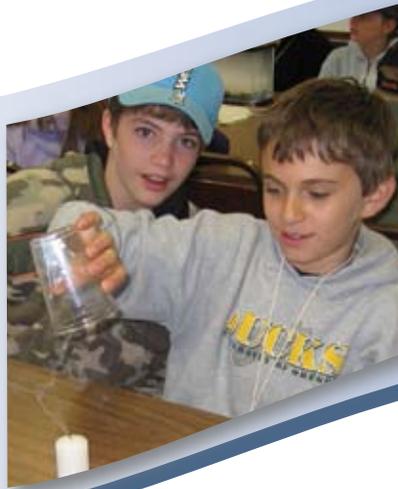


Lane Regional Air Protection Agency
2005 Annual Report



LRAPA
Lane Regional Air Protection Agency

Contents

LRAPA Organization	4-6
Program Operations	7
Funding/Budget.....	7
Lane County: Setting, Topography, Meteorology	8
National Ambient Air Quality Standards (NAAQS)	9-12
NAAQS	9
Lane County Criteria Pollutants	10
Criteria Pollutants Chart	11
Air Quality Index	12
Lane County Pollution Concentrations.....	13-16
Ozone	13
Particulate Matter - PM ₁₀	14
Particulate Matter - PM _{2.5}	15
Carbon Monoxide	16
Lane County Trends.....	17-18
Lane County Home Wood Heating Programs	19-21
Program Summaries	22-25
Complaint Data	22
Operations	23
Enforcement Data	24
Technical Services	24
Education and Outreach	25
Field Burning Summary	25
Special Projects	26-27

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



As the new LRAPA director, I am impressed with the air quality improvements achieved in Lane County since LRAPA was established 38 years ago, especially when recognizing the significant growth that has occurred.

As new director, one of the first tasks at hand was a review of the agency's mission and goals to assure they reflect LRAPA's role in the community. Upon review, staff and the Board of Directors recognized the identity fell short of an accurate description of the agency today.

What resulted was not only a revision of the agency's formal mission and goals, but a change in the agency's name as well. The Lane Regional Air Pollution Authority – LRAPA – became the Lane Regional Air Protection Agency – LRAPA, moving away from a negative and regulatory-only emphasis of 'pollution' and 'authority' to a more positive and broader emphasis of 'protection' and 'agency' while still maintaining the established LRAPA acronym.

We believe this new image captures the true spirit of the agency, one dedicated to its partners, constituents and the community for the continued improvement of air quality in Lane County.

Looking ahead to 2006 and beyond, two of our most important opportunities to work together to further improve air quality involve PM2.5 and Air Toxics.

PM2.5: Recent health studies prompted the U.S. Environmental Protection Agency (EPA) in December 2005 to propose more protective PM2.5 standards for adoption in September 2006. This means we need to continue progress to reduce PM2.5 in Lane County and especially in Oakridge. Fortunately the Warm Homes Clean Air Project is well underway in Oakridge with the staffs of several agencies partnering with City Manager Gordon Zimmerman to upgrade heating systems and weatherize homes. The long-term trend graphs presented later in this annual report illustrate how far we have come as well as the continued improvement needed to meet the more protective health standards.

Air Toxics: Much has been done in recent years to better characterize air toxics, evaluate the relative risk of various chemicals, develop Maximum Achievable Control Technology or MACT for specific industries, and establish appropriate targets or "benchmarks" for the air we breathe. For example, during 2006-2007, several of the MACT standards will be implemented by RV coach manufacturers, wood products industries and others to further reduce air toxics. These MACT standards are based on the air toxics emission controls achieved by the best-performing similar industries across the country. More will be done in the months ahead.

These are exciting times! We look forward to working with you all to "ensure clean air for everyone."

Merlyn Hough

Director, Lane Regional Air Protection Agency

LRAPA ORGANIZATION

2005 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
5 yrs. service
Springfield City Council Appointment



Faye Stewart
1 yr. service
Lane County Board of
Commissioners



Drew Johnson
1 yr. service
Eugene City Council Appointment



Betty Taylor
9 yrs. service
Eugene City Council



Glenn Fortune
1 yr. service
Cottage Grove City Council



Earl Koenig
1 yr. service
Eugene City Council Appointment



Carol Tannenbaum
9 yrs. service
LRAPA Board Appointment



David Monk
1 yr. service
Eugene City Council Appointment



Bill Carpenter
1 yr. service
Springfield City Council Appointment

LRAPA ORGANIZATION

2005 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 - 6 yrs. service — Chair

