1987
ANNUAL
REPORT

LANE REGIONAL AIR POLLUTION AUTHORITY

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Board of Directors 1987

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LANE REGIONAL

AIR POLLUTION AUTHORITY

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Donald R. Arkell, Director

The 1987 Annual Report of the Lane Regional Air Pollution Authority highlights local air pollution control activities undertaken during the year.

The major emphasis for 1987 was local preparation to meet new EPA air quality standards in Eugene-Springfield and in Oakridge. The final plans to reduce air pollutants from local sources will touch individuals as well as local industries within the next several years.

LRAPA's field enforcement, monitoring, and asbestos programs also experienced increased activity in 1987, and are discussed in this report.

The success of the local air pollution control program depends, to a large degree, on an informed public. It is our hope that this report enhances the level of public awareness about local air pollution problems.

The Lane Regional Air Pollution Authority welcomes citizen input and suggestions about better ways to control local air pollution. We welcome your comments!

Sincerely,

Donald R. Arkell
Director

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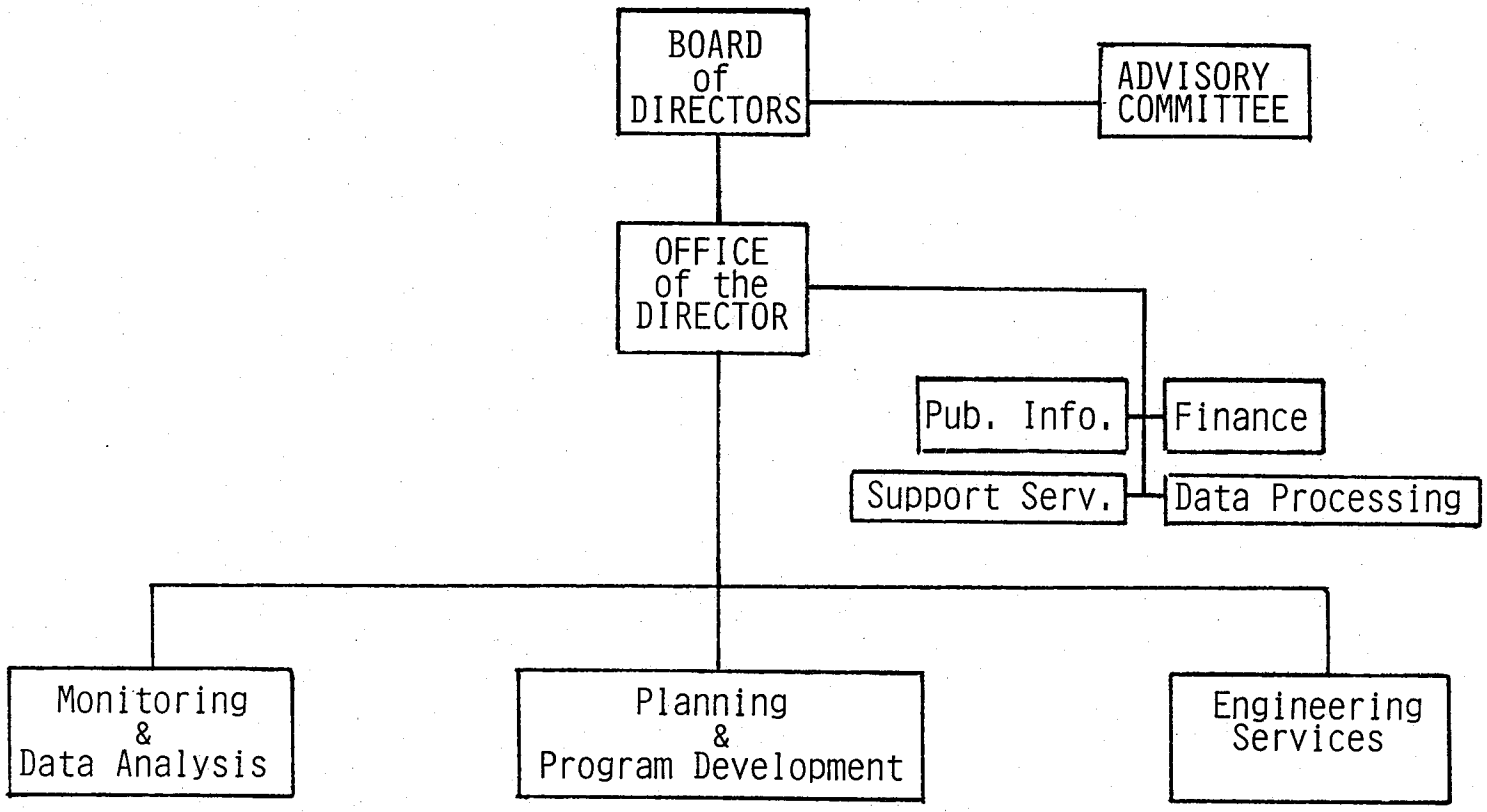
LRAPA PROGRAM ORGANIZATION
1987



THE AGENCY

At the end of the 1987 calendar year, the Lane Regional Air Pollution Authority (LRAPA) completed its 19th year of operation in Lane County. Through an intergovernmental agreement entered into by Lane County and the cities of Eugene and Springfield, LRAPA began operation as a regional air authority on January 1, 1968.

The local air pollution control program actually began in the mid-1950's, with the establishment of an air pollution control office within Eugene city government. The 1960's brought program expansion with Springfield and Lane County entering into an agreement with Eugene to provide the same air pollution control services throughout the county, though most of the effort was concentrated in the metropolitan area. When the 1967 Legislature passed a law enabling the formation of regional air pollution authorities in Oregon, the original local agreement was dissolved and the new intergovernmental agreement was entered into by the three local governments. Then, with the 1970's came the participation of Cottage Grove in the agency's board membership and program.

LRAPA is supported through contributions from the cities of Eugene, Springfield, Cottage Grove, and Lane County, federal and state air pollution grants, and various user 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. Cottage Grove City Councilor Betty Horvath

chaired the LRAPA Board in 1987. Springfield Mayor Richard Gorman served as Vice-Chair.

