

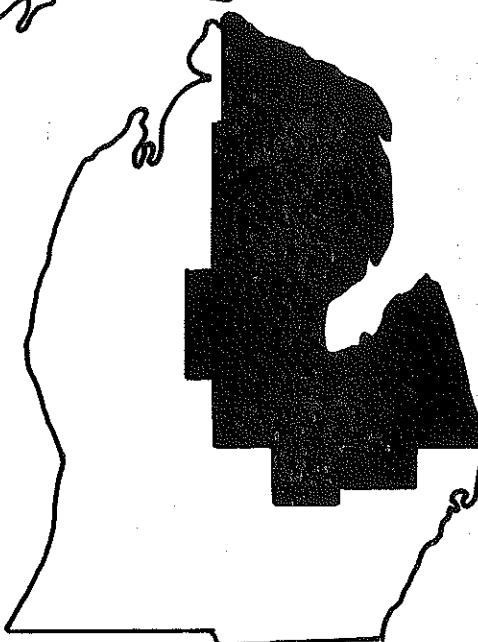
HE
370
.075
G7
1974

MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION

GRAYLING 1972
EXTERNAL
ORIGIN DESTINATION
SURVEY

FACTUAL DATA REPORT

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



MICHIGAN DEPARTMENT
OF
STATE HIGHWAYS AND TRANSPORTATION

GRAYLING 1972
EXTERNAL
ORIGIN DESTINATION
SURVEY

FACTUAL DATA REPORT

HIGHWAY LIBRARY
MICHIGAN DEPARTMENT OF STATE
HIGHWAYS

LANSING, MICH.

P. O. DRAWER "K" 48904

STATE HIGHWAY COMMISSION

E. V. Erickson
Chairman

Peter B. Fletcher

Charles H. Hewitt
Vice Chairman

Carl V. Pellonpaa

DIRECTOR

John P. Woodford

HIGHWAY COMMISSION
E. V. ERICKSON
CHAIRMAN
CHARLES H. HEWITT
VICE CHAIRMAN
PETER B. FLETCHER
CARL V. PELLONPAA

STATE OF MICHIGAN



WILLIAM G. MILLIKEN, GOVERNOR

DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION

STATE HIGHWAYS BUILDING - POST OFFICE DRAWER K - LANSING, MICHIGAN 48904

JOHN P. WOODFORD, DIRECTOR

March 27, 1974

Mr. Sam F. Cryderman
Deputy Director
Bureau of Transportation Planning
Michigan Department of State Highways
and Transportation
Lansing, Michigan

Dear Mr. Cryderman:

Documented in this report are the results of the 1972 Grayling External Origin Destination Survey. Included are tables, maps and summaries of data obtained during the survey.

This report was prepared by Transportation Analyst Robert M. Kirkbride with the assistance of Michael DeMott. Both are under the supervision of Maynard A. Christensen of the East Multi-Regional Section.

Sincerely,

A handwritten signature in cursive ink that reads "Keith E. Bushnell".

Keith E. Bushnell, Administrator
Multi-Regional Planning Division



TABLE OF CONTENTS

	<u>PAGE</u>
Survey Area.	1
Terminology and Definitions.	3
Field Procedure.	4
All Stations	9
Station 1 I-75BL and M-93 S. of Lewiston Road	17
Station 2 North Down River Road W. of I-75.	26
Station 3 M-72 E. of I-75	35
Station 4 I-75BL N. of Jct. I-75.	44
Station 5 M-72/M-93 E. of Pine Point Road	53

Appendix A

General Purpose Summaries

Trip Length Frequency Distribution Graphs

Appendix B

Interview Form

Manual Classification Form

LIST OF TABLES

<u>TABLE</u>		<u>PAGE</u>
1	External Stations	5
2	Internal Analysis Zones	6
3	Grayling All Station Trips	11
4	Total Station Terminal Trips	12
5	Total Station Trip Lengths	14
6	Station 1 Trips by Vehicle Type and Purpose	19
7	Station 1 Terminal Trips	20
8	Station 1 Through Trips	22
9	Station 1 Trip Lengths	24
10	Station 2 Trips by Vehicle Type and Purpose	28
11	Station 2 Terminal Trips	29
12	Station 2 Through Trips	31
13	Station 2 Trip Lengths	33
14	Station 3 Trips by Vehicle Type and Purpose	37
15	Station 3 Terminal Trips	38
16	Station 3 Through Trips	40
17	Station 3 Trip Lengths	42
18	Station 4 Trips by Vehicle Type and Purpose	46
19	Station 4 Terminal Trips	47
20	Station 4 Through Trips	49
21	Station 4 Trip Lengths	51
22	Station 5 Trips by Vehicle Type and Purpose	55
23	Station 5 Terminal Trips	56
24	Station 5 Through Trips	58
25	Station 5 Trip Lengths	60

LIST OF FIGURES

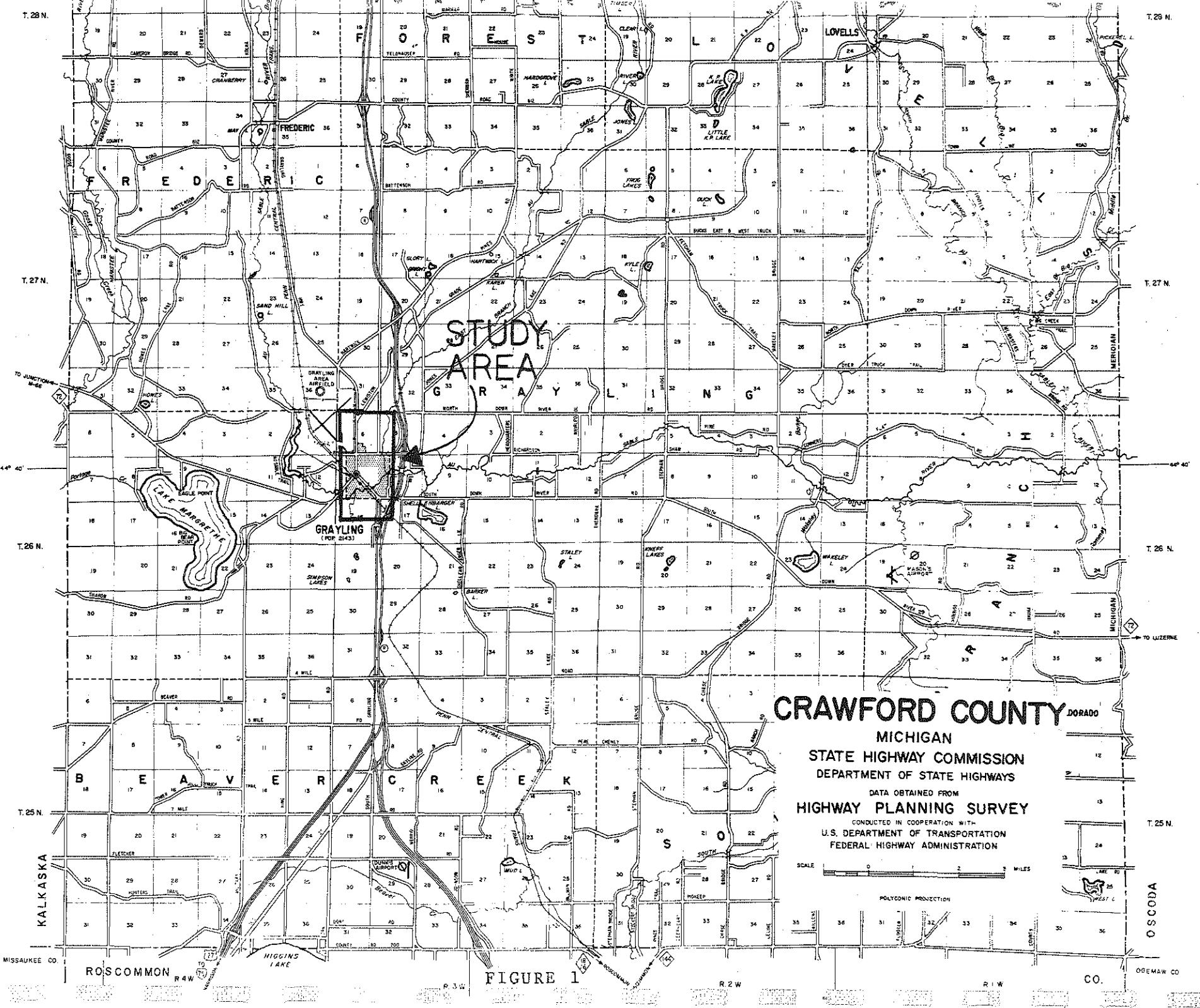
<u>FIGURE</u>		<u>PAGE</u>
1	Study Area	2
2	Station and Zone Map	8
3	Total Station Terminal Trips	13
4	Total Station Distribution of Trip Ends by County	15
5	Selected Traffic Counts	16
6	Station 1 Terminal Trips	21
7	Station 1 Through Trips	23
8	Station 1 Distribution of Trip Ends by County	25
9	Station 2 Terminal Trips	30
10	Station 2 Through Trips	32
11	Station 2 Distribution of Trip Ends by County	34
12	Station 3 Terminal Trips	39
13	Station 3 Through Trips	41
14	Station 3 Distribution of Trip Ends by County	43
15	Station 4 Terminal Trips	48
16	Station 4 Through Trips	50
17	Station 4 Distribution of Trip Ends by County	52
18	Station 5 Terminal Trips	57
19	Station 5 Through Trips	59
20	Station 5 Distribution of Trip Ends by County	61