Representing Major Industry

Doug Brooke - 6 yrs. service — Vice-Chair

Representing Industry

Dave Breitenstein - 8 yrs. service

Representing General Public

Larry Dunlap - 7 yrs. service

Representing Public Health

Paul Engleking - 8 yrs. service

Representing General Public

Rick Rogers - 7 yrs. service

Representing Fire Suppression

John Tamulonis - 8 yrs. service

Representing Planning

Bill Young - 5 yrs. service

Representing Agriculture

Jim Leary - 1 yr. service

Representing Industry

Gary Vander Meer - 3 yrs. service

Representing General Public

Lorena Young - 14 yrs. service

Representing General Public

Bonnie Palmer - 1 yr. service

Representing General Public

Maurie Denner - 1 yr. service

Representing General Public

2005 LRAPA BUDGET COMMITTEE*

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

John Woodrow II

Kevin Wells

Landa Gillette

Kim Leval

Kevin Matthews

Eric DeFreest

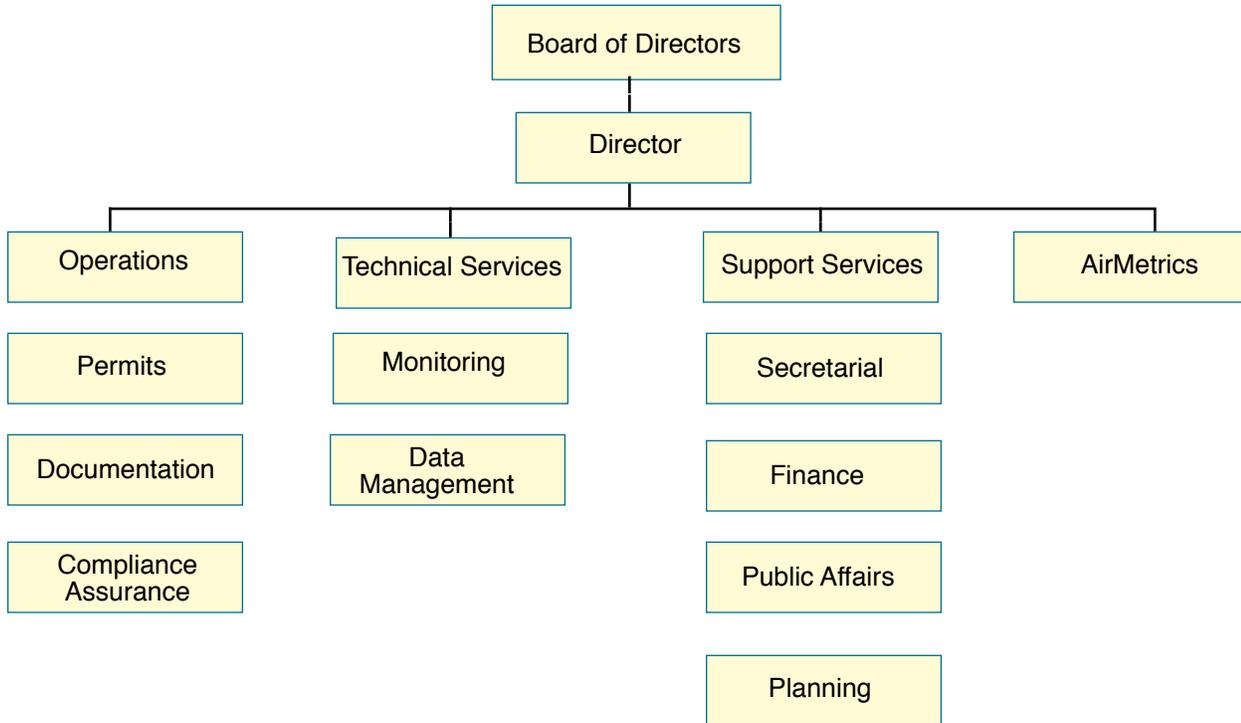
Glenn Fortune

* This report reflects the 2005 Board and committee members. Changes in memberships have occurred since January 2006.

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 18 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

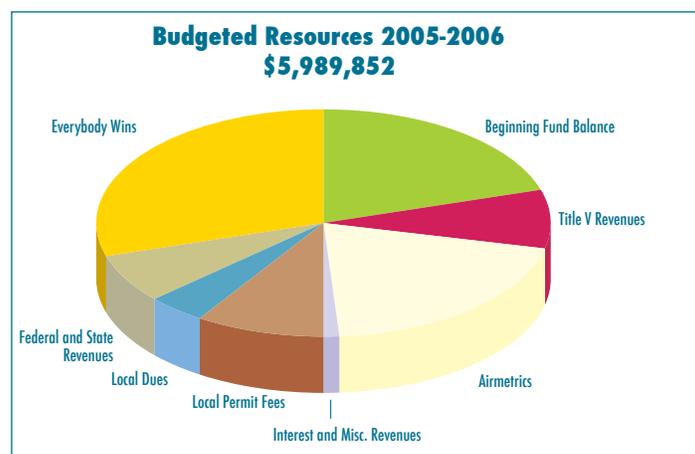
Public Information/Education - works with all sections of the agency to promote public understanding, education and awareness of the agency and local air quality issues.

Airmetrics

Manufactures and markets portable air-sampling devices and services.

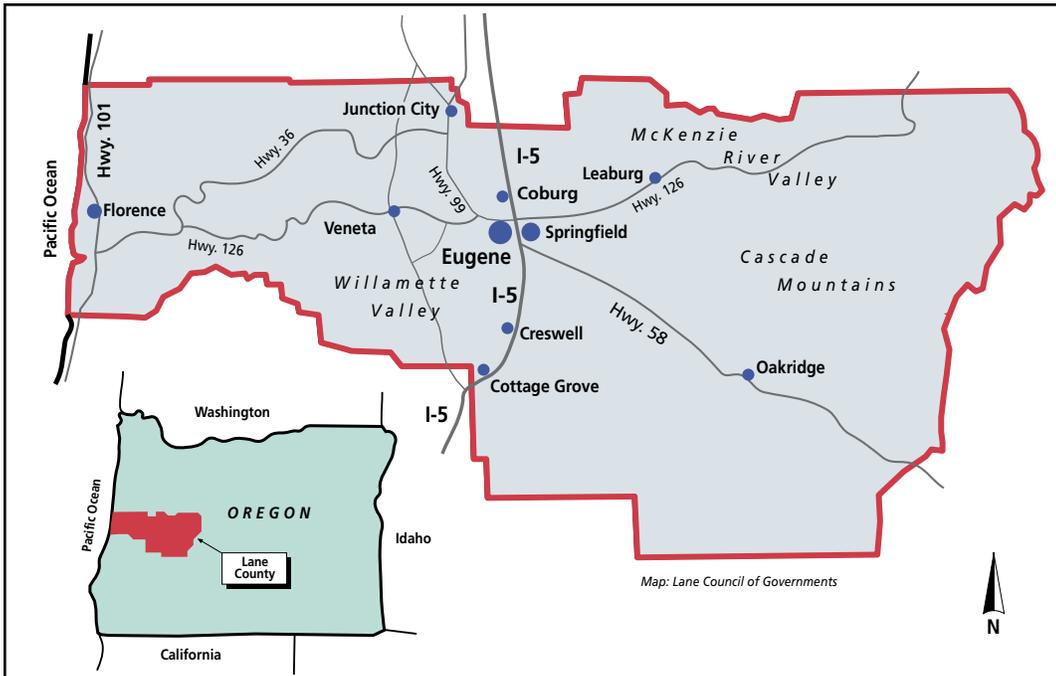
FUNDING/BUDGET

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.



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.



The distant hills in this photo looking out over Eugene are obscured because of area haze. Local topography and weather often cause pollutants to build 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 (PM₁₀ and PM_{2.5}), ozone (O₃), carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂) and lead (Pb). Three of the six pollutants are monitored in Lane County: Particulate matter, ozone and carbon monoxide.

In 2005, The United States Environmental Protection Agency (EPA) issued a proposal to lower the daily PM 2.5 standard from 65 to 35 micrograms per cubic meter and retain the three year annual mean standard at 15 micrograms per cubic meter. If adopted, the new standards will be put in effect in September, 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 PM₁₀ Standard — The standard is met when the three-year average of the annual mean PM₁₀ concentration at each monitoring site is less than or equal to 50 micrograms per cubic meter.
- ◆ 24-hour PM₁₀ 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 65 micrograms per cubic meter.

