1986
ANNUAL
REPORT

LANE REGIONAL AIR POLLUTION AUTHORITY

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LANE REGIONAL

AIR POLLUTION AUTHORITY

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Donald R. Arkell, Director

This 1986 Annual Report reflects on an active year for the Lane Regional Air Pollution Authority.

The most public of our efforts in 1986 was the start of a voluntary woodburning advisory for the metropolitan area of Lane County. Although the winter was relatively mild, we were pleased with the responses by news media to get the word out each day, and by those who heeded the advisories.

As we head into the remainder of the eighties, it is clear that many environmental concerns that are raised or develop will not always lend themselves readily to the traditional solutions of rulemaking and enforcement. Like the woodburning curtailment program, addressing some environmental problems will require the willing participation of we, the people.

As an agency, LRAPA really needs active and informed public support for responsible air pollution control programs, particularly those beyond our traditional scope. We think the year ahead holds promise for that as we look forward to dealing with a few new issues, while keeping intact the environmental gains already made.

Donald R. Arkell
Director

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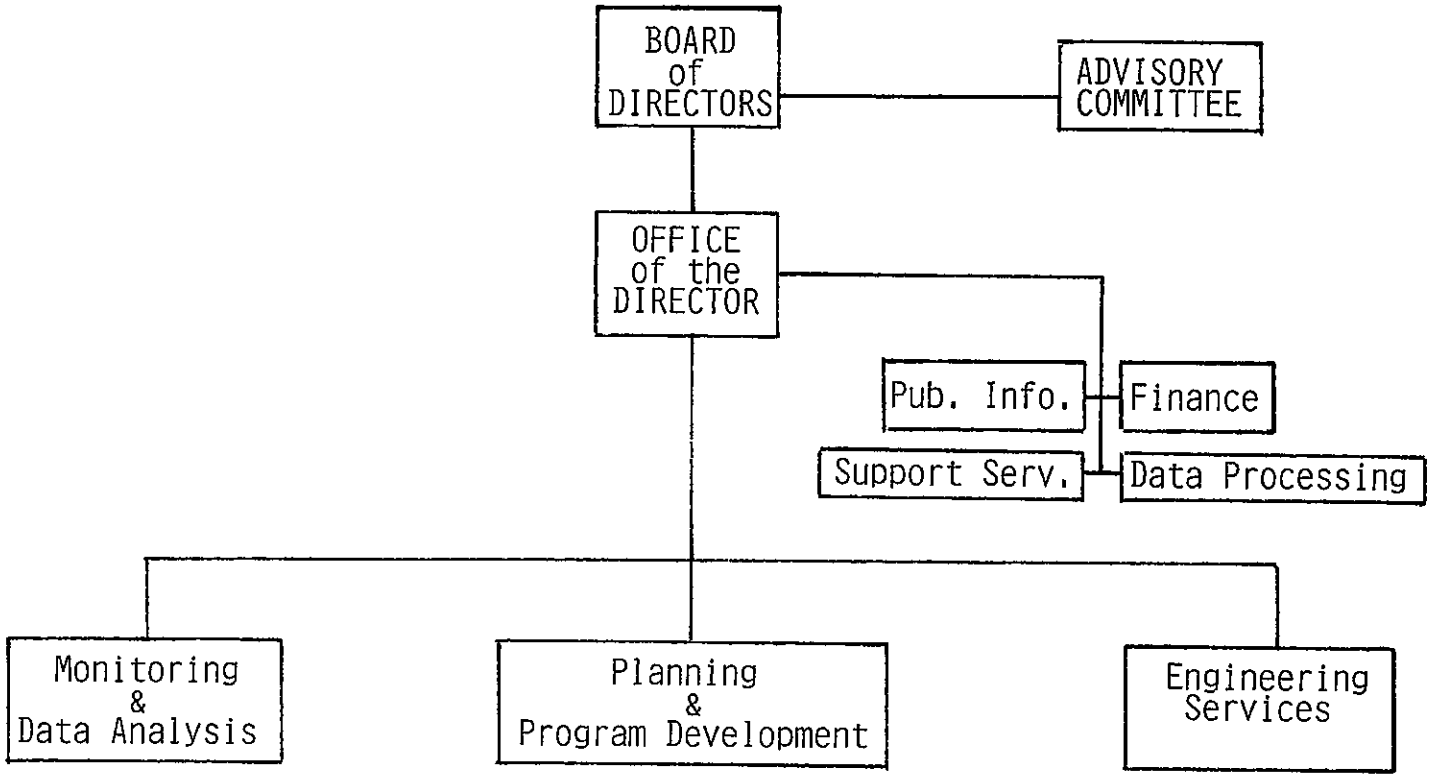
LRAPA PROGRAM ORGANIZATION
1986



THE AGENCY

The air pollution control program in Lane County is managed by the Lane Regional Air Pollution Authority (LRAPA). The program includes regulating and monitoring air pollution from such sources as industries, odors, dust, open burning, and hazardous air contaminants. LRAPA also monitors transportation planning and community development efforts of other organizations.

LRAPA is supported through federal and state air pollution control grants and by contributions from the cities of Eugene, Springfield, Cottage Grove, and Lane County. Other revenues are obtained through various fees, such as industrial permit fees and special open burning fees.

BOARD OF DIRECTORS

The LRAPA Board of Directors establishes policy and adopts the regulations of the Authority. The Board is composed of three elected officials from Eugene, two from Springfield, and one each from Cottage Grove and Lane County. Eugene City Councilor Emily Schue chaired the LRAPA Board in 1986. Cottage Grove City Councilor Betty Horvath served as Vice-Chair.

Among the actions taken by the Board in 1986, the most notable was adoption of a voluntary wood-burning curtailment program for the Eugene-Springfield area, discussed in greater detail in a special section of this report. Also, rule changes were made involving fugitive dust emission and permit fees.

The Authority's old fugitive dust rules were

streamlined to the point that anyone causing dust problems must immediately take reasonable precautions (watering, oiling, etc.) to control the dust, and the entire burden of compliance rests with the person actually causing the problem.

In January the Board sought and obtained from the Oregon Environmental Quality Commission a change in the state rules which would allow LRAPA to set fee schedules. The Board then approved an industrial permit fee revision. The new fee schedule will result in recovery of more of the actual costs of permit administration, review and analysis, and compliance inspections. Cost recovery was raised from approximately 60% to about 70%. The Board, sensitive to concerns of local industry, adopted a policy of capping expected annual permit fee revenues at 13% of LRAPA's total budget. The new fee schedule amounts to about 10% of the total budget.

