BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF ENDORSING THE RECOMMENDATIONS OF THE DIESEL EXHAUST STUDY TASK FORCE	)	RESOLUTION NO. 84-480
	)	Introduced by the Joint Policy Advisory Committee on Transportation

WHEREAS, The Portland Air Quality Maintenance Area is in violation of state and federal particulate air quality standards; and

WHEREAS, The region will continue to violate this standard unless additional particulate control strategies are adopted; and

WHEREAS, Continued violation of this standard will require that new industries wishing to locate in the Portland Air Quality Maintenance Area (or existing industries wishing to expand their production) must purchase costly emission offsets; and

WHEREAS, The Diesel Exhaust Study conducted by the Metropolitan Service District (Metro) and the Oregon Department of Environmental Quality (DEQ) found that projected increases in the use of diesel automobiles and diesel trucks will moderately degrade particulate air quality in the metropolitan area; and

WHEREAS, A Diesel Exhaust Study Task Force was initiated and charged with recommending to the Metro Council and the Director of DEQ measures to mitigate potential adverse air quality impacts from diesel vehicles; and

WHEREAS, The Task Force recommended appropriate measures to reduce particulate air quality impacts from diesel vehicles; now, therefore,

BE IT RESOLVED,

1. That the Metro Council endorses the recommendations as

shown in Attachment A.

2. That Metro transportation staff coordinate with DEQ, Tri-Met and other concerned agencies to fulfill the recommendations of the Task Force.

ADOPTED by the Council of the Metropolitan Service District this 26th day of July, 1984.

Corky Kirkpatrick
Presiding Officer

RB/srb
1462C/382
06/29/84

ATTACHMENT "A"

RECOMMENDATIONS OF THE DIESEL EXHAUST STUDY TASK FORCE

- That DEQ and Metro urge Congress and EPA to retain or accelerate the effective date of the 0.2 gm/mi exhaust particulate standard for diesel automobiles promulgated in the January 24, 1984, Federal Register.

- That DEQ and Metro urge Congress and EPA to promulgate similar exhaust particulate emission control standards for diesel trucks and buses at the national level.

- That DEQ analyze the potential benefit to air quality from testing in the DEQ vehicle inspection program all diesel trucks and buses not registered under apportioned registration agreements provided for by ORS 481.645 (i.e., not registered in multiple states). DEQ should consider testing these vehicles in their inspection program if the benefits are significant.

- That DEQ should monitor the current demonstration project in southern California which is testing the air quality benefits of retrofitting transit buses with trap oxidizers. If the program is successful, DEQ should discuss with Tri-Met retrofitting their bus fleet.

- That DEQ should consult with Tri-Met when they purchase new buses to ensure that air quality concerns are addressed, and that this coordination should take place prior to Metro's Transportation Improvement Program (TIP) approval of any bus purchase grant.

- That DEQ monitor sales of diesel automobiles, and if those sales become greater than 10 percent of all new automobile sales, reconvene the Diesel Exhaust Study Task Force to determine if further actions are warranted.

ADDITIONAL RECOMMENDATION OF TPAC

- That DEQ and Metro shall consult with EPA and UMTA to explore revising bus design specifications to effectively address air quality concerns.

ADDITIONAL RECOMMENDATIONS OF JPACT

- That DEQ should complete their analysis of the benefit of testing diesel buses and trucks by March 31, 1985. If the benefit is cost-effective, DEQ should revise the Particulate State Implementation Plan to include this measure.

- That Tri-Met seek funds in FY 1986 to purchase trap oxidizers if their potential air quality benefits are found to be cost-effective.

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07/12/84

STAFF REPORT

Agenda Item No. 8.1

Meeting Date July 26, 1984

CONSIDERATION OF RESOLUTION NO. 84-480 FOR THE PURPOSE OF ENDORSING THE RECOMMENDATIONS OF THE DIESEL EXHAUST STUDY TASK FORCE

Date: June 20, 1984 Presented by: Richard Brandman

FACTUAL BACKGROUND AND ANALYSIS

Proposed Action

This action will endorse the recommendations of the Diesel Exhaust Study Task Force, with amendments approved by TPAC and JPACT. The recommendations are:

- That the Department of Environmental Quality (DEQ) and the Metropolitan Service District (Metro) urge Congress and the Environmental Protection Agency (EPA) to retain or accelerate the effective date of the 0.2 gm/mi exhaust particulate standard for diesel automobiles promulgated in the January 24, 1984, Federal Register.

- That Metro and DEQ urge Congress and EPA to enact strict exhaust emission standards for diesel trucks and buses at the national level.

- That DEQ analyze the potential air quality benefits and then consider testing diesel trucks and buses in the DEQ vehicle inspection program. If testing is cost-effective, DEQ should revise the Particulate State Implementation Plan to include this measure.