Federal Ambient Air Quality Standards		
Pollutant	Federal Standard	Monitoring Status in Lane County
Particulate (PM_{2.5}) 24-hour standard Annual standard	65 ug/m ³ 15 ug/m ³	Required Required
Particulate (PM₁₀) 24-hour standard Annual standard	150 ug/m ³ 50 ug/m ³	Required Required
Carbon Monoxide (CO) 8-hour average 1-hour average	9 ppm 35 ppm	Required Required
Ozone (O₃) 8-hour average	0.08 ppm	Required
Sulfur Dioxide (SO₂) 24-hour average 1-hour average	0.14 ppm 0.10 ppm	Not required Not required
Nitrogen Dioxide (NO₂) Annual average	0.05 ppm	Not required
Lead (Pb)	1.5 ug/m ³	Not required

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.

ug/m³: micrograms per cubic meter
ppm: 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.

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 O₃	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 NO₂	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 SO₂	A pungent, colorless gas that combines with water vapor to become sulfurous acid (H ₂ SO ₃), which, when combined with oxygen, produces sulfuric acid (H ₂ SO 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
2005	294	69	2	0
2004	349	17	0	0
2003	343	22	0	0
2002	302	56	7	0
2001	304	54	7	0

Totals using CO, PM_{2.5} and O₃ data.

AIR QUALITY INDEX SUMMARY				
OAKRIDGE (NUMBER OF DAYS)				
Year	Good	Moderate	Unhealthy (Sensitive)	Unhealthy
2005	268	76	20	1
2004	277	75	9	1
2003	288	62	12	1
2002	247	94	14	3
2001	270	61	23	2

Totals using CO, PM_{2.5} and O₃ data.

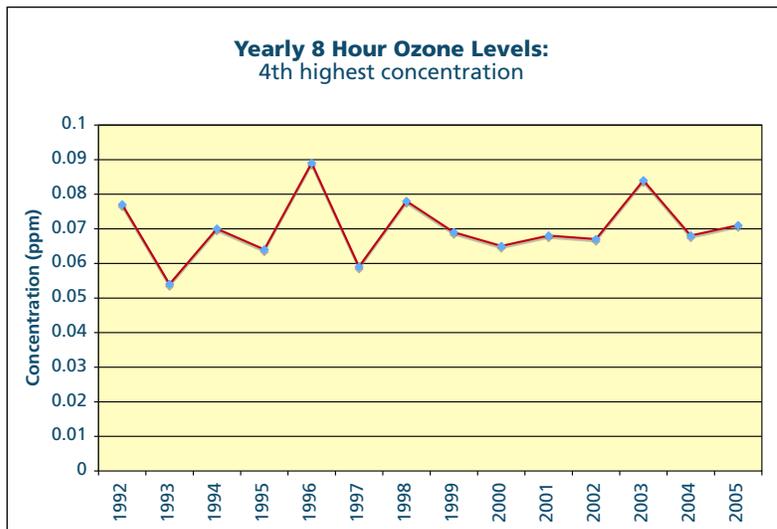
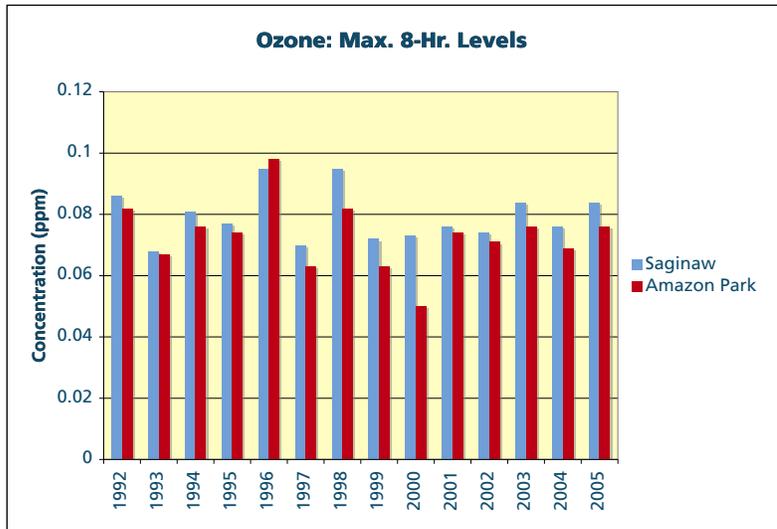
OZONE DATA

YEARLY EIGHT-HOUR OZONE LEVELS — 1995 - 2005 (ppm)													
Site #	Site Name	Notes	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
2000036	Delight Valley School — Saginaw	a	.077	.095	.070	.095	.072	.073	.076	.074	.084	.076	.084
		b	.064	.089	.059	.078	.069	.065	.067	.065	.079	.068	.071
		c	0	6*	0	2	0	0	0	0	0	0	0
2018060	Amazon Park	a	.074	.098	.063	.082	.063	.050	.074	.071	.076	0.69	.076
		b	.060	.084	.057	.073	.057	.047	.062	.067	.071	.064	.064
		c	0	0	3*	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

YEARLY PM ₁₀ LEVELS — 1995 - 2005 (ug/m ³)														
Site #	Site Name	Notes	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
2018056	Lane Community College (downtwn)	a	21	18	21	17	19	19	19	17	15	15	15	
		b	52	60	52	63	47	51	53	46	32	36	42	
		c	49	46	49	56	45	50	35	45	45	30	35	40
		d	0	0	0	0	0	0	0	0	0	0	0	0
2018058	Key Bank— Hwy 99N	a	26	22	22	19	20	21	21	21	19	18	18	
		b	84	70	85	68	79	78	70	71	48	64	50	
		c	70	64	62	67	67	54	65	67	47	44	47	
		d	0	0	0	0	0	0	0	0	0	0	0	
2018060	Amazon Park	a	19	17	19	15	18	18	18	---	---	---	---	
		b	63	61	54	59	60	58	62	---	---	---	---	
		c	57	45	53	49	46	55	35	---	---	---	---	
		d	0	0	0	0	0	0	0	---	---	---	---	
2030003	Willamette Activity Ctr.— Oakridge	a	23	22	21	19	20	23	24	25	21	18	17	
		b	142	84	96	80	99	89	108	94	76	80	83	
		c	135	78	90	79	73	73	80	83	63	53	76	
		d	0	0	0	0	0	0	0	0	0	0	0	
2033060	Springfield City Hall	a	22	19	21	19	16	20	19	17	15	---	---	
		b	48	58	57	62	57	56	45	55	40	---	---	
		c	44	55	49	59	56	46	38	51	36	---	---	
		d	0	0	0	0	0	0	0	0	0	---	---	
2009002	Harrison Elem. Sch. — Cottage Grove	a	22	19	20	17	19	18	17	19	16	14	14	
		b	93	52	75	50	49	38	44	57	44	38	38	
		c	46	49	54	48	41	35	37	54	41	32	36	
		d	0	0	0	0	0	0	0	0	0	0	0	
2018063	Santa Clara	a	18	17	---	---	---	---	---	---	---	---	---	
		b	68	59	56	---	---	---	---	---	---	---	---	
		c	63	56	32	---	---	---	---	---	---	---	---	
		d	0	0	0	---	---	---	---	---	---	---	---	
2000037	North Coburg Road	a	---	---	---	---	---	---	---	---	---	---	15	
		b	---	---	---	---	---	---	---	---	---	---	60	
		c	---	---	---	---	---	---	---	---	---	---	57	
		d	---	---	---	---	---	---	---	---	---	---	0	

