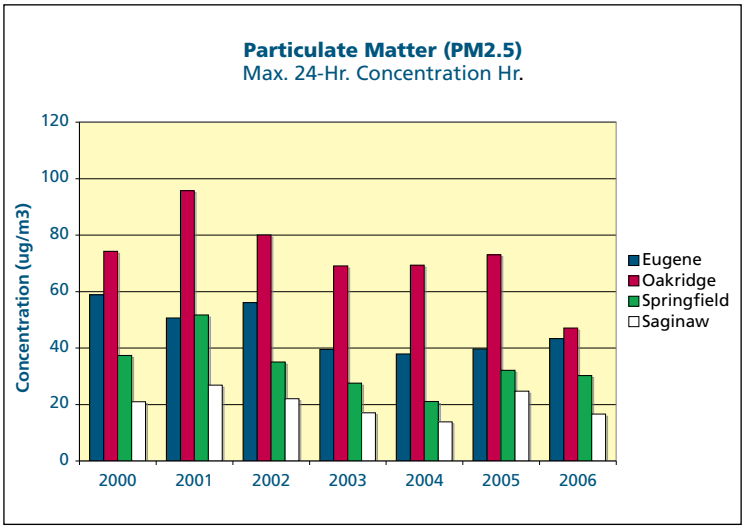
Notes:

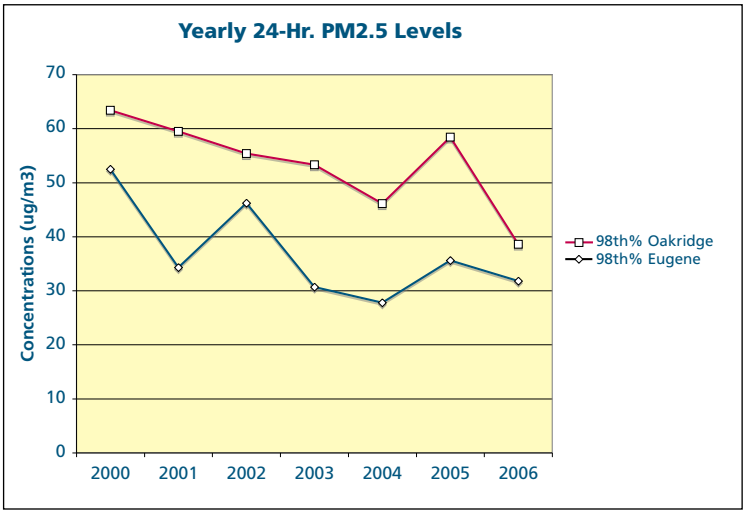
- a Annual arithmetic mean
- b Highest 24-hour concentration
- c 98th percentile concentration
- d Number of days over 24-hour standard
- --- No data collected at site during year

*Changed to 35 micrograms/cubic meter in December 2006

Yearly $PM_{2.5}$ Levels (ug/m^3)— 2001 - 2006

Site #	Site Name	Notes	2001	2002	2003	2004	2005	2006
2033061	Springfield High School	a	8.4	8.3	7.8	---	---	---
		b	43.7	35.3	27.5	---	---	---
		c	26.5	26.2	23.2	---	---	---
		d	0	0	0	---	---	---
2018060	Amazon Park	a	9.4	9.7	8.9	8.7	9.1	8.4
		b	50.6	56.2	39.5	37.9	39.6	43.3
		c	34.3	46.2	30.7	27.8	35.6	31.8
		d	0	0	0	0	0	0
2030003	Willamette Activity Ctr. - Oakridge	a	13.8	14.1	12.3	12.0	12.8	11.1
		b	95.7	80.3	69.0	69.3	73.0	47.0
		c	59.5	55.4	53.3	46.1	58.4	38.6
		d	3	3	1	1	1	0
2000036	Delight Valley School - Saginaw	a	7.0	6.7	6.2	6.0	6.8	5.5
		b	26.8	22.0	17.0	13.8	24.7	16.6
		c	17.1	18.1	15.9	13.1	17.9	16.6
		d	0	0	0	0	0	0
2033060	Springfield City Hall	a	---	---	---	7.6	8	7.4
		b	---	---	---	21.0	32.1	30.2
		c	---	---	---	20.8	24.5	27.8
		d	---	---	---	0	0	0





Carbon Monoxide Data

Yearly Carbon Monoxide Levels — 1996 - 2006 (ppm)