ADVISORY COMMITTEE

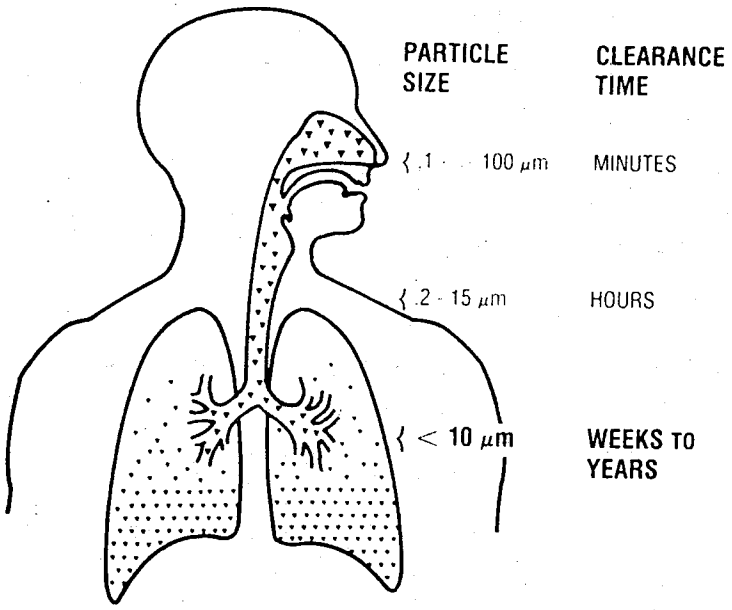
The LRAPA Advisory Committee is a citizens group that studies local air pollution issues and makes recommendations to the Board of Directors. Committee members serve four-year terms and are appointed by the Board. Included on the committee are representatives from various segments of the community including the general public, public health, planning, industry, fire safety, and agriculture. The Advisory Committee Chair for 1987 was Kathryn Barry. Brian Bauske served as Vice-Chair.

PM 10/ THE NEW STANDARD

Perhaps the most significant air pollution-related event that took place in 1987, as far as local air quality is concerned, was adoption of new ambient air quality standards (24-hour and annual) for fine particulates by the U.S. Environmental Protection Agency. Following much discussion and anticipation by state and local control agencies, the new standards were announced in July. The standards apply to particles less than 10 micrometers in size, or "PM10," (particulate matter less than 10 micrometers).

PM10 cannot be seen without the aid of magnification. For comparison, the period at the end of this sentence is about 1,000 micrometers in diameter. The diameter of a human hair is between 80 and 90 micrometers. And common bacteria are about 1 to 2 micrometers in length.

Health studies on which the new standards are based have shown that half of the PM10 particles inhaled get into the lower respiratory tract (the alveolar regions of the lung), meaning that they have not been screened out by the cilia or trapped by the mucous in the human respiratory system. Furthermore, these fine particulates can take long periods of time to be expelled from the respiratory system, if, in fact, they are expelled at all. This diagram depicting the various regions of the upper and lower respiratory tract, shows how smaller particles (listed in the size range column) take longer periods to be expelled from



the respiratory system. In general, particles larger than 10 micrometers in size are deposited in the upper, or Extrathoracic region, and are expelled within a day via coughing, sneezing, etc., without causing prolonged health effects. Particles less thatn 10 micrometers can reach into the lower respiratory region, and can take weeks to years to be expelled.

PM10 particles not only pose potential long-term consequences for the "now healthy" individual, but they also exacerbate the condition of those already afflicted with a respiratory illness, including those suffering with chronic bronchitis, emphysema, heart or lung ailments. It is for these reasons that the new PM10 standards are considered to be truly health-related.

The new PM10 standards replace previous standards for total suspended particulate (TSP), which included both large and small particles. It was recognized that the TSP standards, and control actions to achieve compliance, were somewhat misdirected from a health protection standpoint. That is, they did not fully address protection of public health, since the large particles offer no health impact risk. Generally, the scientific and medical communities agreed to the need for a particulate standard that reflected the particle size ranges that enter and deposit in the human respiratory tract. Thus, the PM10 standards were adopted.

GROUP I, II, & III AREAS

Based on previous TSP data, and PM10 data where available, EPA classified areas throughout the country into one of three categories; Group I, Group II, or Group III.

Group I areas are those areas in which a

90% or-greater chance of standard exceedances being registered exists. Control plan development is immediately required in Group I areas.

Group II areas are those areas "too close to call," in terms of compliance with the new standards; where the chances of standard exceedances being recorded are between 20% and 90%. These areas must commit to perform additional PM10 monitoring, and to report any standard exceedances to EPA, at which time the control strategy development process must be initiated.

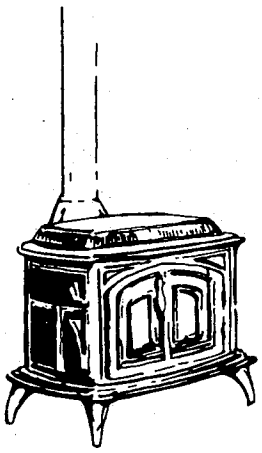
Finally, Group III areas are those areas believed to be in attainment of the PM10 standards; where the chances of standard exceedances being recorded are less than 20%.

Four areas in Oregon were classified in the Group I category; Eugene-Springfield, Grants Pass, Medford-White City, and Klamath Falls. Four additional cities were classified in the Group II category; Oakridge, Bend, La Grande, and Portland.

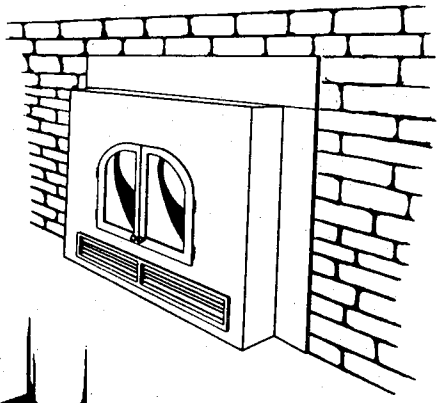
All other areas in Oregon fall into the Group III category.

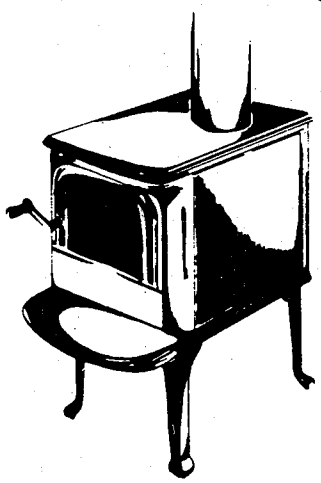
Once a new ambient air quality standard is enacted by EPA, the Clean Air Act allows 9 months for a nonattainment area (Group I PM10 area) to submit to the EPA a program for achieving attainment. Under certain circumstances, this deadline can be extended. This control program takes the form of a revision to the State Implementation Plan, or "SIP," which serves as a state's blueprint for controlling air pollution.