Survey Area

Grayling, with a population of over 2,100 serves as the county seat for Crawford County. Located in the north central part of the lower peninsula 200 miles from Detroit and less than 85 miles from the Straits of Mackinac, this community is probably the best known for Camp Grayling home of the Michigan National Guard.

Canoeing along the Au Sable River is also a trademark of this area with Grayling serving as the jumping off point for many individuals and the site of the annual Au Sable Canoe race. Other major activities of the area generally contribute to one of Grayling's more important industries--tourism.

The area is served by three state trunklines; I-75, M-72 and M-93. M-93 is a short facility providing service to the Michigan National Guard reservation to the southwest and to Hartwick Pines State Park to the northwest. M-72 primarily provides east-west service. By far the most important route for the area is I-75 providing accessibility for residents of the state's population centers to Grayling and the Upper Peninsula.



TERMINOLOGY AND DEFINITIONS

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

External Station: A point on a highway at the limits of the study area (Cordon Line) where drivers of vehicles are stopped and interviewed.

Study Area: The area enclosed by the Cordon Line.

Origin: The place where a trip begins.

Destination: The place where a trip ends.

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

Trip: One-way travel between an Origin and Destination.

Terminal Trip: A trip with one end outside the study area and the other end inside the study area. (Beginning or ending at one of the internal analysis zones.)

Through Trip: A trip passing through the study area. (Both ends of the trip outside the Cordon Line.)

FIELD PROCEDURE

Field work for the Grayling External Origin Destination Survey was conducted during June and July, 1972. The purpose of the survey was to gather data regarding the movement of individuals by motor vehicle through, into, and out of the study area.

Interview stations were established on all important routes leading into Grayling. In all, five stations were operated. Each station was operated for fourteen hours. During the hours of operation, vehicles were stopped and drivers interviewed regarding the origin, destination and purpose of the trip. Manual Vehicle Classification counts were taken in conjunction with interviews and the remainder of a 24 hour day.

Both inbound and outbound vehicles were interviewed and responses recorded at each station for each hour period by direction.

In addition the study area was sub-divided into analyses zones based generally on homogenous land uses. Each trip inbound or outbound from these zones was recorded according to a previously assigned unique abbreviation.

Sample interview forms for both interviews and Manual Vehicle Classification appear in Appendix B.

TABLE 1
GRAYLING
EXTERNAL ORIGIN DESTINATION SURVEY

EXTERNAL STATIONS

<u>STATION NO.</u>	<u>LOCATION</u>
1	I-75 & M-93, S. OF LEWISTON RD.
2	N. DOWN RIVER RD., W. OF I-75
3	M-72, E. OF I-75 OVERPASS
4	I-75 BL, N. OF JCT. I-75 & I-75 BL
5	M-72 & M-93, E. OF PINE POINT RD.

TABLE 2

GRAYLING
EXTERNAL ORIGIN DESTINATION SURVEY

ANALYSIS ZONES

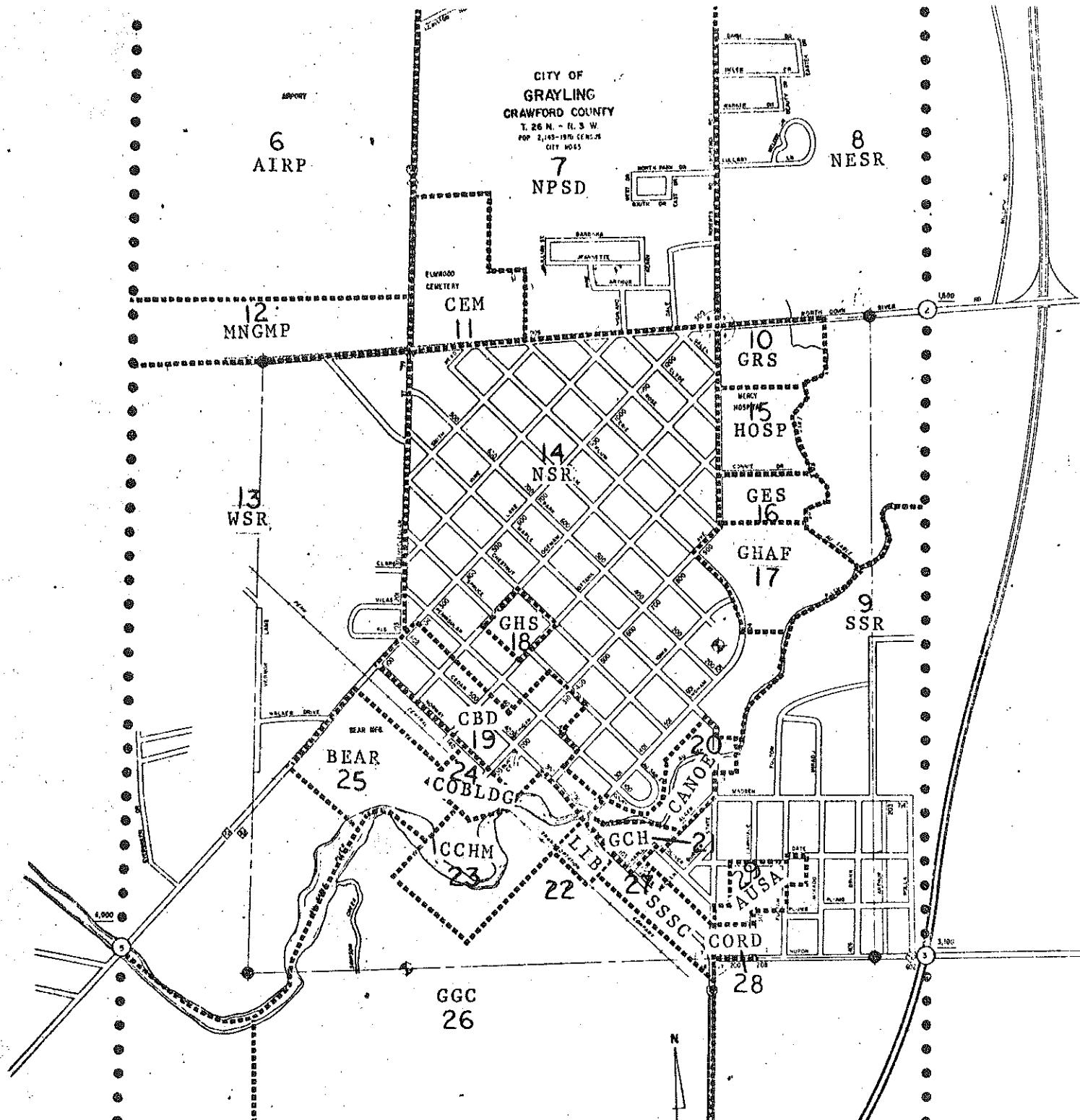
<u>ZONE NO.</u>	<u>ABBREVIATION</u>	<u>DESCRIPTION</u>
6	AIRP	AIRPORT
7	NPSD	NORTH PARK SUB-DIVISION
8	NESR	NORTHEAST SIDE RESIDENTIAL
9	SSR	SOUTHSIDE RESIDENTIAL
10	GRS	GRAYLING RESEARCH STATION
11	CEM	CEMETERY
12	MNGMP	MICHIGAN NATIONAL GUARD MOTOR POOL
13	WSR	WESTSIDE RESIDENTIAL
14	NSR	NORTHSIDE RESIDENTIAL
15	HOSP	HOSPITAL
16	GES	GRAYLING ELEMENTARY SCHOOL
17	GHAF	GRAYLING HIGH SCHOOL ATHLETIC FIELD
18	GHS	GRAYLING HIGH SCHOOL
19	CBD	CENTRAL BUSINESS DISTRICT
20	CANOE	CANOE LIVERIES
21	GCH	GRAYLING CITY HALL
22	LIB	LIBRARY
23	CCHM	CRAWFORD COUNTY HISTORICAL MUSEUM
24	COBLDG	COUNTY BUILDING
25	BEAR	BEAR MANUFACTURING CO.
26	GGC	GRAYLING GOLF COURSE
27	SSSC	SOUTHSIDE SHOPPING CENTER