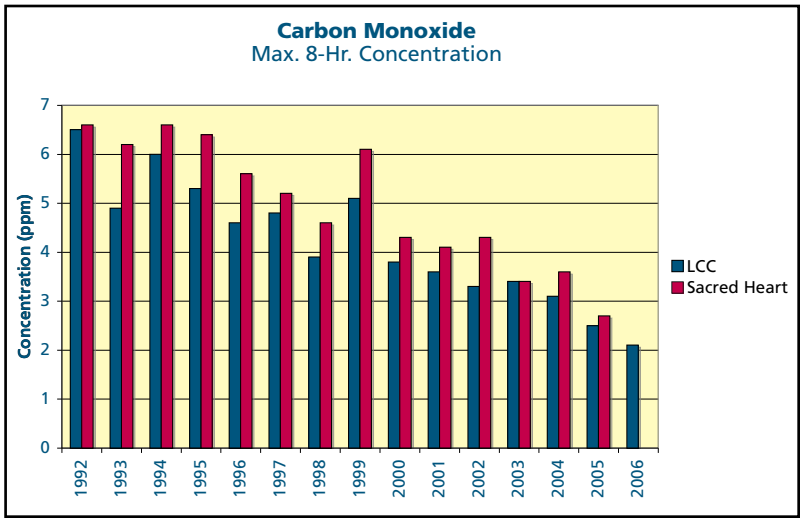
Site #	Site Name	Notes	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
2018056	Lane Comm. College (downtown)	a	4.6	4.8	3.9	5.1	3.8	3.6	3.3	3.4	3.1	2.5	2.1
		b	4.6	4.7	3.9	3.9	3.5	3.6	2.9	2.8	2.6	2.3	2.0
		c	0	0	0	0	0	0	0	0	0	0	0
2018058	Sacred Heart Medical Center	a	5.6	5.2	4.6	6.1	4.3	4.1	4.3	3.4	3.6	2.7	---
		b	5.5	5.2	4.6	4.9	4.3	3.9	4.2	3.3	3.4	2.7	---
		c	0	0	0	0	0	0	0	0	0	0	---

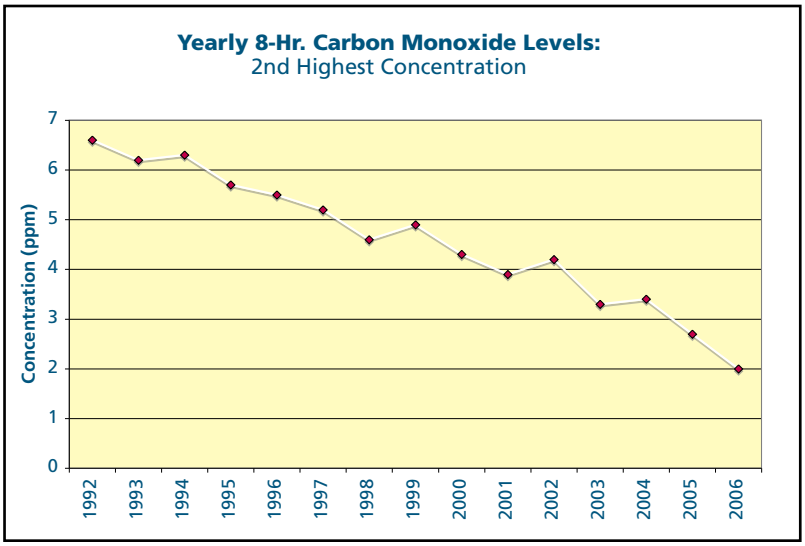
Standard:

8-hour average — 9 parts per million

Notes:

- a Highest 8-hour concentration
- b 2nd highest 8-hour concentration
- c Number of exceedances
- --- No data collected at site during year