Several common sources of fine particulate have been identified, including certain industrial processes, combustion sources, fugitive dust, and miscellaneous sources such as diesel-powered buses and trains.



One source particularly significant in Oregon will be more difficult to control than traditional stationary sources: residential woodburning. An absence of historical control measures for this source, as well as some statute limitations in Oregon, will require persistance and innovation on the part of state and local regulators, if this major PM10 source is to be controlled.





PM10

The Eugene-Springfield metropolitan area has been designated by EPA as a PM10 Group I area, based on local PM10 monitoring conducted by LRAPA. This designation is given to those areas exceeding the new federal standards for this pollutant, or which have a greater than 90% chance of exceeding the standards.

Since November 1985, when LRAPA began measuring fine particulates at three sites in the metropolitan area, exceedances of the new 24-hour standard have been recorded on 21 separate days. One exceedance per year is allowed by EPA. No exceedances of the new annual standard have been recorded locally.

The vast majority of the 24-hour standard exceedances have occurred during the winter months of December and January, particularly on cold, stagnant days. These exceedances are likely due to a combination of source, weather, and topographical factors (the latter due to the location of the metropolitan area at the southern end of the Willamette Valley, in close proximity to surrounding hills and mountain ranges).

Home woodheating, industrial boilers, particleboard and veneer driers, fugitive dust, and other combustion sources (such as backyard burning) have been identified as the primary local PM10 sources.

Controls have already been placed on some of these sources. Over the past several years roads and parking lots have been paved, some industrial processes have purchased and installed air pollution control equipment, backyard burning is either prohibited or restricted in the metropolitan area, a state certification program for new woodheating units sold on

FIGURE 2

EUGENE-SPRINGFIELD
PM10 GROUP I AREA

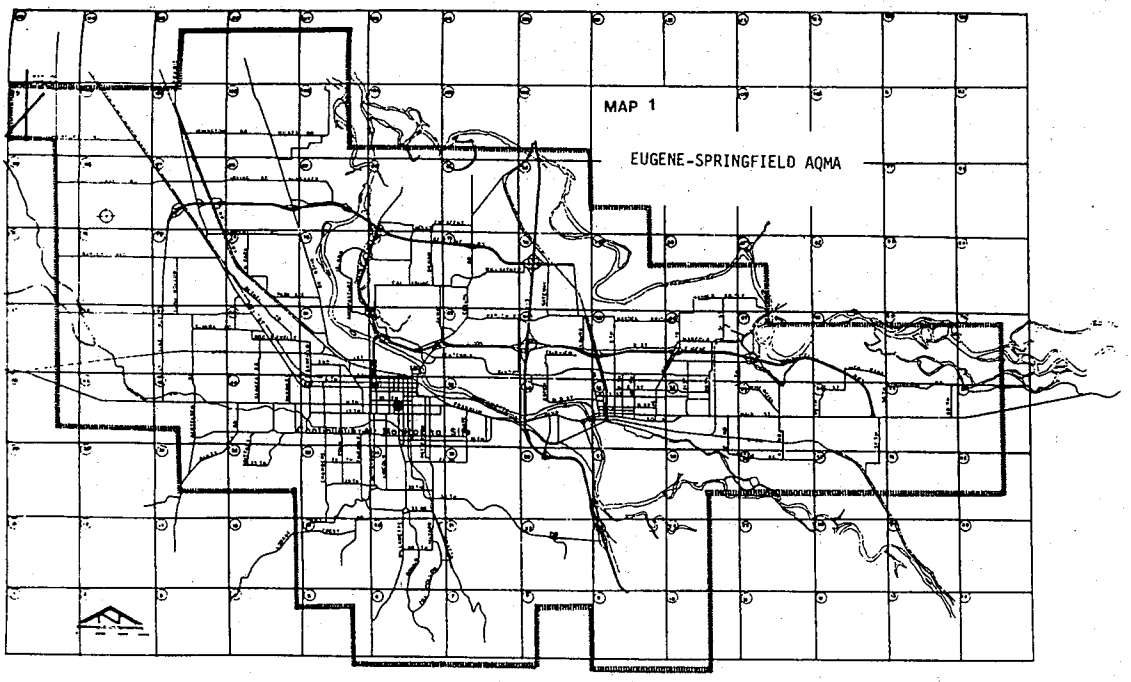
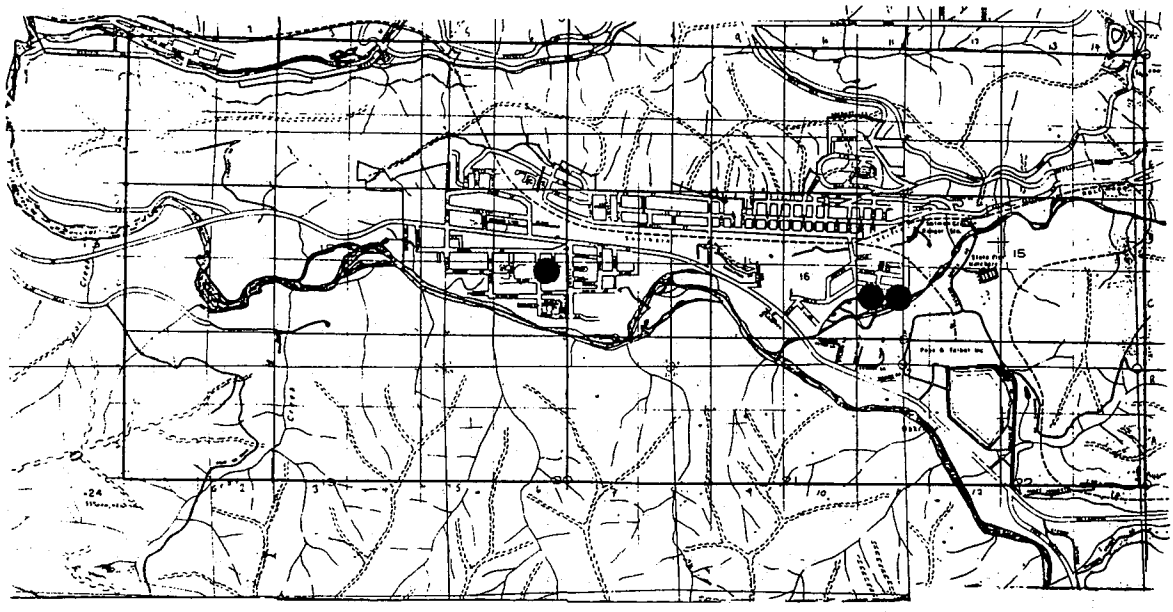