GRAYLING
EXTERNAL ORIGIN DESTINATION SURVEY

ANALYSIS ZONES (CONTINUED)

<u>ZONE NO</u>	<u>ABBREVIATION</u>	<u>DESCRIPTION</u>
28	CORD	COUNTY ROAD COMMISSION
29	AUSA	AUSAGA ACRES
30	SWSR	SOUTHWEST SIDE RESIDENTIAL

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



INTERNAL ANALYSIS ZONES

- ● ● CORDON LINE
- ZONE LIMITS
- (6) STATION NUMBERS
- 1/24 24 HOUR VOLUMES
- 2 STATIONS NOT OPERATED

FIGURE 2

ALL STATIONS

Interviews were conducted for the Grayling External Origin Destination Survey on a June and July 1972 weekday. A total of 24,769 vehicles passed through all stations. Of this number 13,990 were stopped and interviewed yielding an areawide interview rate of 56.48%. Due to conventions of computer programs used to process and expand interview data, as explained in footnotes to Table 3, trips as discussed in ensuing paragraphs will slightly overstated.

After expansion there were 24,828 all station vehicle trips. As can be seen in Table 3, 21,359 or 86.03% of these trips utilized state trunklines with the remainder passing through station 2.

Traffic was categorized as terminal or through, with the former constituting 57.42% and the latter 42.58% of all vehicle trips. However, since a through trip is counted at both the station of entrance and exit, in order to determine total trips it was necessary to half-factor all through trips to adjust for this double counting. When considered in this light, terminal trips account for 72.95% of all trips and through trips 27.05%.

Nearly 66% of all station terminal trips interchanged with one of three internal analysis zones. Zone 19 (CBD) accounted for 36.65%, Zone 27 (SSSC) 17.72%, and Zone 14 (NSR) 11.33%. Table 4 presents a list of all station terminal trips by zone with terminal trips superimposed.

Utilizing the Statewide Traffic Forecasting Model and data from the Grayling Study, it was possible to compute the lengths of trips for all stations combined. Table 5 lists the trip lengths

which were developed. Through trips have been half-factored. As can be seen over 47% of all trips have a duration of 20 minutes or less with 67.75% occurring within an hour of Grayling. The longest trip was 16 hours 40 minutes with the average trip length 1 hour 23 minutes.

The distribution of all station trip ends by county is presented in Figure 4. Every county in the state had some impact on trip making in the Grayling area. However, those counties immediately adjacent to and including Crawford County constitutes 77.88% of the total. Crawford County alone accounted for 62.91%.

Figure 5 presents a schematic display of 24 hour traffic counts conducted inside the study area during the survey period.

TABLE 3
ALL STATION TRIPS

<u>Station</u>	¹ <u>24-Hour Traffic Counts</u>	<u>14-Hour Interviews</u>	<u>Percent Interviewed</u>	² <u>Vehicle Trips</u>	<u>Percent of Total Traffic</u>
1	3646	2275	62.40	3661	14.75
2	3538	2511	70.97	3469	13.97
3	2640	2100	79.55	2653	10.69
4	7210	3216	44.60	7322	29.49
5	<u>7735</u>	<u>3888</u>	<u>50.27</u>	<u>7723</u>	<u>31.10</u>
Totals	24769	13990	56.48	24828	100.00

<u>Station</u>	² <u>Vehicle Trips</u>	<u>Terminal Trips</u>	<u>% of Total</u>	<u>Through Trips</u>	<u>% of Total</u>
1	3661	2372	64.79	1289	35.21
2	3469	2377	68.52	1092	31.48
3	2653	1713	64.57	940	35.43
4	7322	3253	44.43	4069	55.57
5	<u>7723</u>	<u>4542</u>	<u>58.81</u>	<u>3181</u>	<u>40.98</u>
Vehicle Trips	24828	14257	57.42	10571	42.58
Total Trips	19543	14257	72.95	³ 5286	27.05

¹ Motorcycles and busses, although counted, were not interviewed and do not appear in this column. Listed below are the totals of these vehicle types counted at each station.

Station	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>Totals</u>
	41	29	14	31	51	166

² Due to the conventions of certain computer programs, expanded vehicle trips do not necessarily correspond exactly with 24-hour traffic counts.

³ A through trip is counted both at the station of entrance and exit. To adjust for this double counting it was necessary to half-factor through trip records.

