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MUNISING 1971

ORIGIN-DESTINATION STUDY

EXTERNAL SURVEY

FACTUAL DATA REPORT

STATE OF MICHIGAN DEPARTMENT OF STATE HIGHWAYS

65-9985

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

In Cooperation with:

U. S. Department of Transportation
Federal Highway Administration

Alger County Road Commission

City of Munising

MUNISING 1971

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JOHN P. WOODFORD, STATE HIGHWAY DIRECTOR

March 28, 1973

Mr. Sam F. Cryderman
Engineer of Transportation Planning
Transportation Planning Division
Michigan Department of State Highways
Lansing, Michigan

Dear Mr. Cryderman:

This report documents the results and presents analyses of the Munising External Origin-Destination Survey. Included in the report are tables, plots and summaries of the data obtained during the survey.

This report was prepared by David Jewison (Transportation Analyst) with the assistance of Eric Smith (Student Technician) of the Northwest Michigan Analysis Unit of the Transportation Survey and Analysis Section. Unit supervisor is Leo Farman.

Sincerely,

Keith E. Bushnell

Keith E. Bushnell, Engineer
Transportation Survey & Analysis

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HIGHWAYS

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TABLE OF CONTENTS

	Page
Survey Area	1
Field Procedure	4
Termonology And Definitions	5
Traffic Volume Summary	6
Data Analysis	7
Use of General Purpose Summary Tables	8
Use of Trip Length Frequency Distributions	14
Use of Trip-End Plots	16
Trip Characteristics	17
All Stations	18
Station 2	27
Station 13	36
Station 14	44
Station 33	52
Station 36	61
Appendix A	69
Interview and Classification Forms	70 & 71
Appendix B	72
Classification Count Listing	

SURVEY AREA

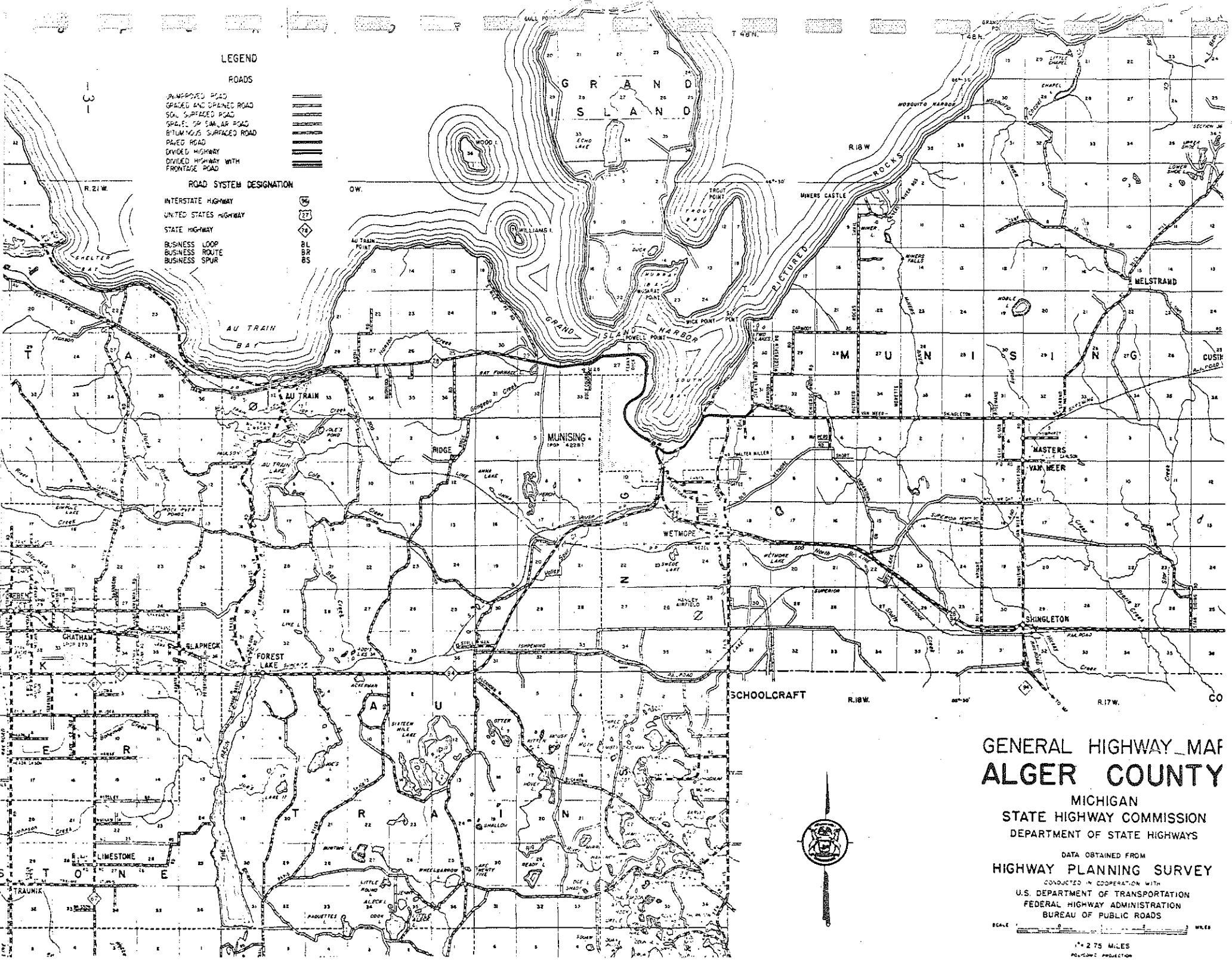
Alger County is located in the north central part of Michigan's Upper Peninsula. The city of Munising is approximately in the center of the county on the shore of Lake Superior.

The Pictured Rocks National Lakeshore attracts many tourists to this area during the summer. Boat cruises are available from June 15 through September 20.

Alger County is a four season vacation land. Good fishing for Lake Trout, Steelhead, Coho Salmon, Walleyes, Northern Pike, Bass, Trout and panfish is provided by 250 inland lakes, 700 miles of trout streams and 80 miles of Lake Superior Shoreline. Swimming, Water Skiing, and Boating are enjoyed in summer. Woodland areas in the Hiawatha National Forest provide camping areas and hunting for rabbits, grouse, deer, and bear. Ducks and geese are also hunted in the marsh areas. Other activities include agate hunting, hiking, nature trails, and picture taking. The North American Snowmobile Championship Races are held at Munising annually. There are hundreds of miles of marked trails for snowmobiling.

Modern shopping areas, excellent motels, restaurants, golf courses, and many fine resort areas are available in this area. Two state trunklines, M-28 and M-94, serve the Munising Area. Rail and air service are of only minor importance.

Industries in the Munising Area include Kimberly Clark Corporation, The Munising Paper Company and the Forest Center Sawmill.



FIELD PROCEDURE

Field work on the Munising Traffic Study was conducted during the months of July and August, 1971. The purpose was to collect data concerning the movement of people by motor vehicle through, into, and out of the study area.

Data for the analysis of external trips was obtained at five interview stations established on all of the important roads leading into the study area. At each of these stations, vehicles were stopped and the drivers interviewed concerning the origin, destination, and purpose of their trips. All stations were operated for fourteen hours each. Manual vehicle classification counts were taken at each station for twenty-four hours.

Answers to the interview question were recorded on Form OD-1757. One line of this form was used for each vehicle interviewed. A sample copy of this form is shown in Appendix "A". Both inbound and outbound vehicles were interviewed. They were recorded each hour at each station by direction of travel. A sample copy of Form 1790 O-D 9, used for Manual Vehicle classification, is also included in Appendix "A". One line of this form was used for each hour period for each direction.

TERMINOLOGY AND DEFINITIONS

Cordon line: An imaginary line around the area under study.

Destination: The place where a trip ends.

External Station: A point on a highway at the limits of the study area at which the drivers of vehicles were interviewed.

Origin: The place where the trip begins.

Origin-Destination Zone: A basic subdivision of the study area having a single or dominant land use, designated for purposes of tabulation and analysis.

Study Area: The area enclosed by the cordon line.

Terminal Trip: A trip with one end outside the study area and the other end inside the study area.

Through Trip: A trip passing through the study area with both ends outside the study area.

Trip: One-way travel between an origin and a destination.

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TRAFFIC VOLUME SUMMARY

Total Traffic

On an average July-August weekday in 1971, approximately 13,431 vehicles passed the five interview stations located on the Federal Aid Primary and Secondary highway serving Munising. Of the 13,431 vehicles, 10,671 (79%) traveled on the state trunklines.

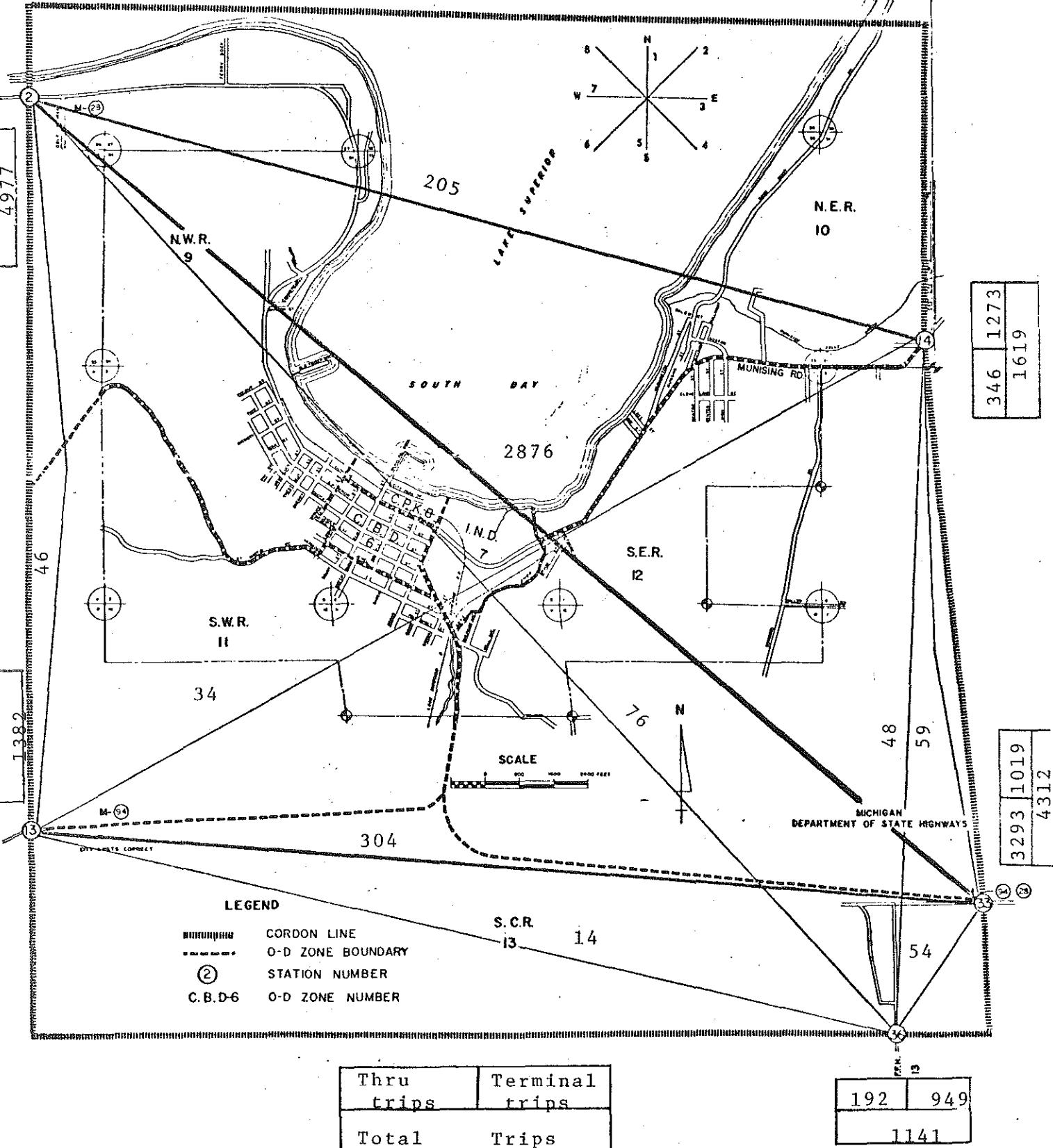
The traffic volume at each station is as follows:

<u>Station</u>	<u>Location</u>	<u>Traffic Volume</u>	<u>Percent of Total</u>
2	M-28 at North City Limit	4977	37.1
13	M-94 West of West Junction of M-28	1382	10.3
14	Munising Road at East City Limit	1619	12.0
33	M-28/M-94 East of Federal Forest Hwy 13	4312	32.1
36	Federal Forest Hwy 13 South of M-28/M-94	1141	8.5
TOTAL ALL STATIONS		13,431	100.0

The diagram on the following page shows the through traffic between the external stations. The 7,432 through vehicles consist of 3,716 through trips since each vehicle is counted at both its entering and departing station. The 7,432 through vehicles represent 55.3 percent of the 13,431 total vehicles passing the five interview stations. The largest through traffic movement (2,876) is between Station 2 on M-28 and Station 33 on M-28/M-94.

MUNISING
EXTERNAL OD STUDY AREA

THROUGH TRIPS



DATA ANALYSIS

Four Basic computer outputs will serve as the basis for this part of the report. These outputs are:

1. General purpose summary of trip purpose and vehicle type for terminal, thru, and total trips.
2. General purpose summary of the number of trips going into or out of each internal zone.
3. Trip length frequency distribution.
4. Plot of external trip ends.

Outputs were obtained for each station in addition to the combined stations. Explanations, for the use of each type of output, are provided on the succeeding pages.

USE OF GENERAL PURPOSE SUMMARY TABLES

The table on page 10 shows the distribution of through trips by vehicle type and trip purpose.

The vehicle type codes are:

- 1 = Passenger car without trailer
- 2 = Passenger car with trailer
- 3 = Panel or pickup truck without trailer
- 4 = Panel or pickup with trailer
- 5 = Other (larger) single unit trucks
- 6 = Truck combinations
- 7 = Buses
- 8 = Motorcycles

The trip purpose codes are:

- 1 = Work
- 2 = Personal business
- 3 = Shopping
- 4 = Vacation
- 5 = Other social recreation
- 6 = All other

The sample cell outlined represents 443.10 trips which were vacation (4) trips made by passenger cars with trailers (2). This first figure in each cell will always be the raw number of trips. The second figure indicates that 19.31 percent of the trips with trip purpose 4 were passenger cars with trailers. The third figure indicates that 93.51 percent

of the trips made by type 2 vehicles were vacation trips. The last figure in the cell indicates that 13.83 percent of all trips in the table are of this type (i.e. vehicle type = 2 and trip purpose = 4). The row total at the right shows that 2295.06 trips, or 71.65 percent were vacation trips. The column total at the bottom shows that 473.87 trips, or 14.79 percent were passenger cars with trailers. The total number of trips (3203.01) in this table is indicated at the lower right. For each station and for all stations combined there will be three tables as shown on the following page, one each for through, terminal, and total trips, in that order.

144273

GENERAL PURPOSE SUMMARY HUNTING 020002 4 28

PAGE 1

FORM NUMBER = 6
 EXIT ENT STATION = 01 TO 05

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TOT %
	1	2	3	4	5	6	7	8		
I 1	169.61	2.71	37.94	0.00	23.88	49.26	0.00	0.00	263.40	
I 1	59.85	0.96	13.39	0.00	8.43	17.38	0.00	0.00	8.85	
T	7.13	0.57	26.04	0.00	20.50	97.60	0.00	0.00		
T	5.30	0.08	1.18	0.00	0.75	1.54	0.00	0.00		
R 2	35.33	0.00	5.84	0.00	0.00	0.00	0.00	0.00	41.17	
R 2	85.81	0.00	14.19	0.00	0.00	0.00	0.00	0.00	1.29	
I	1.49	0.00	4.01	0.00	0.00	0.00	0.00	0.00		
P	1.10	0.00	0.18	0.00	0.00	0.00	0.00	0.00		
P 3	21.43	0.00	4.12	0.00	0.00	0.00	0.00	0.00	25.55	
P 3	83.87	0.00	16.13	0.00	0.00	0.00	0.00	0.00	0.80	
P	0.90	0.00	2.83	0.00	0.00	0.00	0.00	0.00		
P	0.67	0.00	TRIPS 0.13	0.00	0.00	0.00	0.00	0.00		
U 4	1657.31	443.10	76.91	33.56	82.97	1.21	0.00	0.00	ROW TOTAL	2295.06
U 4	72.21	19.31	RCW % 3.35	1.46	3.62	0.05	0.00	0.00	RCW %	71.65
R	69.69	93.51	52.79	87.56	71.22	2.40	0.00	0.00		
R	51.74	13.83	2.40	1.05	2.59	0.04	0.00	0.00		
P	407.28	22.03	13.39	4.77	9.65	0.00	0.00	0.00	457.12	
O 5	89.10	4.82	2.93	1.04	2.11	0.00	0.00	0.00	14.27	
O 5	17.13	4.65	TOTAL % 9.19	12.44	8.28	0.00	0.00	0.00		
S	12.72	0.69	0.42	0.15	0.30	0.00	0.00	0.00		
E 6	87.20	6.03	7.48	0.00	0.00	0.00	0.00	0.00	100.71	
E 6	86.59	5.99	7.43	0.00	0.00	0.00	0.00	0.00	3.14	
	3.67	1.27	5.13	0.00	0.00	0.00	0.00	0.00		
	2.72	0.19	0.23	0.00	0.00	0.00	0.00	0.00		
TOTAL	2378.16	473.87	145.68	38.33	116.50	50.47	0.00	0.00	3203.01	
TOT %	74.25	14.79	4.55	1.20	3.64	1.58	0.00	0.00	TOTAL	
			COLUMN							
			TOTAL							

101

GENERAL PURPOSE SUMMARY OF TERMINAL TRIPS

The area within the cordon line was divided into 8 origin-destination zones. Each zone was given an alphabetical abbreviation to describe its predominant land use. For example, the Central Business District is abbreviated C.B.D. Each zone was also numbered. The zone names and their corresponding numbers are as follows:

C.B.D. - Central Business District	6
I.N.D. - Industrial	7
C.P.K. - County Park	8
N.W.R. - Northwest Residential	9
N.E.R. - Northeast Residential	10
S.W.R. - Southwest Residential	11
S.E.R. - Southeast Residential	12
S.C.R. - Southcentral Residential	13

The table on the following page gives the number of inbound trips that had destinations in each of the zones. The outbound trips that had origins in each of the zones will be given on a similar output. Later in the report both outputs will be presented for each station and for the combined stations. For example (see page 12), zone 8 (County Park) attracted 92.42 trips or 10.77 percent of the 858.31 total inbound terminal trips that passed thru the station. A map of the study area showing the external stations and the internal zones is on page 13.