FIGURE 3

OAKRIDGE
PM10 GROUP II AREA



● WILLAMETTE ACTIVITY CENTER BLDG. (historical site)

●● OAKRIDGE CITY SHOPS (new site)

the market has been instituted, and a voluntary home woodburning curtailment program has just completed its second season of operation in Eugene-Springfield. Even with these controls, however, standard exceedances continue to be recorded. In order to comply with federal Clean Air Act requirements for this pollutant, additional local controls will be necessary.

The LRAPA Advisory Committee has been studying the extent of the local PM10 problem, and soon will be considering a wide range of potential control measures. It is likely that further industrial controls will be mandated. Some additional residential woodburning control measures will be considered. And, it is possible that backyard burning will be further restricted or banned altogether in the metropolitan area.

The committee will complete its work on a control plan in 1988. The plan will be forwarded to the LRAPA Board, and on to the EPA through the state Environmental Quality Commission as a formal revision to Oregon's State Implementation Plan.

Oakridge is designated as a PM10 Group II area, necessitating a LRAPA commitment to perform additional PM10 monitoring and report any standard exceedances to EPA.

LRAPA has been measuring Total Suspended Particulates at the Willamette Activity Center building in Oakridge since 1983. Peak 24-hour TSP concentrations at this site have been among the highest of any LRAPA monitoring site, including those located in the metropolitan area. A total of 16 exceedances of the former TSP 24-hour standard have been registered at the Oakridge site since 1983, four of which were exceedances of the former primary health standard. Based on this data, Oakridge was included in the Group II category, due to the liklihood of future PM10

standard violations.

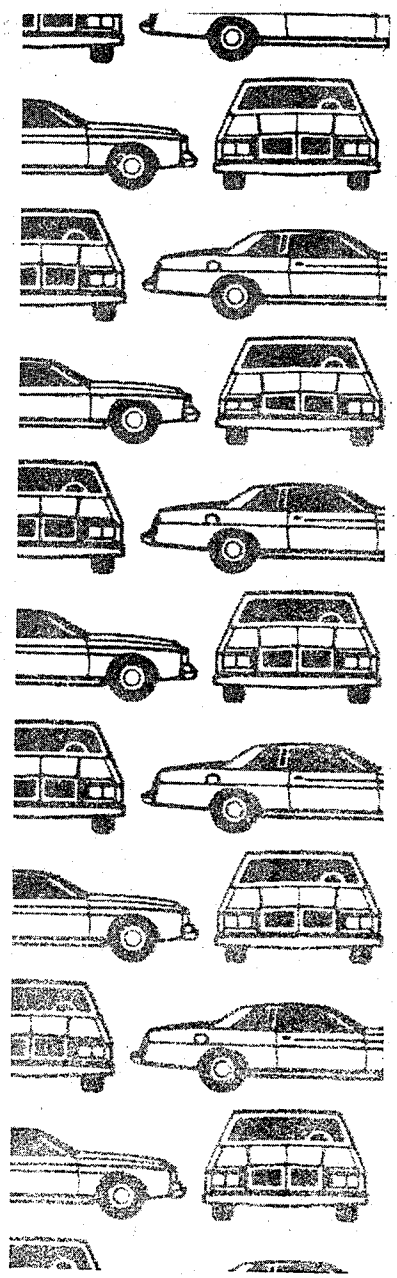
The existing Oakridge monitoring site is believed to be located in the area of maximum particulate concentrations; the former Willamette City area in the southwest corner of the community. To confirm this belief, and to fulfill the Group II requirement for additional monitoring, LRAPA will be locating another monitoring site on the upper, east end of the community prior to the 1988-89 winter heating season. At least one of the two sites will be measuring PM10.

Because Oakridge standard exceedances occur during the winter months and due to the lack of other sources, residential woodheating is considered the major local particulate source. If future standard exceedances are recorded and Oakridge becomes a PM10 Group I area, control efforts will likely focus on woodstoves and fireplace inserts.

All other areas of Lane County are considered to be in the Group III category, where no additional PM10 controls are required. Occasional TSP standard exceedances have been recorded in Cottage Grove over the years. However, the magnitude or frequency of the exceedances has not resulted in Group I or II status for that community.

However, LRAPA continues to be concerned about field or slash burning smoke intrusions into Cottage Grove, Veneta/Elmira, Junction City, Marcola, and other currently "unmonitored" Lane County communities. For example, summertime field burning is known to impact Fern Ridge, Elmira and Veneta on days when fields are burned in the southwestern Willamette Valley under north/south wind conditions. And, it is possible that residential woodheating produces elevated wintertime PM10 concentrations in these communities.

CARBON MONOXIDE



The Eugene-Springfield metropolitan area was officially designated as being a nonattainment area for carbon monoxide in 1978, due to historical exceedances of the federal 8-hour carbon monoxide standard. The attainment deadline mandated by the federal government was December 31, 1987, and LRAPA monitoring data indicates that local compliance has been reached.

Studies involving the extent of the local problem revealed a few "hot spots," primarily near congested intersections such as West 7th & Jefferson, and 13th & Hilyard Streets in Eugene. Additional corrective steps are being taken to monitor carbon monoxide concentrations at each hot spot to flag the necessity for further emission reductions.

The Clean Air Act requires that any area recording more than one exceedance of the carbon monoxide standard per year be designated as a nonattainment area with control strategies being required. Local measures have involved improved traffic signal timing, the development of transportation alternatives such as carpool/rideshare programs, a bicycle access plan, and encouragement of mass transit. In addition, the City of Eugene recently undertook a "Central Area Transportation Study," one component of which was a parking and traffic circulation plan, which addresses, among other things, the air pollution impact of future development in the downtown area. Together, these elements are expected to insure carbon monoxide standard attainment in future years.