ADVISORY COMMITTEE

The Lane Regional Air Pollution Authority Advisory Committee is a 15-member citizen group that serves as the principal public voice for the agency. The committee studies and makes recommendations to the LRAPA Board on various air quality issues. Committee members are appointed to four-year terms by the Board.

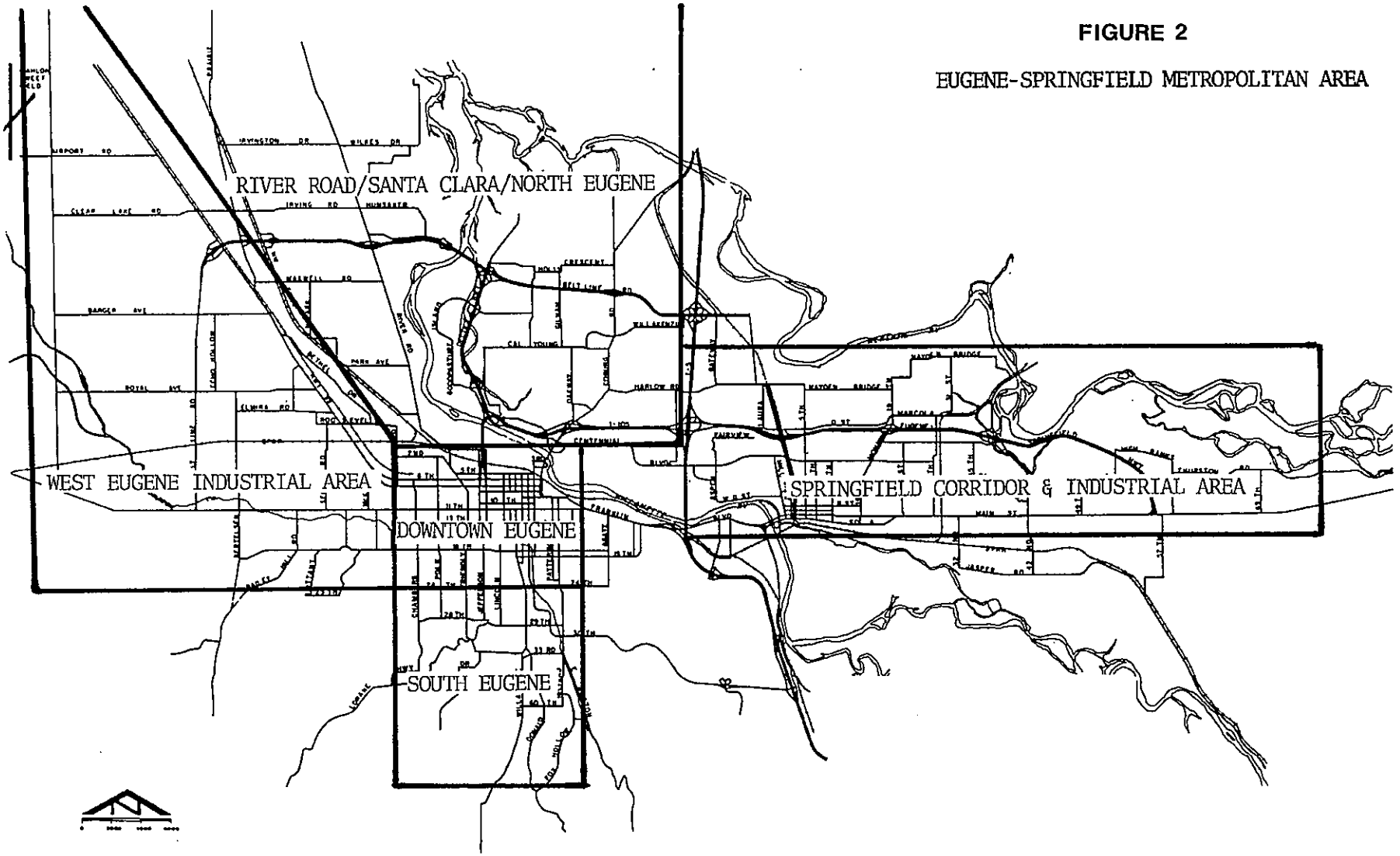
The committee undertook a variety of projects in 1986 that were later implemented by the Board; developing the woodburning curtailment program; developing new fugitive dust rules; and revising the existing control plan for total suspended particulates (TSP).

The committee completed its review of the existing TSP control plan that was adopted by the LRAPA Board in 1980. Essentially, the committee replaced existing and planned studies on the extent of the local

TSP problem with new studies addressing the local impact of fine particles. The new studies will concentrate on potential woodheating control strategies, and the fine particle contribution from nearby field and slash burning. This effort is being made in anticipation of a new federal standard for fine particles, scheduled for EPA adoption sometime in 1987. When adoption takes place, Eugene-Springfield will likely be out of compliance with the standard, based on past air monitoring data collected by LRAPA. New control strategies will be examined by the committee over the next several months. The committee will recommend specific control strategies to the Board for final approval.

FIGURE 2

EUGENE-SPRINGFIELD METROPOLITAN AREA



AIR QUALITY

Air quality concerns vary throughout Lane County. Not surprisingly, air quality is the best in the rural areas, particularly those areas near the Oregon Coast. Florence and Dunes City have very good air quality due to almost constant winds and atmospheric mixing. Mapleton and Swiss Home also have good air quality, with the exception of occasional smoke intrusions from Coast Range slash burning. Other areas of clean air are located in the northeastern portion of Lane County, in the Cascades, including Blue River, McKenzie Bridge, and those portions of the Three Sisters and Mount Washington wilderness areas located inside the county.

Most of the locally recognized air pollution problems occur in the Willamette Valley portion of Lane County, particularly those areas in or around the population centers of the county. The City of Oakridge serves as an exception because even though it is located in the foothills of the Cascades, air pollution problems exist in that community in the wintertime.

Just as air quality problems vary within Lane County, different areas of Eugene-Springfield also have differing levels of air quality concerns. What follows is a brief description of air quality factors in various areas of Eugene-Springfield (depicted in Figure 2), as well as Oakridge and Cottage Grove.

WEST EUGENE INDUSTRIAL AREA

The west Eugene industrial area continues to be the highest pollution area in the community. The

major air pollution emissions are from industrial smokestacks, fugitive dust, and residential chimneys. This area, along with certain sections of Springfield, contains the greatest number of wood products-oriented industries of any area in the County.