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GENERAL PURPOSE SUMMARY MUNISING 020002 H 28

PAGE 1

FORM NUMBER # 6
 INBOUND DIRECTION = 3 TO 3

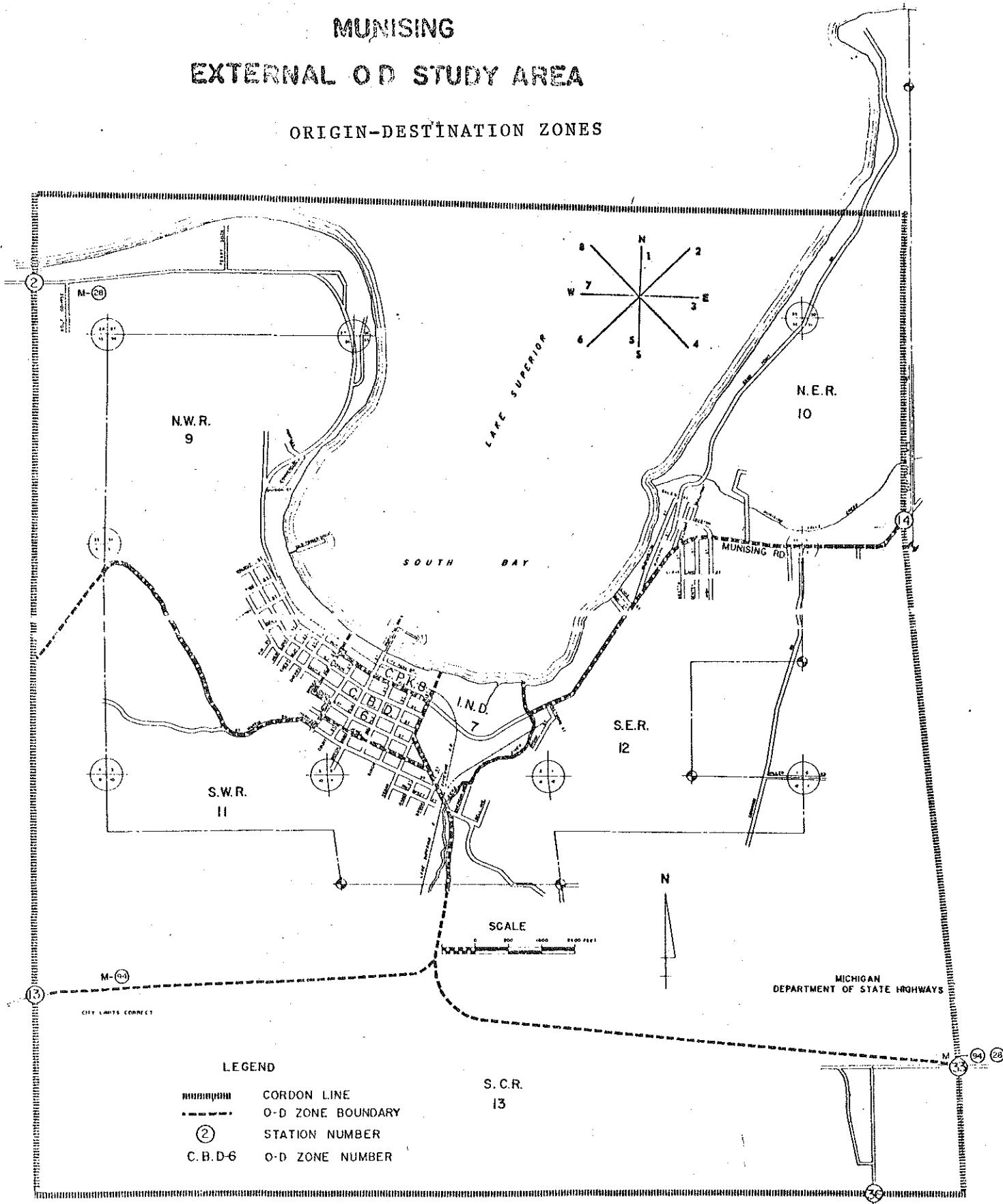
INTERNAL END

RANGES		TOTAL	TOT %
	6		
	6		
06	429.05	429.05	
06	100.00	49.99	
	49.99		
	49.99		
I	07	60.81	60.81
T	07	100.00	7.08
	7.08		
Y	08	92.42	92.42
O	08	100.00	10.77
	10.77		
E	09	146.20	146.20
S	09	100.00	17.03
	17.03		
T	10	39.01	39.01
I	10	100.00	4.54
N		4.54	
Z	11	43.89	43.89
O	11	100.00	5.11
	5.11		
D	12	24.58	24.58
N	12	100.00	2.86
E		2.86	
S	13	22.35	22.35
	13	100.00	2.60
		2.60	
		2.60	
TOTAL		858.31	
TOT %		100.00	
		858.31	

MUNISING

EXTERNAL OD STUDY AREA

ORIGIN-DESTINATION ZONES



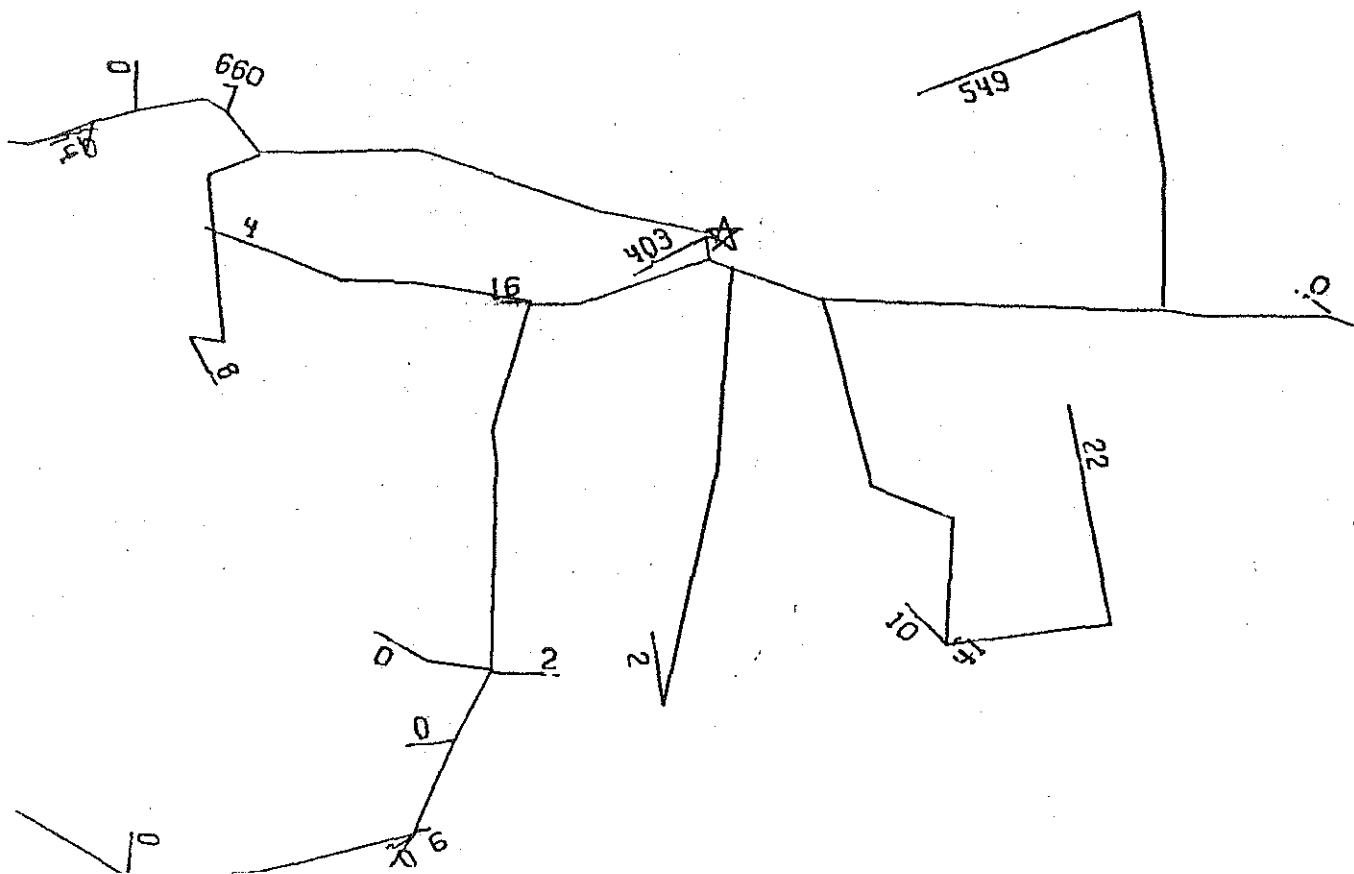
USE OF TRIP LENGTH FREQUENCY DISTRIBUTIONS

A portion of a trip length frequency distribution graph is on the following page. The vertical axis represents travel time in tens of minutes while the horizontal axis is the percent of trips traveling this particular length of time. For example, 595 trips or 12.018 percent of the total were approximately 100 minutes in length. The percent of trips which were 100 minutes or less is 33.852.

Some statistical information such as mean and standard deviation are printed at the end of each table. A similar graph for each station and for all stations combined will be presented later in this report.

USE OF TRIP-END PLOTS

A small section of a trip-end plot is reproduced below.



The number of trips to or from each statewide zone is written along each line. The zone numbers were omitted to improve readability and prevent confusion with the number of trips. The star indicates that all trips went through this point on their way to or from each zone. Later in this report, trip-end plots of the whole state of Michigan will be presented for the combined stations and for station 2 on M-28. A plot, for the Upper Peninsula only, will be presented for station 33 on M-28/M-94. Plots for the other stations are available but will not be presented in this report.

TRIP CHARACTERISTICS

This part of the report will present the tables, graphs and plots for the combined stations and for each individual station. Each set of output will be preceded by a page of summary comments to point out important features or problems concerning the data. After this the outputs will be presented in the following order:

1. General Purpose Summary Tables of trip purpose and vehicle type.
2. General Purpose Summary Tables of trips to and from the internal zones.
3. Trip length frequency distribution tables.
4. Trip-end Plots. (Have been omitted for Stations 13, 14 and 36.)

MUNISING

ALL STATIONS

About 59 percent of all trips were thru trips. For all stations combined about 76 percent of the trips were made by passenger car. The two largest trip purposes were for vacation (43 percent) and social-recreation (22 percent). This is to be expected since the study was conducted in a recreational area during the summer.

Vacation trips accounted for 65 percent of the thru versus 12 percent for terminal. Less than 12 percent of the thru trips were for the purpose of work versus 23 percent for terminal.

As might be expected most of the trips are long. Only about 11 percent were less than one hour. About 48 percent of the trips were more than three hours long.

Of the terminal trips, about 40 percent either began or ended in the CBD. The external trips were widely dispersed.

FORM NUMBER = 6
EXIT ENT STATION = 01 T1 05

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TOT %
	1	2	3	4	5	6	7	8		
1	581.31	12.49	112.36	4.79	59.12	154.70	0.00	0.00	"	924.77
1	62.86	1.35	12.15	0.52	6.39	16.73	0.00	0.00		11.92
1	10.14	1.16	28.32	4.21	22.56	88.40	0.00	0.00		
1	7.49	0.16	1.45	0.06	0.76	1.99	0.00	0.00		
R	2	148.73	2.28	11.86	0.00	4.80	0.00	0.00	0.00	167.67
R	2	88.70	1.36	7.07	0.00	2.85	0.00	0.00	0.00	2.16
R	2	2.59	0.21	2.99	0.00	1.83	0.00	0.00	0.00	
R	2	1.92	0.03	0.15	0.00	0.06	0.00	0.00		
P	3	51.57	3.60	11.76	0.00	0.00	0.00	0.00		66.93
P	3	77.05	5.38	17.57	0.00	0.00	0.00	0.00		0.86
P	3	0.00	0.33	2.96	0.00	0.00	0.00	0.00		
P	3	0.66	0.05	0.15	0.00	0.00	0.00	0.00		
J	4	3630.72	962.73	173.08	95.87	180.85	15.61	0.00	0.00	5058.86
J	4	71.77	19.03	3.42	1.90	3.57	0.31	0.00	0.00	65.19
R	5	63.34	89.09	43.63	84.28	69.00	8.92	0.00	0.00	
R	5	46.78	12.41	2.23	1.24	2.33	0.20	0.00	0.00	
I	5	1106.85	91.04	69.22	9.34	16.13	3.69	0.00	0.00	1296.27
I	5	85.39	7.02	5.34	0.72	1.24	0.28	0.00	0.00	16.70
S	5	19.31	8.42	17.45	8.21	6.15	2.11	0.00	0.00	
S	5	14.26	1.17	0.89	0.12	0.21	0.05	0.00	0.00	
E	6	213.32	8.53	18.41	3.75	1.20	1.00	0.00	0.00	246.21
E	6	86.64	3.46	7.48	1.52	0.49	0.41	0.00	0.00	3.17
E	6	3.72	0.79	4.64	3.30	0.46	0.57	0.00	0.00	
E	6	2.75	0.11	0.24	0.05	0.02	0.01	0.00	0.00	
TOTAL		5732.50	1080.67	396.69	113.75	262.10	175.00	0.00	0.00	7760.71
TOT X		73.87	13.92	5.11	1.47	3.38	2.25	0.00	0.00	

FORM NUMBER = 6
EXIT ENT STATION = T1

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TOT %
	1	2	3	4	5	6	7	8		
1	745.01	6.87	353.62	9.38	112.20	47.66	0.00	0.00	"	1274.74
1	58.44	0.54	27.74	0.74	8.80	3.74	0.00	0.00		23.39
T	17.37	5.17	44.39	29.39	78.62	83.51	0.00	0.00		
T	13.67	0.13	6.49	0.17	2.06	0.87	0.00	0.00		
4	241.29	1.11	49.37	2.66	0.00	0.00	0.00	0.00		294.43
2	81.95	0.38	16.77	0.90	0.00	0.00	0.00	0.00		5.40
I	5.63	0.84	6.20	8.33	0.00	0.00	0.00	0.00		
P	4.43	0.02	0.91	0.05	0.00	0.00	0.00	0.00		
3	1004.33	18.51	170.74	2.22	3.48	2.40	0.00	0.00		1201.73
3	83.58	1.54	14.21	0.18	0.29	0.20	0.00	0.00		22.05
P	23.41	13.93	21.43	6.95	2.44	4.21	0.00	0.00		
P	18.43	0.34	3.13	0.04	0.06	0.04	0.00	0.00		
U	542.49	77.07	36.36	11.19	9.02	4.80	0.00	0.00		680.93
4	79.67	11.32	5.34	1.64	1.32	0.70	0.00	0.00		12.49
R	12.65	58.00	4.56	35.06	6.32	8.41	0.00	0.00		
P	9.95	1.41	0.67	0.21	0.17	0.09	0.00	0.00		
1	1435.49	22.97	135.78	6.47	14.58	1.00	0.00	0.00		1616.29
20	88.81	1.42	8.40	0.40	0.90	0.06	0.00	0.00		29.65
I	33.47	17.29	17.04	20.27	10.22	1.75	0.00	0.00		
S	26.34	0.42	2.49	0.12	0.27	0.02	0.00	0.00		
E	320.83	6.35	50.83	0.00	3.44	1.21	0.00	0.00		382.66
6	83.84	1.66	13.28	0.00	0.90	0.32	0.00	0.00		7.02
E	7.08	4.78	6.38	0.00	2.41	2.12	0.00	0.00		
E	5.89	0.12	0.93	0.00	0.04	0.02	0.00	0.00		
TOTAL	4289.49	132.88	796.70	31.92	142.72	57.07	0.00	0.00		5450.78
TOT %	78.69	2.44	14.62	0.59	2.62	1.05	0.00	0.00		