- That DEQ coordinate with Tri-Met on new bus purchases to ensure air quality concerns are addressed. This coordination should take place prior to Metro's Transportation Improvement Program (TIP) approval of any bus purchase grant.

- That DEQ monitor the demonstration project in southern California which is testing the feasibility of retrofitting transit buses with trap oxidizers to reduce particulate levels. Tri-Met should seek funding in FY 1986 to purchase trap oxidizers if the potential air quality benefits are cost-effective.

- That DEQ monitor sales of diesel automobiles and reconvene the Diesel Exhaust Study Task Force if diesel sales become greater than 10 percent of new automobile sales.

TPAC and JPACT have reviewed this report and unanimously recommended approval of the resolution, as amended (see Attachment A).

Background and Analysis

Metro and DEQ have implemented air quality plans to meet state and federal standards for ozone and carbon monoxide. Because of the significance of the automobile as a source of these pollutants, Metro was designated by the Governor as the lead agency in those planning efforts.

In addition, DEQ has adopted a plan for particulates that did not show attainment of the particulate standard by the 1987 deadline without the implementation of additional control strategies. This status has resulted in new industries wishing to locate in the region having to purchase costly "emission offsets" from other industries. In response, DEQ has been examining and implementing control strategies for major sources of particulate including backyard burning, wood heating and industry.

When the sales of diesel automobiles and trucks rose substantially in the late 1970s, diesel vehicles became a potential "major source" of particulate. Because of our transportation planning and forecasting responsibilities, and our previous role in examining transportation-related air quality problems, Metro assisted DEQ in analyzing the potential effect to air quality of an increased number of diesel vehicles in the region.

To assist in analyzing the results of the analysis and in making policy recommendations, the Metro Council and DEQ jointly appointed the Diesel Exhaust Study Task Force. In brief, the Task Force found that projected increases in the use of diesel vehicles will moderately degrade air quality and that measures should be implemented to mitigate their impact. The major conclusions of the Task Force are found in the attached Executive Summary.

EXECUTIVE OFFICER'S RECOMMENDATION

The Executive Officer recommends adoption of Resolution No. 84-480.

COMMITTEE CONSIDERATION AND RECOMMENDATION

The Regional Development Committee has considered the Resolution and has forwarded it to the Metro Council without a recommendation. The Resolution failed by a tie vote. At issue was the first recommendation of the Task Force, described in Attachment A, concerning the need for a stricter exhaust standard for diesel automobiles.

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POTENTIAL IMPACTS TO AIR QUALITY RESULTING FROM THE INCREASED USE OF DIESEL VEHICLES IN THE PORTLAND METROPOLITAN AREA

EXECUTIVE SUMMARY

METROPOLITAN SERVICE DISTRICT
OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

June 1984

This study was funded in part by a grant from the U.S. Environmental Protection Agency.

Introduction

Until recently, transportation/air quality planners have focused their attention on efforts to reduce pollution from gasoline automobiles. These efforts have led to a significant reduction in carbon monoxide, hydrocarbon and particulate emissions from those vehicles.

However, in the late 1970s and early 1980s, there was a significant increase in the number of diesel automobiles and trucks sold in the United States. While new diesel automobiles emit comparatively small amounts of carbon monoxide and hydrocarbons, they do emit more than 17 times the amount of particulate as each new gasoline automobile on the road (Table 1). Recognizing this, the Metropolitan Service District (Metro) and the Oregon Department of Environmental Quality (DEQ) undertook an analysis to determine the potential impact to air quality in the year 2000 from the increased use of diesel vehicles.

Table 1

EXHAUST PARTICULATE EMISSION RATES
(grams/mile)

Source	1984 Vehicles
Gasoline Autos	0.02
Diesel Autos	0.34
Gasoline Trucks	0.26
Diesel Trucks	1.61
Diesel Buses	2.40

The analysis first examined the effect on air quality considering only the impacts of increased numbers of diesel automobiles and trucks. Recognizing that emissions from gasoline vehicles would be decreasing during this same time frame, the analysis then examined the combined impact on air quality from all mobile sources.

To assist in reviewing the analysis and in making policy recommendations, Metro and DEQ formed the Diesel Exhaust Study Task Force. The Task Force was composed of representatives of the public and private sectors. Their recommendations are found at the end of this report.

A. Conclusions

There has been a significant downward trend in the sale of diesel automobiles since 1982. If sales of diesel automobiles stay relatively low and average approximately 4 percent of all

new car sales through the year 2000, there will be a moderate degradation of air quality in the Portland metropolitan area attributable to them.

- Regionwide, particulate emissions from diesel automobiles and trucks would increase by 77 percent over 1980 levels.