The concentrated residential areas located in this section include the Churchill area in southwest Eugene and the Bethel-Danebo area in west Eugene. Not only are these areas impacted by industrial emissions, but they also experience pollution from residential woodheating in the wintertime and occasional smoke from field and slash burning in the summer and fall months.

In addition, some commercial/retail development, as well as West 11th and some of the busy drive-time intersections on West 18th Street, produce carbon monoxide emissions in this section.

RIVER ROAD/SANTA CLARA/NORTH EUGENE

Industry and residential woodburning are the primary sources of air pollution in the River Road/Santa Clara/North Eugene region of the metropolitan area.

Some industries in the central portion of this region produce dust emissions, particularly during the dry summer months. Residential woodburning in the residential areas of River Road, Santa Clara, and the Oakway-Coburg Road areas cause air pollution problems in the wintertime.

This area also receives some field and slash burning smoke in the summer and fall months. Intrusions can be intense, but usually of short duration because of the flat terrain and better ventilation patterns in this region. Field burning smoke in this region will usually

precede smoke drifting into other parts of Eugene and Springfield.

Agricultural dust will also impact this area occasionally, because of the close proximity to agricultural operations.

DOWNTOWN EUGENE

Being the actual "hub" of Eugene, this region experiences elevated carbon monoxide levels due to traffic congestion, particularly at several "hot spot" intersections. In fact, this area will continue to be vulnerable to high carbon monoxide levels due to increased traffic volumes that will accompany additional commercial development, when such development occurs.

Various areas in this region also experience air pollution from residential woodheating, because of the high density housing to the west, south, and east of the downtown area.

SOUTH EUGENE

South Eugene is a residential area with two commercial strips. Because this area is surrounded on three sides by hills, air pollution will oftentimes collect in the area. The major air pollution sources include residential woodburning in the wintertime, and occasional smoke from field and slash burning in the summer and fall months. And, besides being a source of particulates in this area, residential woodheating is also believed to be contributing to carbon monoxide concentrations.

SPRINGFIELD CORRIDOR/INDUSTRIAL AREA

The Springfield corridor/industrial area is pri-

TABLE I

TOTAL SUSPENDED PARTICULATE
EMISSION ESTIMATES
EUGENE-SPRINGFIELD
(tons per year)

	1982	1983	1984	1985	1986
Residential Woodheating	2,886	2,557	3,422	3,814	3,166
Fugitive Dust	2,813	2,699	2,937	3,121	2,497
Industrial Processes	5,348	5,244	4,889	4,724	4,674
Other	321	336	361	386	386
TOTAL	11,348	10,838	11,609	12,045	10,723

TABLE 2

CARBON MONOXIDE
EMISSION ESTIMATES
EUGENE-SPRINGFIELD
(tons per year)

	1982	1983	1984	1985	1986
Industrial Processes	2,301	2,242	2,243	2,177	2,177
Residential Woodheating	17,660	15,772	21,092	23,506	19,510
Transportation	37,462	39,540	41,788	41,658	41,533
Other	471	491	565	566	566
TOTAL	57,894	58,045	65,688	67,907	63,786

marily impacted by industry, road dust, and residential woodburning. Although this area contains two major arterial routes (I-105 and East Main Street), traffic flow is fairly smooth and carbon monoxide levels are low.

OAKRIDGE

Oakridge air quality is impacted by a number of sources including residential woodheating, industry, road dust, and occasional smoke from forest slash burning. The hills surrounding Oakridge, and the potential for poor atmospheric ventilation, likely explain the reason why air quality is oftentimes poor in the area.

COTTAGE GROVE

Cottage Grove air quality is also impacted by a variety of sources. Residential woodheating, road dust, and industry are contributors. Slash burning and field burning will occasionally impact the community. However, Cottage Grove historically has not encountered serious air pollution problems, even during the wintertime woodburning season.

AIR POLLUTION EMISSIONS IN LANE COUNTY CITIES

Each year LRAPA compiles total suspended particulate (TSP) and carbon monoxide (CO) emissions data from local sources such as industry, residential woodburning, fugitive dust and transportation, as a means to track progress in reducing local air pollution.

Overall air pollution emissions in the Eugene-Springfield metropolitan area declined in 1986, following three successive years when TSP emissions were on the rise and four successive years of rising CO emissions (see Tables 1,2). Emissions in Oakridge and

TABLE 3

TOTAL SUSPENDED PARTICULATE

EMISSION ESTIMATES

COTTAGE GROVE

(tons per year)

	1985	1986
Industrial Processes	439	439
Residential Woodheating	127	120
Fugitive Dust	109	107
Other	13	13
TOTAL	688	679

TABLE 4

OAKRIDGE

EMISSION ESTIMATES

	1985	1986
Industrial Processes	77	77
Residential Woodheating	65	61
Fugitive Dust	56	54
Other	7	7
TOTAL	205	199

Cottage Grove were about the same in 1986 as in the previous year, as shown in Tables 3 and 4.

The decrease in TSP emissions in Eugene-Springfield occurred in the residential woodheating and fugitive dust categories. Perhaps the best explanation may be that 1986 was warmer and wetter than 1985. The warmer weather would reduce the need to burn wood for home heat, while the rainy days (133 in 1986 compared to 102 in 1985) would reduce the amount of fugitive dust in the air.

The CO emissions reductions also occurred in the residential woodheating category, ~~probably~~ for the same meteorological reasons cited above. Transportation emissions were up slightly, with industrial emissions remaining the same.

The amount of emissions from each type of source affects the air pollution concentrations measured by the monitoring network. The proximity of the monitoring site to nearby sources also affects the concentrations at the site. And, variables such as wind speed and direction, as well as atmospheric ventilation, in turn, affect the relationship between emissions and the ambient levels detected at the monitoring sites.