A lack of standard exceedances over the

past several years (1 each in 1984, 1985, and 1986, and none in 1987) is prompting LRAPA to petition the EPA to redesignate Eugene-Springfield as being in attainment of the carbon monoxide standard. The significance of this action is that the area will be removed from any EPA carbon monoxide nonattainment list which requires further control strategies or the risk of federal sanctions being placed on the community.

OZONE

The Eugene-Springfield area remains in attainment of the federal 1-hour ozone standard, although that standard was reached on one occasion in 1987, at the monitoring site in Saginaw. No local control measures for this pollutant have been necessary.

AIR POLLUTION EMISSIONS

The significance of residential wood-heating as a local air pollution source is reflected in the latest emission calculations for PM10 and carbon monoxide.

Each year LRAPA compiles emissions data from local sources as a means to track progress in reducing local air pollution.

"Emissions" are defined as contaminants discharged into the ambient air, and are distinguished from the ambient concentrations measured at LRAPA's monitoring sites. In other-words, emissions originate from the smokestack, the tailpipe, or the burning pile; concentrations of the collective emissions are measured at the monitoring sites and are used as the yardstick for standard attainment or nonattainment.

1987 emission estimates for Eugene-

TABLE I

EUGENE-SPRINGFIELD PM-10 EMISSIONS
1985 - 1987
(tons per year)

	1985	1986	1987
Industrial Processes	3,300	3,300	3,300
Residential Woodheating	2,500	2,100	2,300
Fugitive Dust	2,300	2,000	2,200
Other	300	300	300
Totals	8,400	7,700	8,100

TABLE 2

CENTRAL EUGENE CARBON MONOXIDE EMISSIONS
1985 - 1987
(tons per year)

	1985	1986	1987
Transportation	6,398	6,331	6,264
Residential Woodheating	1,363	1,132	1,232
Totals	7,761	7,463	7,496

TABLE 3

OAKRIDGE PM-10 EMISSIONS

1987

(tons per year)

Industrial Processes	16
Residential Woodheating	105
Paved Road Dust	14
Other	13
Total	148

TABLE 4

COTTAGE GROVE PM-10 EMISSIONS

1987

(tons per year)

Industrial Processes	380
Residential Woodheating	85
Fugitive Dust	81
Other	11
Total	557

Springfield (PM10 and carbon monoxide), Oakridge (PM10) and Cottage Grove (PM10) are shown in Tables 1,2,3, and 4.

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.

LRAPA MONITORING NETWORK

LRAPA's monitoring network was in a state of transition in 1987, as far as measuring for particulate concentrations was concerned. The monitoring network is generally designed to reflect general air quality conditions throughout Lane County. However, the federal change in the particulate standard (from TSP to PM10) at mid year precipitated the phasing out of several TSP monitoring sites and gradual replacement with PM10 sites. This effort will be completed in 1988. What resulted was partial-year data (both TSP and PM10) at several sites.

Carbon monoxide and ozone monitoring sites remained at their permanent locations during the year.

A description of the pollutants measured, local sources, health effects, and methods of sampling is contained in Table 5. A site-by-site description of the 1987 monitoring network is contained in Table 6.

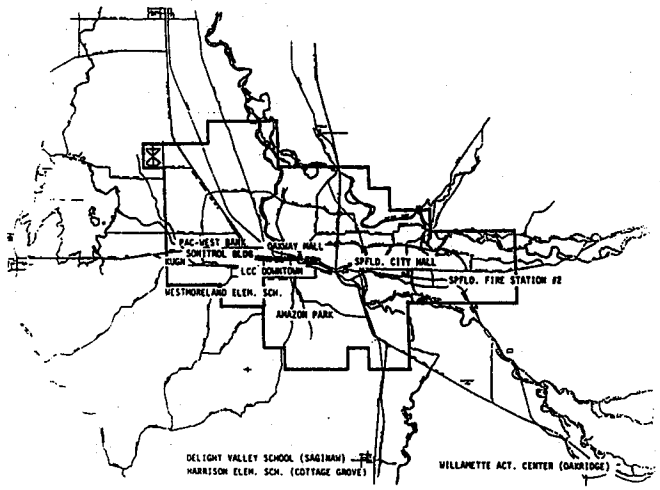
AIR POLLUTANTS MEASURED IN LANE COUNTY

POLLUTANT	DEFINITION	SOURCES	HEALTH EFFECTS	METHOD OF SAMPLING
FINE PARTICULATES (PM_{10})	Respirable particulates less than 10 microns in size.	* Residential Woodburning * Industrial Boilers * Other Combustion Sources	* Aggravates chronic lung disease * Aggravates heart & lung disease symptoms	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

1987 MONITORING NETWORK

Site Location	*Pollutants Measured	Type of Site
Westmoreland Elem. Sch. (Eugene)	TSP	NEIGHBORHOOD/INDUSTRIAL
Pacific-Western Bank (Eugene)	PM-10, TSP	INDUSTRIAL/TRANSPORTATION/NEIGHBORHOOD
Sonitrol Building (Eugene)	TSP	COMMERCIAL/INDUSTRIAL
KUGN Radio (Eugene)	Visib., Met.	SMOKE INTRUSIONS/NEIGHBORHOOD
Lane Community College (downtown Eug.)	PM-10, TSP, Visib, CO	COMMERCIAL-CITY CENTER/NEIGHBORHOOD
Amazon Park (Eugene)	PM-10, TSP, Visib., CO, O-3	NEIGHBORHOOD/TRANSPORTATION
Oakway Mall (Eugene)	Met.	WIND SPEED & DIRECTION
Springfield Fire Station #2	TSP	TRANSPORTATION/COMMERCIAL/INDUSTRIAL
Springfield City Hall	PM-10, TSP, 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

PM-10:	PARTICULATE MATTER LESS THAN 10-MICRONS
TSP:	TOTAL SUSPENDED PARTICULATE
VISIB:	VISIBILITY
MET:	METEOROLOGY
CO:	CARBON MONOXIDE
O-3:	OZONE

AMBIENT AIR QUALITY DATA

PM10

Local PM10 levels generally were higher at all four sites in 1987 than they were the previous year (see Table 7), with the highest readings being recorded at Pacific Western Bank on Highway 99 in northwest Eugene. In fact, all three PM10 24-hour standard exceedances were registered at this site. The high concentrations were measured during the wintertime, and can be traced (at least to a large degree) to residential woodheating emissions. With the exception of the Pacific Western Bank site, PM10 concentrations were well below the 24-hour standard.