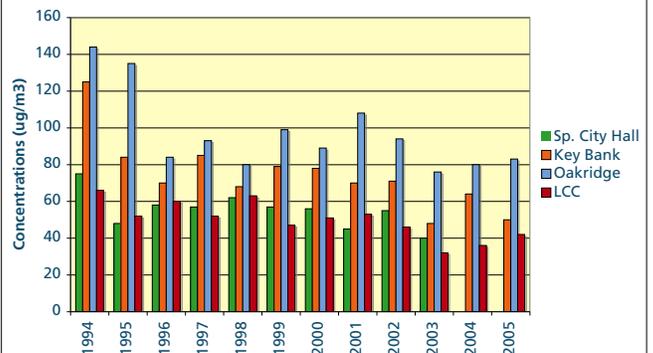
Standards:

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 (Pm 10):
Max. 24-Hr. Concentrations



PARTICULATE MATTER DATA

Standards:

Annual arithmetic mean:

15 micrograms/cubic meter

24-hour average:

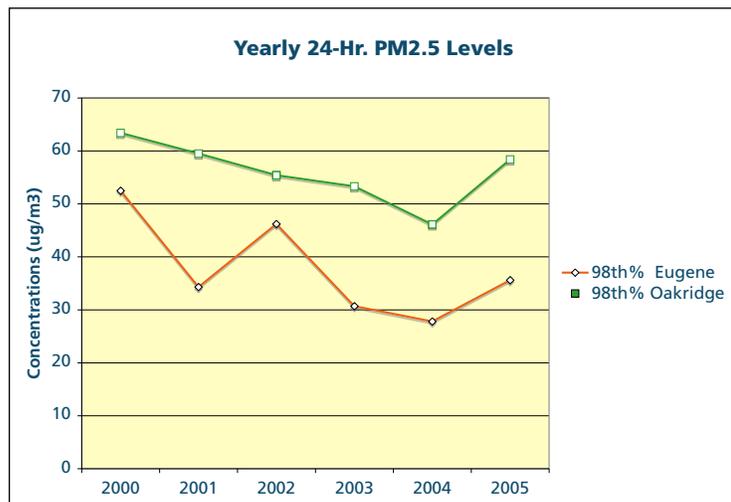
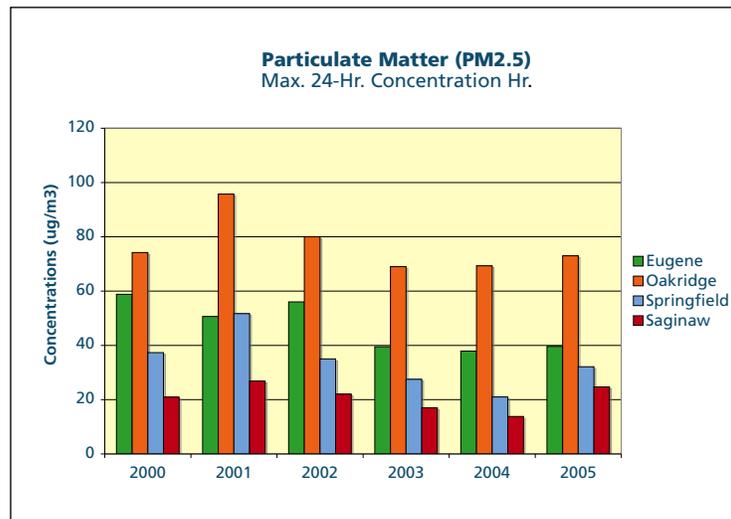
65 micrograms/cubic meter of the 98th percentile of measured concentrations

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

YEARLY PM_{2.5} LEVELS (ug/m³)— 2000 - 2005s

Site #	Site Name	Notes	2000	2001	2002	2003	2004	2005
2033061	Springfield High School	a	8.8	8.4	8.3	7.8	---	---
		b	37.3	43.7	35.3	27.5	---	---
		c	29.4	26.5	26.2	23.2	---	---
		d	0	0	0	0	---	---
2018060	Amazon Park	a	9.4	9.4	9.9	9.0	8.7	9
		b	58.8	50.6	56.2	39.5	37.9	39.6
		c	39.5	34.3	46.2	30.7	27.8	35.6
		d	0	0	0	0	0	0
2030003	Willamette Activity Ctr. - Oakridge	a	13.1	13.7	14.0	12.2	11.9	13.9
		b	74.2	95.7	80.3	69.0	69.3	73.0
		c	52.0	59.5	55.4	53.3	46.1	58.4
		d	1	3	3	1	1	1
2000036	Delight Valley School - Saginaw	a	6.7	7.0	6.7	6.2	6.0	6.8
		b	20.9	26.8	22.0	17.0	13.8	24.7
		c	18.8	17.1	18.1	15.9	13.1	17.9
		d	0	0	0	0	0	0
2033060	Springfield City Hall	a	---	---	---	---	7.6	8
		b	---	---	---	---	21.0	32.1
		c	---	---	---	---	20.8	24.5
		d	---	---	---	---	0	0



