

BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF FORWARDING TO)
ODOT THE RESULTS OF A STAFF)
ANALYSIS ON THE INTERSECTION OF)
HIGHWAY 43 AND MARYLHURST SOUTH)
ACCESS)

Resolution No. 79-66

Requested by
Rick Gustafson

WHEREAS, The MSD Council in Resolution No. 79-48 established a study process and a schedule for establishing priorities for the MSD Regional Reserve Account; and

WHEREAS, The MSD Council in Resolution No. 79-54 adopted criteria for establishing problem priorities and evaluating proposed projects; and

WHEREAS, The MSD Council in Resolution No. 79-53 directed its Transportation Committee to evaluate the severity of the problems in the Highway 43 segment near the vicinity of Marylhurst Education Center as part of the effort to identify high priority problem areas for consideration of funding from the MSD Regional Reserve Account; and

WHEREAS, The MSD staff has recommended that this segment of Highway 43 be placed in the moderate priority category and not be eligible for further study or funding consideration; and

WHEREAS, The MSD staff has performed a subsequent traffic analysis on the intersection in question using 1979 traffic volumes; and

WHEREAS, This analysis indicates that at least one of eight warrants are met at the intersection; now, therefore,


BE IT RESOLVED,

1. That the Council Transportation Committee forward to

ODOT the results of this finding.

2. That the MSD Council requests ODOT to report back to the Council on actions taken regarding this matter.

ADOPTED by the Council of the Metropolitan Service District this 26th day of July, 1979.



Presiding Officer

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Staff Report No. 49

EVALUATION OF THE SEVERITY OF PROBLEMS
ON HIGHWAY 43 IN THE VICINITY OF THE
MARYLHURST EDUCATION CENTER

Metropolitan Service District

JULY, 1979

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APPENDIX A: MSD Resolution No. 79-53

APPENDIX B: 1979 Traffic Counts -- City of Lake Oswego

1. Background

On May 24, 1979, the MSD Council adopted a resolution (refer to Appendix A) which directed its Transportation Committee to seriously evaluate the severity of the problems in the Hwy 43 segment near the vicinity of Marylhurst Education Center. This section of Hwy 43 had been recently suggested by the Oregon Department of Transportation as a possible problem area deserving consideration for improvement using funds from the MSD Regional Reserve. The MSD Council also directed that if after study the problem area appears to be a high priority (but lends itself to funding from other sources such as Title II safety), the Council Transportation Committee will recommend to ODOT that this project be so considered.

MSD staff has recently released Staff Report No. 48, "MSD Regional Reserve Planning Process: Problem Identification, Initial Screening, High Priority Problems," July, 1979, which describes the MSD staff analysis to assess funding priorities for the \$20 million MSD Interstate Transfer reserve fund. As part of this study, the section of Hwy 43 which includes the Marylhurst access roads was analyzed. Based on the adopted criteria, this section of Hwy 43 has been placed in the moderate priority category. Problem areas placed in the moderate priority category are not recommended for further study.

In response to the Council direction and in light of the staff findings in relation to the problem area's reserve prioritization, staff has continued to study the Marylhurst intersections in relation to other funding sources. We have applied a standardized signal warrant analysis which is used as an evaluation tool for determining the need for traffic control signals.

2. Signal Warrant Analysis

The need for a traffic control signal at any particular location must be carefully evaluated in relation to several warrants. The warrants are identified in the Manual on Uniform Traffic Control Devices and include:

- | | |
|-----------|------------------------------------|
| Warrant 1 | Minimum vehicular volume |
| Warrant 2 | Interruption of continuous traffic |
| Warrant 3 | Minimum pedestrian volume |
| Warrant 4 | School crossings |
| Warrant 5 | Progressive movement |
| Warrant 6 | Accident experience |
| Warrant 7 | Systems |
| Warrant 8 | Combination of warrants |

"The warrants are considered as a guide in the determination of the need for traffic control signals instead of absolute criteria. Warrants must be used in conjunction with professional judgment based on experience and consideration of all related factors.*

*Transportation and Traffic Engineering Handbook, Institute of Transportation Engineers, 1976.

Several signal warrant analyses have been conducted for the Marylhurst College access roads (see Figure 1) in recent years. All of the analyses relate to the southern access road which handles the majority of travel entering and leaving the Marylhurst campus area.