MONITORING NETWORK

LRAPA's monitoring network is designed to reflect general air quality conditions throughout Lane County. Specifically, LRAPA measures the concentrations of carbon monoxide, ozone, total suspended particulates, and respirable particulates (PM_{10}, or particulates less than 10 microns in size). A description of the

TABLE 5

AIR POLLUTANTS MEASURED IN LANE COUNTY

POLLUTANT	DEFINITION	SOURCES	HEALTH EFFECTS	METHOD OF SAMPLING
TOTAL SUSPENDED PARTICULATES (TSP)	Concentration of all particles in the atmosphere, such as smoke, dust, mist, fumes.	* Industry * Residential Woodburning * Fugitive Dust * Field-Slash-Open Burning * Windblown Dust * Volcanic Eruptions * Ocean Spray	* Aggravates chronic lung disease * Aggravates heart & lung disease symptoms	High volume sampler which operates like a vacuum cleaner; measures a 24-hour concentration once every 6 days (LCC equipped to sample every-other day). Particles are collected on filter paper.
FINE PARTICULATES (PM_{10})	Respirable particulates less than 10 microns in size.	* Residential Woodburning * Industrial Boilers * Other Combustion Sources	* Same as TSP, except more severe due to inhalation into deep respiratory passages.	High Volume sampler equipped with size separator to measure fine particles. Measures 24-hour concentration once every 6 days (Pac West equipped to sample daily). Particles collected on filter paper.
CARBON MONOXIDE (CO)	A colorless, odorless gas produced by incomplete combustion.	* Automobile * Residential Woodburning	* Robs blood of oxygen. * Heart difficulties in those with chronic lung diseases. * Dizziness * Headache * Nausea	Continuous sampling involving absorption of infrared radiation by CO in the air sample. The amount of infrared absorption is proportional to the amount of CO in the sample.
OZONE (O_3)	A toxic gas with a pungent odor, associated with photochemical smog.	* Automobile * Combustion Processes * Gasoline Evaporation * Solvents * Paints * Asphalt Plants	* Eye irritation * Strong irritation of upper respiratory passages	Continuous sampling involving absorption of ultraviolet light by ozone gas in the air sample. The amount of ultraviolet absorption is proportional to the amount of ozone in the sample.

TABLE 6

1986 MONITORING NETWORK

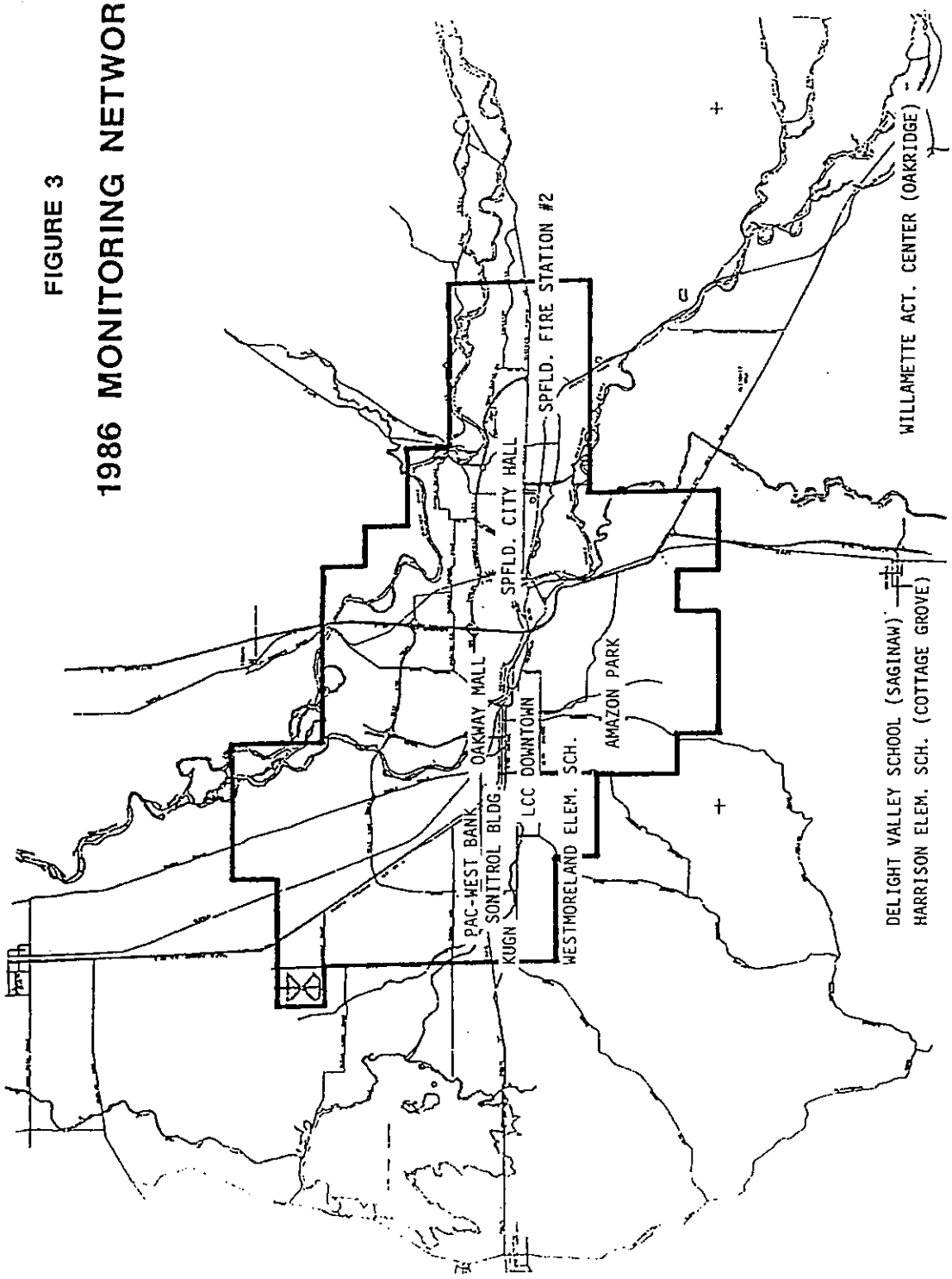
Site Location	*Pollutants Measured	Type of Site
Eugene Airport	TSP	BACKGROUND
Westmoreland Elem. Sch. (Eugene)	TSP	NEIGHBORHOOD/INDUSTRIAL
Pacific-Western Bank (Eugene)	TSP, PM_{10}	INDUSTRIAL/TRANSPORATION/NEIGHBORHOOD
Sonitrol Building (Eugene)	TSP	COMMERCIAL/INDUSTRIAL
KUGN (Eugene)	Visib., Met.	SMOKE INTRUSIONS/NEIGHBORHOOD
Lane Community College (downtown Eug.)	TSP, PM_{10}, Visib., CO	COMMERCIAL-CITY CENTER/NEIGHBORHOOD
Amazon Park (Eugene)	TSP, PM_{10}, Visib., CO, O_3	NEIGHBORHOOD/TRANSPORTATION
Oakway Mall (Eugene)	Met.	WIND SPEED & DIRECTION
Springfield Fire Station #2	TSP	TRANSPORTATION/COMMERCIAL/INDUSTRIAL
Springfield City Hall	TSP, PM_{10},, Visib., Met.	TRANSPORTATION/COMMERCIAL-CITY CENTER/NEIGHB.
Delight Valley School (Saginaw)	O_3, Met.	URBAN PLUME IMPACT
Harrison Elem. School (Cottage Grove)	TSP	NEIGHBORHOOD/INDUSTRIAL
Willamette Activity Center (Oakridge)	TSP	NEIGHBORHOOD

KEY

TSP:	TOTAL SUSPENDED PARTICULATE
PM_{10}:	RESPIRABLE PARTICUALTE
VISIB:	VISIBILITY
MET:	METEOROLOGY
CO:	CARBON MONOXIDE
O_3:	OZONE

FIGURE 3

1986 MONITORING NETWORK



pollutants monitored, local sources, health effects, and methods of sampling is contained in Table 5 . A site-by-site description of the monitoring network is included in Table 6 and shown on the map in Figure 3 .