Total Suspended Particulate (TSP)

The Total Suspended Particulate concentrations for 1987 are listed in Table 8, primarily as a reference to TSP concentrations recorded in past years. With the elimination of the TSP standard in July, these readings assume less importance. It is noteworthy, however, that the highest TSP readings were recorded in Oakridge, as has been the case for three of the past four years.

Carbon Monoxide

The improvement in ambient carbon monoxide concentrations noted over the past few years continued in 1987 (see Table 9). The peak 8-hour readings for the year were lower than they have been for the past several years. No standard exceedances were recorded during the year.

Ozone

Maximum ozone concentrations were slightly higher in 1987 than they have been over the past

TABLE 7

COMPARISON OF PM_{10} VALUES

1982 - 1987

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	1987 a	1987 b	1987 c	1987 d
2018056	Lane Community College	---				22	71	66	0	20	70	64	0	32	197	156	3	31	85	72	0	37	129	124	0
2018058	Pacific-Western Bank	---				---				---				--	267	234	14	39	151	111	1	43	175	174	3
2018060	Amazon Park	---				---				21	56	46	0	34	189	152	2	27	118	67	0	32	122	117	0
2033060	Springfield City Hall	---				--	88	66	0	28	108	80	0	--	80	62	0	--	57	52	0	35	104	96	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 mean
---	No data was collected at this site during the year

Standards:

Annual Primary:	50 micrograms/cubic meter
24-hour Primary:	150 micrograms/cubic meter

TABLE 8

COMPARISON OF TSP VALUES

1982 - 1987

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	1987 a	1987 b	1987 c	1987 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	48	177	156	2
2018039	Westmoreland Elementary Sch	40	226	201	3	36	156	141	1	37	166	137	1	47	302	237	4	41	191	136	1	50	176	154	2
2018056	Lane Community College	39	206	137	1	34	101	87	0	36	152	134	1	46	236	202	3	40	132	115	0	45	167	162	2
2018058	Pacific-Western Bank	55	262	252	2	53	188	155	2	55	200	161	2	69	278	261	8	65	218	193	4	79	237	188	8**
2018060	Amazon Park		---				---			32	100	94	0	43	237	207	4	39	152	108	1	43	170	156	2*
2018061	Sonitrol Building		---				---				---			--	163	156	2	45	156	141	1	56	175	161	2*
2030002	Willamette Rec Center		---			--	104	79	0	43	245	166	2	55	276	247	7	53	282	188	3	56	303	292	4**
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	57	149	147	0*
2033060	Springfield City Hall		---			--	114	104	0	38	133	121	0	--	140	102	0	--	152	120	1	56	152	152	2

Notes:

a	Annual Geometric Mean
b	Highest 24-hour Concentration
c	2nd Highest 24-hour Concentration
d	Number of Exceedances of Former Secondary Standard
--	Insufficient Number of Samples obtained to calculate a valid geometric mean
---	No data was collected at this site during that year
*	Site discontinued on 9/30/87
**	Site discontinued on 10/6/87

Former Standards:

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

several years (see Table 10). In fact, the 1-hour ozone standard was reached at Amazon Park in 1987. However, no official standard exceedances were actually recorded during the year.

TABLE 9

COMPARISON OF CARBON MONOXIDE VALUES

1982 - 1987

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	1987 a	1987 b	1987 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	8.2	7.6	0
2018060	Amazon Park		---			---		5.8	4.7	0	10.3	8.5	1	7.3	6.1	0	6.0	5.9	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 - 1987

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	1987 a	1987 b	1987 c
2000036	Delight Valley School	182	171	0	171	167	0	188	165	0	202	202	0	210	191	0	224	220	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	235	218	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 micrograms/cubic meter

In addition to measuring existing air pollution concentrations (discussed previously), LRAPA's control program is designed to anticipate future air quality, ensure compliance with air pollution regulations, and promote public understanding of air pollution and methods of prevention.

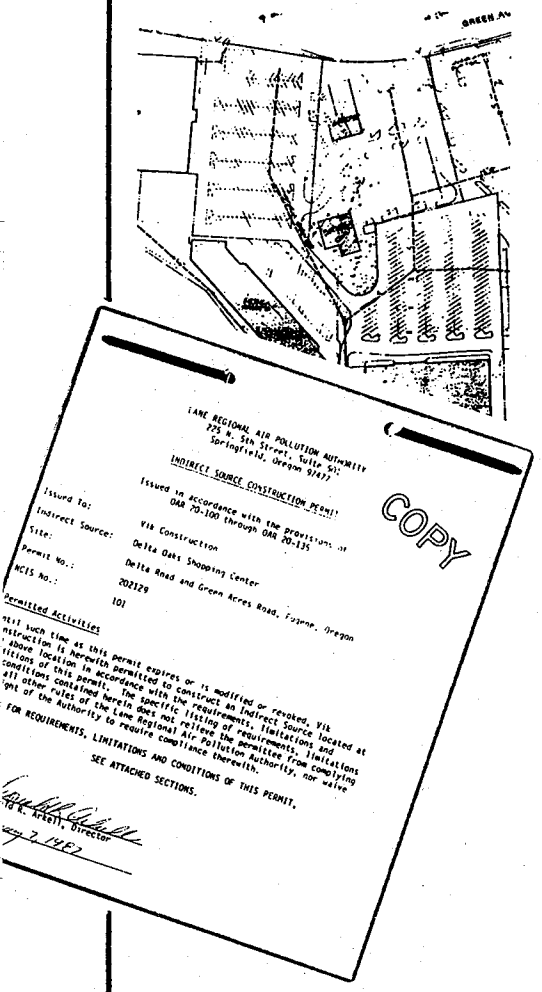
AIR QUALITY PLANNING

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 impacts on air quality, or it may involve the development of broad-based air pollution control plans that will enable attainment of federal air pollution standards.

LRAPA conducts a review and evaluation for indirect source permit applications involving any proposed construction project which will either directly or indirectly cause an increase in motor vehicle activity. Such projects usually involve highway construction, construction of retail, commercial and industrial facilities, and construction of parking facilities. An indirect source permit is issued if it is found that the project will not significantly worsen local air qulaity or result in an air quality standard violation. One condition to the issuance of an indirect source permit may be a requirement

to measure air quality for a period of time during and immediately following completion of the project.