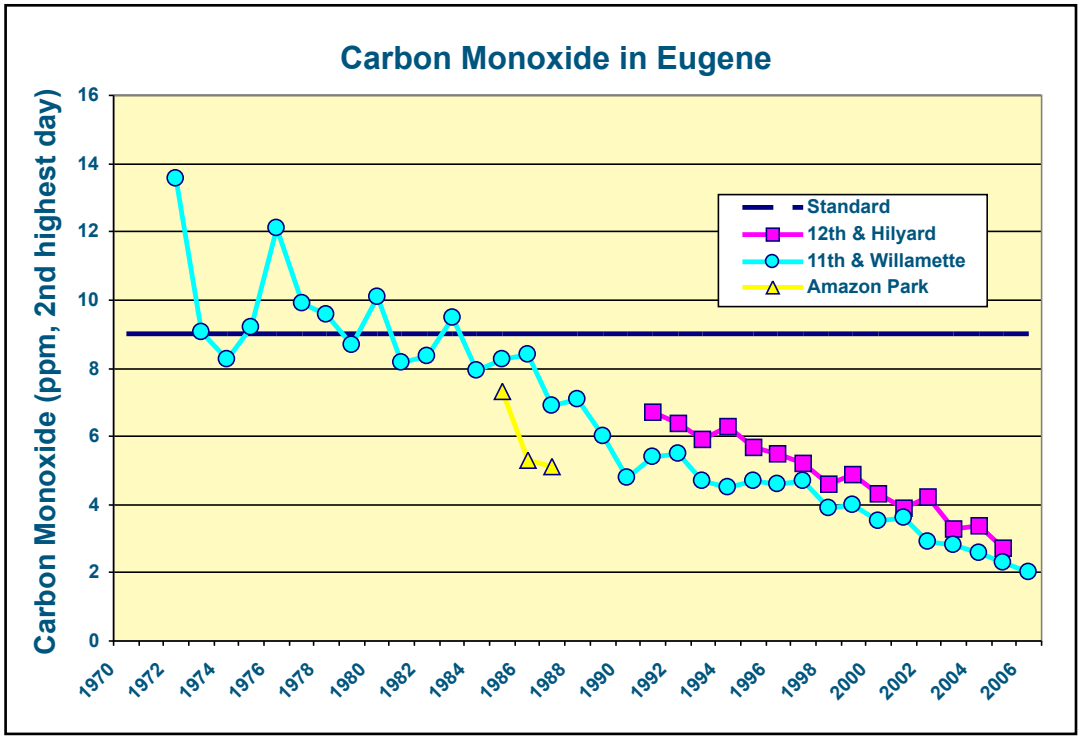


Lane County Trends

LRAPA's air quality monitoring network consists of 10 monitoring sites that include a total of 47 sets of monitoring equipment. The agency collected about 293,000 hours of pollutant-related data in 2006. At an estimated operational cost of $348,250 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 a total of four to six sets of equipment, and a collection basis of fewer than 40,000 hours of pollutant-related data annually.

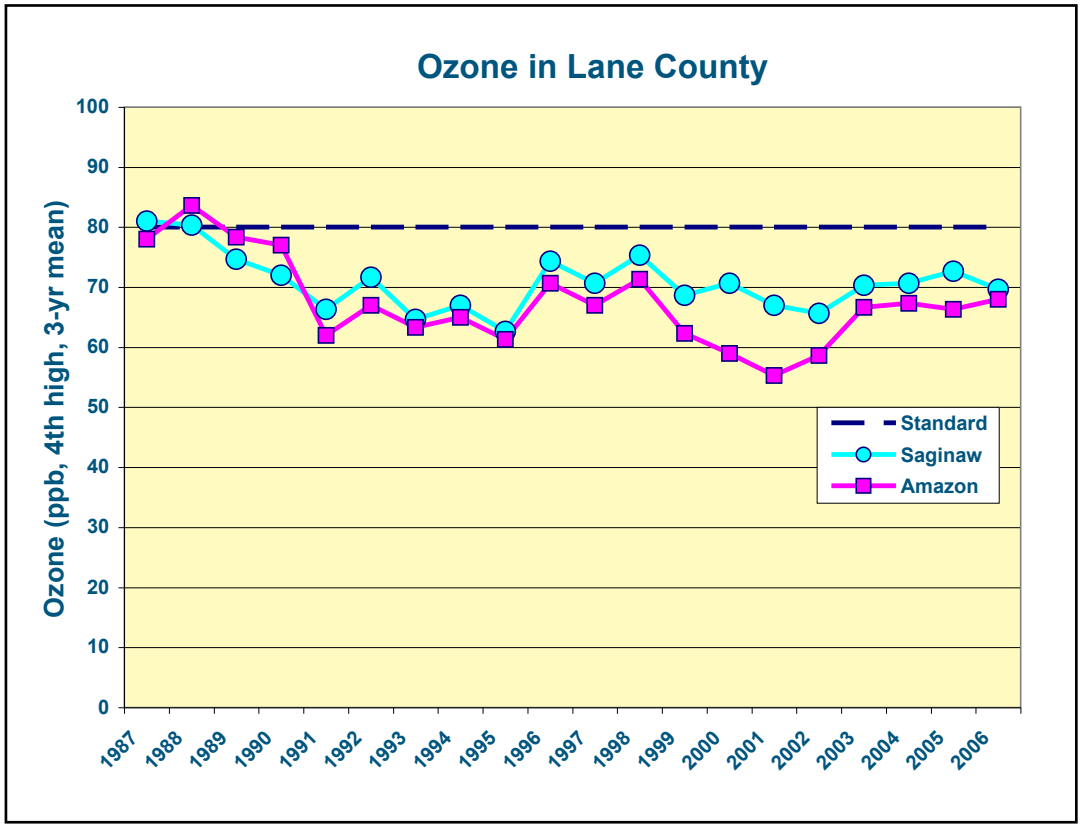
LRAPA's network includes five locations in Eugene, and one each in Springfield, Oakridge, Cottage Grove, Saginaw and Coburg. Sites include:

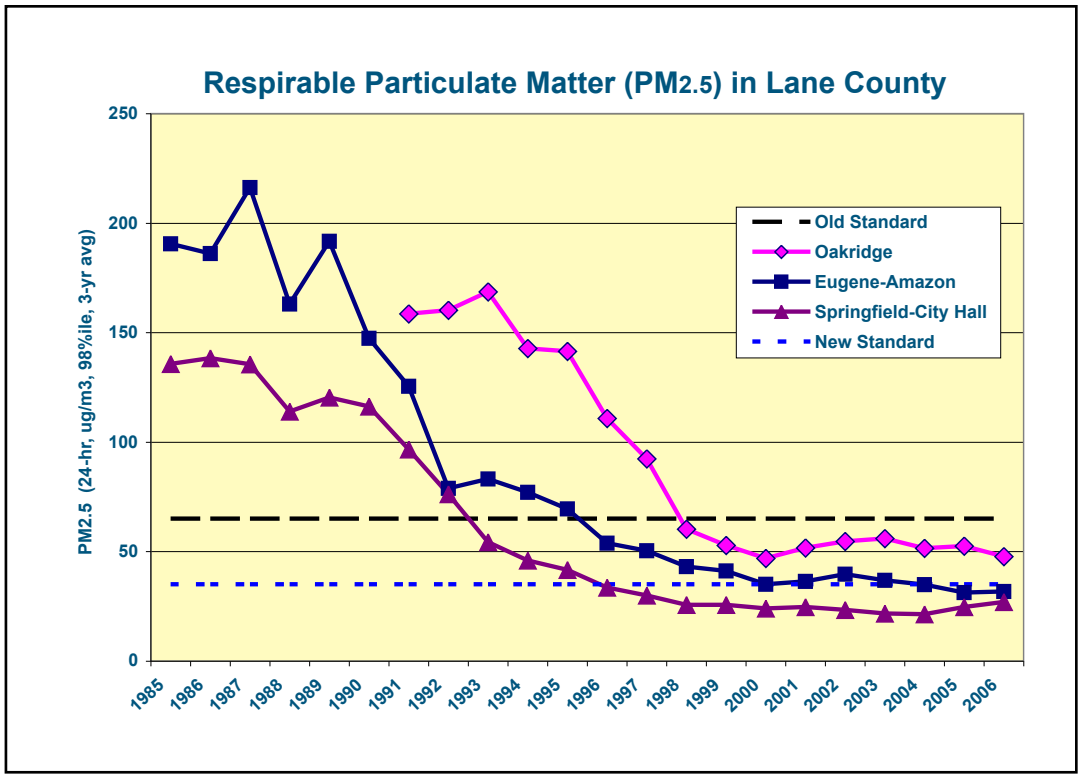
- Amazon Park (South Eugene)
- Coburg (North of the city of Coburg)
- Cottage Grove (Harrison Elementary School)
- Downtown Eugene (11th /Willamette)
- Four Corners (Highway 99/Roosevelt),
- JH Baxter (Baxter/Roosevelt),
- Oakridge Community Center (Oakridge)
- Saginaw (Delight Valley Elementary School)
- Santa Clara (North Eugene)
- Springfield City Hall (Springfield)



Carbon monoxide levels are measured at 11th and Willamette in downtown Eugene. The chart shows carbon monoxide concentrations in Eugene have steadily decreased due to cleaner fuels and better pollution controls on motor vehicles.

Lane County Trends





Lane County Home Wood Heating Programs (HWH)

The Eugene/Springfield urban area and the city of Oakridge have home wood heating advisory programs due to episodes of poor wintertime air quality. Residential wood stove smoke is a major source of PM_{10} and $PM_{2.5}$ emissions in these areas. In fact, according to LRAPA's emission inventory, residential home wood heating smoke accounts for 40 percent of all particulates emitted in Lane County. Home wood heating advisory programs in Lane County use a simple "green, yellow, red" advisory system to inform residents whether or not wood-burning is allowed. The programs do not generally ban all burning, but rather ban visible emissions during "red" advisory periods. Residents are notified of the daily advisories through local media, such as newspapers, radio and television stations. In addition, LRAPA has a 24-hour advisory line for up-to-date information and uses an automated phone notification system with its Oakridge program. While home wood heating is allowed on most days, the agency encourages residents to avoid burning to reduce the health impacts associated with the inhalation of wood smoke.

Eugene/Springfield Program

The Eugene/Springfield urban area began its home wood heating advisory program in 1986 to reduce pollution caused by home wood heating, a major wintertime source of particulates. Eugene/Springfield was designated a federal non-attainment area on August 7, 1987, after violating the federal PM_{10} standards on various occasions in past years. The program changed from voluntary to mandatory in January 1991, as part of LRAPA's federally required implementation plan designed to bring the area back into compliance with the PM_{10} standards.

The Eugene/Springfield mandatory program is now in its 16th season. Residents living within the Eugene/Springfield Urban Growth Boundary (ESUGB) are affected by the program, which runs from November 1 through the end of February. Residents with economic hardship may be granted an exemption from the program on a yearly basis.

Eugene/Springfield HWH Advisories 1996 - 2006 Seasons

Season Year (Nov. - Feb.)	Yellow	Red I	Red II	PM Exceedances
*2006-2007	7	0	0	0
*2005-2006	18	0	0	0
*2004-2005	6	0	0	0
*2003-2004	0	0	0	0
*2002-2003	4	0	0	0
*2001-2002	5	0	0	0
*2000-2001	6	0	0	0
*1999-2000	0	0	0	0
*1998-1999	0	0	0	0
1997-1998	0	0	0	0
1996-1997	0	0	0	0

**Based on $PM_{2.5}$ monitored levels*

In addition to the visible emissions ban, the mandatory program includes a Phase II "red" advisory, which prohibits all burning in wood stoves (without an exemption) in cases of severe deterioration in air quality. Violations of the program can result in fines up to $500 per incident, issued by LRAPA.