AMBIENT AIR QUALITY DATA

Using maximum concentrations and the number of federal air quality standard exceedances as indicators, Lane County air quality showed an improvement in 1986 compared to the previous year.

Maximum 24-hour TSP concentrations were lower, with only one primary standard exceedance recorded. This compares with four such exceedances the previous year. As in recent years, the very high concentrations only occurred during the winter home heating season, and have been attributed (at least in part) to the extensive use of wood for residential heat.

The number of 24-hour TSP secondary standard exceedances was also down, probably due to more favorable weather conditions and better atmospheric ventilation. The same is likely true for the downward trend in maximum concentrations and exceedances of the proposed 24-hour PM_{10} standard.

Carbon monoxide and ozone concentrations remained well within their respective standards in 1986, with the exception of one high carbon monoxide reading. In fact, no exceedances of the 1-hour ozone standard have been recorded for the past four years.

Summaries of the TSP, PM_{10}, CO, and Ozone concentrations are contained in Tables 7, 8, 9, and 10, respectively.

TABLE 7

Comparison of TSP Values
1982 - 1986

Site No	Site Name	1982 a	1982 b	1982 c	1982 d	1983 a	1983 b	1983 c	1983 d	1984 a	1984 b	1984 c	1984 d	1985 a	1985 b	1985 c	1985 d	1986 a	1986 b	1986 c	1986 d
2000035	Eugene Airport STP Lagoon	27	115	85	0	25	120	88	0	25	87	78	0	30	144	111	0	30	186	128	1
2009002	Harrison Elementary School	39	163	145	1	41	128	117	0	37	143	100	0	46	210	203	3	41	126	91	0
2018039	Westmoreland Elementary Sch	40	226	201	3	36	156	141	1	37	166	137	1	47	302	237	4	41	191	136	1
2018056	Lane Community College	39	206	137	1	34	101	87	0	36	152	134	1	46	236	202	3	40	132	115	0
2018058	Pacific-Western Bank	55	262	252	2	53	188	155	2	55	200	161	2	69	278	261	8	65	218	193	4
2018060	Amazon Park		---				---			32	100	94	0	43	237	207	4	39	152	108	1
2018061	Sonitrol Building		---				---				---			--	163	156	2	45	156	141	1
2030002	Willamette Rec Center		---			--	104	79	0	43	245	166	2	55	276	247	7	53	282	188	3
2033059	Springfield Fire Station #2	46	211	138	1	44	107	106	0	45	172	124	1	54	223	194	2	47	103	98	0
2033060	Springfield City Hall		---			--	114	104	0	38	133	121	1	--	140	102	0	--	152	120	1

Notes:

a	Annual Geometric Mean
b	Highest 24-hour Concentration
c	2nd Highest 24-hour Concentration
d	Number of Exceedances of Secondary Standard
--	Insufficient Number of Samples obtained to calculate a valid geometric mean
---	No data was collected at this site during that year

Standards:

Annual	Primary:	75 micrograms/cubic meter
	Secondary:	60 micrograms/cubic meter
24-Hour	Primary:	260 micrograms/cubic meter
	Secondary:	150 micrograms/cubic meter

TABLE 8

Comparison of PM_{10} Values
1982 - 1986

Site No	Site Name	1982 a	1982 b	1982 c	1982 d	1983 a	1983 b	1983 c	1983 d	1984 a	1984 b	1984 c	1984 d	1985 a	1985 b	1985 c	1985 d	1986 a	1986 b	1986 c	1986 d
2018056	Lane Community College	---				22	71	66	0	20	70	64	0	32	197	156	3	31	85	72	0
2018058	Pacific-Western Bank	---					---				---			--	267	234	14	39	151	111	1
2018060	Amazon Park	---					---			21	56	46	0	34	189	152	2	27	118	67	0
2033060	Springfield City Hall	---				--	88	66	0	28	108	80	0	--	80	62	0	--	57	52	0

Notes:

a	Annual Arithmetic Mean
b	Highest 24-hour Concentration
c	2nd Highest 24-hour Concentration
d	Number of Exceedances of Primary 24-Hour Standard
--	Insufficient Number of Samples obtained to calculate a valid ~~geometric~~ arithmetic mean
---	No data was collected at this site during that year

Standards:

Annual Primary:	50 micrograms/cubic meter (proposed)
24-Hour Primary:	150 micrograms/cubic meter (proposed)

TABLE 9

Comparison of Carbon Monoxide Values
1982 - 1986

Site No	Site Name	1982 a	1982 b	1982 c	1983 a	1983 b	1983 c	1984 a	1984 b	1984 c	1985 a	1985 b	1985 c	1986 a	1986 b	1986 c
2018056	Lane Community College	10.1	9.6	1	11.1	10.8	2	10.1	9.1	1	12.7	9.5	1	10.3	9.6	1
2018060	Amazon Park		----			----		5.8	4.7	0	10.3	8.5	1	7.3	6.1	0

Notes:

a	Highest 8-hour Concentration
b	2nd Highest 8-hour Concentration
c	Number of Exceedances of Standard
----	No data was collected at this site during that year

Standard:

8-Hour: 10 milligrams/cubic meter

TABLE 10

Comparison of Ozone Values
1982 - 1986

Site No	Site Name	1982 a	1982 b	1982 c	1983 a	1983 b	1983 c	1984 a	1984 b	1984 c	1985 a	1985 b	1985 c	1986 a	1986 b	1986 c
2000036	Delight Valley School	182	171	0	171	167	0	188	165	0	202	202	0	210	191	0
2018053	Edgewood Elementary School	168	163	0	183	171	0	184	180	0		---			---	
2018060	Amazon Park		---			---		184	184	0	182	175	0	188	184	0

Notes:

a	Highest 1-hour Concentration
b	2nd Highest 1-hour Concentration
c	Number of Exceedances of Standard
---	No data was collected at this site during that year

Standard:

1-Hour: 235 milligrams/cubic meter

ARE WE MEETING STANDARDS IN THE CITIES?