TABLE 4

TOTAL AREA TERMINAL TRIPS

<u>Zone</u>	<u>Origin</u>	<u>Destination</u>	<u>Total</u>	<u>Percent of Total</u>
6	91	112	203	1.42
7	269	202	471	3.30
8	47	50	97	.68
9	500	488	988	6.93
10	98	118	216	1.52
11	4	10	14	.10
12	66	75	141	.99
13	262	258	520	3.65
14	832	784	1616	11.33
15	260	327	587	4.12
16	20	29	49	.34
17	2	20	22	.15
18	68	62	130	.92
19	2417	2809	5226	36.65
20	73	121	194	1.36
21	30	41	71	.50
22	7	6	13	.09
23	4	2	6	.04
24	89	111	200	1.40
25	263	244	507	3.56
26	28	35	63	.44
27	1421	1105	2526	17.72
28	108	134	242	1.70
29	23	31	54	.38
30	54	47	101	.71
TOTAL	7036	7221	14257	100.0

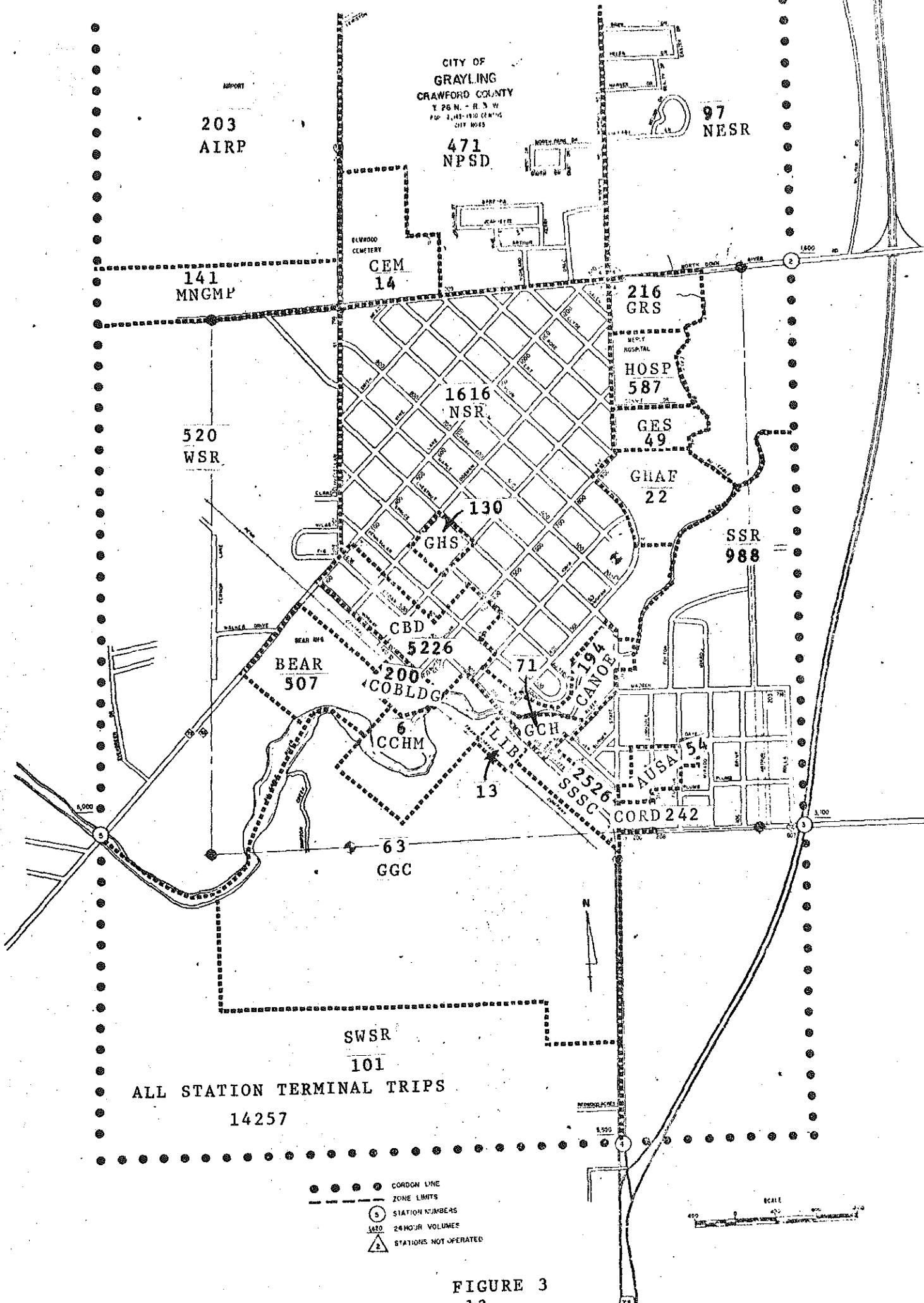


TABLE 5

ALL STATIONS
TRIP LENGTHS

<u>Minutes</u>	<u>Trips</u>	<u>Percent of Total</u>
1-20	9360	47.28
20-40	3460	17.47
40-60	594	3.00
60-90	1239	6.26
90-120	656	3.31
120-180	1267	6.40
180-240	1118	5.63
240-300	1093	5.51
300-1000	<u>1022</u>	<u>5.14</u>
	19809	100.00

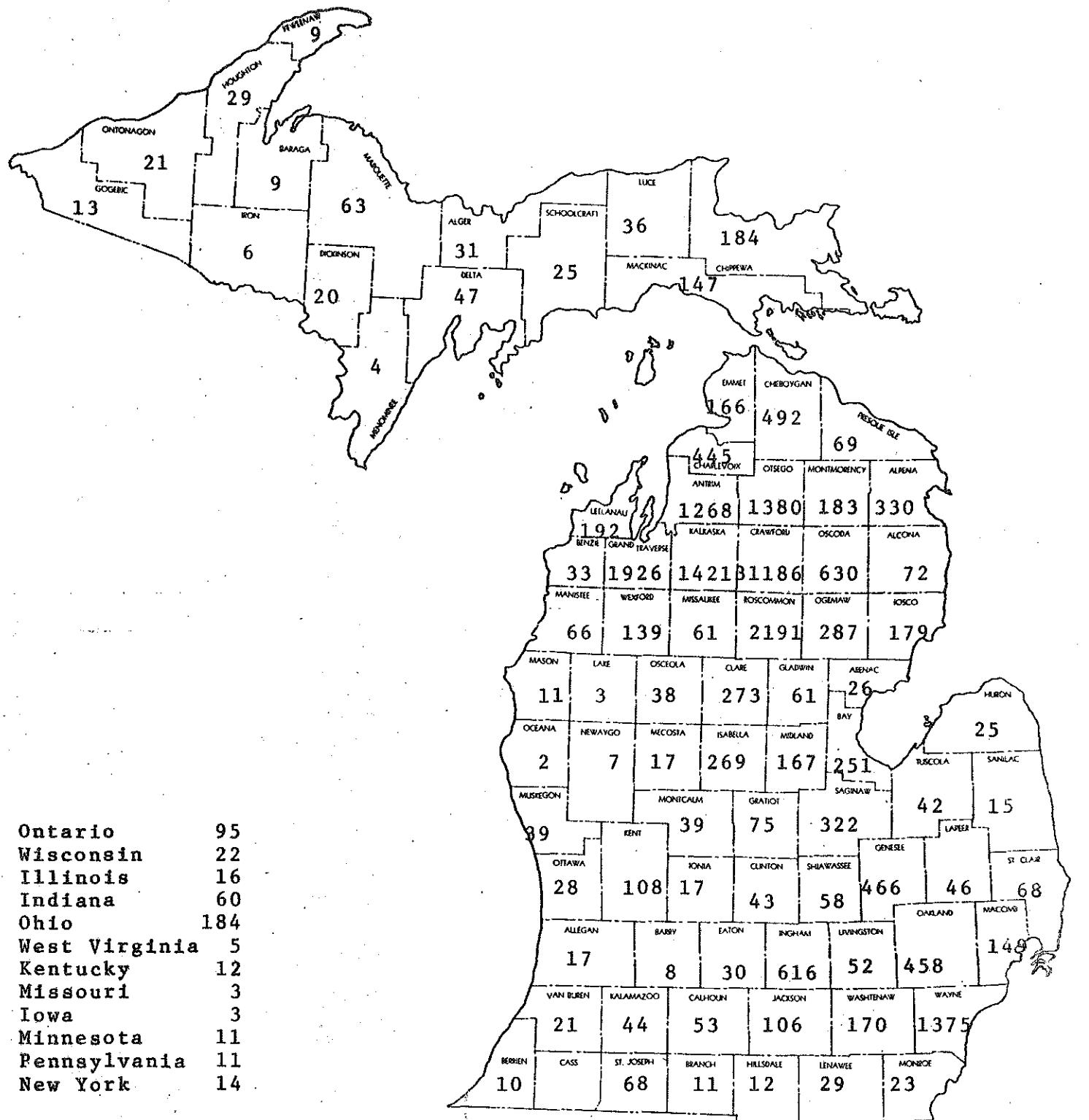
Longest Trip Length = 16 hours 40 minutes