CARBON MONOXIDE DATA

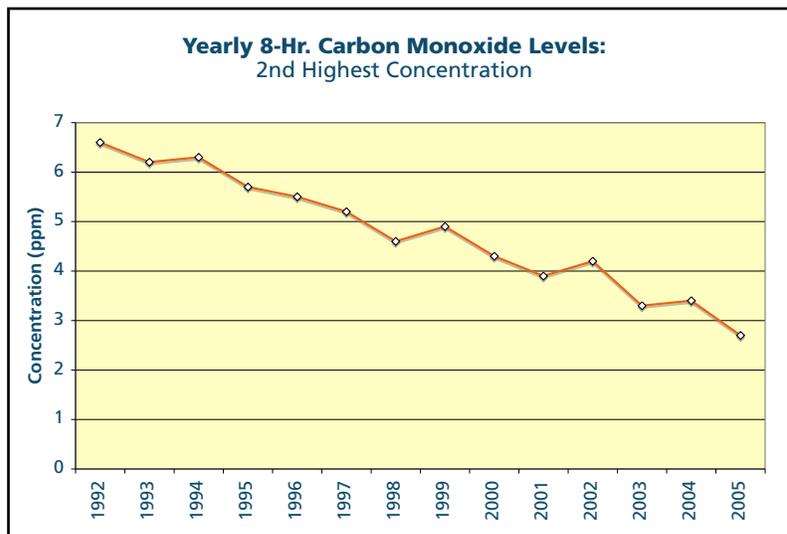
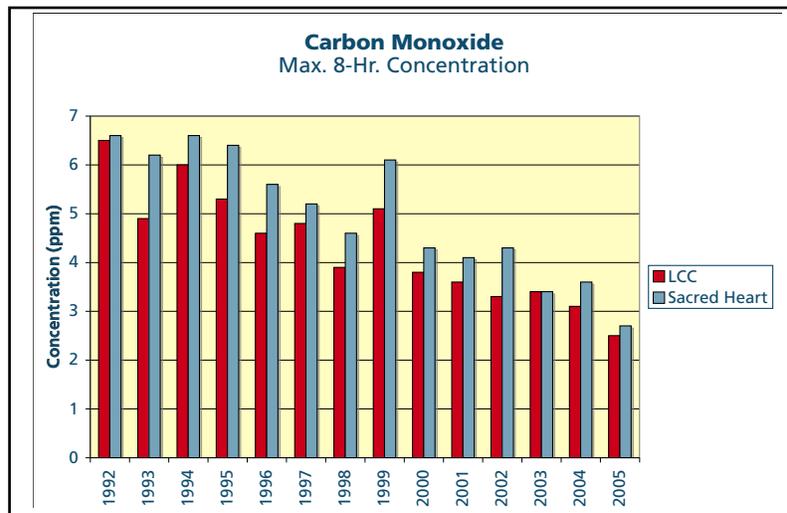
YEARLY CARBON MONOXIDE LEVELS — 1995 - 2005 (ppm)													
Site #	Site Name	Notes	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
2018056	Lane Comm. College (downtown)	a	5.3	4.6	4.8	3.9	5.1	3.8	3.6	3.3	3.4	3.1	2.5
		b	4.7	4.6	4.7	3.9	3.9	3.5	3.6	2.9	2.8	2.6	2.3
		c	0	0	0	0	0	0	0	0	0	0	0
2018058	Sacred Heart Medical Center	a	6.4	5.6	5.2	4.6	6.1	4.3	4.1	4.3	3.4	3.6	2.7
		b	5.7	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	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

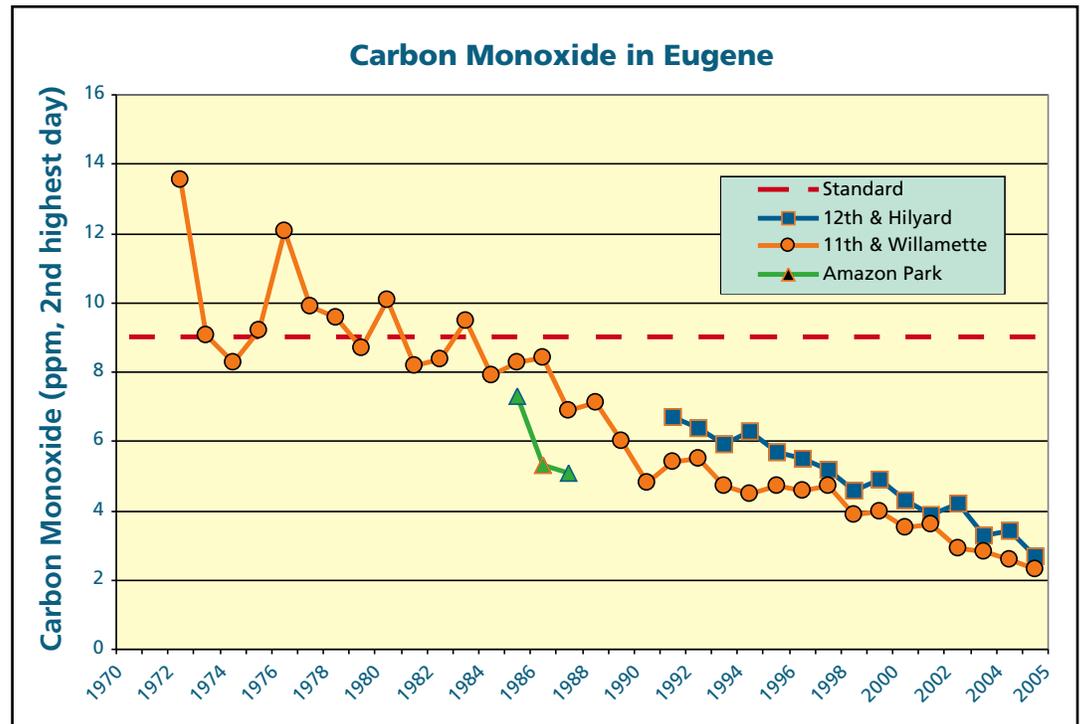


LANE COUNTY TRENDS

LRAPA's air quality monitoring network consists of 10 monitoring sites that include a total of 50 sets of monitoring equipment. The agency collected about 306,000 hours of pollutant-related data in 2005. At an estimated operational cost of \$323,750 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.