- Fine particulate concentrations from diesel vehicles in downtown Portland would increase by 7 percent, or 0.72 ug/m^3.

- Average visual range would decrease by 2 percent, or .83 kilometers.

- Visibility of Mt. St. Helens and Mt. Hood would decrease by two days per year, or 6 percent and 3 percent, respectively.

- If sales of diesel automobiles increase beyond 4 percent of the automobile fleet, there would be further degradation of air quality.

- The analysis also found that diesel trucks are now and will continue to be the major contributor of mobile source particulate emissions through the year 2000. (Sixty-five percent of mobile source emissions are from diesel trucks in the year 2000.) For this reason, strict controls on diesel trucks will yield more air quality benefit than controls on diesel automobiles.

- Diesel buses are a significant contributor to mobile source particulate emissions in downtown Portland. In addition, research found that vertical exhaust stacks on transit buses reduced odors at curbside by a factor of eight over buses with horizontal exhaust.

- Although emissions from diesel vehicles are increasing, there will be a large reduction in particulate emissions from gasoline vehicles due to the phase-out of leaded gasoline. If diesel and gasoline particulate emissions are considered together, there will be a slight net improvement in air quality from those sources, unless the percentage of diesel automobiles increases to more than 10 percent of the automobile fleet.

- If emissions from all other sources of particulate (road dust, space heating, etc.) are taken into account, air quality will moderately degrade unless new particulate control strategies are implemented.

B. Recommendations

The Portland metropolitan area currently exceeds both state and federal particulate air quality standards and will continue to do so unless additional particulate control strategies are

implemented. One effect of this status is that new industries wishing to locate in the Portland metropolitan area must purchase costly emission "offsets" from other industries or area sources and install extensive pollution control equipment. (These actions ensure that the total amount of emissions in a region do not increase from a new or expanding industry.)

The decision regarding whether or not to consider the decrease in emissions from gasoline vehicles as an "offset" to the increase in emissions from diesel vehicles is, therefore, an important policy question. If the decrease is considered as an offset, the rationale for recommending strict diesel emission control standards is diminished. However, if the increase in emissions from diesel automobiles were treated similarly to those from a new industry, they would be considered a "major source" by DEQ and, therefore, be subject to the requirement for obtaining emission offsets and installing extensive pollution control equipment.

In Portland, the Diesel Exhaust Study Task Force, which was composed of representatives from the public and private sectors, recommended that the decrease in emissions from gasoline vehicles not be considered an offset and that strict emission standards be applied to diesel automobiles, trucks and buses. The rationale for this recommendation was based on a consideration of equity. Almost all other major sources of particulate in the region (industry, woodstoves, backyard burning, etc.) have been required to strictly control their emissions to the point where little additional air quality benefit is possible from them. Diesel vehicles represent one of the few significant particulate sources remaining to control to help the region achieve its air quality objectives.

Based on the conclusions of the study, the Task Force recommended to the Metro Council and the Director of DEQ:

- That DEQ and Metro urge Congress and EPA to retain or accelerate the effective date of the 0.2 gm/mi exhaust particulate standard for diesel automobiles promulgated in the January 24, 1984, Federal Register.

- That DEQ and Metro urge Congress and EPA to promulgate similar exhaust particulate emission control standards for diesel trucks and buses at the national level.

The Task Force also recommended:

- That DEQ analyze the potential benefit to air quality from testing diesel trucks and buses in the DEQ vehicle inspection program. DEQ should consider testing these vehicles in their inspection program if the benefits are significant.

- That DEQ should monitor the current demonstration project in southern California which is testing the air quality benefits of retrofitting transit buses with trap oxidizers. If the program is successful, DEQ should discuss with Tri-Met retrofitting their bus fleet.

- That DEQ should consult with Tri-Met when they purchase new buses to ensure that air quality concerns are addressed, and that this coordination should take place prior to Metro's TIP approval of any bus purchase grant.

- That DEQ monitor sales of diesel automobiles, and if those sales become greater than 10 percent of all new automobile sales, reconvene the Diesel Exhaust Study Task Force to determine if further actions are warranted.

The recommendations of the Task Force have been reviewed by two policy advisory committees of the Metropolitan Service District. The recommendations have been strengthened to add the following:

- That DEQ and Metro shall consult with EPA and UMTA to explore revising bus design specifications to effectively address air quality concerns.

- That DEQ should complete their analysis of the benefit of testing diesel buses and trucks by March 31, 1985. If the benefit is cost-effective, DEQ should revise the Particulate State Implementation Plan to include this measure.

- That Tri-Met seek funds in FY 1986 to purchase trap oxidizers if their potential air quality benefits are found to be cost-effective.

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