In 2002, local ordinances were amended to:

- Ban burning of garbage in woodstoves/fireplaces,
- Add a 40 percent opacity limit on chimneys, and,
- Incorporate the $PM_{2.5}$ standard into the HWH season program.

The amendments were adopted on 7/22/02 in Eugene, 10/30/02 in Springfield, and 9/24/03 in the Eugene/Springfield UGB by Lane County.

Oakridge Program

The city of Oakridge adopted a voluntary home wood heating advisory program in 1989, after air quality data showed Oakridge exceeded the federal PM_{10} standard on numerous occasions. Five years later, on January 20, 1994, EPA officially declared Oakridge a PM_{10} non-attainment area. A plan to get the area back into attainment with the standards was adopted by EPA in March 1999, and became effective on May 14th of that year. Unlike Eugene/Springfield's strategies which were mandatory, the Oakridge plan included voluntary measures.

On February 20, 2003, the Oakridge City Council adopted a home wood heating ordinance that:

- Changed their voluntary measures to mandatory,
- Prohibited burning garbage in woodstoves and fireplaces,
- Incorporated a 40 percent opacity limit on chimneys,
- Incorporated the $PM_{2.5}$ standard into the program, and
- Required the removal of uncertified woodstoves from property to be sold or rented.

Posters placed throughout Oakridge helped promote the change-out program.

The Oakridge mandatory program uses the same basic principles as does the Eugene/Springfield mandatory program, but is enforced by the city of Oakridge, rather than LRAPA.

LRAPA uses an automated call system in Oakridge to inform residents of yellow and red home wood heating advisories.

In winter of 2006, the Warm Homes, Clean Air program was initiated. The program matches Oakridge and Westfir residents with funding from nine partner agencies to help with heating upgrades, weatherization, and home repairs. As part of the program, LRAPA provided funding for woodstove replacements. Between July and December of 2006, 55 uncertified woodstoves were replaced, resulting in a calculated yearly reduction of over 4 tons of particulate matter from the airshed. Further reduction will occur as the result of home weatherization and repairs. Through the partnership, over $650,000 in funding has been made available to the community.

Residents participating in the change-out program received a rebate from LRAPA to help pay for the cost of their heating upgrade.

Oakridge HWH Advisories 1996 - 2006 Seasons

Season (Nov. - Feb.)	Yellow	Red	PM Exceedances
*2006-2007	28	0	0
*2005-2006	20	1	1
*2004-2005	37	0	0
*2003-2004	15	0	1
*2002-2003	29	0	2
*2001-2002	11	0	3
*2000-2001	35	2	2
*1999-2000	11	0	2
*1998-1999	6	0	1
1997-1998	1	0	0
1996-1997	5	0	0

**Based on $PM_{2.5}$ monitored levels*

Wood Burning Advisories
(November — February)

LRAPA uses the $PM_{2.5}$ standard when determining home wood heating advisories. Advisories are determined by comparing current pollution levels to current meteorological conditions and weather forecasts.

Eugene/Springfield and Oakridge

Green— Means air quality is good at this time and unrestricted use of a wood heating device is allowed. Called when pollution levels are forecast to be less than 40 ug/m³ (micrograms per cubic meter) – the standard being 65 ug/m³.

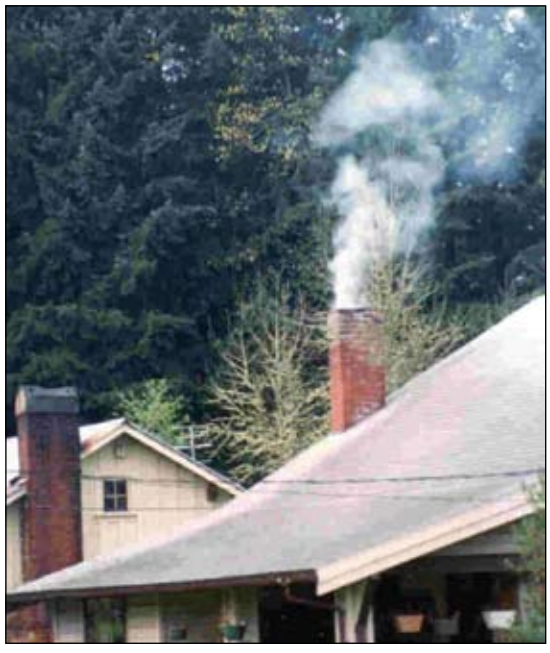
Yellow— Means air quality is deteriorating. Residents are asked to cut back on home wood-heating use. Called when pollution levels are forecast to be greater than or equal to 41 ug/m³, but less than 54 ug/m³.

Red I— Means air quality is reaching an unhealthy stage. Visible smoke from a chimney will result in a violation, unless the resident has an exemption. Burning is allowed if done without producing any visible smoke. Called when pollution levels are forecast to be greater than or equal to 55 ug/m³, but less than 65 ug/m³.