In September, 1975, ODOT made an investigation at the two entrances to the Marylhurst school complex. The investigation included hourly recorder traffic counts by direction on both driveways as well as a four-hour manual count to determine the turning direction of vehicles. Approximately 1,600 to 1,800 vehicles were recorded entering and leaving the southern access road in 1975. An investigation of accidents occurring at the south access road indicated no accidents between 1972 and 1975. The investigation concluded that the total volume on the southerly entrance was about 80 percent of signal warrants and that the total traffic volume on the northerly entrance is considerably lower. A total of four accidents occurred at the northern access road between 1972 and 1975. There was not evidence that the left turn at either location was experiencing a high accident problem and no justification was seen to provide left turn refuge lanes at either of the driveways at that time.

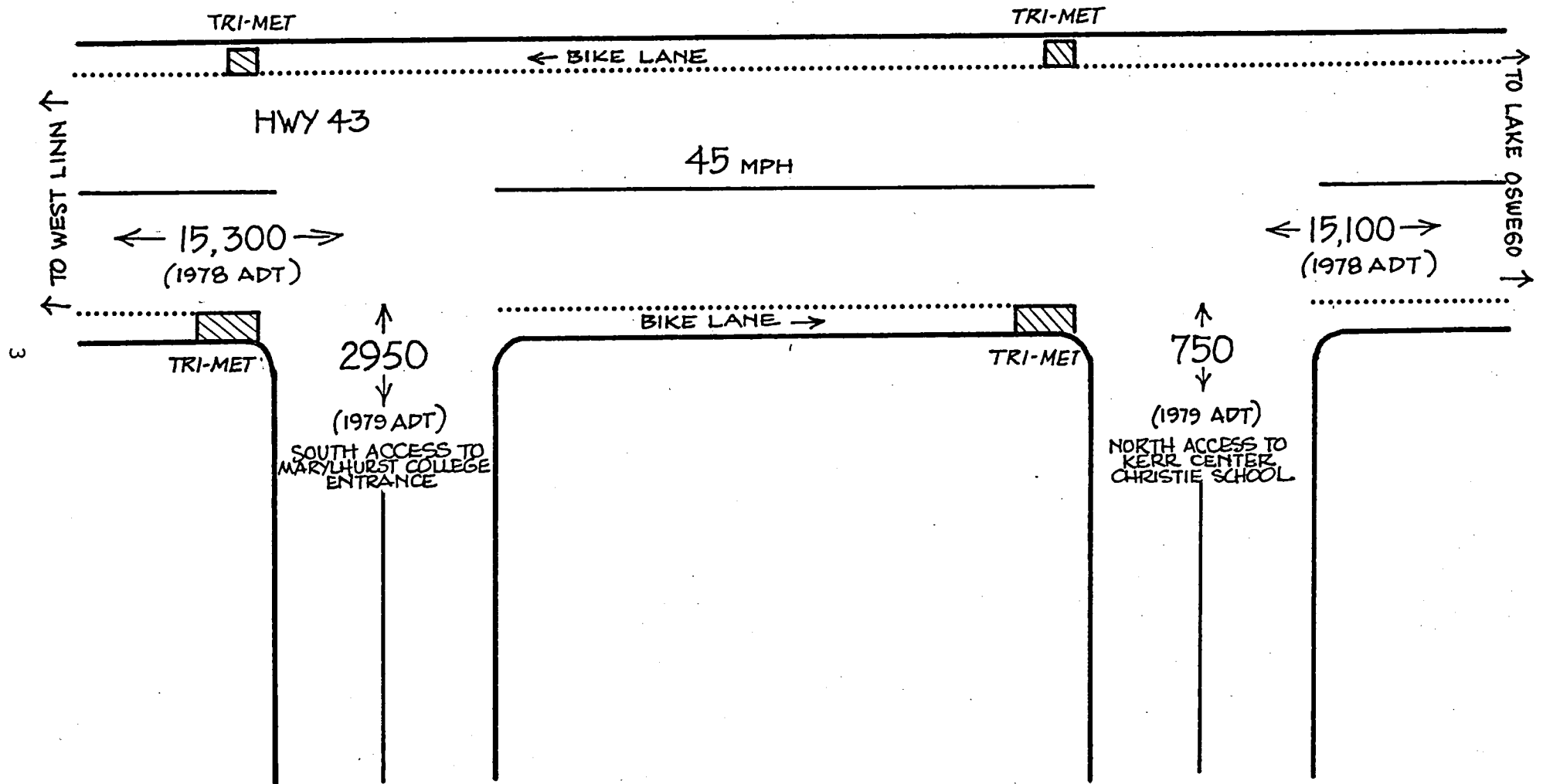
In January, 1978, ODOT at the request of the Oregon Department of Human Resources again analyzed the southern access road to see if it met signal warrants. Using the staff and client data that was submitted in the request and converting the figures to traffic volumes, none of the standard warrants for the installation of signals were met. The accident history at the intersection also did not qualify the access road to meet the standard warrants either. The traffic counts used for the analyses were recorded in 1975.