FORM NUMBER = 6
EXIT ENT STATION = 01 TO

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TOT %
	1	2	3	4	5	6	7	8		
1	1326.32	19.36	465.98	14.17	171.32	202.36	0.00	0.00		2199.51
1	60.30	0.88	21.19	0.64	7.79	9.20	0.00	0.00		16.65
T	13.23	1.60	39.05	9.73	42.32	87.20	0.00	0.00		
T	10.04	0.15	3.53	0.11	1.30	1.53	0.00	0.00		
2	390.02	3.39	61.23	2.66	4.80	0.00	0.00	0.00		462.10
2	84.40	0.73	13.25	0.58	1.04	0.00	0.00	0.00		3.50
I	3.89	0.28	5.13	1.83	1.19	0.00	0.00	0.00		
I	2.95	0.03	0.46	0.02	0.04	0.00	0.00	0.00		
3	1055.95	22.11	182.50	2.22	3.48	2.40	0.00	0.00		1268.66
3	83.23	1.74	14.39	0.17	0.27	0.19	0.00	0.00		9.60
P	10.54	1.82	15.29	1.52	0.86	1.03	0.00	0.00		
P	7.99	0.17	1.39	0.02	0.03	0.02	0.00	0.00		
4	4173.21	1039.80	209.44	107.06	189.87	20.41	0.00	0.00		5739.79
4	72.71	18.12	3.65	1.87	3.31	0.36	0.00	0.00		43.45
R	41.64	85.68	17.55	73.49	46.90	8.79	0.00	0.00		
R	31.59	7.87	1.59	0.81	1.44	0.15	0.00	0.00		
5	2542.34	114.01	205.00	15.81	30.71	4.69	0.00	0.00		2912.56
5	87.29	3.91	7.04	0.54	1.05	0.16	0.00	0.00		22.05
S	25.37	9.39	17.18	10.85	7.59	2.02	0.00	0.00		
S	19.24	0.86	1.55	0.12	0.23	0.04	0.00	0.00		
E	534.15	14.86	69.24	3.75	4.64	2.21	0.00	0.00		628.87
E	84.94	2.37	11.01	0.60	0.74	0.35	0.00	0.00		4.76
S	5.33	1.23	5.80	2.57	1.15	0.95	0.00	0.00		
S	4.04	0.11	0.52	0.03	0.04	0.02	0.00	0.00		
TOTAL	10021.99	1213.55	1193.39	145.67	404.82	232.77	0.00	0.00		13211.49
TOT %	75.86	9.19	9.03	1.10	3.06	1.76	0.00	0.00		

GENERAL VEHICLE SUMMARY RELATING ALL STATIONS

PAGE 1

FORM NUMBER = 6

INTERNAL END

RANGES		TOTAL TOT %
	6	
	6	
O	06 1042.00	1042.00
O	06 100.00	39.48
C	39.48	
C	39.48	
I	07 224.62	224.62
I	07 100.00	8.51
T	8.51	
T	8.51	
Y		
Y	08 225.86	225.86
Y	08 100.00	8.56
O	8.56	
O	8.56	
R	09 434.31	434.31
R	09 100.00	16.45
I	16.45	
I	16.45	
G		
I	10 164.19	164.19
I	10 100.00	6.22
N	6.22	
N	6.22	
I		
I	11 181.13	181.13
I	11 100.00	6.86
Z	6.86	
Z	6.86	
O		
N	12 203.76	203.76
N	12 100.00	7.72
E	7.72	
E	7.72	
S	13 163.71	163.71
S	13 100.00	6.20
	6.20	
	6.20	
TOTAL	2639.58	2639.58
TOT %	100.00	

8FEB73

GENERAL PURPOSE SUMMARY MUNISING ALL STATIONS

PAGE 1

FORM NUMBER 6

INTERNAL END

RANGES		TOTAL TOT X
	6	
	5	
C	06 1141.26	1141.26
	06 100.00	100.00
	41.57	41.57
I	07 234.67	234.67
T	07 100.00	100.00
	8.55	8.55
Y	08 334.37	334.37
	08 100.00	100.00
	12.18	12.18
S	08 12.18	12.18
E	09 373.07	373.07
S	09 100.00	100.00
	13.59	13.59
T	10 168.42	168.42
I	10 100.00	100.00
	6.13	6.13
Z	11 6.13	6.13
U	11 173.82	173.82
	11 100.00	100.00
	6.33	6.33
O	12 6.33	6.33
V	12 179.09	179.09
E	12 100.00	100.00
	6.52	6.52
S	13 6.52	6.52
	140.66	140.66
	13 5.12	5.12
	5.12	5.12
TOTAL	2745.36	2745.36
TOT X	100.00	

63..															0.448	85.514	59	
64...+															1.162	86.675	153	
65..															0.471	87.146	62	
66..															0.395	87.541	52	
67...															0.607	88.148	80	
68...															0.919	89.067	121	
69..															0.418	89.484	55	
70..															0.516	90.001	68	
71...															0.653	90.654	86	
72..															0.402	91.056	53	
73...															0.850	91.906	112	
74...															0.699	92.605	92	
75..															0.600	93.205	79	
76...															0.850	94.055	112	
77..															0.349	94.404	48	
78..															0.342	94.746	45	
79..+															0.623	95.369	82	
80..+															0.311	95.680	41	
81.															0.197	95.877	26	
82.															0.144	96.022	19	
83..+															0.387	96.409	51	
84..															0.425	96.834	56	
85..															0.076	96.910	10	
86..+															0.226	97.138	30	
87..															0.114	97.252	15	
88..															0.190	97.441	25	
89..+															0.266	97.707	35	
90..															0.053	97.760	7	
91..															0.152	97.912	20	
92..															0.023	97.935	3	
93..															0.084	98.018	11	
94..															0.106	98.125	14	
95..															0.076	98.201	10	
96..															0.030	98.231	4	
97..															0.319	98.550	42	
98..															0.008	98.557	1	
99..															0.000	98.557	0	
100...+															0.736	99.294	97	
101..															0.008	99.301	1	
102..															0.053	99.355	7	
103..															0.038	99.393	5	
104..															0.175	99.567	23	
105..															0.008	99.575	1	
106..															0.000	99.575	0	
107..															0.030	99.605	4	
108..															0.053	99.658	7	
109..															0.015	99.674	2	
110..															0.000	99.674	0	
111..															0.000	99.671	0	
112..															0.015	99.682	2	
113..+															0.243	99.932	32	
114..															0.000	99.932	0	
115..															0.068	100.000	9	
REMAINING VALUES ARE ALL ZERO																		
NUMBER OF OBSERVATIONS= 13171																		

SUM= 391723.

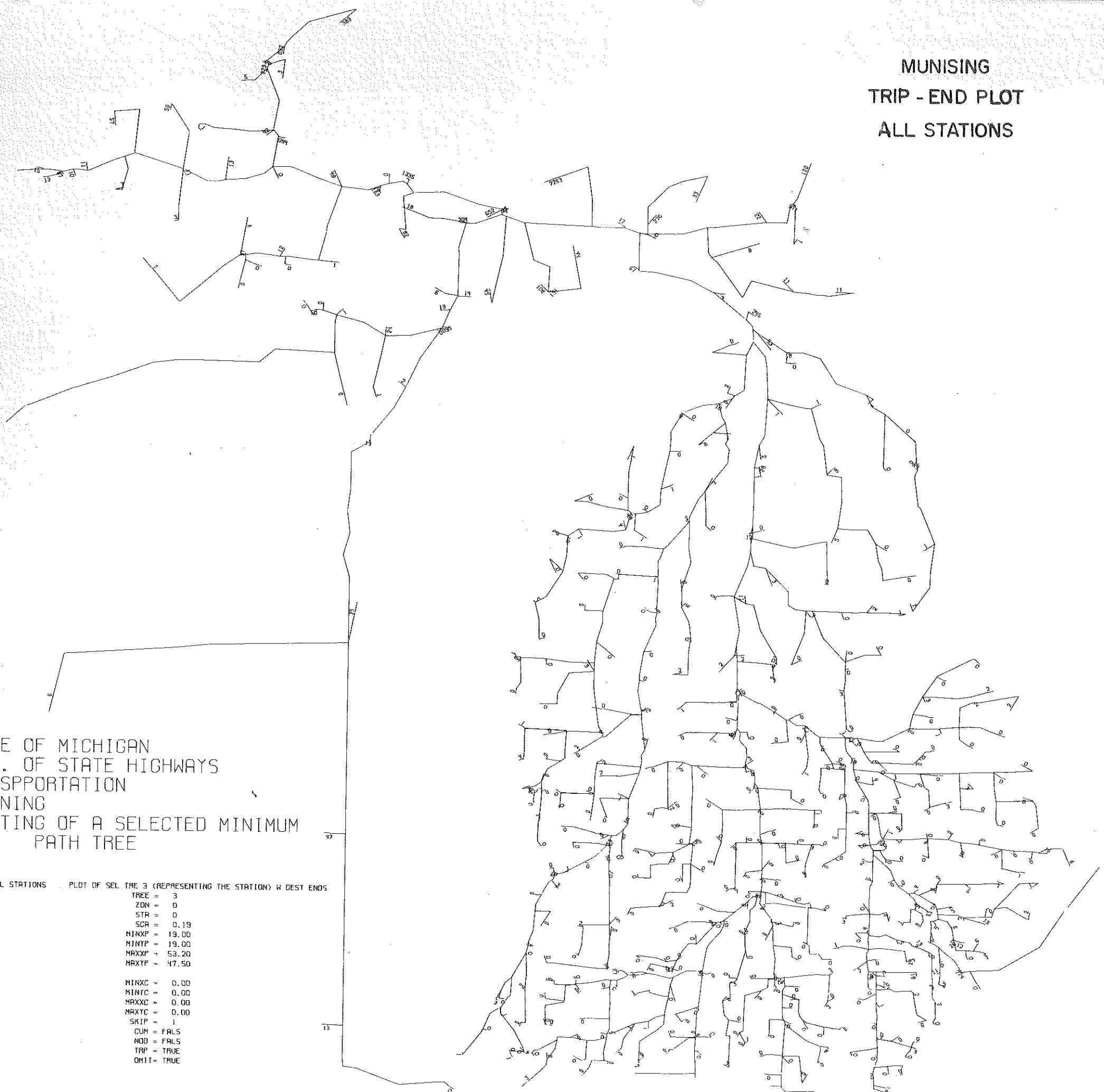
MEAN= 29.741

VAR= 683.779

SD= 26.149

TOTAL TIPS OVER MAXP = 0
 TOTAL TIPS OVER 255 = 0
 VOLUME TABLE NUMBER = 201
 STAT TIP NUMBER = 101

MUNISING
TRIP-END PLOT
ALL STATIONS



MUNISING

STATION 2

Station 2 is located on M-28, a state trunkline entering the city from the west. Trips for Station 2 represent about 37 percent of the total trips for all five stations. About 65 percent of the trips for Station 2 were thru trips. Out of all trips for Station 2, about 76 percent were made by passenger cars without trailers. Trips for the purpose of vacation made up about 51 percent of the total for this station.

Work trips accounted for about 23 percent of terminal versus only about 9 percent of the thru trips. About 72 percent of the thru trips were for vacation versus only about 13 percent of the terminal trips.

Of the terminal trips, 45.6 percent had an origin or a destination in the CBD (Zone 6). Zone 9 (NWR), which is adjacent to this station, was the next largest with 17.7 percent.

The average trip length for Station 2 is more than five hours. Only about 14.3 percent of the trips were one hour or less in length.

The external trips for this station are quite widely dispersed. More trips (660) began or ended in Marquette than at any other location.

GENERAL PURPOSE SUMMARY MUNISING 020302 M 28

PAGE

FORM NUMBER = 6
 EXIT ENT STATION = 01 TO 03

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL
	1	2	3	4	5	6	7	8	TOT X
1	169.61	2.71	37.94	0.00	23.88	49.26	0.00	0.00	263.40
	59.85	0.96	13.39	0.00	8.43	17.38	0.00	0.00	8.85
T	7.13	0.57	26.04	0.00	20.50	97.60	0.00	0.00	
	5.30	0.08	1.18	0.00	0.75	1.54	0.00	0.00	
X	2	35.33	0.00	5.84	0.00	0.00	0.00	0.00	41.17
	2	85.81	0.00	14.19	0.00	0.00	0.00	0.00	1.29
I	1.49	0.00	4.01	0.00	0.00	0.00	0.00	0.00	
	1.10	0.00	0.18	0.00	0.00	0.00	0.00	0.00	
A	3	21.43	0.00	4.12	0.00	0.00	0.00	0.00	25.55
	3	83.87	0.00	16.13	0.00	0.00	0.00	0.00	0.80
	0.90	0.00	2.83	0.00	0.00	0.00	0.00	0.00	
	0.67	0.00	0.13	0.00	0.00	0.00	0.00	0.00	
J	4	1657.31	443.10	76.91	33.56	82.97	1.21	0.00	2295.06
	4	72.21	19.31	3.35	1.46	3.62	0.05	0.00	71.65
R	69.69	93.51	52.79	87.56	71.22	2.40	0.00	0.00	
	51.74	13.83	2.40	1.05	2.59	0.04	0.00	0.00	
-28-	5	407.28	22.03	13.39	4.77	9.65	0.00	0.00	457.12
	5	89.10	4.82	2.93	1.04	2.11	0.00	0.00	14.27
S	17.13	4.65	9.19	12.44	8.28	0.00	0.00	0.00	
	12.72	0.69	0.42	0.15	0.30	0.00	0.00	0.00	
E	6	87.20	6.03	7.48	0.00	0.00	0.00	0.00	100.71
	6	86.59	5.99	7.43	0.00	0.00	0.00	0.00	3.14
	3.67	1.27	5.13	0.00	0.00	0.00	0.00	0.00	
	2.72	0.19	0.23	0.00	0.00	0.00	0.00	0.00	
TOTAL		2378.16	473.87	145.68	38.33	116.50	50.47	0.00	3203.01
TOT X		74.25	14.79	4.55	1.20	3.64	1.58	0.00	

FORM NUMBER = 6

EXIT ENTR STATION = 70

VEHICLE TYPE

RANGES	1 1	2 2	3 3	4 4	5 5	6 6	7 7	8 8	TOTAL TOT %
T	235.50	3.53	98.66	2.82	56.50	8.23	0.00	0.00	405.24
	58.11	0.87	24.35	0.70	13.94	2.03	0.00	0.00	23.36
	17.12	5.96	45.59	32.94	80.44	87.18	0.00	0.00	
	13.57	0.20	5.69	0.16	3.26	0.47	0.00	0.00	
I	91.63	0.00	16.41	0.00	0.00	0.00	0.00	0.00	108.04
	84.81	0.00	15.19	0.00	0.00	0.00	0.00	0.00	6.23
	6.66	0.00	7.75	0.00	0.00	0.00	0.00	0.00	
	5.28	0.00	0.95	0.00	0.00	0.00	0.00	0.00	
P	373.37	8.42	43.86	0.00	2.48	0.00	0.00	0.00	428.13
	87.21	1.97	10.24	0.00	0.58	0.00	0.00	0.00	24.68
	27.14	14.22	20.71	0.00	3.53	0.00	0.00	0.00	
	21.52	0.49	2.53	0.00	0.14	0.00	0.00	0.00	
U	162.52	38.47	8.67	5.74	2.86	0.00	0.00	0.00	218.26
	74.46	17.63	3.97	2.63	1.31	0.00	0.00	0.00	12.58
	11.81	64.97	4.09	67.06	4.07	0.00	0.00	0.00	
	9.37	2.22	0.50	0.33	0.16	0.00	0.00	0.00	
D	396.49	6.22	31.25	0.00	7.16	0.00	0.00	0.00	441.12
	89.88	1.41	7.08	0.00	1.62	0.00	0.00	0.00	25.43
	28.82	10.50	14.76	0.00	10.19	0.00	0.00	0.00	
	22.85	0.36	1.80	0.00	0.41	0.00	0.00	0.00	
E	116.13	2.57	12.91	0.00	1.24	1.21	0.00	0.00	134.06
	86.63	1.92	9.63	0.00	0.92	0.90	0.00	0.00	7.73
	8.44	4.34	6.10	0.00	1.77	12.82	0.00	0.00	
	6.69	0.15	0.74	0.00	0.07	0.07	0.00	0.00	
TOTAL	1375.64	59.21	211.76	8.56	70.24	9.44	0.00	0.00	1734.85
TOT %	79.29	3.41	12.21	0.49	4.05	0.54	0.00	0.00	