Red II— Means all burning must stop. Use of a pellet stove is allowed if no visible smoke is emitted into the air. Called when levels are forecast to be greater than or equal to 65 ug/m³.

Chimney smoke should be negligible when a wood stove/fireplace is being properly used.

Firewood Tree Species	Available Heat Million Btu/Cord 20% Moisture
Alder	20
Apple	35
Ash	27
Birch	24
Cedar	16
Cherry	25
Cottonwood	17
Elm, American	18
Fir, Douglas	23
Fir, White	19
Hemlock	21
Juniper	25
Madrone	34
Oak, Red	29
Oak, White	33
Maple	25
Pine, Lodgepole	20
Pine, Ponderosa	18
Pine, White	18
Poplar	12
Walnut, Black	25
Walnut, English	25
Willow	16



A smoky chimney indicates improper use of a wood stove/fireplace and emits excess pollution into the air.

Program Summaries

LRAPA collected $16,404 in penalties during 2006. All penalties collected are forwarded to Lane County; however, attorney fees associated with contested cases are deducted first.

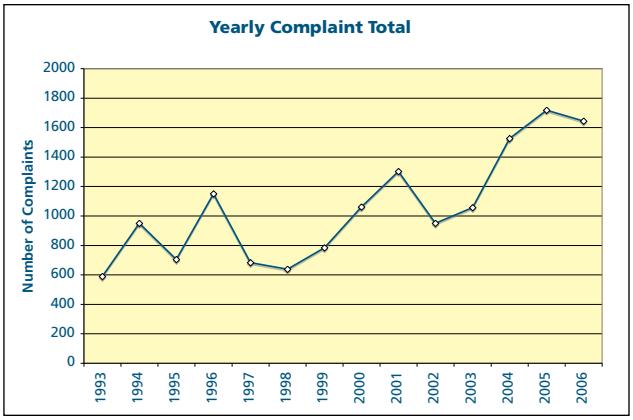
Administrative warnings/Notices of non-compliance.....51
Notices of violation with/ civil penalty:.....33

Complaint Response

It is LRAPA's policy to investigate in a timely manner every complaint called into the agency. Staff investigated 1,067 formal complaints in 2006. Field burning complaints, however, are typically not investigated by staff, but forwarded to the Oregon Department of Agriculture, which has jurisdiction.

The number of complaints, and percent changes from the previously are as follows by category:

Backyard burning .....-45%
Dust .....-6%
Field burning .....+74%
General air quality .....-12%
Home wood-heating.....+11%
Industry.....-40%
Miscellaneous .....+26%
Open burning.....-5%
Slash burning.....+32%
Unknown .....+8%
Total complaints.....-4%



Complaints 1996 - 2006

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Backyard burning	85	77	71	104	91	98	122	104	94	116	63
Dust	18	19	30	17	17	27	25	15	17	35	33
Field burning	747	247	218	279	198	199	294	96	103	330	576
General air quality	3	4	7	11	4	4	4	6	2	8	7
Home wood heating	38	52	45	53	37	58	73	71	82	80	89
Industry	92	111	99	118	492	689	168	530	880	768	465
Miscellaneous	25	27	31	46	46	44	34	32	66	75	95
Open burning	89	91	98	91	91	103	142	90	163	179	169
Slash burning	16	16	13	9	35	18	23	9	8	31	41
Unknown	37	39	26	55	49	61	65	103	110	97	105
Total	**1150**	**683**	**638**	**783**	**1060**	**1301**	**950**	**1056**	**1525**	**1719**	**1643**

Program Summaries

Operations —

Permitting

LRAPA-issued operating permits are required for a number of industries and businesses in Lane County. Of the 190 permitted sources in Lane County, 170 have basic Air Contaminant Discharge Permits (ACDP), and 20 hold Title V Federal Operating Permits.

ACDPs are issued to all industries required by LRAPA rules to obtain permits, except those "major" sources subject to federal operating permit requirements. Industrial sources are classified as "major" sources if they have the potential to emit more than 100 tons of any criteria pollutant (see pg. 11), 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.

Industrial source categories in Lane County which require operating permits include: food and agriculture, wood products manufacturing, chemical products manufacturing, mineral products manufacturing, metal products manufacturing; waste treatment, fuel burning, fuel transfer operations, coating operations, sources of toxic air pollutants, and any source emitting more than 10 tons per year of any combination of criteria pollutants.

2006 Permitting Summary –

Permits issued or renewed..... 58
Permits modified..... 18
Industries inspected..... 107
Note: Some industries have multiple inspections in a year.