LRAPA undertook several significant indirect source reviews in 1987:



* Delta Oaks Shopping Center Expansion: 336 parking spaces to accommodate retail expansions;
* River Road Widening: from 2 lanes to 4 lanes north of Santa Clara;
* Mahlon Sweet Airport Expansion: 700 parking spaces as part of a major expansion project at the facility;
* Pioneer Plaza Shopping Center Construction: 526 parking spaces as part of the construction project;
* Sacred Heart Hospital Expansion and Parking Structure: 900 space, multi-level parking garage. (Since the intersection of 13th & Hilyard, adjacent to the proposed parking garage, has been identified as a carbon monoxide "hot spot," several mitigating measures were required as conditions to the indirect source permit, including signal timing, an additional turn lane on 13th Street, and the installation of a carbon monoxide monitoring site near the front entrance to the hospital on Hilyard Street.)

ENGINEERING & FIELD ENFORCEMENT

LRAPA's engineering and field enforcement section encompasses a number of field activity programs, including citizen complaint response, enforcement of the agency's regulations, inspections, investigation of special open burning requests, and processing of asbestos removal notifications.

Complaint Response

LRAPA attempts to respond to air pollution complaints as they are registered with the agency. This response may be immediate (such as responding to a potentially illegal open burn in progress), may involve further investigation (such as a complaint involving excessive industrial emissions), or written followup (such as sending a letter to a resident whose woodstove or fireplace chimney was allegedly causing a smoke problem in the neighborhood).

Complaints involving sources outside of LRAPA's jurisdiction are forwarded to the appropriate regulatory agency. Field burning complaints are sent to the Department of Environmental Quality and slash burning smoke complaints are forwarded to the State Department of Forestry. Instances in which an excessive amount of smoke is impacting a particular Lane County community will usually result in direct communication between LRAPA and the responsible regulatory agency.

Of primary concern to LRAPA are open/backyard burning and industry-related complaints. Both involve a significant amount of staff time. A summary of complaints received by LRAPA in 1987 is contained in Table 11.

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 action being taken by the Authority. A summary of the enforcement actions taken in 1987 are shown in Table 12.

Special Open Burning Requests

The field staff considered 27 special open

TABLE 11

CITIZEN COMPLAINTS

1987

Backyard Burning	51
*Field Burning	163
Home Heating	34
Industry	129
**Slash Burning	68
***Other	63

* Field burning complaints are forwarded to the Department of Environmental Quality for response.

** Slash burning complaints are forwarded to the Department of Forestry for response.

*** This category includes agricultural burning, dust, general air quality, fallout, and miscellaneous or unknown sources of local air pollution.

TABLE 12

ENFORCEMENT ACTIONS

1987

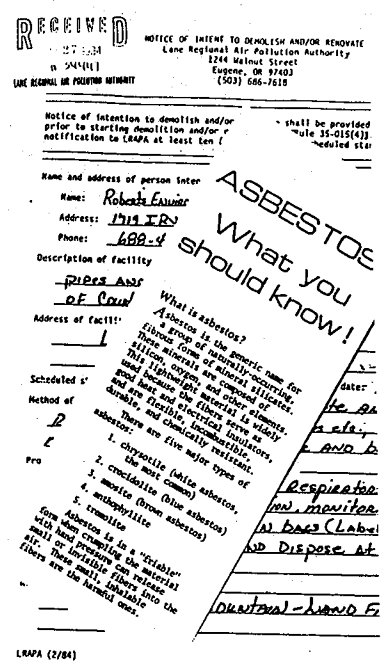
Administrative Warnings	7
Notices of Violations	20
Corrective Action Orders	0
*Civil Penalties	7

* Civil penalties accompany Notices of Violations.

burning requests in 1987. These requests, requring field inspections, usually involve the burning of materials prohibited from being burned without special authorization. The three primary factors taken into consideration by the field staff include location of the proposed burn (urban or rural), material to be burned, and time of year when the burn is requested. Special permits were issued in 23 of the 27 requests made to the agency during the year.

Asbestos Notifications

The engineering and field enforcement section also administers LRAPA's asbestos program, in accordance with federal rules for hazardous air pollution emissions. In addition to regulating companies which use asbestos in their manufacturing process, LRAPA requires that any person, company, or business intending to demolish or renovate any building, structure, or equipment containing friable asbestos must notify the agency at least ten days in advance.

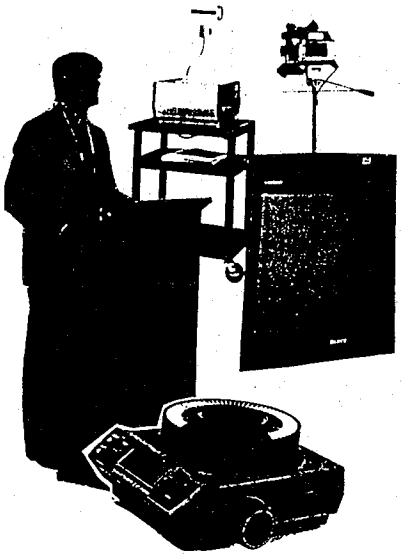


LRAPA's notification rule is designed to make sure that the contractor performing the demolition or renovation work is fully aware of the handling and transportation requirements. This rule covers situations ranging from complete demolition of buildings to repair of boiler systems with asbestos-covered pipe, to the remodeling of an older building containing asbestos. Proper containment and handling of asbestos materials minimizes the asbestos fibers released into the air, thus reducing the risk to workers and to the general public.

The number of notifications has been steadily increasing over the past few years (142 in 1987, compared with less than 30 in 1985), requiring more

associated staff time. To assist in recovering some of the agency's costs in reviewing these notifications, the LRAPA Board directed staff to adopt a notification fee schedule. Board action on a final schedule is expected in 1988.