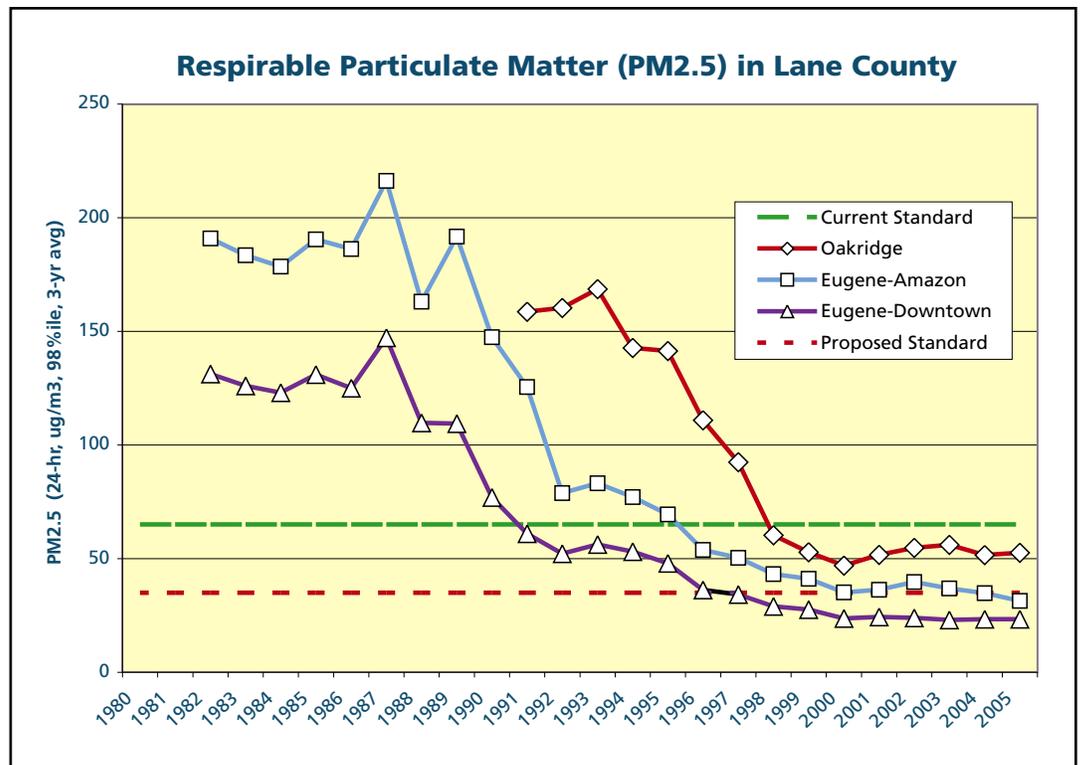
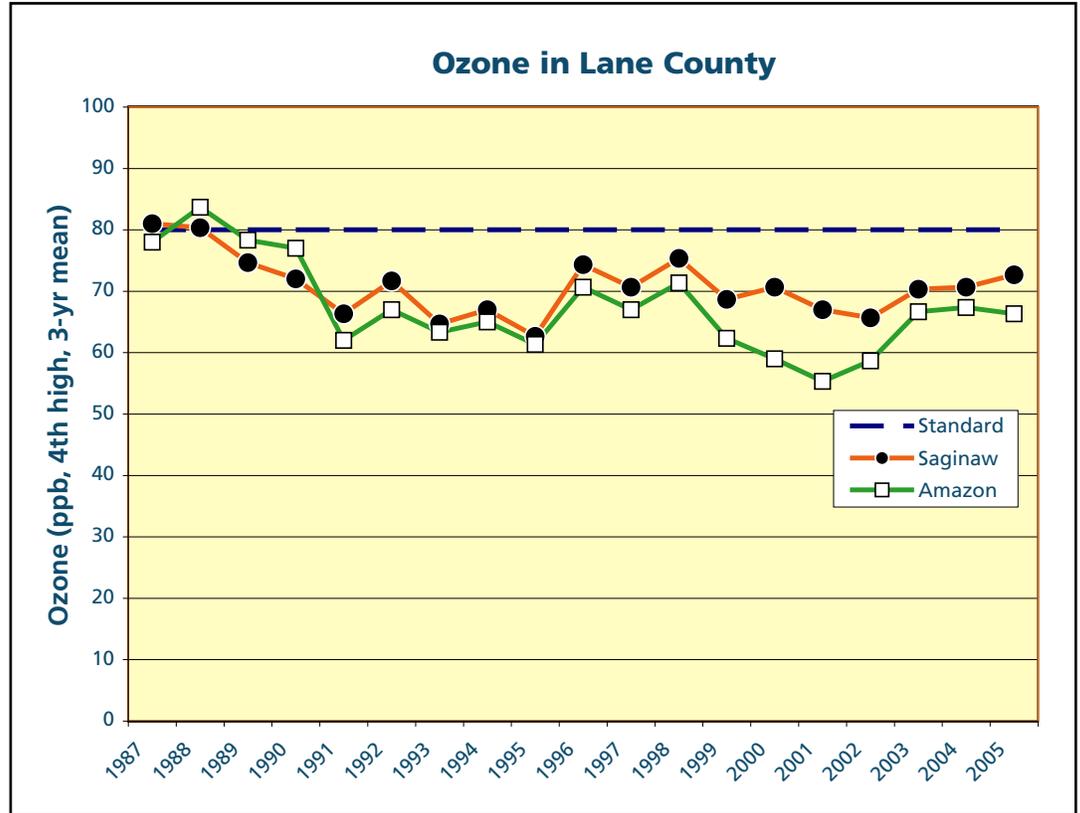
LRAPA's network includes five locations in Eugene, and one each in Springfield, Oakridge, Cottage Grove, Saginaw and Coburg. Sites include:

- ◆ Amazon Park (South Eugene)
- ◆ Coburg (North of the city of Coburg)
- ◆ Cottage Grove (Harrison Elementary School)
- ◆ Downtown Eugene (10th /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 PM₁₀ 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 PM₁₀ 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 PM₁₀ standards.

The Eugene/Springfield mandatory program is now in its 15th 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.

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.

EUGENE/SPRINGFIELD HWH ADVISORIES 1995 - 2005 SEASON				
Season Year (Nov. - Feb.)	Yellow	Red I	Red II	PM Exceedances
*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
1995-1996	0	0	0	0

*Based on PM_{2.5} monitored levels

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.



Over 120 residents from the Oakridge area attended a Saturday workshop to kick off the Warm Homes, Clean Air Program.



Participants at the workshop filled out a simple application form to determine eligibility for the Warm Homes, Clean Air 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 fall of 2005, LRAPA partnered with local agencies to create the Warm Homes, Clean Air program for Oakridge. This program will provide home heating upgrades, weatherization and home repairs for Oakridge residents.