Asbestos Abatement

Remodeling and renovation projects in Lane County that include asbestos abatement must register with LRAPA. In 2006, LRAPA documented 449 notifications of asbestos abatement projects. LRAPA inspected 75, or 16 percent, of all projects. Thirteen violations were found. By category, the total number of abatement projects included:

Residential 258
Schools 54
Business/Industry 103
Other 34

Enforcement

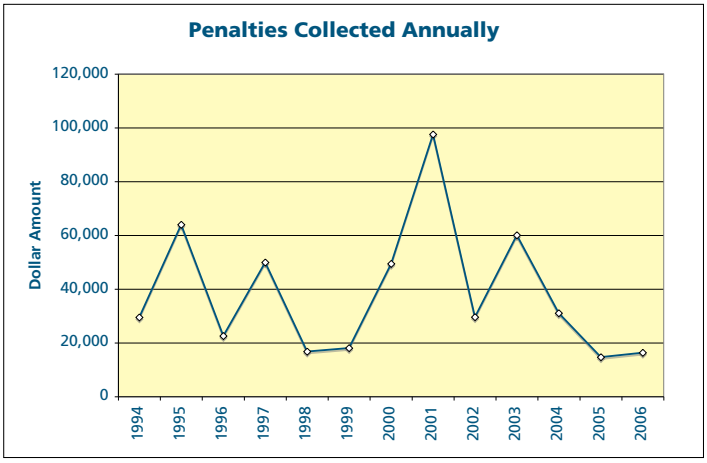
LRAPA initiates enforcement actions in instances of excessive industrial air pollution, illegal open burning activities, improper handling or transport of asbestos-containing materials, and failure to obtain necessary air pollution permits prior to construction or operation.

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.

Program Summaries

Enforcement Actions 1997 - 2006

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Administrative warnings and Notices of non-compliance	75	57	91	118	102	129	103	52	55	51
Notices of violation w/ civil penalty	12	17	39	80	64	72	67	31	39	33
Total civil penalties collected $$	22,635	49,950	16,775	18,070	49,437	97,584	49,590	31,097	14,700	16,404



LRAPA monitoring site: one of four sites equipped to collect and log both pollution and meteorological data.

Technical Services —

Monitoring and Data Management

LRAPA's monitoring network consists of 47 sets of monitoring equipment at 10 sites in Lane County including Eugene, Springfield, Coburg, Saginaw, Cottage Grove and Oakridge. LRAPA's network samples for particulate matter, ozone, carbon monoxide, and hazardous air pollutants. Approximately 293,000 hours of pollutant-related and meteorological data were collected last year.

The agency's in-house laboratory analyzes samples collected from the monitoring network, and staff regularly calibrates all network equipment.

Airmetrics

Airmetrics is an LRAPA enterprise which manufactures an inexpensive, portable, battery-operated air sampler patented as the MiniVol. The sampler has been adapted to sample gaseous pollutants, such as carbon monoxide and nitrogen oxides, as well as particulates (PM_{10} and $PM_{2.5}$).

The MiniVol and related products are sold worldwide with nearly 50 percent of annual sales being international.

Sales for the '05-'06 fiscal year totaled $1,456,800.00 with a net profit to the agency of $150,665. Revenues generated by the enterprise are allocated to help defray capital costs.

Education and Outreach —

LRAPA understands that public education is an integral part of any program if lasting behavioral changes to reduce air pollution are to occur.

The agency provides education to the community in a number of different ways, including forming partnerships with local media and other private and public entities; providing written materials such as brochures and fact sheets; making presentations to service-clubs, local, state, and national professional associations; providing education at area schools; participating in local fairs and trade shows; and sharing agency information on its website: www.lrapa.org.

LRAPA participated in the local Green Earth Home Show, using an interactive display to educate participants about air quality problems and solutions.

2006 education projects included:

- Classroom presentation program:
  Lane County 4th grade program;
  Eugene and Oakridge outdoor school programs;
  Rachel Carson Alternative School.
- Earth Day Celebration: No-idling school zones / clean school bus programs
- Green Earth Home Show: Interactive air pollution display
- Warm Homes/Clean Air Oakridge Community project
- Home Wood Heating season advisory program
- Oakridge School Air Quality Index (AQI) flag project
- Eco-biz program for auto repair shops
- Ozone Action Day advisory program
- Open burning TV/Radio campaign
- Regional open burning ad campaign
- Supplemental Environmental Project outreach (permitting and enforcement)
- Customer satisfaction survey
- Stop-Don't-Top vehicle emission ad campaign
- No-idle school campaign

Field Burning Summary

The Department of Agriculture has jurisdiction over field burning in Oregon. However, because of local public interest, LRAPA summarizes field burning data in the southern Willamette Valley, including Benton, Linn and Lane counties. Oregon law allows up to 65,000 acres to be open-burned annually — 40,000 acres for normal applications and 25,000 acres for steep terrain and specially identified species, and an additional 37,500 acres of propane flaming. There has been no limitation on stack burning. The total acreage open burned in the southern Willamette Valley in 2006 was 34,045 acres. In addition, 130 acres were propane flamed, all in Linn County. There were no intrusions into the area.