100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000

EXIT ENT STATION # 01 TO

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL
	1	2	3	4	5	6	7	8	TOT %
I 1	405.11	6.24	136.60	2.82	80.38	57.49	0.00	0.00	688.64
I 1	58.83	0.91	19.84	0.41	11.67	8.35	0.00	0.00	13.95
T 1	10.79	1.17	38.22	6.01	43.04	95.96	0.00	0.00	
T 1	8.20	0.13	2.77	0.06	1.63	1.16	0.00	0.00	
R 2	126.96	0.00	22.25	0.00	0.00	0.00	0.00	0.00	149.21
R 2	85.09	0.00	14.91	0.00	0.00	0.00	0.00	0.00	3.02
I 1	3.38	0.00	6.22	0.00	0.00	0.00	0.00	0.00	
P 1	2.57	0.00	0.45	0.00	0.00	0.00	0.00	0.00	
I 3	394.80	8.42	47.98	0.00	2.48	0.00	0.00	0.00	453.68
I 3	87.02	1.86	10.58	0.00	0.55	0.00	0.00	0.00	9.19
P 3	10.52	1.58	13.42	0.00	1.33	0.00	0.00	0.00	
P 3	8.00	0.17	0.97	0.00	0.05	0.00	0.00	0.00	
U 4	1819.83	481.57	85.58	39.30	85.83	1.21	0.00	0.00	2513.32
U 4	72.41	19.16	3.41	1.56	3.42	0.05	0.00	0.00	50.90
R 4	48.48	90.34	23.94	83.81	45.96	2.02	0.00	0.00	
P 4	36.85	9.75	1.73	0.80	1.74	0.02	0.00	0.00	
I-30-									
G 5	803.77	28.25	44.64	4.77	16.81	0.00	0.00	0.00	898.24
G 5	89.48	3.15	4.97	0.53	1.87	0.00	0.00	0.00	18.19
S 5	21.41	5.30	12.49	10.17	9.00	0.00	0.00	0.00	
S 5	16.28	0.57	0.90	0.10	0.34	0.00	0.00	0.00	
E 6	203.33	8.60	20.39	0.00	1.24	1.21	0.00	0.00	234.77
E 6	86.61	3.66	8.69	0.00	0.53	0.52	0.00	0.00	4.75
E 6	5.42	1.61	5.70	0.00	0.66	2.02	0.00	0.00	
E 6	4.12	0.17	0.41	0.00	0.03	0.02	0.00	0.00	
TOTAL	3753.80	533.08	357.44	46.89	186.74	59.91	0.00	0.00	4937.86
TOT %	76.02	10.80	7.24	0.95	3.78	1.21	0.00	0.00	

24.JAN.73

GENERAL PURPOSE SUMMARY MUNISING 020002 11-28

FORM NUMBER = 6
 INBOUND DIRECTION = 3 TO 3

INTERNAL END

RANGES	6	TOTAL
	6	TOT X
O	429.05	429.05
O	100.00	49.99
C	49.99	
C	49.99	
I	60.81	60.81
I	100.00	7.08
T	7.08	
T	7.08	
Y	92.42	92.42
O	100.00	10.77
O	10.77	
E	146.20	146.20
E	100.00	17.03
S	17.03	
S	17.03	
I	39.01	39.01
I	100.00	4.54
I	4.54	
N	4.54	
I	43.89	43.89
I	100.00	5.11
Z	5.11	
Z	5.11	
O	24.58	24.58
O	100.00	2.86
N	2.86	
E	2.86	
S	22.35	22.35
S	100.00	2.60
	2.60	
	2.60	
TOTAL	858.31	858.31
TOT X	100.00	

FORM NUMBER = 6
OUTBOUND DIRECTION = 7 - To 7

I N T E R N A L E N D

RANGES		TOTAL	TOT %
	6		
	6		
06	361.03	361.03	
06	100.00	41.29	
	41.29	41.29	
C	41.29		
I	07	70.86	70.86
	07	100.00	8.10
T		8.10	
Y		8.10	
O	08	83.96	83.96
	08	100.00	9.60
		9.60	
	0	9.60	
R	09	160.99	160.99
	09	100.00	18.41
I		18.41	
G		18.41	
I	10	37.14	37.14
3	I	100.00	4.25
2		4.25	
I	N	4.25	
Z	11	62.51	62.51
	11	100.00	7.15
		7.15	
	0	7.15	
N	12	67.39	67.39
	12	100.00	7.71
E		7.71	
S	13	30.41	30.41
	13	100.00	3.48
		3.48	
		3.48	
TOTAL		874.29	874.29
TOT %		100.00	

430000.															0.505	82.347	25	
64000000.															1.212	83.559	60	
650000.															0.424	83.983	21	
660000.															0.667	84.650	33	
6700000.															0.747	85.397	37	
68000000.															1.010	86.407	50	
690000.															0.646	87.053	32	
700000.															0.768	87.841	39	
710000.															0.808	88.649	40	
720000.															0.424	89.073	21	
7300000.															1.050	90.123	52	
7400000.															0.747	90.871	37	
7500000.															0.727	91.598	36	
76000000.															1.111	92.709	55	
770000.															0.485	93.193	24	
780000.															0.424	93.617	21	
7900000.															0.970	94.587	48	
800000.															0.242	94.829	12	
810000.															0.141	94.971	7	
820000.															0.202	95.173	10	
830000.															0.364	95.536	18	
8400000.															0.566	96.102	28	
850000.															0.061	96.162	3	
8600000.															0.303	96.465	15	
870000.															0.162	96.627	8	
880000.															0.162	96.789	8	
890000.															0.283	97.071	14	
900000.															0.020	97.091	1	
910000.															0.222	97.314	11	
920000.															0.000	97.314	0	
930000.															0.101	97.415	5	
940000.															0.182	97.596	9	
950000.															0.101	97.697	5	
960000.															0.020	97.718	1	
970000.															0.444	98.162	22	
980000.															0.020	98.182	1	
990000.															0.000	98.182	0	
1000000.															0.848	99.030	42	
1010000.															0.020	99.051	1	
1020000.															0.031	99.131	4	
1030000.															0.081	99.212	4	
1040000.															0.182	99.394	9	
1050000.															0.000	99.394	0	
1060000.															0.000	99.394	0	
1070000.															0.061	99.455	3	
1080000.															0.040	99.495	2	
1090000.															0.040	99.535	-2	
1100000.															0.000	99.535	0	
1110000.															0.000	99.535	0	
1120000.															0.040	99.576	2	
1130000.															0.283	99.859	14	
1140000.															0.000	99.859	0	
1150000.															0.141	100.000	7	

REMAINING VALUES ARE ALL ZERO
NUMBER OF OBSERVATIONS= 4951

SUM= 161496.

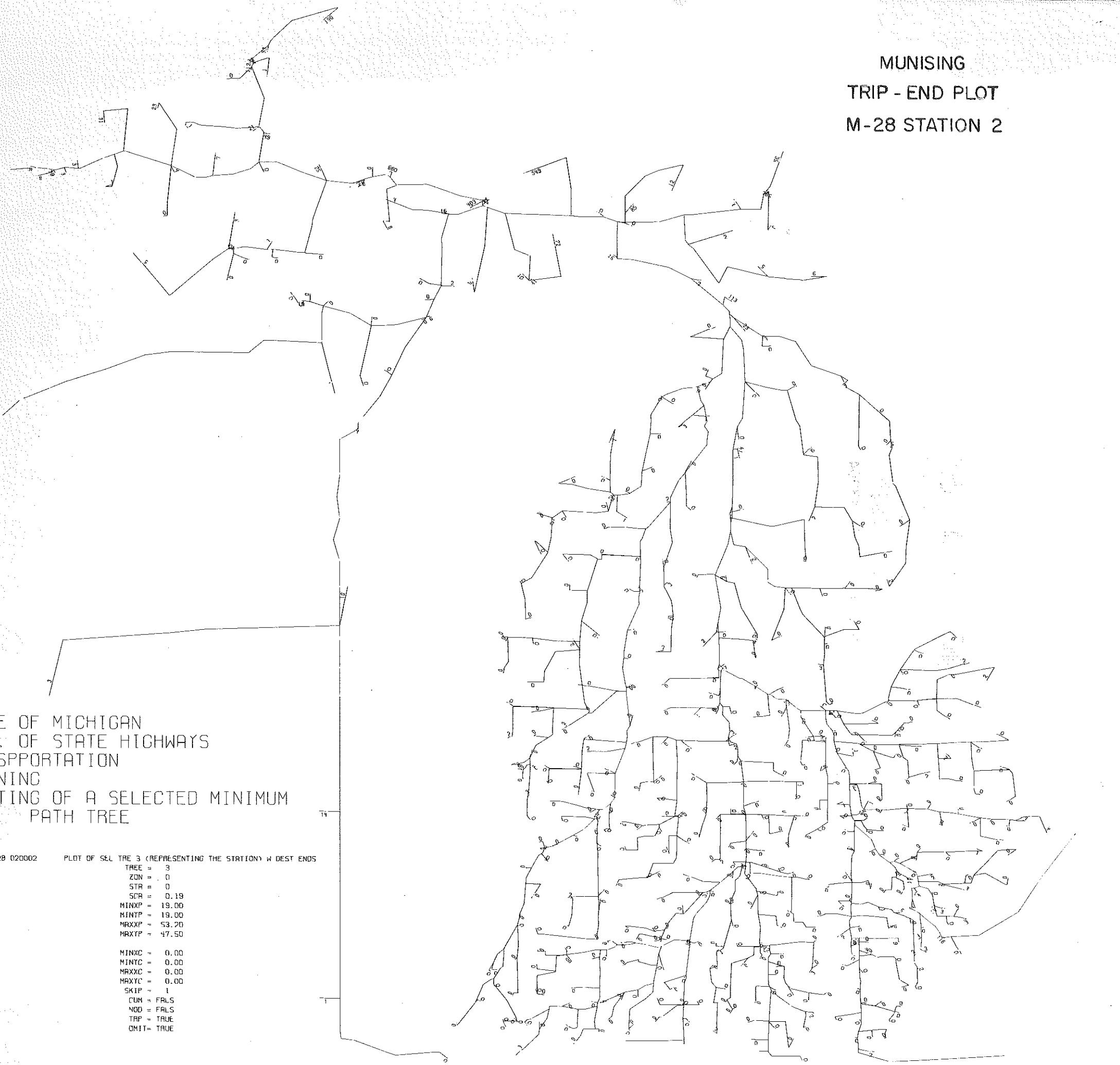
MEAN= 32.619

VAR= 758.703

SD= 27.545

TOTAL LIPS OVER MAX= 0
TOTAL LIPS OVER MIN= 0
LIPS OVER THE MEAN= 241
SD OF THE LIPS= 141

MUNISING
TRIP - END PLOT
M-28 STATION 2



STATE OF MICHIGAN
DEPT. OF STATE HIGHWAYS
TRANSPORTATION
PLANNING
PLOTTING OF A SELECTED MINIMUM
PATH TREE

M 28 020002 PLOT OF SEL TRE 3 (REPRESENTING THE STATION) W BEST ENDS

```

TREE = 3
ZON = 0
STR = 0
SCA = 0.19
MINXP = 19.00
MINYP = 19.00
MAXXP = 53.20
MAXYP = 47.50

```

```

MINXC = 0.00
MINYC = 0.00
MAXXC = 0.00
MAXYC = 0.00
SKIP = 1
CUM = FALSE
NOD = FALSE
TRP = TRUE
OMIT = TRUE

```

MUNISING

STATION 13

Station 13 is located on M-94 southwest of the city. Trips for Station 13 accounted for about 10 percent of the total trips that passed through all five stations. About 59 percent of the trips were terminal trips. Pickup and panel trucks made about 12 percent of the trips. Work trips accounted for about 27 percent followed by social-recreation with about 26 percent.

About 36 percent of the thru trips were for vacation but only about 6 percent of the terminal trips were made for this purpose.

Of the terminal trips, about 41 percent had an origin or a destination in the CBD (Zone 6).

The average trip length for Station 13 is about three hours. About 42 percent of the trips were 40 minutes or less in length.

The external trips for this station were not as widely dispersed as for Station 2. A large portion of these trips began or ended at locations close to Munising.

FORM NUMBER # 6
EXIT ENT STATION # 01 TO 05

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TOT %
	1	2	3	4	5	6	7	8		
1	94.67	0.00	9.27	0.00	6.32	32.97	0.00	0.00	143.23	
1	66.10	0.00	6.47	0.00	4.41	23.02	0.00	0.00	25.74	
T	22.41	0.00	27.57	0.00	83.93	68.39	0.00	0.00		
T	17.02	0.00	1.67	0.00	1.14	5.93	0.00	0.00		
R	20.90	2.28	1.14	0.00	0.00	0.00	0.00	0.00	24.32	
R	85.94	9.37	4.69	0.00	0.00	0.00	0.00	0.00	4.37	
I	4.95	5.10	3.39	0.00	0.00	0.00	0.00	0.00		
P	3.76	0.41	0.20	0.00	0.00	0.00	0.00	0.00		
3	9.49	1.14	2.89	0.00	0.00	0.00	0.00	0.00	13.52	
3	70.19	8.43	21.38	0.00	0.00	0.00	0.00	0.00	2.43	
P	2.25	2.55	8.60	0.00	0.00	0.00	0.00	0.00		
P	1.71	0.20	0.52	0.00	0.00	0.00	0.00	0.00		
U	140.12	35.10	8.09	10.71	1.21	3.12	0.00	0.00	198.35	
U	70.64	17.70	4.08	5.40	0.61	1.57	0.00	0.00	35.65	
R	33.16	78.56	24.06	100.00	16.07	8.36	0.00	0.00		
P	25.19	6.31	1.45	1.93	0.22	0.56	0.00	0.00		
J	120.02	6.16	7.45	0.00	0.00	1.21	0.00	0.00	134.84	
J	89.01	4.57	5.53	0.00	0.00	0.90	0.00	0.00	24.24	
S	28.41	13.79	22.16	0.00	0.00	3.24	0.00	0.00		
S	21.57	1.11	1.34	0.00	0.00	0.22	0.00	0.00		
E	37.32	0.00	4.78	0.00	0.00	0.00	0.00	0.00	42.10	
E	88.65	0.00	11.35	0.00	0.00	0.00	0.00	0.00	7.57	
E	8.83	0.00	14.22	0.00	0.00	0.00	0.00	0.00		
E	6.71	0.00	0.66	0.00	0.00	0.00	0.00	0.00		
TOTAL	422.52	44.68	33.62	10.71	7.53	37.30	0.00	0.00	556.36	
TOT %	75.94	8.03	6.04	1.93	1.35	6.70	0.00	0.00		

19 MAR 73

GENERAL PURPOSE SUMMARY MUNISING 020013 N 94

PAGE 4

FORM NUMBER = 6
 EXIT ENT STATION = TO

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TOT %
	1	2	3	4	5	6	7	8		
1	113.67	1.14	68.73	0.00	14.98	22.75	0.00	0.00	221.27	
1	51.37	0.52	31.06	0.00	6.77	10.28	0.00	0.00	28.13	
T	18.94	9.61	52.27	0.00	79.01	100.00	0.00	0.00		
T	14.45	0.14	8.74	0.00	1.90	2.89	0.00	0.00		
R	2	35.01	0.00	7.21	0.00	0.00	0.00	0.00		
R	2	82.92	0.00	17.08	0.00	0.00	0.00	0.00	42.22	
I	5.83	0.00	5.48	0.00	0.00	0.00	0.00	0.00		
P	4.45	0.00	0.92	0.00	0.00	0.00	0.00	0.00	5.37	
P	3	161.33	1.37	23.21	0.00	0.00	0.00	0.00		
P	3	86.78	0.74	12.48	0.00	0.00	0.00	0.00	185.91	
P	26.88	11.55	17.65	0.00	0.00	0.00	0.00	0.00	23.63	
P	20.51	0.17	2.95	0.00	0.00	0.00	0.00	0.00		
U	4	39.89	3.04	3.42	1.37	0.00	0.00	0.00		
U	4	83.59	6.37	7.17	2.87	0.00	0.00	0.00	47.72	
R	6.65	25.63	2.60	100.00	0.00	0.00	0.00	0.00		
P	5.07	0.39	0.43	0.17	0.00	0.00	0.00	0.00	6.07	
L	38	188.83	6.31	18.81	0.00	3.98	0.00	0.00		
O	5	86.65	2.90	8.63	0.00	1.83	0.00	0.00	217.93	
S	31.46	53.20	14.31	0.00	20.99	0.00	0.00	0.00	27.71	
S	24.01	0.80	2.39	0.00	0.51	0.00	0.00	0.00		
E	6	61.45	0.00	10.10	0.00	0.00	0.00	0.00		
E	6	85.88	0.00	14.12	0.00	0.00	0.00	0.00	71.55	
E	10.24	0.00	7.68	0.00	0.00	0.00	0.00	0.00	9.10	
E	7.81	0.00	1.28	0.00	0.00	0.00	0.00	0.00		
TOTAL		600.18	11.86	131.48	1.37	18.96	22.75	0.00	0.00	786.60
TOT %		76.30	1.51	16.71	0.17	2.41	2.89	0.00	0.00	