The monitoring data determines whether or not Lane County communities are meeting federal air quality standards. Emissions data helps LRAPA estimate which sources contribute to air quality standard exceedances, and how successful control efforts have been at reducing air pollution in problem areas.

Because several exceedances of the TSP standards were recorded in 1986, Eugene-Springfield continues to be a nonattainment area, or "Air Quality Maintenance Area," for this pollutant. And, with the anticipated development of a new federal standard for respirable particulates, LRAPA remains concerned about the compliance status of Eugene-Springfield, as well as Oakridge.

Previous fine particulate data collected by LRAPA strongly suggests that Eugene-Springfield will be out of compliance with the new standard, necessitating development of a control plan to reach attainment. The primary sources of fine particles in the metropolitan area are believed to be residential woodheating, industry, open burning, and fugitive dust.

Based on the TSP data collected in Oakridge the past three years, it is also quite likely that community will not be able to meet the new respirable particulate standard. Further study of the problem in that community will likely be required.

Meanwhile, Eugene-Springfield remains in "marginal" status with regard to the CO standard. In fact, with the anticipated development of a Central Area Transportation Study (CATS) by the City of Eugene (see discussion under "Air Quality Planning," next section),

LRAPA may soon request that the area be reclassified as an attainment area for CO. The local CO problem has been identified as being "hot spot" oriented, with the high levels occurring at busy intersections in the Eugene downtown core area. Therefore, if mitigating steps can be taken to improve traffic flow, especially as development occurs, and given the fact that exceedances of the CO standard have been rare, LRAPA believes that an attainment request may be justified in the near future.

Lane County remains in compliance with the current federal ozone standard.

VISIBILITY PROTECTION IN LANE COUNTY WILDERNESS AREAS

Air quality protection in those wilderness areas partially located in Lane County was addressed in 1986 with the adoption by the Environmental Quality Commission of the Oregon Visibility Protection Plan. The plan, which has been forwarded to the EPA as part of Oregon's State Implementation Plan, was developed in response to a requirement in the Clean Air Act that wilderness areas and national parks be protected from visibility impairment.

Slash burning and field burning were both addressed in the visibility plan. As a result, slash burning will be sharply limited between July 4 and Labor Day, the high visitation period in the wilderness areas. Therefore, more spring-time burning of slash material is now being encouraged. Field burning will also be restricted on weekends during the same period, with more early-season burning and improved smoke management (better forecasting of weather conditions) being encouraged.

These new guidelines should result in less smoke and haze in Lane County's wilderness areas in 1987.

LRAPA'S PROGRAMS

Solutions to air pollution problems often involve a "mix" of strategies, ranging from public information through technical consultation with government and industry, through enforcement actions.

In cases where sources are not subject to specific regulation, such as the practice of residential woodburning, public education and information is often employed as a method of control. A longer-term strategy involves adequate planning and technical communication to assure that potential, future air quality problems can be anticipated and mitigated, to the greatest extent possible. Finally, in the event of an obvious, flagrant violation of a local air pollution regulation, enforcement action may be necessary. This type of action can occur with open burning or industrial air pollution activities.

Thus, the solutions to Lane County's air pollution problems are, for the most part, embedded in LRAPA's programs; specifically, in air quality planning, engineering and field activities.

AIR QUALITY PLANNING

The significance of the air quality planning portion of LRAPA's overall program is in identifying future air quality problems and determining longer-range control strategies that will preserve acceptable air quality as growth occurs and preclude or prevent future problems from occurring. This may involve review of various local planning and construction projects as they arise (known as "indirect source review"), in terms of their impact on air quality, or it may

involve assisting in achieving longer-range air quality plans beyond the control strategies required by federal regulations. What follows are examples of each.

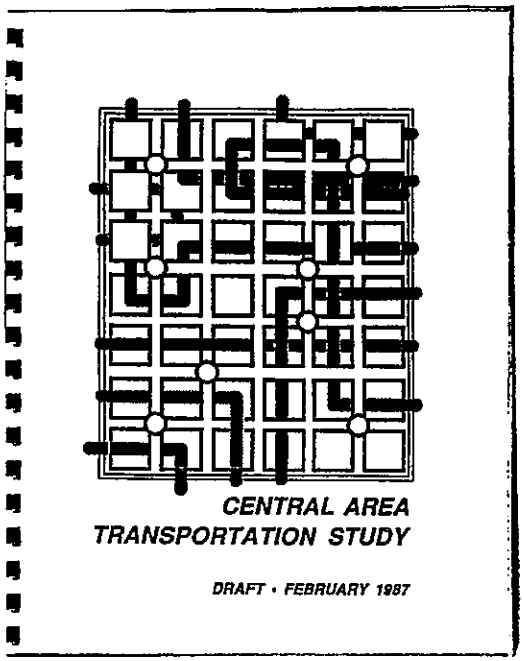
INDIRECT SOURCE: SACRED HEART HOSPITAL

Sacred Heart Hospital in Eugene announced plans for expansion of their facilities in 1986. LRAPA participated on a Public Review Committee, commenting on the likely air quality impact with regard to future parking needs and traffic flows. This is important since the hospital is located adjacent to a previously-identified "hot spot" intersection for carbon monoxide (13th & Hilyard). LRAPA's position was that future development in that area must address the "hot spot" situation and include features that will improve air quality around that intersection. Sacred Heart Hospital has submitted an indirect source permit application to LRAPA, for construction of a proposed parking structure in the block adjacent to the problem intersection. LRAPA will rule on the application in early 1987.

LONG-RANGE AIR QUALITY PLANS: CATS

Each indirect source project, such as the Sacred Heart expansion, involves a separate LRAPA review process. With the anticipated future development in central Eugene (Sacred Heart, University of Oregon, Riverfront Research Park, downtown Mall changes), it is quite likely that one project may involve air quality impacts outside of the immediate neighborhood (traffic flow changes, etc.). LRAPA's preference is to take a broader, more long-range look at larger areas which may encompass more than one development project, so that the effects of one

upon the other may be more easily examined.