Average Trip Length = 1 hour 23 minutes

GRAYLING EXTERNAL ORIGIN DESTINATION SURVEY

ALL STATIONS

DISTRIBUTION OF TRIP ENDS BY COUNTY



Total Trip Ends 49572
Total Trips 24786

FIGURE 4

**CITY OF
GRAYLING
CRAWFORD COUNTY
T28N-R3W
POP. 2,143-1970 CENSUS
STREET SYSTEMS**

**EXTERNAL
ORIGIN & DESTINATION
STUDY
JULY 1972**

24 HOUR TRAFFIC COUNTS

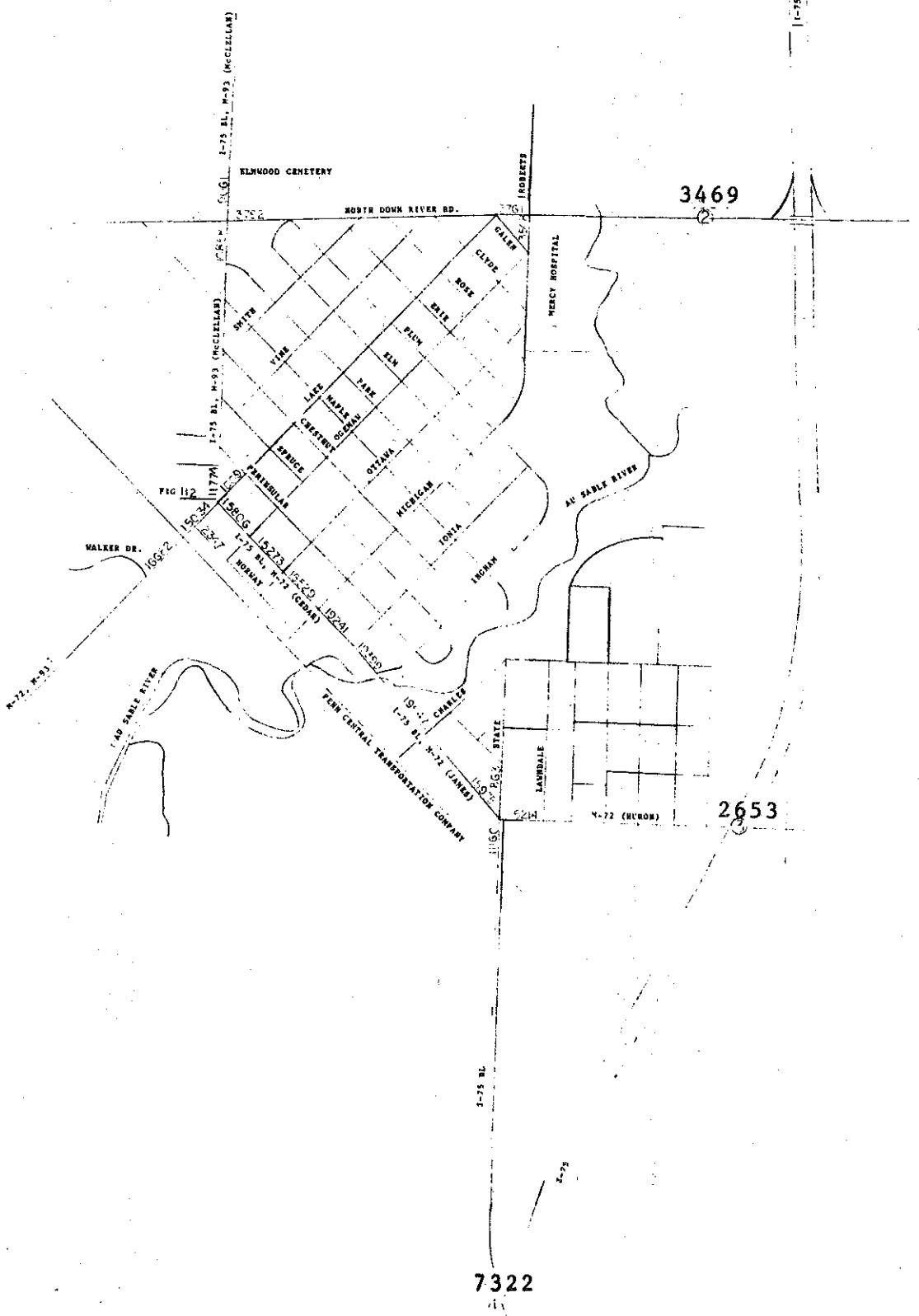


FIGURE 5

STATION 1

Station 1 was located on I-75BL/M-93 south of Lewiston Road. Total vehicle trips at this location (3661) represents 14.75% of all station trips for the Grayling Study area. The greatest proportion of these trips were terminal (64.79%) with the remainder being through. Terminal and through trips at this location represents 16.64% and 12.19%, respectively, of all station terminal and through trips.

A breakdown of Station 1 trips by vehicle type and trip purpose is presented in Table 6. As can be seen the great bulk of trips (88%) were made by passenger car and/or panel or pickup trucks. The former constitutes 74.72% and the latter 13.28%. More than 35% of these trips were work trips. Shopping, Vacation and Other Social Recreation trips each constituted a similar proportion of the total. Shopping accounted for 16.49% with Vacation and Other Social Recreation at 15.38% and 17.11% respectively.

Terminal trips by definition have one end of the trip inside the study area. Listed in Table 7 are all Station 1 terminal trips. As can be seen Zone 19 (CBD) was the zone of origin or destination of 34.75% of the total. Including the CBD, five zones account for over 76% of Station 1 Terminal Trips. Zone 27 (SSSC) accounted for 15.47%, Zone 14 (NSR) 10.41%, Zone 9 (SSR) 8.47% and Zone 7 (NPSD) 7.34%. A schematic of these terminal trip interchanges is shown in Figure 7.

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

Table 8 lists through trips at Station 1 to and from all other operating external stations. The primary through trip interchanges were with stations 4 and 5. Combined these stations were the exit or entrance for 67.96% of through trips passing through station 1. These interchanges are illustrated in Figure 7.

Utilizing data from the study and the Statewide Traffic Forecasting Model it was possible to compute lengths of trips at the station. As indicated in Table 9, more than 40% of the trips had a duration of 20 minutes or less. There were 2581 trips within one hour of the station which represents 70.17% of the total. The average trip length of all trips was one hour and 17 minutes with the longest trip at 16 hours 40 minutes.

A county outline map is presented as Figure 8 showing the distribution of the origin and destination ends of trips passing through the station. Less than 1% had trip ends out-of-state and only 4.13% in the upper peninsula. Of the 7008 lower peninsula trip ends 88.81% were concentrated in Cheboygan, Otsego, Crawford or Roscommon Counties. Crawford County alone accounted for 72.92%. The remainder were generally widespread throughout the rest of the state.