19 JANEY 73

GENERAL PURPOSE SUMMARY MUNISING 020013 M 94

PAGE 3

FORM NUMBER * 6
 EXIT ENT STATION * 01 TO

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TOT %
	1	2	3	4	5	6	7	8		
1	206.34	1.14	78.00	0.00	21.30	55.72	0.00	0.00	364.50	
1	57.16	0.31	21.40	0.00	5.84	15.29	0.00	0.00	27.14	
T	20.37	2.02	47.24	0.00	80.41	92.79	0.00	0.00		
T	15.51	0.08	5.81	0.00	1.59	4.15	0.00	0.00		
R	55.91	2.28	8.35	0.00	0.00	0.00	0.00	0.00	66.54	
R	84.02	3.43	12.55	0.00	0.00	0.00	0.00	0.00	4.95	
I	5.47	4.03	5.06	0.00	0.00	0.00	0.00	0.00		
P	4.16	0.17	0.62	0.00	0.00	0.00	0.00	0.00		
P	170.82	2.51	26.10	0.00	0.00	0.00	0.00	0.00	199.43	
P	85.65	1.26	13.09	0.00	0.00	0.00	0.00	0.00	14.85	
P	16.70	4.44	15.81	0.00	0.00	0.00	0.00	0.00		
P	12.72	0.19	1.94	0.00	0.00	0.00	0.00	0.00		
U	180.01	38.14	11.51	12.08	1.21	3.12	0.00	0.00	246.07	
U	73.15	15.50	4.68	4.91	0.49	1.27	0.00	0.00	18.32	
K	17.60	67.46	6.97	100.00	4.57	5.20	0.00	0.00		
K	13.40	2.84	0.86	0.90	0.09	0.23	0.00	0.00		
W	308.85	12.47	24.26	0.00	3.98	1.21	0.00	0.00	352.77	
W	87.55	3.53	7.44	0.00	1.13	0.34	0.00	0.00	26.27	
O	30.20	22.06	15.91	0.00	15.02	2.01	0.00	0.00		
S	23.00	0.93	1.96	0.00	0.30	0.09	0.00	0.00		
E	98.77	0.00	14.88	0.00	0.00	0.00	0.00	0.00	113.65	
E	86.91	0.00	13.09	0.00	0.00	0.00	0.00	0.00	8.46	
	9.66	0.00	9.01	0.00	0.00	0.00	0.00	0.00		
	7.35	0.00	1.11	0.00	0.00	0.00	0.00	0.00		
TOTAL	1022.70	56.54	165.10	12.08	26.49	60.05	0.00	0.00	1342.96	
TOT %	76.15	4.21	12.29	0.90	1.97	4.47	0.00	0.00		

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GENERAL PURPOSE SUMMARY MUNISING 020013 M 94

PAGE 1

FORM NUMBER = 6

INBOUND DIRECTION = 3 TO 3

INTERNAL END

RANGES		TOTAL
	6	TOT %
	6	
06	178.45	178.45
06	100.00	45.93
	45.93	
C	45.93	
I	07	37.66
	07	100.00
T		9.69
		9.69
Y		
08	21.15	21.15
08	100.00	5.44
	5.44	
D	5.44	
E	09	47.91
	09	100.00
S		12.33
		12.33
L	T	
O	10	28.44
I	10	100.00
	7.32	
N		7.32
Z		
11	34.86	34.86
11	100.00	8.97
	8.97	
O		8.97
N	12	26.95
	12	100.00
	6.94	
E		6.94
S	13	13.07
	13	100.00
	3.36	
	3.36	
TOTAL		388.49
TOT %		100.00

FORM NUMBER = 6
OUTBOUND DIRECTION = 7 TO 7

INTERNAL END

RANGES		TOTAL TOT \$
	6	
	6	
06	131.36	131.36
06	100.00	35.21
C	35.21	35.21
I	46.61	46.61
T	100.00	12.49
	12.49	12.49
Y		
08	26.25	26.25
08	100.00	7.04
O	7.04	7.04
R	78.33	78.33
09	100.00	21.00
I	21.00	21.00
G		
L	10	29.44
I	10	100.00
N	7.89	7.89
	7.89	
11	10.60	10.60
11	100.00	2.84
Z	2.84	2.84
D		
N	12	30.34
N	12	100.00
E	8.13	8.13
S	8.13	
13	20.13	20.13
13	100.00	5.40
	5.40	
TOTAL	373.06	373.06
TOT \$	100.00	

		C.	CUM.	ACTUAL
1.		0.000	0.000	0
2.....		22.463	22.463	290
3.		0.000	22.463	0
4.....		19.830	42.293	256
5.		0.000	42.293	0
6.		0.000	42.293	0
7.....		3.873	46.166	50
8....		1.162	47.328	15
9.....		6.274	53.602	81
10...		0.775	54.376	10
11.....		2.943	57.320	38
12.....		2.401	59.721	31
13.....		1.936	61.658	25
14..		0.387	62.045	5
15.		0.155	62.200	2
16.....		2.091	64.291	27
17.....		3.563	67.854	46
18....		1.239	69.094	16
19....		1.317	70.411	17
20..		0.310	70.720	4
21..		0.387	71.108	5
22..		0.775	71.882	10
23.....		2.943	74.826	38
24...		0.697	75.523	9
25..		0.310	75.833	4
26.....		1.549	77.382	20
27..		0.387	77.769	5
28..		0.077	77.847	1
29...		0.620	78.466	8
30..		0.465	78.931	6
31.		0.077	79.009	1
32...		0.697	79.706	9
33...		0.697	80.403	9
34.....		1.472	81.875	19
35..		0.155	82.029	2
36..		0.310	82.339	4
37..		0.310	82.649	4
38..		0.077	82.727	1
39..		0.077	82.804	1
40..		0.232	83.036	3
41..		0.465	83.501	6
42..		0.542	84.043	7
43...		0.775	84.818	10
44..		0.387	85.205	5
45..		0.310	85.515	4
46..		0.465	85.980	6
47...		0.697	86.677	9
48..		0.542	87.219	7
49..		0.310	87.529	4
50..		0.155	87.684	2
51...		0.775	88.459	10
52...		0.852	89.311	11
53..		0.387	89.698	5
54..		0.387	90.085	5
55..		0.367	90.473	5
56....		1.162	91.634	15
57...		0.620	92.254	8
58..		0.232	92.486	3
59..		0.232	92.719	3
60..		0.465	93.184	6
61....		1.627	94.810	21

	(1)	(2)	(3)
63..		0.387	95.352
64..		0.232	95.585
65..		0.155	95.740
66..		0.000	95.740
67..		0.232	95.972
68..		0.465	96.437
69..		0.155	96.592
70..		0.232	96.824
71..		0.000	96.824
72..		0.077	96.902
73..		0.077	96.979
74..		0.155	97.134
75..		0.387	97.521
76..		0.310	97.831
77..		0.077	97.909
78..		0.155	98.064
79..		0.000	98.064
80..		0.077	98.141
81..		0.387	98.528
82..		0.000	98.528
83..		0.077	98.606
84..		0.155	98.761
85..		0.077	98.838
86..		0.155	98.993
87..		0.000	98.993
88..		0.465	99.458
89..		0.155	99.613
90..		0.077	99.690
91..		0.077	99.768
92..		0.000	99.768
93..		0.000	99.768
94..		0.000	99.768
95..		0.000	99.768
96..		0.000	99.768
97..		0.000	99.768
98..		0.000	99.768
99..		0.000	99.768
100..		0.232	100.000

REMAINING VALUES ARE ALL ZERO.

NUMBER OF OBSERVATIONS = 1291 SUM = 23438. MEAN = 18.155 VAR = 446.562 SD = 21.132

TOTAL TRIPS OVER MAXP = 0
TOTAL TRIPS OVER 255 = 0
VOLUME TABLE NUMBER = 201
SKIM TREE NUMBER = 101

MUNISING

STATION 14

Station 14 is located on Munising Road, a county road entering the city from the east. Trips for Station 14 represent about 12 percent of the total trips for all five stations. About 70 percent of the trips for Station 14 were terminal trips. Out of all trips for this station, about 82 percent were made by passenger cars without trailers. Trips for the purposes of vacation and social-recreation made up about 61 percent of the total for this station.

Vacation trips accounted for about 60 percent of the thru trips but only about 8 percent of the terminal trips.

Of the terminal trips, about 37 percent had an origin or a destination in the CBD (Zone 6).

The average trip length for Station 14 is about two hours and twenty minutes. About 68 percent of the trips were approximately one hour and 40 minutes in length.

A large portion of the trips (749) began or ended in the area where the Pictured Rocks are located.

GENERAL PURPOSE SUMMARY MUNISING 02901A MUNISING RD

PAGE 1

FORM NUMBER = 6
EXIT ENT STATION = 01 TO 05

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TOT %
	1	2	3	4	5	6	7	8		
1	9.87	0.00	3.50	0.00	1.00	0.00	0.00	0.00		14.37
1	68.58	0.00	24.36	0.00	6.96	0.00	0.00	0.00		3.06
T	2.61	0.00	12.27	0.00	14.29	0.00	0.00	0.00		
T	2.10	0.00	0.74	0.00	0.21	0.00	0.00	0.00		
R	2	12.69	0.00	1.11	0.00	0.00	0.00	0.00		13.80
I	2	91.96	0.00	8.04	0.00	0.00	0.00	0.00		2.94
I	3.35	0.00	3.89	0.00	0.00	0.00	0.00	0.00		
P	2.70	0.00	0.24	0.00	0.00	0.00	0.00	0.00		
3	5.01	0.00	1.11	0.00	0.00	0.00	0.00	0.00		6.12
3	81.56	0.00	18.14	0.00	0.00	0.00	0.00	0.00		1.30
P	1.32	0.00	3.89	0.00	0.00	0.00	0.00	0.00		
P	1.07	0.00	0.24	0.00	0.00	0.00	0.00	0.00		
U	4	220.63	38.43	10.96	3.44	5.00	2.00	0.00		280.46
U	4	78.67	13.70	3.91	1.23	1.78	0.71	0.00		59.65
R	58.30	77.25	38.43	100.00	71.43	66.67	0.00	0.00		
P	46.93	8.17	2.33	0.73	1.06	0.43	0.00	0.00		
U	5	126.50	11.32	10.62	0.00	1.00	0.00	0.00		149.44
U	5	84.65	7.57	7.11	0.00	0.67	0.00	0.00		31.78
I	33.42	22.75	37.24	0.00	14.29	0.00	0.00	0.00		
S	26.91	2.41	2.26	0.00	0.21	0.00	0.00	0.00		
E	6	3.76	0.00	1.22	0.00	0.00	1.00	0.00		5.98
E	6	62.88	0.00	20.40	0.00	0.00	16.72	0.00		1.27
E	0.99	0.00	4.28	0.00	0.00	33.33	0.00	0.00		
E	0.80	0.00	0.26	0.00	0.00	0.21	0.00	0.00		
TOTAL		378.46	49.75	28.52	3.44	7.00	3.00	0.00		470.17
TOT %		80.49	10.58	6.07	0.73	1.49	0.64	0.00		

171475

GENERAL PURPOSE SUMMARY MUNISING 020014 MUNISING RD

PAGE 2

FORM NUMBER # 6
 EXIT ENT STATION # TO
 VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TOT %
	1	2	3	4	5	6	7	8		
1	129.15	0.00	53.36	0.00	6.00	5.00	0.00	0.00	193.51	
1	66.74	0.00	27.57	0.00	3.10	2.58	0.00	0.00	17.73	
T	14.33	0.00	33.52	0.00	66.67	83.33	0.00	0.00		
T	11.83	0.00	4.89	0.00	0.55	0.46	0.00	0.00		
R	2	39.05	1.11	11.66	0.00	0.00	0.00	0.00	51.82	
I	2	75.36	2.14	22.50	0.00	0.00	0.00	0.00	4.75	
P	4.33	8.82	7.32	0.00	0.00	0.00	0.00	0.00		
P	3.58	0.10	1.07	0.00	0.00	0.00	0.00	0.00		
3	197.11	1.55	42.32	2.22	1.00	0.00	0.00	0.00	244.20	
3	80.72	0.63	17.33	0.91	0.41	0.00	0.00	0.00	22.37	
P	21.87	12.31	26.58	66.67	11.11	0.00	0.00	0.00		
P	18.06	0.14	3.88	0.20	0.09	0.00	0.00	0.00		
U	4	71.80	4.86	6.20	0.00	0.00	0.00	0.00	82.86	
H	4	86.65	5.87	7.48	0.00	0.00	0.00	0.00	7.59	
P	7.97	38.60	3.89	0.00	0.00	0.00	0.00	0.00		
P	6.58	0.45	0.57	0.00	0.00	0.00	0.00	0.00		
L	4	404.14	5.07	31.13	1.11	1.00	1.00	0.00	443.45	
U	5	91.14	1.14	7.02	0.25	0.23	0.23	0.00	40.63	
S	44.84	40.27	19.55	33.33	11.11	16.67	0.00	0.00		
S	37.03	0.46	2.85	0.10	0.09	0.09	0.00	0.00		
E	6	60.11	0.00	14.54	0.00	1.00	0.00	0.00	75.65	
E	6	79.46	0.00	19.22	0.00	1.32	0.00	0.00	6.93	
	6.67	0.00	9.13	0.00	11.11	0.00	0.00	0.00		
	5.51	0.00	1.33	0.00	0.09	0.00	0.00	0.00		
TOTAL		901.36	12.59	159.21	3.33	9.00	6.00	0.00	1091.49	
TOT %		82.58	1.15	14.59	0.31	0.82	0.55	0.00		

1/18/73

GENERAL PURPOSE SUMMARY MUNISING 020014 MUNISING RD

PAGE 3

FORM NUMBER = 6
 EXIT ENT STATION = 01 TO

VEHICLE TYPE

RANGES	1 1	2 2	3 3	4 4	5 5	6 6	7 7	8 8	TOTAL TOT %
1	139.02	0.00	56.86	0.00	7.00	5.00	0.00	0.00	207.88
1	66.88	0.00	27.35	0.00	3.37	2.41	0.00	0.00	13.31
T	10.86	0.00	30.29	0.00	43.75	55.56	0.00	0.00	
T	8.90	0.00	3.64	0.00	0.45	0.32	0.00	0.00	
R	51.74	1.11	12.77	0.00	0.00	0.00	0.00	0.00	65.62
R	78.85	1.69	19.46	0.00	0.00	0.00	0.00	0.00	4.20
I	4.04	1.78	6.80	0.00	0.00	0.00	0.00	0.00	
P	3.31	0.07	0.82	0.00	0.00	0.00	0.00	0.00	
P	202.12	1.55	43.43	2.22	1.00	0.00	0.00	0.00	250.32
P	80.74	0.62	17.35	0.89	0.40	0.00	0.00	0.00	16.03
P	15.79	2.49	23.13	32.79	6.25	0.00	0.00	0.00	
P	12.94	0.10	2.78	0.14	0.06	0.00	0.00	0.00	
U	292.43	43.29	17.16	3.44	5.00	2.00	0.00	0.00	363.32
U	80.49	11.92	4.72	0.95	1.38	0.55	0.00	0.00	23.26
R	22.85	69.44	9.14	50.81	31.25	22.22	0.00	0.00	
P	18.73	2.77	1.10	0.22	0.32	0.13	0.00	0.00	
L	530.64	16.39	41.75	1.11	2.00	1.00	0.00	0.00	592.89
O	89.50	2.76	7.04	0.19	0.34	0.17	0.00	0.00	37.97
I	41.46	26.29	22.24	16.40	12.50	11.11	0.00	0.00	
S	33.98	1.05	2.67	0.07	0.13	0.06	0.00	0.00	
E	63.87	0.00	15.76	0.00	1.00	1.00	0.00	0.00	81.63
E	78.24	0.00	19.31	0.00	1.23	1.23	0.00	0.00	5.23
E	4.99	0.00	8.40	0.00	6.25	11.11	0.00	0.00	
E	4.09	0.00	1.01	0.00	0.06	0.06	0.00	0.00	
TOTAL	1279.82	62.34	187.73	6.77	16.00	9.00	0.00	0.00	1561.66
TOT %	81.95	3.99	12.02	0.43	1.02	0.58	0.00	0.00	

2FEB73

GENERAL PURPOSE SUMMARY MUNISING 020014 MUNISING RD

PAGE 1

FORM NUMBER = 6

OUTBOUND DIRECTION = 3 To 3

INTERNAL END

RANGES			TOTAL
			TOT %
	6		
	6		
C	06	196.77	196.77
	06	100.00	- 38.45
		38.45	
		38.45	
I	07	47.27	47.27
T	07	100.00	9.24
		9.24	
Y	08	34.17	34.17
	08	100.00	6.68
		6.68	
		6.68	
R	09	69.85	69.85
	09	100.00	13.65
I		13.65	
		13.65	
G	10	55.59	55.59
I	10	100.00	10.86
		10.86	
N		10.86	
Z	11	32.74	32.74
	11	100.00	6.40
		6.40	
		6.40	
Q	12	50.23	50.23
N	12	100.00	9.81
E		9.81	
S	13	25.20	25.20
	13	100.00	4.92
		4.92	
		4.92	
TOTAL		511.82	511.82
TOT %		100.00	