Field Burning Year-end Totals

Year end	S. Willamette acres burned	Number of intrusions	Impact hours	Number of complaints
2006	34,045	0/Eug. 0/Spfld.	0/Eug. 0/Spfld.	576
2005	33,702	2/Eug. 3/Spfld.	2/Eug. 6/Spfld.	330
2004	33,830	0/Eug. 0/Spfld.	0/Eug. 0/Spfld.	103
2003	31,654	0/Eug. 0/Spfld.	0/Eug. 0/Spfld.	96
2002	35,483	0/Eug. 1/Spfld.	0/Eug. 1/Spfld.	294

Special Projects

In its continuing effort to address community concerns, LRAPA was involved with a number of special projects in 2006. Special projects may be conducted internally, or in support of planning or community development efforts by other local, state and federal agencies. These projects are conducted in addition to routine agency functions and often require the use of additional temporary staff.

- *Coburg monitoring site* - A full-service monitoring site, complete with meteorological equipment, was installed north of Coburg to gather base-line pollution data in anticipation of a proposed natural gas-fired power plant near the town. Data was collected and analyzed for two years to determine the impacts of such a facility on air quality. *(Completed)*
- *J.H. Baxter monitoring site* - Soaring neighborhood complaints about odors from the J.H. Baxter facility has resulted in a cooperative agreement with the facility to install a meteorological site on facility grounds to obtain weather data as it pertains to plant operations. The data is used to determine directional movement of odors associated with facility production. *(On-going)*
- *J.H. Baxter neighborhood air sampling analysis* - Funding was secured to conduct and analyze 15-20 air samples downwind of the J.H. Baxter facility to characterize emissions from treating processes routinely conducted at the facility. This project is a cooperative agreement between the agency and the facility to determine chemical concentrations in ambient air in nearby neighborhoods. Monitoring was conducted through December 2006. *(Completed)*
- *Warm Homes/Clean Air Oakridge Community Project* – This LRAPA-sponsored collaborative effort matches residents with funding programs that help with the costs of home repairs, weatherization, and heating system upgrades. Through this effort, organizers work together to bring residents a tailored set of options designed specifically for them using a single application form, eliminating the need for residents to search for available funding programs. In 2006, over $650,000 in funding was made available to the community. *(In progress)*
- *Everybody Wins Phase I* - The installation of APUs was completed in December of 2005. Activity in this program continues with the collection of lease payments until the end of 2010. Drivers participating in the program will be surveyed at a later date to evaluate the impact of the project and the success of the idle-reduction equipment in reducing harmful diesel emissions. *(Completed)*

- *Everybody Wins Phase II* – LRAPA and the Oregon Department of Energy initiated another auxiliary power unit (APU) installation program in January of 2006, with additional funding provided by a $500,000 grant from the Environmental Protection Agency (EPA). The first part of the program has been completed with the installation of 250 APUs on trucks in Oregon and on the I-5 corridor. The next component of the project will be the collection of data about the use of the APUs. LRAPA will partner with Lane Council of Governments (LCOG), using onboard GPS data collectors to track the use and performance of APUs on 100 trucks for over a year. The conclusion of the project will be a case study report to the EPA that will be used to document the effectiveness of the idle reduction technology to the trucking industry. *(In progress)*

- *Clean School Bus USA* – Through funding from the EPA, LRAPA helped school districts in Oregon receive assistance to purchase school bus equipment and clean fuel that reduce diesel emissions. The 4J School District is the lead applicant in Lane County and will help administer awards to other partnering school districts, including Eugene, Springfield, South Lane, Blachly, and Harrisburg. This grant will install diesel oxidation catalysts (DOCs) on buses, provide subsidies for the use of bio-diesel fuel blends, and implement anti-idling policies for school buses. *(On-going)*
- *Ultra Low Sulfur Diesel Buy-Down project* - Another statewide partnership with the Oregon Department of Environmental Quality, this project provides a $0.05 per-gallon subsidy toward the purchase of ultra low sulfur diesel. Private and public fleets can apply for the subsidy under this program. *(In progress)*
- *Lane Clean Diesel project* - The stakeholders participating in this project have succeeded in providing a stable and affordable supply of ultra low sulfur diesel fuel (ULSD) and biodiesel in Lane County. Bulk storage tanks for ULSD have been added to fuel distribution sites in Eugene. ULSD and biodiesel are available at a card lock facility in Oakridge, and the Pacific Northwest's first biofuel retail station opened in Eugene in August 2006. LRAPA continues to assist public and private partners in applying for additional EPA funding that will promote the use of alternative fuels. *(On-going)*
- *School No-Idle Campaign* – Funding was secured to purchase no-idle zone traffic signs for use at local schools. In fall 2006, over 40 no-idle signs were installed at Eugene and Springfield elementary and middle schools. In addition, over 3,000 flyers were sent home with students to remind parents of the importance of being idle-free. *(In progress)*
- *Oakridge School Flag Project* – An air quality curriculum was developed for students at Oakridge Elementary School. The curriculum explains the health impacts of air pollution and how the air quality index is used to provide the public with simple information on local air quality. The curriculum includes learning activities and four color-coded air quality "flags" that are displayed by students on the school grounds to show air quality for that day. *(Completed)*

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