TABLE 6
STATION 1
TRIPS BY VEHICLE TYPE AND PURPOSE

<u>Vehicle Type</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal Trips</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Passenger Car	2736	74.72	1822	66.59	914	33.41
Passenger Car with Trailer	117	3.19	46	39.32	71	60.68
Panel or Pickup	486	13.28	343	70.58	143	29.42
Panel or Pickup with Trailer	21	.57	17	80.95	4	19.05
Other Single Unit Trucks	230	6.29	112	48.70	118	51.30
Combinations and Trucks with Trailers	71	1.95	32	45.07	39	54.93
TOTAL	3661	100.00	2372	64.79	1289	35.21

<u>Trip Purpose</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Work	1293	35.52	825	63.81	468	36.19
Personal Business	237	6.47	148	62.45	89	37.55
Shopping	604	16.49	531	87.91	73	12.09
Vacation	563	15.38	269	47.78	294	52.22
Other Social-Recreation	626	17.11	336	53.67	290	46.33
All Other	338	9.23	263	77.81	75	22.19
TOTAL	3661	100.00	2372	64.79	1289	35.21

TABLE 7

STATION 1

TERMINAL TRIPS

<u>Zone</u>	<u>Origin</u>	<u>Destination</u>	<u>Total</u>	<u>Percent of Total</u>
6	7	11	18	.76
7	87	87	174	7.34
8	11	2	13	.55
9	131	70	201	8.47
10	7	12	19	.80
11	0	2	2	.08
12	3	5	8	.34
13	48	56	104	4.38
14	141	106	247	10.41
15	48	65	113	4.76
16	5	7	12	.51
17	0	15	15	.63
18	22	0	22	.93
19	449	375	824	34.75
20	4	17	21	.89
21	3	3	6	.25
22	0	0	0	0
23	2	0	2	.08
24	16	24	40	1.69
25	54	49	103	4.34
26	0	0	0	0
27	203	165	367	15.47
28	14	25	39	1.64
29	4	5	9	.38
30	5	8	13	.55
TOTAL	1263	1109	2372	100.00

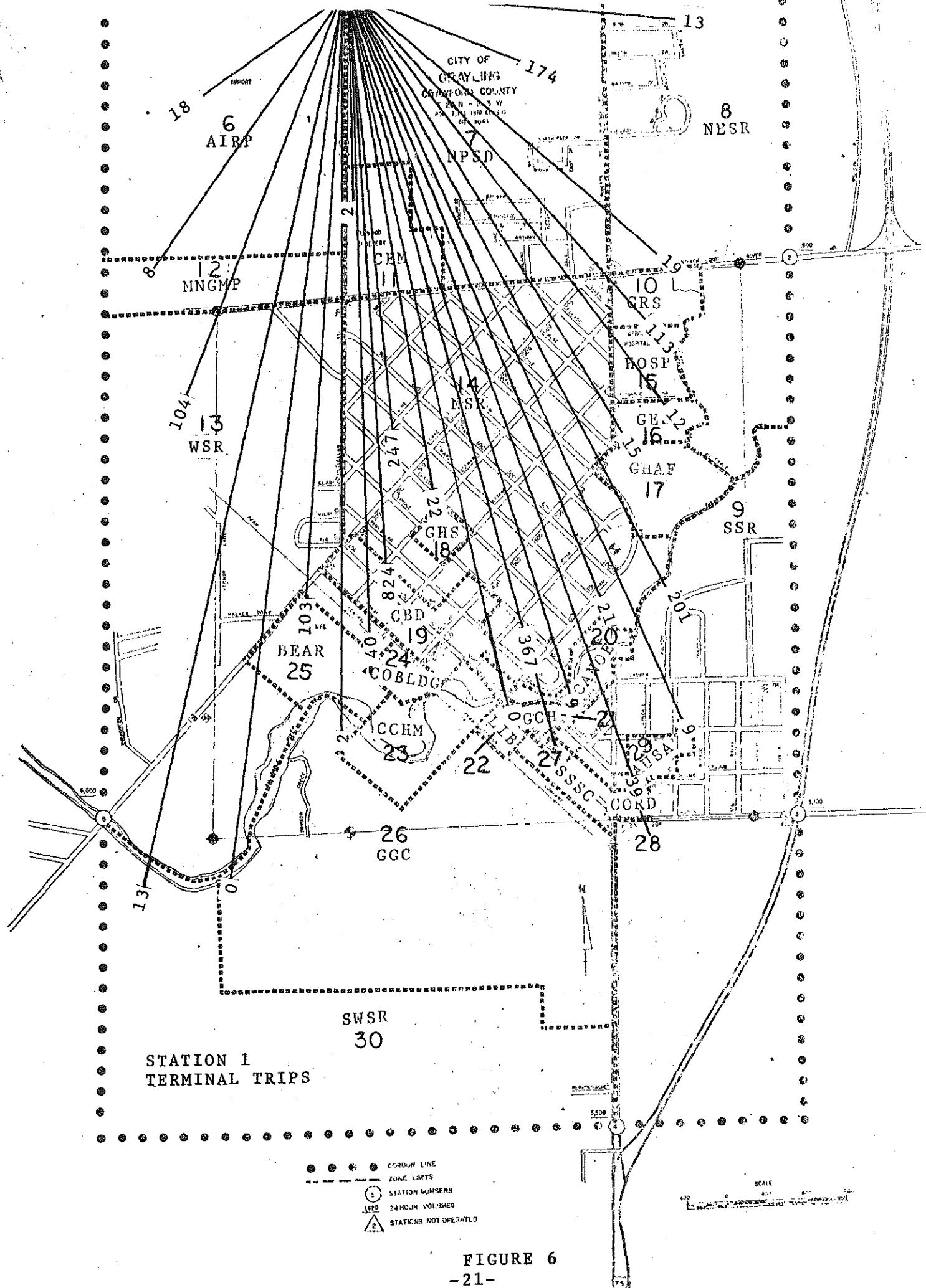


TABLE 8
STATION 1

THROUGH TRIPS

<u>STATION</u>	<u>TRIPS</u>	<u>PERCENT OF TOTAL</u>
2	177	13.73
3	236	18.31
4	386	29.95
5	<u>490</u>	<u>38.00</u>
Total	1289	100.00