ZFER73

GENERAL PURPOSE SUMMARY MUNISING 020014 MUNISING RD

PAGE 1

FORM NUMBER = 6
 INBOUND DIRECTION = 7 TO 7

INTERNAL END

RANGES		TOTAL
		TOT %
	6	
	6	
C	06 199.81	199.81
	06 100.00	34.96
	74.96	
	74.96	
I	07 58.09	58.09
	07 100.00	10.16
T	10.16	
	10.16	
Y	08 76.68	76.68
	08 100.00	13.41
D	13.41	
	13.41	
E	09 60.93	60.93
	09 100.00	10.66
S	10.66	
	10.66	
I	10 51.64	51.64
	10 100.00	9.03
N	9.03	
	9.03	
Z	11 40.49	40.49
	11 100.00	7.08
	7.08	
	7.08	
O	12 58.68	58.68
N	12 100.00	10.27
	10.27	
E	10.27	
S	13 25.28	25.28
	13 100.00	4.42
	4.42	
	4.42	
TOTAL	571.60	571.60
TOT %	100.00	

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	P.C.	CUM.	ACTUAL
1.....	2.911	2,911	45
2.	0.000	2,911	0
3.	0.000	2,911	0
4.	0.000	2,911	0
5.	0.000	2,911	0
6.	0.000	2,911	0
7.	0.000	2,911	0
8.	0.388	3,299	6
9.	0.065	3,364	1
10.....	68.370	71,734	1057
11.....	3.881	75,614	60
12..	1.035	76,649	16
13... 14..	1.358	78,008	21
15.	0.647	78,655	10
16.....	0.194	78,849	3
17....	6.662	85,511	103
18..	2.393	87,904	37
19..	0.841	88,745	13
20.	0.129	88,875	2
21.	0.065	88,939	1
22.	0.323	89,263	5
23.	0.323	89,586	5
24.	0.129	89,715	2
25.	0.129	89,845	2
26.	0.065	89,909	1
27.. 28.	0.259	90,168	4
29.	0.453	90,621	7
30.	0.000	90,621	0
31.	0.000	90,750	2
32.	0.129	90,750	0
33.	0.000	90,750	0
34.	0.065	90,815	1
35.	0.323	91,138	5
36... 37.	0.000	91,138	0
38.	0.065	91,203	1
39.	1.682	92,885	26
40.	0.000	92,885	0
41.	0.065	92,950	1
42..... 43.	0.000	92,950	0
44.	0.194	93,144	3
45.	0.000	93,144	0
46.	3.299	96,442	51
47.	0.129	96,572	2
48.	0.065	96,636	1
49.	0.000	96,636	0
50.	0.194	96,831	3
51.	0.129	96,960	2
52.	0.000	96,960	0
53... 54.	0.129	97,089	2
55.	0.129	97,219	2
56.	0.388	97,607	6
57.	0.065	97,671	1
58.	0.776	98,448	12
59... 60.	0.000	98,448	0
1.	0.129	98,577	2
	0.000	98,577	0
	0.000	98,577	0
	0.453	99,030	7
	0.065	99,094	1
	0.256	99,352	7

	0.129	99.483	0
63.	0.000	99.483	0
64.	0.129	99.612	2
65.	0.000	99.612	0
66.	0.000	99.612	0
67.	0.065	99.677	1
68.	0.065	99.741	1
69.	0.000	99.741	0
70.	0.000	99.741	0
71.	0.000	99.741	0
72.	0.000	99.741	0
73.	0.000	99.741	0
74.	0.065	99.806	1
75.	0.000	99.806	0
76.	0.000	99.806	0
77.	0.000	99.806	0
78.	0.000	99.806	0
79.	0.000	99.806	0
80.	0.065	99.871	1
81.	0.000	99.871	0
82.	0.000	99.871	0
83.	0.000	99.871	0
84.	0.000	99.871	0
85.	0.000	99.871	0
86.	0.000	99.871	0
87.	0.000	99.871	0
88.	0.129	100.000	2

REMAINING VALUES ARE ALL ZERO

NUMBER OF OBSERVATIONS = 1546

SUM = 21804.

MEAN = 14.103

VAR = 123.534

SD = 11.115

TOTAL TRIPS OVER MAXP	=	0
TOTAL TRIPS OVER 255	=	0
VOLUME TABLE NUMBER	=	201
SKIM TREE NUMBER	=	101

MUNISING
STATION 33

Station 33 is located on M-28/M-94 southeast of the city. Trips for this station represent about 32 percent of the total trips for all five stations. Only Station 2 on M-28 had more trips than Station 33. The trip characteristics for this station are quite similar to those of Station 2. About 76 percent of the trips for Station 33 were thru trips. Passenger cars with trailers accounted for about 12 percent of the trips for Station 33. Trips for the purpose of vacation made up about 57 percent of the total for this station.

Work trips accounted for about 30 percent of the terminal trips versus about 14 percent of the thru trips. Approximately 66 percent of the thru trips were for vacation versus about 27 percent of the terminal trips.

Of the terminal trips, about 34 percent had an origin or a destination in the CBD (Zone 6). Zone 8 (County Park) was next with 19 percent.

Station 33 had the longest average trip length of the five stations. Approximately 78 percent of the trips were more than two hours long.

The external trips for this station are quite widely dispersed. Only the trip ends for the northern part of Michigan are shown on the plot.

FORM NUMBER = 6
EXIT ENT STATION = 01 TO 05

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL
	1	2	3	4	5	6	7	8	TOT %
1	284.71	7.17	53.70	4.79	27.92	72.47	0.00	0.00	450.76
1	63.16	1.59	11.91	1.06	6.19	16.08	0.00	0.00	13.69
T	12.01	1.45	34.09	8.69	21.30	88.13	0.00	0.00	.
T	8.65	0.22	1.63	0.15	0.85	2.20	0.00	0.00	
R	2	78.57	0.00	3.77	0.00	4.80	0.00	0.00	87.14
R	2	90.17	0.00	4.33	0.00	5.51	0.00	0.00	2.65
I	3.31	0.00	2.39	0.00	3.66	0.00	0.00	0.00	
P	2.39	0.00	0.11	0.00	0.15	0.00	0.00	0.00	
P	3	15.64	2.46	3.64	0.00	0.00	0.00	0.00	21.74
P	3	71.94	11.32	16.74	0.00	0.00	0.00	0.00	0.66
P	0.66	0.50	2.31	0.00	0.00	0.00	0.00	0.00	
P	0.47	0.07	0.11	0.00	0.00	0.00	0.00	0.00	
U	4	1541.83	432.77	69.82	42.00	91.67	7.28	0.00	2185.37
U	4	70.55	19.80	3.19	1.92	4.19	0.33	0.00	66.37
R	5	65.02	87.37	44.32	76.21	69.94	8.85	0.00	
R	5	46.83	13.14	2.12	1.28	2.78	0.22	0.00	
P	5	370.64	50.43	21.66	4.57	5.48	2.48	0.00	455.26
P	5	81.41	11.08	4.76	1.00	1.20	0.54	0.00	13.83
I	15.63	10.18	13.75	8.29	4.18	3.02	0.00	0.00	
S	11.26	1.53	0.66	0.14	0.17	0.08	0.00	0.00	
E	6	80.02	2.50	4.93	3.75	1.20	0.00	0.00	92.40
E	6	86.60	2.71	5.34	4.06	1.30	0.00	0.00	2.81
	3.37	0.50	3.13	6.80	0.92	0.00	0.00	0.00	
	2.43	0.08	0.15	0.11	0.04	0.00	0.00	0.00	
TOTAL		2371.41	495.33	157.52	55.11	131.07	82.23	0.00	3292.67
TOT %		72.02	15.04	4.78	1.67	3.98	2.50	0.00	

19 JUN 1971

GENERAL PURPOSE SUMMARY MUNISING 020033 M 28 M 94

PAGE 2

FORM NUMBER = 6
 EXIT ENT STATION = TO
 VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TOT %
	1	2	3	4	5	6	7	8		
1	192.65	0.00	68.95	6.56	26.72	11.68	0.00	0.00		
1	62.84	0.00	22.49	2.14	8.72	3.81	0.00	0.00		306.56
	24.42	0.00	54.54	40.22	73.17	61.86	0.00	0.00		29.95
T	18.82	0.00	6.74	0.64	2.61	1.14	0.00	0.00		
R	2	48.85	0.00	10.57	1.41	0.00	0.00	0.00		
I	2	80.31	0.00	17.38	2.32	0.00	0.00	0.00		60.83
	5.19	0.00	8.36	8.65	0.00	0.00	0.00	0.00		5.94
P		4.77	0.00	1.03	0.14	0.00	0.00	0.00		
	3	117.50	3.77	23.26	0.00	0.00	2.40	0.00		
	3	79.97	2.57	15.83	0.00	0.00	1.63	0.00		146.93
	P	14.90	10.34	18.40	0.00	0.00	12.71	0.00		14.36
		11.48	0.37	2.27	0.00	0.00	0.23	0.00		
U	4	227.25	25.79	11.15	4.08	6.16	4.80	0.00		
R	4	81.38	9.24	3.99	1.46	2.21	1.72	0.00		279.23
	R	28.81	70.74	8.82	25.02	16.87	25.42	0.00		27.28
	P	22.21	2.52	1.09	0.40	0.60	0.47	0.00		
G	5	156.62	3.12	5.10	4.26	2.44	0.00	0.00		
O	5	91.30	1.82	2.97	2.48	1.42	0.00	0.00		171.54
I		19.86	8.56	4.03	26.12	6.68	0.00	0.00		16.76
S		15.30	0.30	0.50	0.42	0.24	0.00	0.00		
E	6	45.94	3.78	7.40	0.00	1.20	0.00	0.00		
	6	78.77	6.48	12.69	0.00	2.06	0.00	0.00		58.32
		5.82	10.37	5.85	0.00	3.29	0.00	0.00		5.70
		4.49	0.37	0.72	0.00	0.12	0.00	0.00		
TOTAL		788.81	36.46	126.43	16.31	36.52	18.88	0.00		1023.41
TOT %		77.08	3.56	12.35	1.59	3.57	1.84	0.00		

19JAN. 3

GENERAL PURPOSE SUMMARY RUMISING 020033 M 28 M 94

PAGE 3

FORM NUMBER S 6
EXIT ENT STATION = 01 TO

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL
	1	2	3	4	5	6	7	8	TOT %
1	477.36	7.17	122.65	11.35	54.64	84.15	0.00	0.00	757.32
1	63.03	0.95	16.20	1.50	7.21	11.11	0.00	0.00	17.55
T	15.11	1.35	43.19	15.89	32.60	83.23	0.00	0.00	
T	11.06	0.17	2.84	0.26	1.27	1.95	0.00	0.00	
R	2	127.42	0.00	14.34	1.41	4.80	0.00	0.00	147.97
I	2	86.11	0.00	9.69	0.95	3.24	0.00	0.00	3.43
I	4.03	0.00	5.05	1.97	2.86	0.00	0.00	0.00	
P	2.95	0.00	0.33	0.03	0.11	0.00	0.00	0.00	
P	3	133.14	6.23	26.90	0.00	0.00	2.40	0.00	168.67
P	3	78.94	3.69	15.95	0.00	0.00	1.42	0.00	3.91
P	4.21	1.17	9.47	0.00	0.00	2.37	0.00	0.00	
P	3.08	0.14	0.62	0.00	0.00	0.06	0.00	0.00	
U	4	1769.08	458.56	80.97	46.08	97.83	12.08	0.00	2464.60
R	4	71.78	18.61	3.29	1.87	3.97	0.49	0.00	57.10
R	55.98	86.23	28.52	64.52	58.37	11.95	0.00	0.00	
P	40.99	10.62	1.88	1.07	2.27	0.28	0.00	0.00	
G	5	527.26	53.55	26.76	8.83	7.92	2.48	0.00	626.80
O	5	84.12	8.54	4.27	1.41	1.26	0.40	0.00	14.52
I	16.68	10.07	9.42	12.36	4.73	2.45	0.00	0.00	
S	12.22	1.24	0.62	0.20	0.18	0.06	0.00	0.00	
E	6	125.96	6.28	12.33	3.75	2.40	0.00	0.00	150.72
E	6	83.57	4.17	8.18	2.49	1.59	0.00	0.00	3.49
E	3.99	1.18	4.34	5.25	1.43	0.00	0.00	0.00	
E	2.92	0.15	0.29	0.09	0.06	0.00	0.00	0.00	
TOTAL		3160.22	531.79	283.95	71.42	167.59	101.11	0.00	4316.08
TOT %		73.22	12.32	6.58	1.65	3.88	2.34	0.00	

SUJA 473

GENERAL PURPOSE SUMMARY MUNISING 020033 M 28 M 94

PAGE 1

FORM NUMBER # 6
 OUTBOUND DIRECTION # 3 TO 3

INTERNAL END

RANGES		TOTAL
		TOT %
	6	
	6	
O	06 179.39	179.39
O	06 100.00	37.25
C	37.25	
C	37.25	
I	07 29.34	29.34
I	07 100.00	6.09
T	6.09	
T	6.09	
Y	08 65.08	65.08
Y	08 100.00	13.51
U	13.51	
U	13.51	
R	09 60.26	60.26
R	09 100.00	12.51
I	12.51	
I	12.51	
G		
I	10 21.13	21.13
I	10 100.00	4.39
I	4.39	
I	4.39	
Z	11 42.05	42.05
Z	11 100.00	8.73
Z	8.73	
Z	8.73	
U		
N	12 31.51	31.51
N	12 100.00	6.54
E	6.54	
E	6.54	
S	13 52.83	52.83
S	13 100.00	10.97
S	10.97	
S	10.97	
TOTAL	481.59	481.59
TOT %	100.00	

32 JJA 473

GENERAL PURPOSE SUMMARY HUNISING 020033 M 28 M 74

PAGE 1

FORM NUMBER = 6
 INBOUND DIRECTION = 7 TO 7

INTERNAL END

RANGES		TOTAL
		TOT X
	6	
	6	
06	165.25	165.25
06	100.00	31.82
C	31.82	
C	31.82	
I	47.89	47.89
I	07	
T	100.00	9.22
T	9.22	
Y	9.22	
O	123.85	123.85
O	100.00	23.85
O	23.85	
O	23.85	
E	56.83	56.83
E	09	
S	100.00	10.94
S	10.94	
T	10	23.55
I	10	4.53
I	100.00	
N	4.53	
N	4.53	
Z	23.83	23.83
Z	100.00	4.59
Z	4.59	
Z	4.59	
O		
N	48.54	48.54
N	12	
N	100.00	9.35
E	9.35	
E	9.35	
S	29.62	29.62
S	13	
S	100.00	5.70
S	5.70	
S	5.70	
TOTAL	519.36	519.36
TOT X	100.00	

63....	0.700	77.775	30
64.....	2.052	79.827	88
65.....	0.956	80.784	41
66....	0.443	81.227	19
67.....	0.910	82.136	39
68.....	1.469	83.605	63
69....	0.513	84.118	22
70....	0.606	84.725	26
71.....	1.003	85.728	43
72.....	0.723	86.451	31
73.....	1.353	87.803	58
74.....	1.189	88.993	51
75.....	0.886	89.879	38
76.....	1.213	91.091	52
77....	0.513	91.608	22
78....	0.513	92.118	22
79....	0.746	92.864	32
80....	0.630	93.493	27
81...	0.326	93.820	14
82..	0.187	94.007	8
83....	0.653	94.660	28
84....	0.583	95.243	25
85..	0.140	95.382	6
86....	0.326	95.709	14
87..	0.163	95.872	7
88..	0.233	96.105	10
89....	0.420	96.525	18
90..	0.117	96.642	5
91..	0.187	96.828	8
92.	0.070	96.898	3
93..	0.117	97.015	5
94..	0.093	97.108	8
95..	0.117	97.225	5
96..	0.070	97.295	3
97..	0.466	97.761	20
98..	0.000	97.761	0
99..	0.000	97.761	0
100.....	1.236	98.997	53
101..	0.000	98.997	0
102..	0.070	99.067	3
103..	0.023	99.090	1
104...	0.350	99.440	15
105..	0.023	99.464	1
106..	0.000	99.464	0
107..	0.023	99.487	1
108..	0.117	99.604	5
109..	0.000	99.604	0
110..	0.000	99.604	0
111..	0.000	99.604	0
112..	0.000	99.604	0
113...	0.373	99.977	16
114..	0.000	99.977	0
115..	0.023	100.000	1

REMAINING VALUES ARE ALL ZERO

NUMBER OF OBSERVATIONS= 4288

SUM= 171553.