LRAPA's rules provide for a more comprehensive look at larger areas, known as area-wide parking and circulation plans. If approved by the LRAPA Board of Directors, these plans can be utilized in the agency's permitting process as a yardstick for individual projects in an area, instead of each project having to conduct its own analysis and go through a separate review process. For this reason, LRAPA encouraged development of Eugene's Central Area Transporation Study also knowns as "CATS," accompanied by a policy or policies insuring that air quality concerns will continue to be addressed as specific parts of future developments. CATS can also be used by LRAPA as a "maintenance plan" for carbon monoxide, once the area is reclassified as being in attainment of the CO standard. The CATS study, undertaken by the Eugene Public Works and Planning Departments, was nearly completed in draft form as 1986 drew to a close.

ENGINEERING & FIELD ENFORCEMENT

LRAPA's engineering and field enforcement section encompasses a number of field activity programs, two of which are citizen complaint response and enforcement of the agency's regulations.

COMPLAINT RESPONSE

LRAPA places a high priority on response to complaints registered by Lane County citizens (see Table 11). Of primary concern are the open

TABLE 11

CITIZEN COMPLAINTS

1986

Field Burning	150
Industry	104
Open Burning	64
Other*	87

* residential woodburning, slash burning, road dust, general air quality

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TABLE 12

ENFORCEMENT ACTIONS

1986

Administrative Warnings	6
Notices of Violations	7
Corrective Action Orders	3
Civil Penalties	7

burning complaints, indicating a significant level of citizen concern with an activity that, in terms of actual emissions, is not viewed as a major air pollution source in Lane County. Oftentimes these are situations involving neighbors complaining about neighborhood smoke and odor problems due to backyard burning activities.

Also of concern are the industrial complaints, which typically involve fallout, odors and smoke from local plant sites. Although local industry attempts to maintain continual compliance with LRAPA's emission standards, it is obvious that many problems continue to exist. A majority of the personnel time in this section is spent working with local industrial air pollution sources.

Field burning complaints are forwarded to the Department of Environmental Quality, and the slash burning complaints are sent to the Department of Forestry. Prior to forwarding these complaints, LRAPA attempts to inform the complainant about the source of the problem.

ENFORCEMENT ACTIONS

Occasionally, excessive amounts of industrial air pollution emissions not attributed to a reported upset of control equipment, and illegal open burning activities will result in enforcement actions taken by the Authority. A summary of 1986 enforcement actions is shown in Table 12.

In connection with the enforcement effort, LRAPA developed a "ticketing" procedure in 1986 to improve the Authority's ability to give formal warnings in a more timely manner. This process allows warnings to be given at the time

TABLE 13

AIR POLLUTION INDEX

1986

	NUMBER OF DAYS			
	GOOD	MOD	UNHLTH	TOTAL
Carbon Monoxide	128	45	1	174
Ozone	126	39	0	165
Total Suspended Part.	15	11	0	26
TOTAL	269	95	1	365

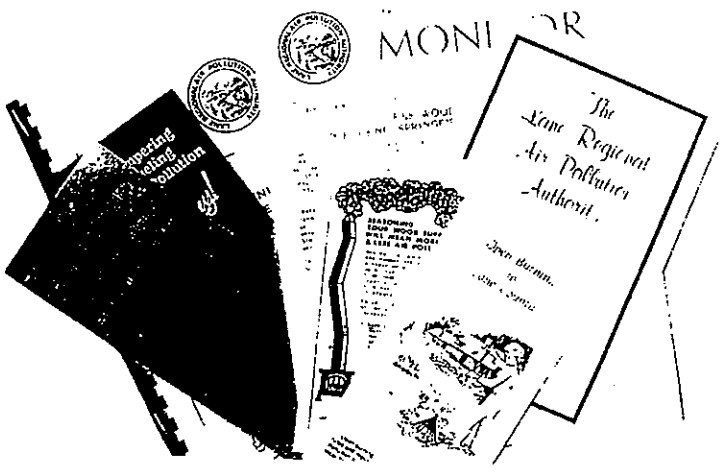
	PERCENTAGES			
	GOOD	MOD	UNHLTH	TOTAL
Carbon Monoxide	35.1%	12.3	0.3	47.7
Ozone	34.5	10.7	0.0	45.2
Total Suspended Part.	4.1	3.0	0.0	7.1
TOTAL	73.7	26.0	0.3	100.0%

of violation without the need to develop lengthy written documentation, and without compromising the offending party's right of appeal.

PUBLIC EDUCATION & INFORMATION

Public education is integrated into most of the other program areas, often involving seminars, clinics, media interviews, and educational programs for public schools, universities, and community groups and organizations. Woodstove operation, automobile emission control tampering and misfueling, and asbestos exposure were three of the educational themes undertaken by LRAPA in 1986.

LRAPA's public information program involves the reporting of routine air quality information to the public, such as the daily air pollution index, (summarized in Table 13), as well as the backyard burning advisory (October-June) and the woodburning advisory (November-February).



LRAPA produces several informationa and education brochures (see Table 14). Copies are available free of charge by contacting LRAPA at 225 N. 5th, Suite 501, Springfield, Oregon, 97477, (503) 726-2514.

TABLE 14

LRAPA BROCHURES*

Asbestos: What You Should Know: A discussion of the major types of asbestos; where asbestos is found; health effects due to asbestos exposure; applicable local and state rules for handling.

Auto Tampering & Misfueling Causes Air Pollution and Costs You Money: A discussion of the environmental and engine performance consequences of emission control tampering and misfueling; a description of the pollutants associated with the automobile; suggestions for citizen action to keep the air clean.

Lane Regional Air Pollution Authority Annual Report (1980, 1981, 1982, 1983, 1984, 1985): A discussion of agency activities and data summaries for that particular year.

Open Burning in Lane County: A discussion of LRAPA rules covering residential, construction/demolition, commercial, and industrial open burning in Lane County.

Reduce Woodstove Air Pollution: A discussion of ways in which citizens can reduce woodstove-related air pollution; proper methods of seasoning firewood; special characteristics of several local species of wood.

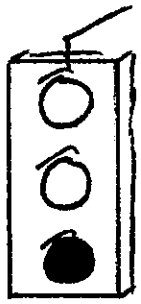
The Lane Regional Air Pollution Authority: A discussion of LRAPA and its ongoing programs.

The Monitor: The Lane Regional Air Pollution Authority monthly newsletter.

* All brochures are free of charge, and are available by contacting LRAPA at 225 N. 5th, Suite 501, Springfield, Oregon, 97477, (503) 726-2514.

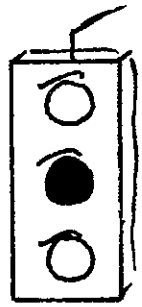
FIGURE 4

LRAPA WOODBURNING ADVISORY



GREEN: The Air Pollution Index falls within a range of 1 to 69.