PUBLIC EDUCATION & INFORMATION



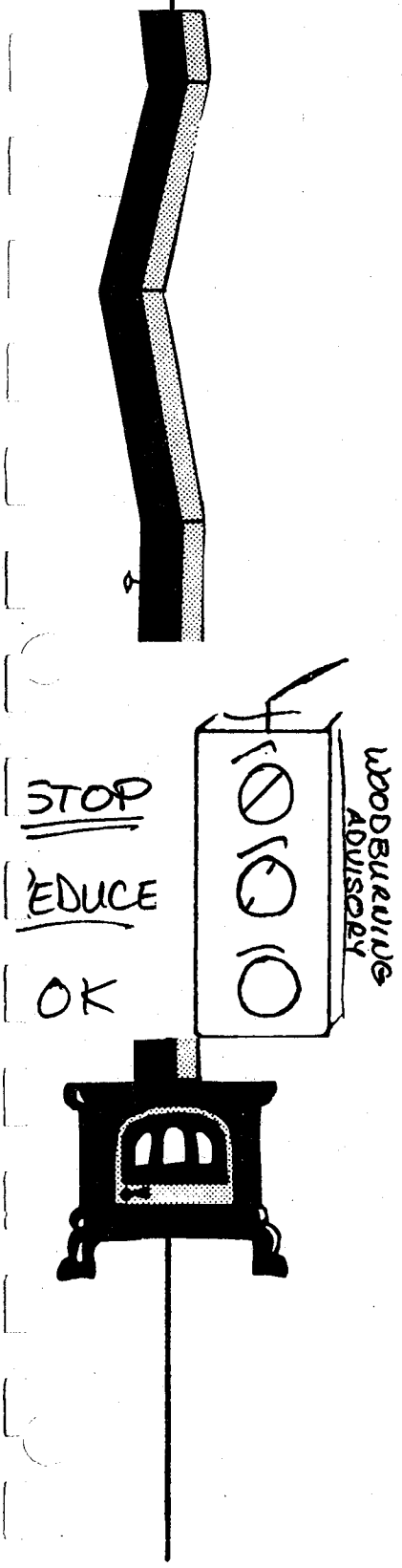
The third element of LRAPA's program, promoting public understanding of air pollution and methods of prevention, is accomplished through public presentations, media relations, production of audio/visual and written materials, and issuing daily air pollution and woodburning advisories.

LRAPA staff routinely make presentations before civic groups, special interest groups, and education classes. These presentations may involve one aspect of local air quality, or may be a general air pollution presentation.

LRAPA conducts an ongoing media relations program by issuing news releases, conducting interviews, and suggesting story ideas to the local news media.

LRAPA produces written brochures, and publishes a monthly newsletter and annual report. Special newsletters are written several times a year for the local government and planning communities, as well as for Lane County's fire departments and districts. Video public service announcements have been produced for local television stations, most recently on woodstove operation and automobile tampering and misfueling.

LRAPA issues three separate advisories during the year. These advisories are relayed to the general public through the agency's air



pollution advisory line, and through local newspapers, television and radio stations.

A backyard burning advisory is calculated daily through the burning season (October 1 through June 15), and recorded on LRAPA's message line. A woodburning advisory is calculated daily from November 1 through February 28, recorded on the message line and telephoned to the local news media. Finally, a daily air pollution index (API) is calculated throughout the year, and is reported to local newspapers and television stations.

Air Pollution Index & Woodburning Advisory

LRAPA's voluntary woodburning curtailment program for the Eugene-Springfield area concluded its first season and began its second season of operation in 1987.

In effect from November through February, the voluntary curtailment program is designed to lower concentrations of air pollution from woodstoves, fireplace inserts, and fireplaces during periods of air stagnation and temperature inversions.

LRAPA issues the daily advisory based on existing air quality and weather conditions, as well as the forecasts for each over the next 24-hours. The 1987 air pollution index is summarized in Table 13. A month-by-month summary of the woodburning advisories is contained in Table 14.

The woodburning advisories are either green, yellow, or red; from burning being allowed to no burning, respectively. Residents whose only form of home heat is wood are exempted from the voluntary curtailment program.

The first one and a-half seasons (through December 1987) of operation were marked by a

TABLE 13

AIR POLLUTION INDEX

1987

	NUMBER OF DAYS			
	GOOD	MOD	UNHLTH	TOTAL
Carbon Monoxide	81	32	0	113
Ozone	110	53	0	163
Particulate Matter	40	49	0	89
TOTALS	231	134	0	365

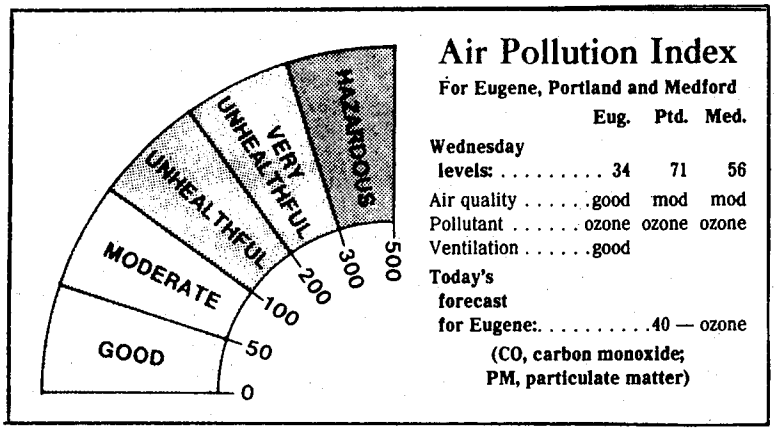


TABLE 14

VOLUNTARY WOODBURNING
CURTAILMENT PROGRAM
SUMMARY

1986/87-1987/88

	GREEN	YEL.	RED I	RED II
November '86	29	1	--	--
December '86	22	9	--	--
January '87	23	8	--	--
February '87	26	2	--	--
November '87	26	3	1	--
December '87	29	2	--	--
	155	25	1	0

GREEN: Air Quality OK - Woodburning OK

YELLOW: Air Quality Deteriorating - Woodburning Reduced

RED I: Air Quality Almost Unhealthful - Halt Burning of Non-Certified Units

RED II: Air Quality Unhealthful - All Woodburning Halted

vast majority of green advisory days. Most of the yellow days occurred in December 1986 and December 1987, when atmospheric ventilation was poor.

As mentioned earlier in this report, woodburning is likely to be addressed in the now-being-developed PM10 control plan for Eugene-Springfield. One option would be to replace the voluntary curtailment program with a mandatory program. However, that decision will not be made in the absence of local government commitments (city, county ordinances) or a change in state law allowing regional air pollution authorities and state agencies to more directly regulate home woodheating practices. In the meantime, LRAPA's voluntary woodburning curtailment program will continue in the Eugene-Springfield area.