MSD's analysis has been directed at updating the traffic count and accident information and in applying this data to the signal warrants.

An examination of traffic volumes have indicated that traffic volumes on Hwy 43 within this area have increased from approximately 10,000 vehicles per day in 1975 to 15,000 in 1979. Traffic volumes entering and leaving the Marylhurst complex have also increased. Traffic counts conducted by the city of Lake Oswego in 1979 indicated an average of 2,950 vehicles per day entering and leaving the south access to Marylhurst and a total of 750 vehicles per day entering and leaving via the north access road.

A recent ODOT update of the accident record has indicated that one accident was reported at the southerly access driveway between 1976 and 1978 and also one additional reported accident since 1976 through 1978 at the northerly access. (No accident data have been analyzed for 1979 although it is important to note that a fatality occurred in May, 1979, at the southern access road.)

FIG. 1 - MARYLHURST ANALYSIS



Pedestrian movements within both intersections are believed low due to the non-pedestrian orientation of this area and the long distances to activity centers. The majority of pedestrian movements are believed associated with accessing transit service on Hwy 43 at each intersection. Analysis of Tri-Met's Boarding and Deboarding passenger counts conducted in May, 1978, indicates that on a daily basis the following average number of passengers boarded and deboarded Tri-Met's line 36.

<u>North Access Road Bus Stop</u>	<u>Passengers on</u>	<u>Passengers off</u>
Southbound Line 36	5.5	13
Northbound Line 36	8	5
<u>South Access Road Bus Stop</u>	<u>Passengers on</u>	<u>Passengers off</u>
Southbound Line 36	9.5	21.5
Northbound Line 36	22	14

In applying this updated information to the intersections we find that the southern access road appears to meet at least one of the signalization warrants and that the northern intersection of Hwy 43 and the access road does not meet warrants.

The southern access road intersection appears to meet warrant 1, Minimum Vehicular Volume. Under the assumption that the 85 percentile speed of traffic on Hwy 43 exceeds 40 mph (posted speed within this section is 45 mph) the intersection need to meet only 70 percent of the minimum vehicular volume warrant. The warrant is satisfied when, for each of any eight hours of an average day, hourly traffic would exceed 105 vehicles per hour on the approach street. Assuming a 60 percent entering/40 percent leaving directional split, the eighth highest recorded volume is 107 vehicles per hour. Under the assumption that the minimum warrants are also met on Hwy 43 (ODOT has found that minimum warrants are met on Hwy 43 at Marylhurst Drive), the intersection warrant appears to be met.

Warrant 2, Interruption of Continuous Traffic, may also be met, although additional analysis of the hourly traffic volumes on Hwy 43 are required and no determination can be made at this time.

With the exception of warrant 8, Combination of Warrants, the remainder of the warrants do not appear to be met. These include Warrant 3, Minimum Pedestrian Volume, Warrant 4, School Crossings, Warrant 5, Progressive Movement, Warrant 6, Accident Experience and Warrant 7, Systems.

3. Related Factors

Several factors relate to the signalization of the Marylhurst complex access roads with Hwy 43. These include:

- . Hwy 43 is a state facility maintained and operated by the Oregon Department of Transportation
- . Both the north and south access roads are private roads and are not part of the federal system
- . Left turn refuges on Hwy 43 between Marylhurst Education Center and Hidden Spring Road are in the 1983 element of the proposed 1980 Transportation Improvement Program.
- . Increased development of the Marylhurst complex is presently under investigation

4. Summary

Traffic volumes on Hwy 43 and on the access facilities to the Marylhurst complex have been increasing. The application of a simplified warrant analysis to 1979 traffic counts indicates traffic signal warrants may be met.