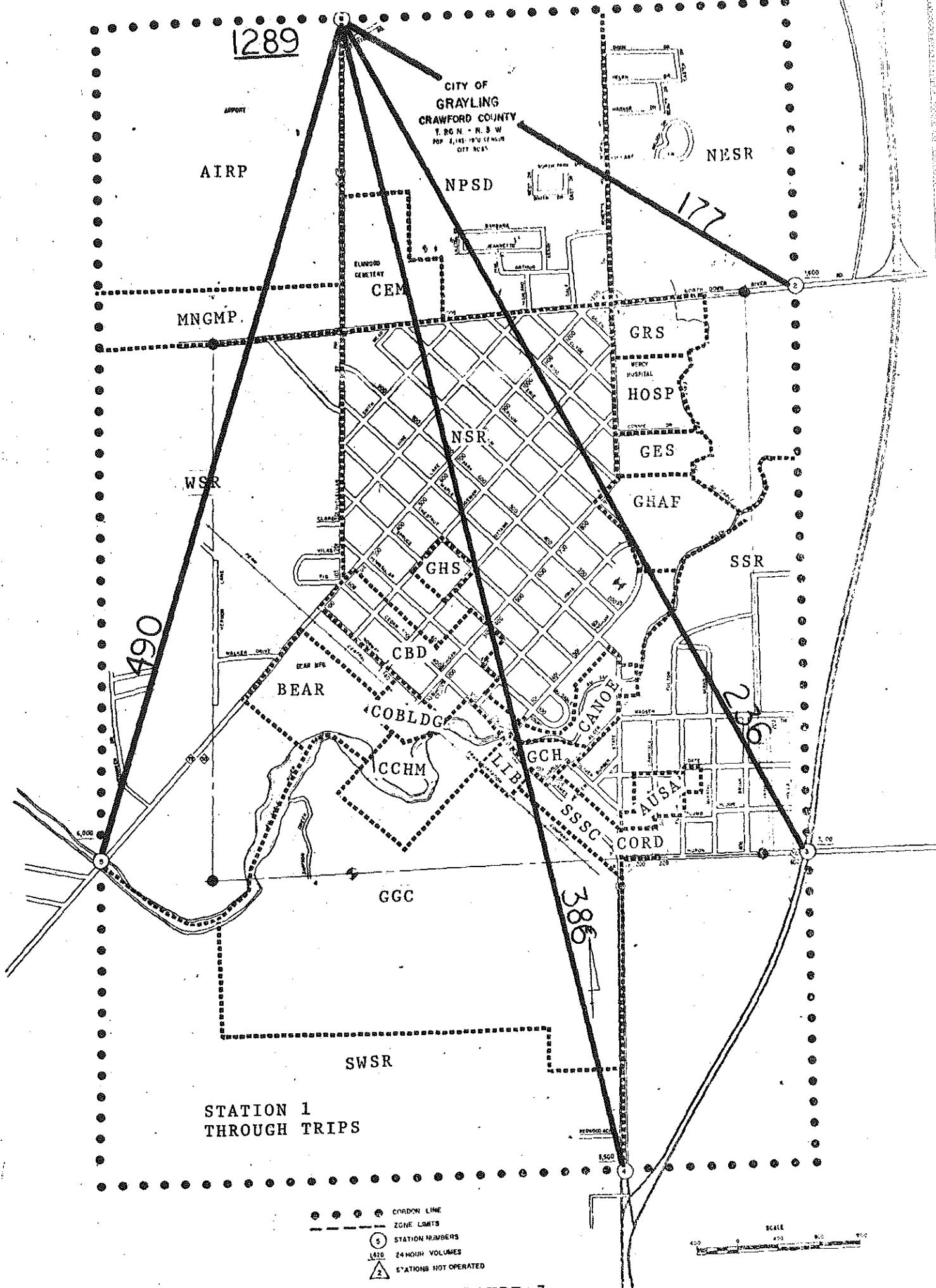


FIGURE 7
-23-

TABLE 9
STATION 1
TRIP LENGTHS

<u>Minutes</u>	<u>Trips</u>	<u>Percent of Total</u>
1-20	1479	40.21
20-40	832	22.62
40-60	270	7.34
60-90	286	7.78
90-120	191	5.19
120-180	155	4.21
180-240	183	4.99
240-300	128	3.48
300-1000	<u>154</u>	<u>4.18</u>
TOTALS	3678	100.00

Longest trip length - 16 hours 40 minutes

Average trip length - 1 hour 17 minutes

GRAYLING EXTERNAL ORIGIN DESTINATION SURVEY

STATION 1

DISTRIBUTION OF TRIP ENDS BY COUNTY

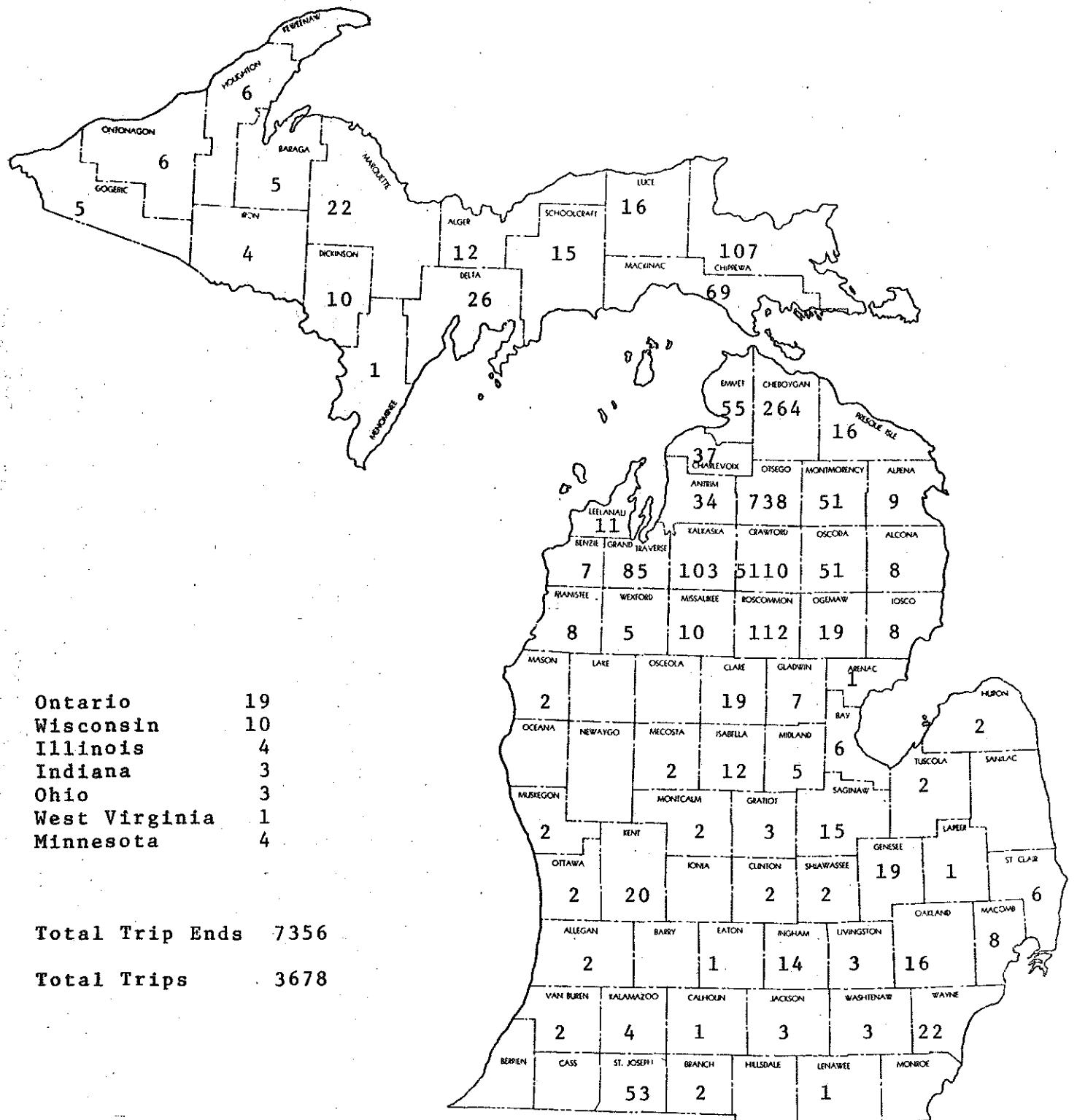


FIGURE 8

STATION 2

Station 2 was located on North Down River Road West of I-75. Vehicle trips at this location (3469) represents 13.97% of all station trips. A great proportion of these trips were terminal (68.52%) with the remainder being through. Terminal and through trips represent 16.67% and 10.33%, respectively of all station terminal and through trips.

Vehicle trips by vehicle type and purpose are presented in Table 10. Over 91% were made by either passenger car or panel or pickup truck. The former constituted 74% and the latter 17.3%. Work trips were the most prevalent accounting for 41.58%. Shopping and Other Social Recreation comprised 17.83% and 18.78%, respectively. Combined these three purposes totaled 2711 vehicles.