OAKRIDGE HWH ADVISORIES 1995 - 2005 SEASON			
Season (Nov. - Feb.)	Yellow	Red	PM Exceedances
*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
1995-1996	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.

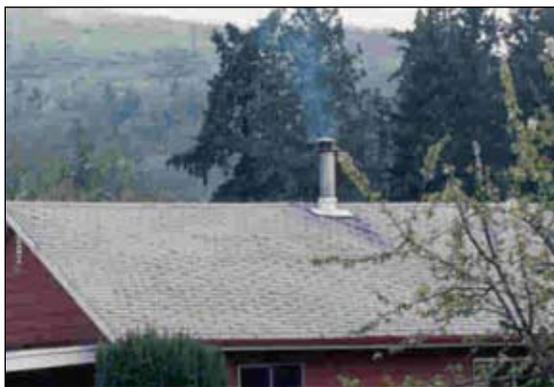
Eugene/Springfield and Oakridge

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/m^3 (micrograms per cubic meter) – the standard being 65 ug/m^3 .

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/m^3 , but less than 54 ug/m^3 .

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/m^3 , but less than 65 ug/m^3 .

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/m^3 .



Chimney smoke should be negligible when a woodstove/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 woodstove/fireplace and emits excess pollution into the air.

PROGRAM SUMMARIES



LRAPA collected \$14,700 in penalties during 2005. All penalties collected are forwarded to Lane County; however, attorney fees associated with contested cases are deducted first.

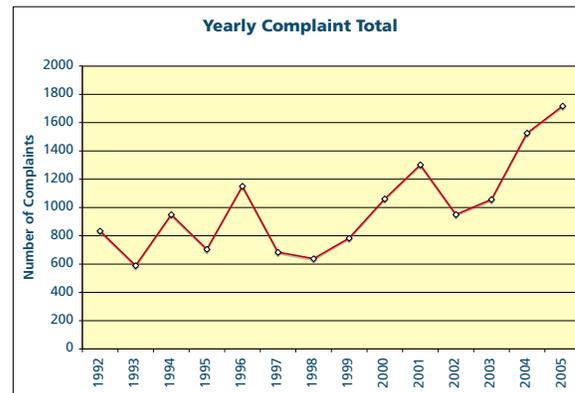
Administrative warnings/Notices of non-compliance..... 55
 Notices of violation with/ civil penalty: 39

COMPLAINT RESPONSE

It is LRAPA's policy to investigate in a timely manner every complaint called into the agency. Staff investigated 1,391 formal complaints in 2005. 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	+23%	Miscellaneous	+14%
Dust	+106%	Open burning.....	+10%
Field burning	+218%	Slash burning.....	+287%
General air quality	+300%	Unknown	-12%
Home wood-heating.....	-2%	Total complaints.....	+13%
Industry.....	-13%		



COMPLAINTS 1995 - 2005

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Backyard burning	50	85	77	71	104	91	98	122	104	94	116
Dust	17	18	19	30	17	17	27	25	15	17	35
Field burning	301	747	247	218	279	198	199	294	96	103	330
General air quality	5	3	4	7	11	4	4	4	6	2	8
Home wood heating	41	38	52	45	53	37	58	73	71	82	80
Industry	99	92	111	99	118	492	689	168	530	880	768
Miscellaneous	35	25	27	31	46	46	44	34	32	66	75
Open burning	77	89	91	98	91	91	103	142	90	163	179
Slash burning	29	16	16	13	9	35	18	23	9	8	31
Unknown	50	37	39	26	55	49	61	65	103	110	97
Total	704	1150	683	638	783	1060	1301	950	1056	1525	1719

PROGRAM SUMMARIES

Operations —

PERMITTING

LRAPA-issued operating permits are required for a number of industries and businesses in Lane County. Of the 205 permitted sources in Lane County, 178 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. 7), 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.

2005 Permitting Summary –

Permits issued or renewed.....	38
Permits modified.....	18
Industries inspected.....	147

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 2005, LRAPA documented 453 notifications of asbestos abatement projects. LRAPA inspected 70, or 15 percent, of all projects. Seventeen violations were found. By category, the total number of abatement projects included:

Residential	172
Schools	41
Business/Industry	179
Other	61

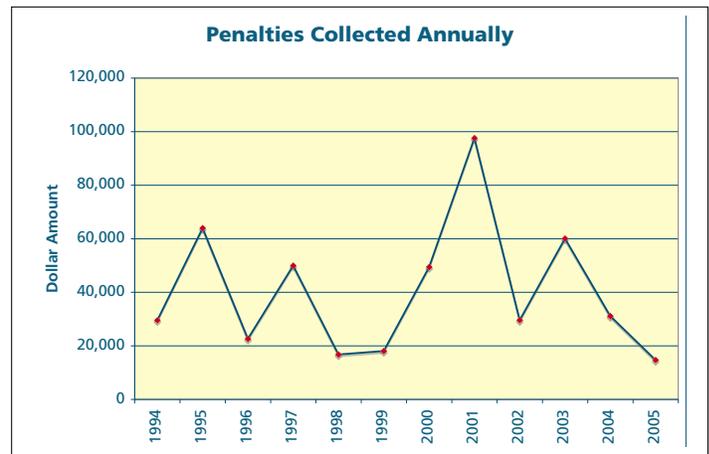
ENFORCEMENT

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 1996 - 2005										
Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Administrative warnings and Notices of non-compliance	89	75	57	91	118	102	129	103	52	55
Notices of violation w/ civil penalty	25	12	17	39	80	64	72	67	31	39
Total civil penalties collected \$\$	63,958	22,635	49,950	16,775	18,070	49,437	97,584	49,590	31,097	14,700



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 50 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 and collected about 300,000 hours of pollutant-related data 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 '04-'05 fiscal year totaled \$1,093,116, with a net profit to the agency of \$85,566. Revenues generated by the enterprise are allocated to help defray capital costs.



LRAPA participated in the local Earth Day Celebration, focusing on clean school bus programs that will help provide cleaner air for school kids.

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, professional associations and schools; participating in local fairs and trade shows; and sharing agency information on its website: www.lrapa.org.