MEAN= 40.008

VAR= 689.358

SD= 26.256

TOTAL TRAPS OVER MAXP = 0
 TOTAL TRAPS OVER 255 = 0
 VOLUME T FILE NUMBERFR = 201
 SKIN TRAP NUMBER = 101

STATE OF MICHIGAN
DEPT. OF STATE HIGHWAYS
TRANSPORTATION
PLANNING
PLOTTING OF A SELECTED MINIMUM
PATH TREE

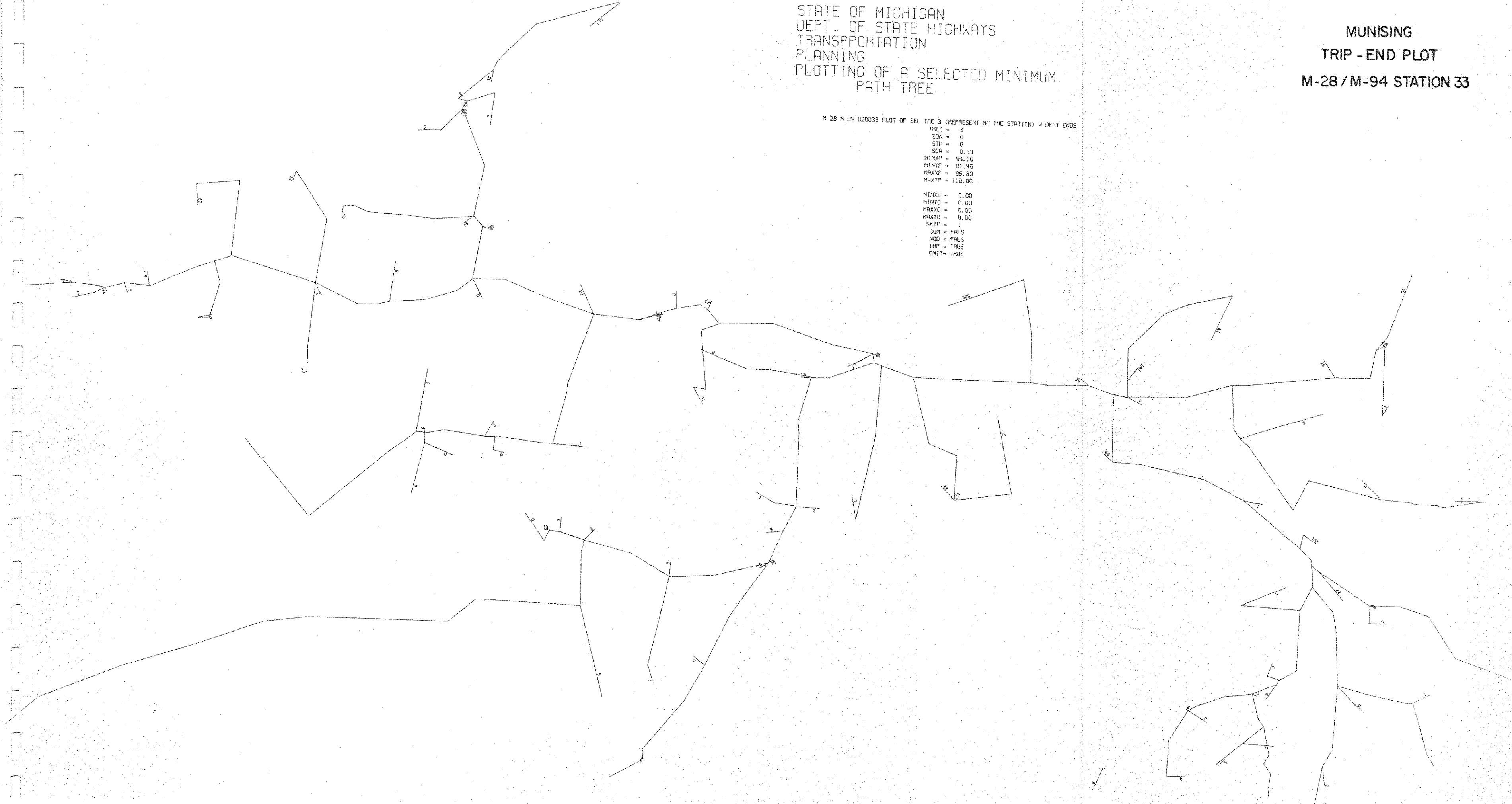
MUNISING
TRIP-END PLOT

M-28 / M-94 STATION 33

M-28 M-94 020033 PLOT OF SEL TRE 3 (REPRESENTING THE STATION) W DEST ENDS

TREE = 3
ZON = 0
STH = 0
SCR = 0.44
MINXP = 44.00
MINYP = 81.40
MAXXP = 98.80
MAXYP = 110.00

MINXC = 0.00
MINYC = 0.00
MAXXC = 0.00
MAXYC = 0.00
SKIP = 1
CUM = FALSE
NDL = FALSE
TRP = TRUE
DMT = TRUE



MUNISING

STATION 36

Station 36 is located on Federal Forest Highway 13 South of M-28/M-94. Trips for this station represent 8.5 percent of the total trips for all five stations. The trip characteristics for this station are quite similar to those of Station 14. About 77 percent of the trips for Station 36 were terminal trips. About 19 percent of the trips were made by pickup and panel trucks. Trips for the purpose of social-recreation accounted for about 42 percent of the total for this station. Work trips were next with about 17 percent.

Shopping trips accounted for about 24 percent of the terminal trips versus none of the thru trips. Vacation trips made up about 42 percent of the thru trips but only about 6.5 percent of the terminal trips.

Of the terminal trips, about 43 percent had an origin or a destination in the CBD (Zone 6).

Station 36 had the shortest average trip length of the five stations. Approximately 87 percent of the trips were two hours or less in length.

A large portion of the external trips (435) began or ended in the part of Munising Township near the station.

FORM NUMBER 86
EXIT ENT STATION 01 TO 05

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL
	1	2	3	4	5	6	7	8	TOT %
T	22.45	2.61	7.95	0.00	0.00	0.00	0.00	0.00	33.01
	68.01	7.91	24.08	0.00	0.00	0.00	0.00	0.00	13.84
	12.34	15.32	25.36	0.00	0.00	0.00	0.00	0.00	
	9.41	1.09	3.33	0.00	0.00	0.00	0.00	0.00	
R	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24
	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52
	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
P	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	70.83	13.33	7.30	6.16	0.00	2.00	0.00	0.00	99.62
	71.10	13.38	7.33	6.18	0.00	2.01	0.00	0.00	41.77
	38.93	78.23	23.29	100.00	0.00	100.00	0.00	0.00	
U	29.70	5.59	3.06	2.58	0.00	0.84	0.00	0.00	
	82.41	1.10	16.10	0.00	0.00	0.00	0.00	0.00	99.61
	82.73	1.10	16.16	0.00	0.00	0.00	0.00	0.00	41.77
	45.29	6.46	51.36	0.00	0.00	0.00	0.00	0.00	
R	34.55	0.46	6.75	0.00	0.00	0.00	0.00	0.00	
	5.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.02
	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.10
	2.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
S	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	TOTAL	181.95	17.04	31.35	6.16	0.00	2.00	0.00	238.50
	TOT %	76.29	7.14	13.14	2.58	0.00	0.84	0.00	

FORM NUMBER = 6
EXIT ENT STATION = TO

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL
	1	2	3	4	5	6	7	8	TOT %
1	74.04	2.20	63.92	0.00	8.00	0.00	0.00	0.00	148.16
1	49.97	1.48	43.14	0.00	5.40	0.00	0.00	0.00	18.19
T	11.87	17.24	38.09	0.00	100.00	0.00	0.00	0.00	
T	9.09	0.27	7.85	0.00	0.98	0.00	0.00	0.00	
R	26.75	0.00	3.52	1.25	0.00	0.00	0.00	0.00	31.52
I	84.87	0.00	11.17	3.97	0.00	0.00	0.00	0.00	3.87
I	4.29	0.00	2.10	53.19	0.00	0.00	0.00	0.00	
P	3.28	0.00	0.43	0.15	0.00	0.00	0.00	0.00	
P	155.07	3.40	38.09	0.00	0.00	0.00	0.00	0.00	196.56
P	78.89	1.73	19.38	0.00	0.00	0.00	0.00	0.00	24.13
P	24.87	26.65	22.70	0.00	0.00	0.00	0.00	0.00	
P	19.04	0.42	4.68	0.00	0.00	0.00	0.00	0.00	
U	41.03	4.91	6.92	0.00	0.00	0.00	0.00	0.00	52.86
R	77.62	9.29	13.09	0.00	0.00	0.00	0.00	0.00	6.49
R	6.58	38.48	4.12	0.00	0.00	0.00	0.00	0.00	
P	5.04	0.60	0.85	0.00	0.00	0.00	0.00	0.00	
163-	289.41	2.25	49.49	1.10	0.00	0.00	0.00	0.00	342.25
G	84.56	0.66	14.46	0.32	0.00	0.00	0.00	0.00	42.02
S	46.42	17.63	29.49	46.81	0.00	0.00	0.00	0.00	
S	35.54	0.28	6.08	0.14	0.00	0.00	0.00	0.00	
E	37.20	0.00	5.88	0.00	0.00	0.00	0.00	0.00	43.08
E	86.35	0.00	13.65	0.00	0.00	0.00	0.00	0.00	5.29
E	5.97	0.00	3.50	0.00	0.00	0.00	0.00	0.00	
E	4.57	0.00	0.72	0.00	0.00	0.00	0.00	0.00	
TOTAL	623.50	12.76	167.82	2.35	8.00	0.00	0.00	0.00	814.43
TOT %	76.56	1.57	20.61	0.29	0.98	0.00	0.00	0.00	

FORM NUMBER 6
EXIT ENT STATION 01 TO

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TOT %
	1	2	3	4	5	6	7	8		
1	96.49	4.81	71.87	0.00	8.00	0.00	0.00	0.00	181.17	
1	53.26	2.65	39.67	0.00	4.42	0.00	0.00	0.00	17.21	
T	11.98	16.14	36.08	0.00	100.00	0.00	0.00	0.00		
T	9.16	0.46	6.83	0.00	0.76	0.00	0.00	0.00		
R	27.99	0.00	3.52	1.25	0.00	0.00	0.00	0.00	32.76	
R	85.44	0.00	10.74	3.82	0.00	0.00	0.00	0.00	3.11	
I	3.48	0.00	1.77	14.69	0.00	0.00	0.00	0.00		
P	2.66	0.00	0.33	0.12	0.00	0.00	0.00	0.00		
3	155.07	3.40	38.09	0.00	0.00	0.00	0.00	0.00	196.56	
3	78.89	1.73	19.38	0.00	0.00	0.00	0.00	0.00	18.67	
P	19.25	11.41	19.12	0.00	0.00	0.00	0.00	0.00		
P	14.73	0.32	3.62	0.00	0.00	0.00	0.00	0.00		
U	111.86	18.24	14.22	6.16	0.00	2.00	0.00	0.00	152.48	
R	73.36	11.96	9.33	4.04	0.00	1.31	0.00	0.00	14.48	
R	13.89	61.21	7.14	72.39	0.00	100.00	0.00	0.00		
P	10.62	1.73	1.35	0.59	0.00	0.19	0.00	0.00		
16	371.82	3.35	65.59	1.10	0.00	0.00	0.00	0.00	441.86	
16	84.15	0.76	14.84	0.25	0.00	0.00	0.00	0.00	41.96	
S	46.16	11.24	32.93	12.93	0.00	0.00	0.00	0.00		
S	35.31	0.32	6.23	0.10	0.00	0.00	0.00	0.00		
E	42.22	0.00	5.88	0.00	0.00	0.00	0.00	0.00	48.10	
E	87.78	0.00	12.22	0.00	0.00	0.00	0.00	0.00	4.57	
	5.24	0.00	2.95	0.00	0.00	0.00	0.00	0.00		
	4.01	0.00	0.56	0.00	0.00	0.00	0.00	0.00		
TOTAL	805.45	29.80	199.17	8.51	8.00	2.00	0.00	0.00	1052.93	
TOT %	76.50	2.83	18.92	0.81	0.76	0.19	0.00	0.00		

FORM NUMBER = 6
INBOUND DIRECTION = 1 TO 1

INTERNAL END

RANGES	A	TOTAL
	A	TOT %
06	168.70	168.70
06	100.00	42.05
	42.05	
C	42.05	
I	27.82	27.82
07	100.00	6.93
T	6.93	
Y	6.93	
08	20.27	20.27
08	100.00	5.05
	5.05	
D	5.05	
E	58.78	58.78
09	100.00	14.65
S	14.65	
T	14.65	
09	25.78	25.78
I	100.00	6.43
I	6.43	
N	6.43	
11	30.75	30.75
11	100.00	7.66
Z	7.66	
Z	7.66	
O	20.34	20.34
12	100.00	5.07
N	5.07	
E	5.07	
S	48.75	48.75
13	100.00	12.15
	12.15	
	12.15	
TOTAL	401.19	401.19
TOT	100.00	

FORM NUMBER = 6
OUTBUUND DIRECTION = 5 TO 5

INTERNAL END

RANGES		TOTAL	TOT %
	6		
	6		
C	06 173.45	173.45	
	06 100.00	43.49	
	43.49		
	43.49		
I	07 30.54	30.54	
T	07 100.00	7.66	
	7.66		
Y	7.66		
O	08 16.40	16.40	
	08 100.00	4.11	
	4.11		
	4.11		
R	09 64.88	64.88	
I	09 100.00	16.27	
G	16.27		
I	10 20.89	20.89	
O	I 10 100.00	5.24	
	5.24		
N	5.24		
Z	11 33.23	33.23	
	11 100.00	8.33	
	8.33		
O	8.33		
N	12 24.29	24.29	
E	12 100.00	6.09	
	6.09		
S	13 35.14	35.14	
	13 100.00	8.81	
	8.81		
	8.81		
TOTAL	398.82		
TOT %	100.00		
		398.82	

	P.C.	CUM.	ACTUAL
0	6.744	6.744	70
1	2.505	9.249	26
2	0.000	9.249	0
3	0.289	9.538	3
4	0.000	9.538	0
5	0.000	9.538	0
6	0.482	10.019	5
7	11.464	21.484	119
8	1.830	23.314	19
9	60.790	84.104	631
10	2.119	86.224	22
11	1.252	87.476	13
12	0.963	88.439	10
13	0.482	88.921	5
14	0.963	89.884	10
15	2.794	92.678	29
16	2.794	95.472	29
17	0.000	95.472	0
18	0.000	95.472	0
19	0.289	95.761	3
20	0.096	95.857	1
21	0.096	95.954	1
22	0.096	96.050	1
23	0.096	96.146	0
24	0.000	96.146	0
25	0.000	96.146	0
26	0.096	96.243	1
27	0.193	96.435	2
28	0.000	96.435	0
29	0.000	96.435	0
30	0.000	96.435	0
31	0.096	96.532	1
32	0.096	96.628	1
33	0.193	96.821	2
34	0.000	96.821	0
35	0.578	97.399	6
36	0.000	97.399	0
37	0.096	97.495	1
38	0.000	97.495	0
39	0.000	97.495	0
40	0.096	97.592	1
41	0.096	97.688	1
42	0.193	97.881	2
43	0.000	97.881	0
44	0.000	97.881	0
45	0.193	98.073	2
46	0.000	98.073	0
47	0.000	98.073	0
48	0.096	98.170	1
49	0.193	98.362	2
50	0.482	98.844	5
51	0.385	99.229	4
52	0.193	99.422	2
53	0.096	99.518	1
54	0.096	99.615	1
55	0.096	99.711	1
56	0.000	99.711	0
57	0.000	99.711	0
58	0.096	99.807	1
59	0.000	99.807	0
60	0.000	99.807	0

63.	0.000	99.803
64.	0.000	99.807
65.	0.000	99.807
66.	0.000	99.807
67.	0.000	99.807
68.	0.000	99.807
69.	0.000	99.807
70.	0.000	99.807
71.	0.000	99.807
72.	0.000	99.807
73.	0.000	99.807
74.	0.000	99.807
75.	0.000	99.807
76.	0.000	99.807
77.	0.000	99.807
78.	0.096	99.904
79.	0.000	99.904
80.	0.000	99.904
81.	0.000	99.904
82.	0.000	99.904
83.	0.096	100.000

REMAINING VALUES ARE ALL ZERO

NUMBER OF OBSERVATIONS = 1038

SUM= 11291.

MEAN= 10.878

VAR=

65.587

SD= 8.099

TOTAL TRIPS OVER MAXP = 0

TOTAL TRIPS OVER 255 = 0

VOLUME TABLE NUMBER = 201

SKIM TREE NUMBER = 101

HIGHWAY LIBRARY
MICHIGAN DEPARTMENT OF STATE
HIGHWAYS
LANSING, MICH.
P. O. DRAWER "K" 48904

APPENDIX A
Interview and Classification
Forms

SINGLE VEHICLE SURVEY - D-100-D

DEPARTMENT OF STATE HIGHWAYS
TRANSPORTATION AND PLANNING

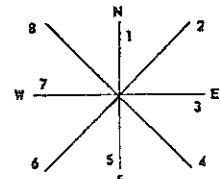
STA. LOCATION AND NUMBER

675

FORM NUMBER	4 1	COUNTY NUMBER 02 2 3	STATEWIDE NUMBER 0002 4 5 6 7	HOUR PERIOD ENDING	13 8 9	* DIREC- TION 3 10	DAY ** OF TRAVEL 4 11	MO. 08 12 13	DATE 11 14 15																																										
										WHERE IS VEHICLE GARAGED	TRIP PURPOSE	ROUTE OF EXIT OR ENT.																																							
INTERVIEW NUMBER	VEH TYPE	NO. VEH	ORIGIN Where did this trip begin?	DESTINATION Where will this trip end?	Co. or State	Co. or State																																													
109	2	4	COPPER HARB	TAHOONENON FAL				00024	4	23																																									
110	2	2	IRONWOOD	MACKINAC IS				00035	03																																										
111	2	5	PORCUPINE MTNS	CED				00033																																											
112	1	2	CALUMET	FLINT				00025	03																																										
113	1	2	PORCUPINE MTNS	ST IGNACE				00035	03																																										
114	1	6	CHASSILL	NCANTON				00025	03																																										
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67

▲ VEHICLE TYPE

1 PASSENGER CAR WITHOUT A TRAILER
2 PASSENGER CAR WITH A TRAILER
3 PANEL OR PICK-UP WITHOUT A TRAILER
4 PANEL OR PICK-UP WITH A TRAILER
5 OTHER SINGLE UNIT TRUCKS
6 COMBINATIONS & TRUCKS WITH TRAILERS



DAY OF TRAVEL **

SUNDAY	1	THURSDAY	5
MONDAY	2	FRIDAY	6
TUESDAY	3	SATURDAY	7
WEDNESDAY	4		

GARAGED

1 ORIGIN
2 DESTINATION
3 OTHER

▲ TRIP PURPOSE

1 WORK
2 PERS. BUSINESS
3 SHOPPING
4 VACATION
5 OTHER SOC. OR REC.
6 ALL OTHER

ROUTE M-28 LOCATION DESCRIPTION at N.E. of MUNISING CITY MUNISING

FORM	COUNTY	STATEWIDE STA. NO.		O-D STA. NO.	YEAR	MONTH	DATE	DAY	O-D CITY	TYPE	SEQ									
9	1	2	0	0	0	2	0	1	9	1	08	05	5							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

RECORDER

Beard

DO NOT ACCUMULATE

APPENDIX B
Vehicle Classification Count Listing

MANUAL CLASSIFICATION COUNTS

MUNISING

MON 8-9-71

INBOUND TO CORDON LINE 1.