"Residents who burn wood are encouraged to use proper burning techniques to minimize smoke."

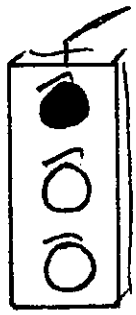


YELLOW: The Air Pollution Index falls within a range of 70 to 85.

"Air quality is deteriorating and weather conditions are such that woodburning should be reduced. You are encouraged to exercise special care to minimize air pollution from woodstoves and fireplaces."

RED STAGE I: The Air Pollution Index falls within a range of 86 to 99.

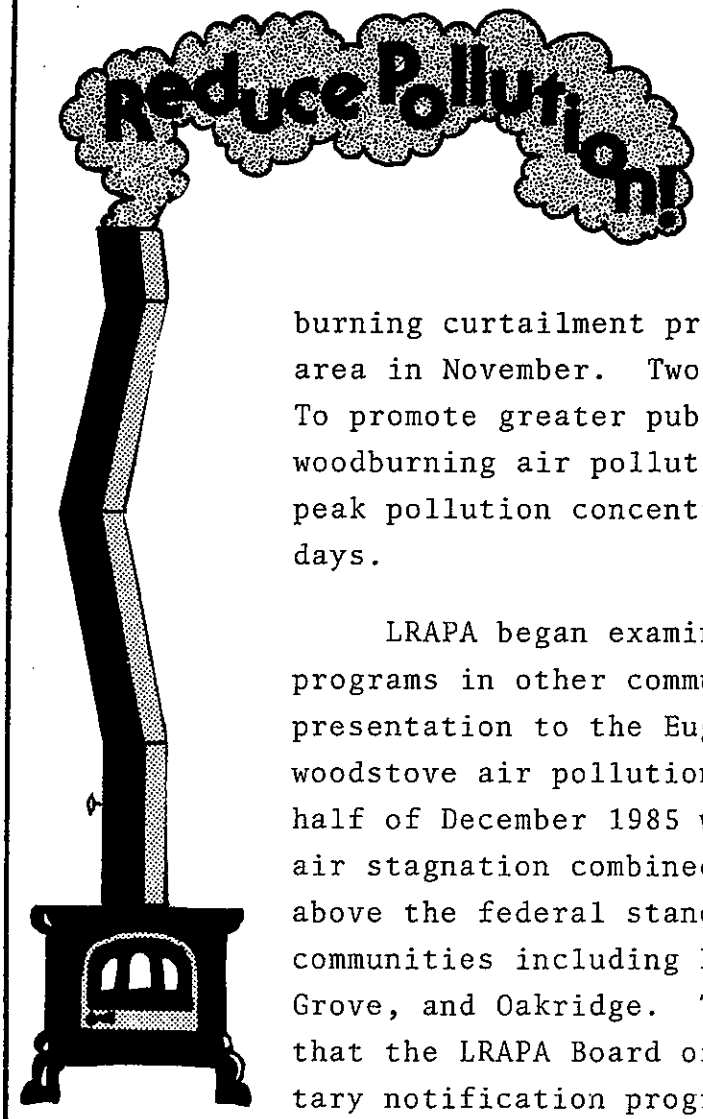
"Air quality is approaching unhealthful levels. Residents are asked to stop woodburning unless you have no other source of heat, or unless you are using an Oregon-certified woodstove or insert."



RED STAGE II: The Air Pollution Index exceeds a reading of 100.

"Due to unhealthful air quality, residents are asked to stop use of all woodheating appliances and fireplaces unless this is your only source of heat."

SPECIAL REPORT:
LRAPA's Voluntary Curtailment Program



In an effort to further address the growing woodstove air pollution problem, the Lane Regional Air Pollution Authority implemented a voluntary woodburning curtailment program in the Eugene-Springfield area in November. Two goals were set for the program: To promote greater public awareness about the local woodburning air pollution problem; and to reduce the peak pollution concentrations on stagnant wintertime days.

LRAPA began examining woodburning curtailment programs in other communities following a February presentation to the Eugene City Council on local woodstove air pollution, particularly during the last half of December 1985 when woodburning and severe air stagnation combined to push air pollution levels above the federal standards in several Lane County communities including Eugene, Springfield, Cottage Grove, and Oakridge. The Eugene council suggested that the LRAPA Board of Directors consider a voluntary notification program designed to reduce wintertime air pollution from woodstoves and fireplace inserts.

Following input from the Advisory Committee and agency staff, the Board approved a voluntary curtailment program to be operated in the Eugene-Springfield metropolitan area beginning November 1 and running through February 28.

The curtailment program incorporates a stoplight notification scheme: A green condition means that

air quality is acceptable and woodburning would be okay; a yellow conditon means that air quality is deteriorating and woodburning should be reduced; a first-stage red condition means that air quality is approaching unhealthful levels and anyone not operating an Oregon-certified woodstove or fireplace insert should halt burning; a second-stage red condition means that anyone operating a woodstove or fireplace insert, regardless of whether the unit is Oregon-certified, should stop burning. Any home in which wood is the sole source of heat is exempted from the curtailment program.

The stoplight advisory is tied to the daily air pollution index reported to the public through the local media.

The program reached the midway point in its first year of operation on December 31, 1986. A vast majority of the days during the first two months were green days. Specifically, 52 of the 61 days carried green advisories, with 9 yellow days being called. No red days were recorded. All but one of the yellow days were accompanied by an Air Stagnation Advisory issued by the National Weather Service.

LRAPA also developed two methods to measure the program's effectiveness, both to be undertaken in early 1987. One will involve a written questionnaire that LRAPA will mail to 1,000 randomly-selected households in the metropolitan area, repeating similar surveys conducted in 1982 and 1984. Several questions about the curtailment program will be included in the questionnaire. The other method will involve a visual survey of 40 randomly-selected neighborhoods in which 10 homes will be checked for smoking chimneys on the first red day of the season. The same homes

will then be re-surveyed on a green day, for comparison. The surveys will be conducted during a drive through the neighborhoods and will not involve direct contact with citizens living in the homes surveyed.

LRAPA staff will review the curtailment program in the spring to determine the program's effectiveness, whether or not the program should be continued next winter, and what changes might be necessary.

Air pollution from residential woodburning has been on the rise for the past several years in Lane County communities. Past efforts have focused on public education about the problem and ways in which residents can minimize air pollution from their wood-heating units. Recognizing that the problem continues to worsen, LRAPA feels that a voluntary woodburning curtailment program is a progressive step in dealing with this problem.