2005 education projects included:

- ◆ Classroom presentation program:
 - Lane County 4th grade program: approx. 600 students;
 - Eugene outdoor school program: approx. 100 4th grade students
 - Oakridge outdoor school program: approx. 100 6th grade students
 - Rachel Carson Alternative School: approx. 50 high school students
- ◆ Earth Day Celebration: No-idling school zones / clean school bus programs
- ◆ Warm Homes/Clean Air Oakridge Community project
- ◆ Home Wood Heating season advisory program
- ◆ Ozone Action Day advisory program
- ◆ Diesel Fleet operator workshops
- ◆ Asbestos handling training workshops
- ◆ Open burning advertising campaign design
- ◆ Florence open burning outreach program

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 2005 was 33,273 acres. In addition, 429 acres were propane flamed, all in Linn County. There were five intrusions into the area.

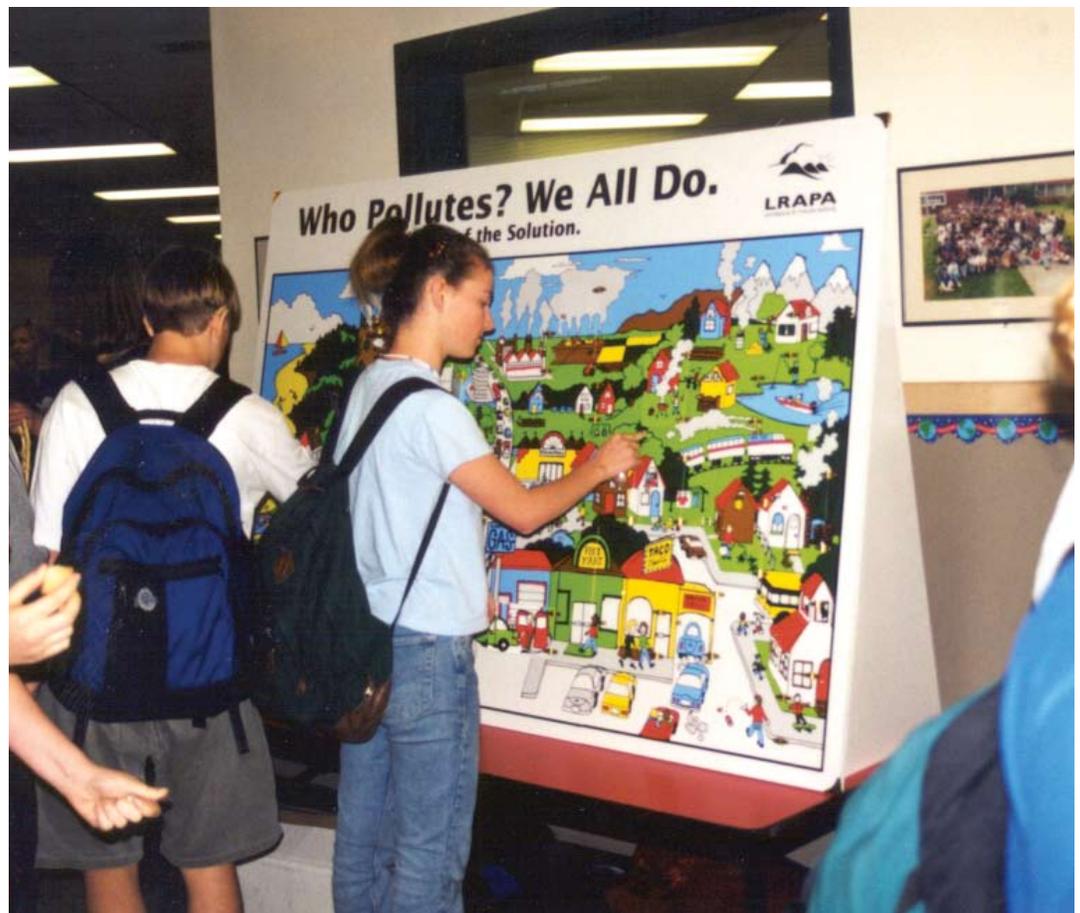
FIELD BURNING YEAR-END TOTALS				
Year end	S. Willamette acres burned	Number of intrusions	Impact hours	Number of complaints
2005	33,702	2/Eug. 3/Spfld.	2/Eug. 6/Spfld.	330
2004	33,830	0/Eug. 0/Spfld.	0/Eug. 0/Spfld.	103
2003	31,654	0/Eug. 0/Spfld.	0/Eug. 0/Spfld.	96
2002	35,483	0/Eug. 1/Spfld.	0/Eug. 1/Spfld.	294
2001	34,684	0/Eug. 0/Spfld.	0/Eug. 0/Spfld.	199

SPECIAL PROJECTS

In its continuing effort to address community concerns, LRAPA was involved with a number of special projects in 2005. 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.

- ◆ *LRAPA Name Change* – In an effort to have the agency’s name be more reflective of its role in the community, LRAPA began the process of changing its name to the Lane Regional Air Protection Agency, from the Lane Regional Air Pollution Authority. Final approval is expected in early 2006. (*In progress*)
- ◆ *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 will be collected and analyzed for a minimum of one year to determine the impacts of such a facility on air quality. (*In progress*)
- ◆ *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 will be conducted and analyzed over the next year. (*In progress*)
- ◆ *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 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 progress*)
- ◆ *Everybody Wins Phase I* - A partnership between LRAPA and the Oregon Department of Energy has provided funding to long-haul truck operators to purchase or lease auxiliary power units for their trucks, reducing the need to depend on their main engines during rest periods. Through the project, LRAPA assisted with the installations of 100 auxiliary power units on long-haul trucks. (*Completed*)
- ◆ *Everybody Wins Phase II* – Grant funding was secured through a United States Environmental Protection Agency (EPA) grant to assist with the installation of an additional 250 auxiliary power units on long-haul trucks operating in Oregon. This project will track the use of 100 of the units installed on trucks through this phase. (*In progress*)

- ◆ *Clean School Bus USA* – Through funding from the EPA, school districts in Eugene, Springfield, Cottage Grove, and Triangle Lake received assistance to purchase school bus retrofit equipment that reduces diesel emissions. *(In progress)*
- ◆ *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* - This cooperative effort between a number of private and public partners brought ultra low sulfur diesel and biodiesel bulk storage to Lane County giving fleet operations the option of using clean fuels at an affordable price. *(On-going)*
- ◆ *No-Idle Campaign* – Funding was secured for purchase of no-idle zone traffic signs for use at schools. No-idle education at schools will be the focus of a new educational campaign in fall '06. *(In progress)*





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