STA 1 2

ENDING TIME	PASS TRL	CAR TRL	PL-PU TRL	UNDER 1 TRL	S.U. TRL	ALL TRL	ALL CMB	MTR CYCL	MUNISING		MON 8-9-71				TOTAL	
									STA	1	2					
1	13.	0.	2.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	21.
2	15.	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	17.
3	5.	1.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.
4	7.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.
5	7.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	8.
6	11.	1.	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	16.
7	22.	3.	8.	1.	2.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	38.
8	27.	5.	8.	1.	5.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	47.
9	59.	9.	9.	1.	8.	2.	0.	1.	0.	0.	0.	0.	0.	0.	0.	89.
10	180.	20.	7.	3.	7.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	140.
11	125.	36.	18.	4.	13.	5.	0.	2.	0.	0.	0.	0.	0.	0.	0.	203.
12	137.	37.	14.	1.	4.	3.	1.	6.	0.	0.	0.	0.	0.	0.	0.	203.
13	118.	18.	6.	1.	8.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	153.
14	180.	20.	10.	1.	7.	1.	1.	2.	0.	0.	0.	0.	0.	0.	0.	202.
15	158.	26.	16.	2.	6.	2.	0.	2.	0.	0.	0.	0.	0.	0.	0.	212.
16	178.	26.	15.	3.	7.	3.	0.	1.	0.	0.	0.	0.	0.	0.	0.	233.
17	148.	21.	11.	1.	11.	2.	0.	1.	0.	0.	0.	0.	0.	0.	0.	195.
18	136.	7.	10.	0.	8.	2.	0.	1.	0.	0.	0.	0.	0.	0.	0.	164.
19	167.	8.	12.	1.	3.	0.	0.	2.	0.	0.	0.	0.	0.	0.	0.	133.
20	96.	4.	9.	0.	6.	1.	1.	3.	0.	0.	0.	0.	0.	0.	0.	120.
21	95.	3.	12.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	110.
22	69.	1.	3.	0.	2.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	76.
23	79.	1.	4.	0.	2.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	87.
24	48.	2.	3.	0.	0.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	56.
TOT	1926.	249.	182.	41.	99.	35.	4.	23.	0.	0.	0.	0.	0.	0.	0.	2539.

1731

MANUAL CLASSIFICATION COUNTS

MUNISING

MON 8- 9-71

OUTBOUND OD CORDON LINE 2.

STA 2

ENDING TIME	PASS	CAR	PL-PU	UNDER	1	OTHER	ALL	ALL	MTR													TOTAL
	W-U	W-	W-U	W-	S.U.	TRL	TRK	BUS	CYCL													
TIME	TRL	TRL	TRL	TRL	TRL	TRL	TRL	TRL	TRL													
1	18.	0.	1.	0.	0.	1.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	22.
2	19.	0.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	22.
3	16.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	17.
4	4.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.
5	8.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	10.
6	9.	0.	5.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	15.
7	31.	0.	10.	0.	4.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	46.
8	69.	7.	7.	1.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	86.
9	94.	13.	7.	1.	3.	2.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	122.
10	112.	14.	9.	2.	10.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	150.
11	124.	17.	11.	1.	9.	3.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	167.
12	158.	31.	18.	2.	5.	3.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	219.
13	136.	21.	10.	2.	9.	4.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	183.
14	147.	21.	9.	2.	2.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	182.
15	156.	22.	16.	3.	12.	2.	1.	4.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	196.
16	144.	24.	14.	1.	11.	1.	0.	5.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	200.
17	138.	12.	13.	0.	9.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	174.
18	125.	12.	9.	0.	4.	0.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	152.
19	89.	5.	9.	1.	5.	0.	0.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	112.
20	76.	6.	9.	1.	4.	0.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	98.
21	64.	1.	7.	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	94.
22	57.	1.	6.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	64.
23	60.	0.	5.	0.	0.	2.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	68.
24	29.	1.	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	34.
TOT	1883.	208.	184.	17.	91.	26.	3.	26.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2438.

1741

MANUAL CLASSIFICATION COUNTS

MUNISING

MON 8-9-71

TOTAL DD CORDON LINE 9.

STA

2

ENDING TIME	PASS	CAR	PL	PU	UNDER 1	OTHER	ALL	ALL	MTR	TOTAL
	W-1	W-	W-U	W-	S.U.	TRL	TRL	BUS	CYCL	
1	36.	0.	3.	0.	0.	1.	1.	2.	0.	43%
2	34.	0.	4.	0.	0.	0.	0.	0.	0.	39%
3	22.	1.	1.	1.	0.	0.	0.	0.	0.	25%
4	11.	0.	1.	0.	0.	0.	1.	0.	0.	13%
5	15.	0.	2.	0.	0.	1.	0.	0.	0.	18%
6	20.	1.	8.	0.	0.	2.	0.	0.	0.	31%
7	53.	3.	18	1.	6.	3.	0.	0.	0.	84%
8	96.	12.	15.	2.	7.	1.	0.	0.	0.	133%
9	153.	22.	16.	2.	11.	4.	0.	3.	0.	211%
10	212.	34.	16.	5.	17.	6.	0.	0.	0.	290%
11	249.	53.	29.	5.	22.	8.	1.	3.	0.	370%
12	285.	68.	32.	3.	9.	6.	1.	8.	0.	422%
13	254.	39.	16.	3.	17.	6.	0.	1.	0.	336%
14	317.	41.	19.	3.	9.	1.	1.	3.	0.	384%
15	284.	48.	32.	3.	18.	4.	1.	6.	0.	408%
16	322.	50.	29.	4.	18.	4.	0.	6.	0.	433%
17	286.	33.	24.	1.	20.	4.	0.	1.	0.	369%
18	241.	19.	19.	0.	12.	2.	1.	2.	0.	316%
19	196.	13.	21.	2.	8.	0.	0.	5.	0.	245%
20	172.	10.	18.	1.	10.	1.	1.	5.	0.	218%
21	179.	4.	19.	0.	2.	0.	0.	0.	0.	204%
22	126.	2.	9.	0.	2.	0.	0.	1.	0.	140%
23	139.	1.	9.	0.	2.	3.	0.	1.	0.	155%
24	77.	3.	6.	0.	0.	4.	0.	0.	0.	90%
TOT	3809.	457.	366.	38.	190.	61.	7.	49.	0.	4977%

MANUAL CLASSIFICATION COUNTS

MUNISING

WED 8-11-71

MANUAL CLASSIFICATION COUNTS

MUNISING

WED 6-11-71

DD CORDON LINE 2+

STA 13

ENDING TIME	PASS	CAR	PL-PU	UNDER 1	OTHER	ALL	ALL	MTR	TOTAL
	W=0	W=0	W=0	W=0	S.U.	TRL	TRK	BUS	
TRL	TRL	TRL	TRL	TRL	TRL	CMB			
1	4.	0.	3.	0.	0.	1.	0.	0.	8.
2	4.	0.	0.	0.	0.	0.	0.	0.	4.
3	1.	0.	1.	0.	0.	1.	0.	0.	3.
4	1.	0.	0.	0.	0.	0.	0.	0.	1.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	3.	0.	1.	0.	0.	1.	0.	0.	5.
7	17.	0.	7.	0.	1.	0.	0.	0.	25.
8	16.	1.	3.	0.	1.	3.	0.	0.	24.
9	25.	3.	5.	0.	1.	0.	0.	0.	34.
10	32.	3.	6.	1.	4.	1.	0.	0.	47.
11	35.	2.	4.	0.	3.	1.	0.	0.	45.
12	31.	2.	3.	0.	5.	3.	0.	0.	44.
13	33.	1.	8.	0.	0.	3.	0.	0.	45.
14	44.	1.	6.	1.	0.	0.	0.	0.	52.
15	54.	5.	7.	2.	5.	0.	0.	0.	73.
16	42.	4.	5.	0.	5.	0.	0.	0.	56.
17	37.	2.	0.	2.	0.	2.	0.	0.	46.
18	42.	1.	6.	0.	3.	0.	1.	0.	53.
19	44.	2.	7.	0.	1.	1.	0.	0.	58.
20	23.	0.	9.	0.	0.	2.	0.	0.	34.
21	20.	2.	4.	0.	0.	0.	0.	0.	26.
22	13.	0.	5.	0.	0.	4.	0.	0.	22.
23	18.	0.	1.	0.	0.	1.	0.	0.	20.
24	10.	0.	1.	0.	0.	1.	0.	0.	12.
TOT	549.	29.	92.	6.	29.	25.	0.	7.	737.

MANUAL CLASSIFICATION COUNTS

MUNISING

WED 8-11-71

OD CORDON LINE 9.

STA

13

ENDING TIME	PASS	CAR	PL-PU	UNDER 1	OTHER	ALL	MTR	TOTAL	
	W-O	W-	W-U	W-	S.U.	TRK	ALL BUS	CYCL	
TRL	TRL	TRL	TRL	TRL	TRL	CMB			
1	8.	0.	4.	0.	0.	3.	0.	0.	15.
2	6.	0.	1.	0.	0.	0.	0.	0.	7.
3	2.	0.	2.	0.	0.	1.	0.	0.	5.
4	1.	0.	0.	0.	0.	0.	0.	0.	1.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	6.	0.	2.	0.	0.	1.	0.	0.	9.
7	29.	0.	10.	0.	1.	1.	0.	0.	41.
8	25.	1.	7.	0.	2.	6.	0.	0.	41.
9	43.	4.	14.	1.	2.	4.	0.	0.	68.
10	52.	5.	12.	1.	5.	1.	0.	0.	76.
11	57.	5.	8.	2.	3.	2.	0.	0.	77.
12	57.	6.	6.	0.	7.	5.	0.	0.	81.
13	60.	2.	12.	0.	1.	8.	0.	0.	83.
14	77.	3.	10.	1.	1.	2.	0.	0.	95.
15	93.	8.	13.	3.	7.	0.	0.	0.	124.
16	91.	7.	11.	1.	7.	1.	0.	0.	121.
17	79.	6.	6.	2.	3.	4.	0.	0.	104.
18	87.	3.	15.	0.	3.	4.	0.	0.	113.
19	76.	4.	11.	0.	1.	5.	0.	0.	100.
20	53.	1.	12.	0.	1.	2.	0.	0.	70.
21	43.	2.	8.	1.	0.	2.	0.	0.	56.
22	30.	0.	9.	0.	5.	0.	0.	0.	44.
23	32.	0.	1.	0.	0.	2.	0.	0.	35.
24	14.	0.	1.	0.	0.	1.	0.	0.	16.
TOT.	1021.	57.	175.	12.	44.	60.	0.	0.	1382.

MANUAL CLASSIFICATION COUNTS

MUNISING

FBI 7-16-71

MANUAL CLASSIFICATION COUNTS

MUNISING

FRI 7-16-71

MANUAL CLASSIFICATION COUNTS

MUNISING

FRI 7-16-71

ENDING TIME	OD CORDON LINE 9.										STA 14		TOTAL
	PASS	CAR	PL-PU	UNDER 1	OTHER	ALL	ALL	HTR					
W-D	W-U	n=	S.U.	TRL	TRK	BUS	CYCL						
TIME	TRL	TRL	TRL	TRL	TRL	CMB							
1	10.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	10.
2	5.	0.	4.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.
3	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	3.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.
7	24.	0.	8.	0.	0.	0.	0.	0.	0.	0.	0.	0.	32.
8	21.	0.	6.	0.	3.	1.	0.	0.	0.	0.	0.	0.	31.
9	26.	0.	4.	0.	2.	1.	0.	0.	0.	0.	0.	0.	33.
10	46.	4.	12.	1.	2.	1.	0.	0.	0.	0.	0.	0.	66.
11	68.	0.	15.	0.	6.	0.	0.	0.	0.	0.	0.	0.	98.
12	58.	4.	17.	0.	6.	0.	0.	0.	0.	0.	0.	0.	95.
13	73.	5.	14.	0.	2.	1.	0.	2.	0.	0.	0.	0.	97.
14	119.	9.	13.	1.	7.	2.	0.	0.	0.	0.	0.	0.	151.
15	100.	13.	13.	0.	10.	1.	0.	1.	0.	0.	0.	0.	138.
16	107.	2.	13.	0.	8.	0.	0.	0.	0.	0.	0.	0.	130.
17	129.	3.	19.	1.	5.	0.	0.	1.	0.	0.	0.	0.	158.
18	106.	6.	10.	2.	4.	2.	0.	0.	0.	0.	0.	0.	130.
19	105.	1.	10.	0.	3.	0.	0.	1.	0.	0.	0.	0.	120.
20	74.	2.	11.	1.	1.	0.	0.	0.	0.	0.	0.	0.	89.
21	96.	1.	6.	0.	0.	0.	0.	0.	0.	0.	0.	0.	103.
22	49.	1.	7.	0.	0.	0.	0.	0.	0.	0.	0.	0.	57.
23	29.	0.	6.	0.	0.	0.	0.	0.	0.	0.	0.	0.	35.
24	30.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	32.
TOT	1289.	61.	190.	6.	59.	9.	0.	5.	0.	0.	0.	0.	1619.

MANUAL CLASSIFICATION COUNTS

MUNISING

TUES 8-10-71

MANUAL CLASSIFICATION COUNTS

MUNISING

TUES 8-10-71

OD CORDON LINE 2.

STA

33

MANUAL CLASSIFICATION COUNTS

MUNISING

TUES 8-10-71

OD CORDON LINE 9.

STA 33

MANUAL CLASSIFICATION COUNTS

MUNISING

FRI 7-16-71

OD CORDON LINE 1.

51A

36

MANUAL CLASSIFICATION COUNTS

MUNISING

FRI 7-16-71

OD CORDON LINE 2.

STA 36

MANUAL CLASSIFICATION COUNTS

MUNISING

FRI 7-16-71

UD CORDON LINE 9.

STA 36

ENDING TIME	PASS	CAR	PL-PU	UNDER 1	OTHER	ALL	ALL	MTR	TOTAL
	W-U	W-	W-U	%	S.U.	TRK	BUS	CYCL	
TRL	TRL	TRL	TRL	TRL	TRL	TRL	TRL		
1	3.	0.	3.	0.	0.	0.	0.	0.	6.
2	1.	0.	0.	0.	0.	0.	0.	0.	1.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	2.	1.	0.	0.	0.	0.	0.	0.	3.
5	1.	0.	0.	0.	0.	0.	0.	0.	1.
6	4.	0.	4.	0.	1.	0.	0.	0.	9.
7	11.	1.	5.	0.	0.	0.	0.	0.	17.
8	8.	0.	7.	0.	9.	1.	0.	0.	25.
9	19.	2.	5.	0.	9.	0.	0.	0.	35.
10	35.	3.	17.	0.	7.	0.	0.	0.	62.
11	52.	1.	12.	0.	8.	0.	1.	0.	74.
12	55.	3.	8.	2.	10.	1.	0.	0.	80.
13	56.	4.	7.	3.	4.	0.	0.	0.	75.
14	74.	3.	17.	2.	6.	0.	1.	0.	103.
15	70.	2.	17.	0.	9.	0.	0.	0.	99.
16	61.	3.	14.	0.	8.	2.	1.	0.	90.
17	69.	3.	20.	1.	2.	0.	0.	0.	96.
18	49.	2.	22.	0.	2.	0.	2.	0.	77.
19	57.	0.	10.	0.	0.	0.	1.	0.	68.
20	37.	0.	13.	0.	2.	0.	0.	0.	52.
21	40.	1.	7.	0.	1.	0.	0.	0.	50.
22	45.	0.	6.	0.	1.	0.	0.	0.	52.
23	28.	0.	5.	0.	1.	0.	0.	0.	34.
24	29.	0.	2.	0.	1.	0.	0.	0.	32.
TOT	806.	29.	201.	8.	81.	4.	3.	9.	1141.