Of the eight warrants (evaluation criteria used to determine if a particular location warrants a signal) current information indicates at least one is met, that of minimum vehicular volume. The warrant relates to an existing situation in which traffic volumes exceed a specified amount for a specified number of hours during the day. The warrant, interruption of continuous traffic, may also be met although insufficient data exist to make a determination at this time.

The remainder of the warrants, minimum pedestrian volume, school crossings, progressive movement, accident experience, systems, and combination of warrants are either not met or insufficient data exist to make a determination.

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BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF EVALUATING
THE SEVERITY OF PROBLEMS ON) RESOLUTION NO. 79-53
HIGHWAY 43 IN THE VICINITY OF) Introduced by
THE MARYLHURST EDUCATION CENTER) Corky Kirkpatrick

WHEREAS, The MSD Council has adopted a study process and schedule (described in Staff Report 42) for evaluating the severity of various transportation-related problems in the region, and intends to use this process in determining which problems should be addressed by projects to be funded by Interstate Transfer Funds included in the MSD Regional Reserve; and

WHEREAS, The Oregon Department of Transportation recently recommended Oswego Highway 43 in the vicinity of the Marylhurst Education Center entrance be examined as a possible problem area deserving consideration for improvement using funds from the MSD Regional Reserve; and

WHEREAS, A project on this highway segment is now a FAUS noncommitted project not to be considered until after 1983; and

WHEREAS, The Marylhurst Education Center is now a four-year college for commuting adults (a residential college); houses public service offices (Albertina Kerr Center, Clackamas County CETA, Human Resources, etc.); and schedules a large number of educational conferences; and

WHEREAS, A serious accident recently occurred as an employee of the Albertina Kerr Center tried to board a bus; and

WHEREAS, Many of the people who use the Center are handicapped; and

WHEREAS, Data on the use of the highway and accident statistics date back to 1976; and

WHEREAS, the current use may generate more traffic, thus creating a safety problem; now, therefore,

BE IT RESOLVED,

(1) That the MSD Council directs its Transportation Committee to seriously evaluate the severity of the problems in the Highway 43 segment near the vicinity of Marylhurst Education Center as part of the effort to identify high priority problem areas for consideration of funding from the MSD Regional Reserve Funds.

(2) That if after study the problem area appears to be a high priority, (but lends itself to funding from other sources such as Title II safety), the Council Transportation Committee will recommend to ODOT that this project be so considered.

ADOPTED by the Council of the Metropolitan Service District this 24th day of May, 1979.

Presiding Officer

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FILE: 1979

TRAFFIC ENGINEERING DIVISION
CITY OF LAKE OSWEGO

Vehicular Volume Summary
Control Count

Location of Count: MARLYHURST N_E_S_W_of _____
 Street Classification: 1. NORTH ACCESS ROAD
 Direction of Traffic: TWO-WAY Number of Lanes 2
 Type of Area Development: 2.

APRIL		23	24	25	26	27	1979	
TIME	SUN. DATE	MON.	TUES.	WED.	THU.	FRI.	SAT.	AVERAGE
AM								
12-1			1	1	0	0		
1-2			0	0	1	0		
2-3			0	0	0	0		
3-4			0	1	1	1		
4-5			1	0	0	3		
5-6			5	9	7	5		
6-7			19	13	21	17		
7-8			32	44	35	29		
8-9			70	70	79	68		
9-10			42	36	85	34		
10-11			24	35	50	28		
11-12		29	54	46	60			
PM								
12-1		51	38	65	59			
1-2		46	48	43	47			
2-3		50	53	61	52			
3-4		69	73	62	71			
4-5		69	70	73	78			
5-6		78	76	125	87			
6-7		25	32	36	18			
7-8		18	18	27	27			
8-9		12	16	16	10			
9-10		4	11	22	21			
10-11		23	15	11	13			
11-12		9	11	12	8			
TOTAL		483	709	808	830	185		
FACTORS								

REMARKS: ~~700~~ 750

Weekday Day Average = _____
 Weekend Day Average = _____
 Week Day Average = _____

1. Street Classification: Freeway or Expressway, Arterial, Collector, Local.
2. Type of Area Development: (Show principle development, e.g., commercial, industrial, residential. etc.)