The primary internal zone of origin and destination for terminal trips was the CBD (Zone 19). As can be seen in Table 11 over 37% of the 2377 terminal trips had one end inside the CBD. Zones 14 (NSR) and 27 (SSSC) contributed 15.23% and 13.33%, respectively. Combined these three zones accounted for over 65% of terminal trips. Figure 9 displays schematically the interchange of these trips between the station and zones.

Through vehicles at station 2 interchanged primarily with stations 4 and 5. Nearly 69% of through vehicles passing through the station either exited or entered the study area at these locations. Station 5 accounted for 43.31% and Station 4 an additional 25.55%. In addition to the above, Table 12 lists through trips to and from all other stations. Figure 10 displays these interchanges graphically.

Utilizing data from the study and the Statewide Traffic Forecasting Model it was possible to compute lengths of trips at the station. As indicated in Table 13, more than 56% of the trips had a duration of 20 minutes or less. There were 2999 trips within one hour of the station which represents 86.24% of the total. The average trip length was 48 minutes and the longest trip was 15 1/2 hours.

A county outline map is presented as Figure 11 showing the distribution of the origin and destination ends of trips passing through the station. Less than 1.5% of the trip ends were in the upper peninsula and only .37% were out-of-state. The remainder were concentrated in the lower peninsula. Of the 6830 lower peninsula trip ends 93.79% were in Cheboygan, Otsego, Crawford and Roscommon Counties. Crawford County alone accounted for 87.6%. Of the remainder a great majority were in the northern tier of counties.

TABLE 10
STATION 2
TRIPS BY VEHICLE TYPE AND PURPOSE

<u>Vehicle Type</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal Trips</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Passenger Car	2567	74.00	1872	72.93	695	27.07
Passenger Car with Trailer	37	1.06	27	72.97	10	27.03
Panel or Pickup	600	17.30	365	60.83	235	39.17
Panel or Pickup with Trailer	11	.31	8	72.73	3	27.27
Other Single Unit Trucks	211	6.09	87	41.23	124	58.77
Combinations and Trucks with Trailers	43	1.24	18	41.86	25	58.14
TOTAL	3469	100.00	2377	68.52	1092	31.48

<u>Trip Purpose</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal Trips</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Work	1442	41.58	859	59.57	583	40.43
Personal Business	271	7.81	212	78.23	59	21.77
Shopping	618	17.83	566	91.59	52	8.41
Vacation	170	4.88	96	56.47	74	43.53
Other Social-Recreation	651	18.78	423	64.98	228	35.02
All Other	317	9.12	221	69.72	96	30.28
TOTAL	3469	100.00	2377	68.52	1092	31.48

TABLE 11

STATION 2

TERMINAL TRIPS

<u>Zone</u>	<u>Origin</u>	<u>Destination</u>	<u>Total</u>	<u>Percent of Total</u>
6	6	16	22	.93
7	61	47	108	4.54
8	11	22	33	1.39
9	81	66	147	6.18
10	31	38	69	2.90
11	2	1	3	.13
12	0	3	3	.13
13	29	40	69	2.90
14	194	168	362	15.23
15	40	73	113	4.75
16	2	2	4	.17
17	0	0	0	0
18	12	16	28	1.18
19	358	523	881	37.05
20	2	12	14	.59
21	3	1	4	.17
22	0	4	4	.17
23	0	0	0	0
24	18	19	37	1.56
25	46	43	89	3.74
26	6	16	22	.93
27	155	157	312	13.13
28	10	18	28	1.18
29	3	8	11	.46
30	7	7	14	.59
TOTAL	1077	1300	2377	100.00

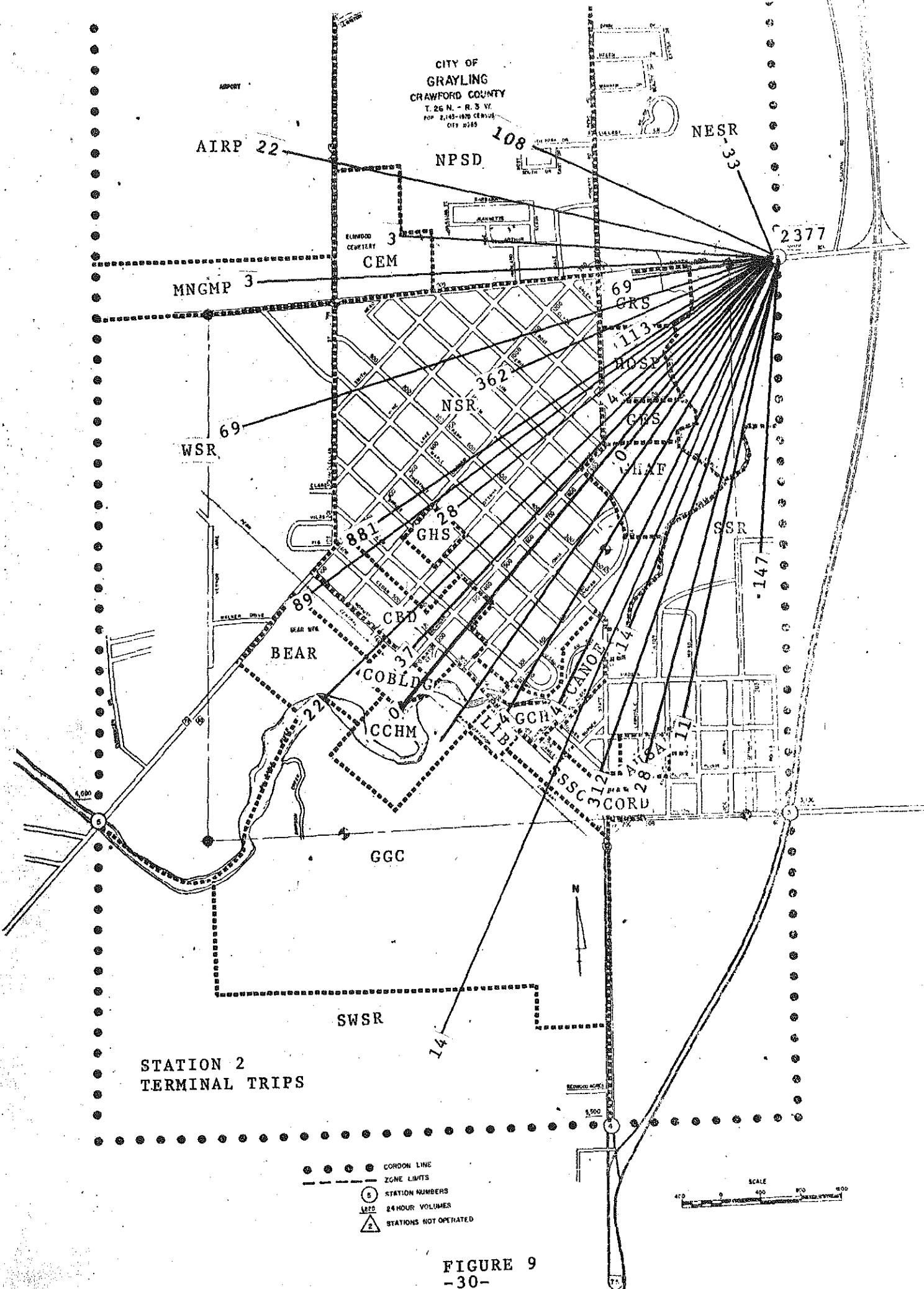


FIGURE 9
-30-

TABLE 12
STATION 2
THROUGH TRIPS

<u>Station</u>	<u>Trips</u>	<u>Percent of Total</u>
1	195	17.86
3	145	13.28
4	279	25.55
5	<u>473</u>	<u>43.31</u>
TOTAL	1092	100.00

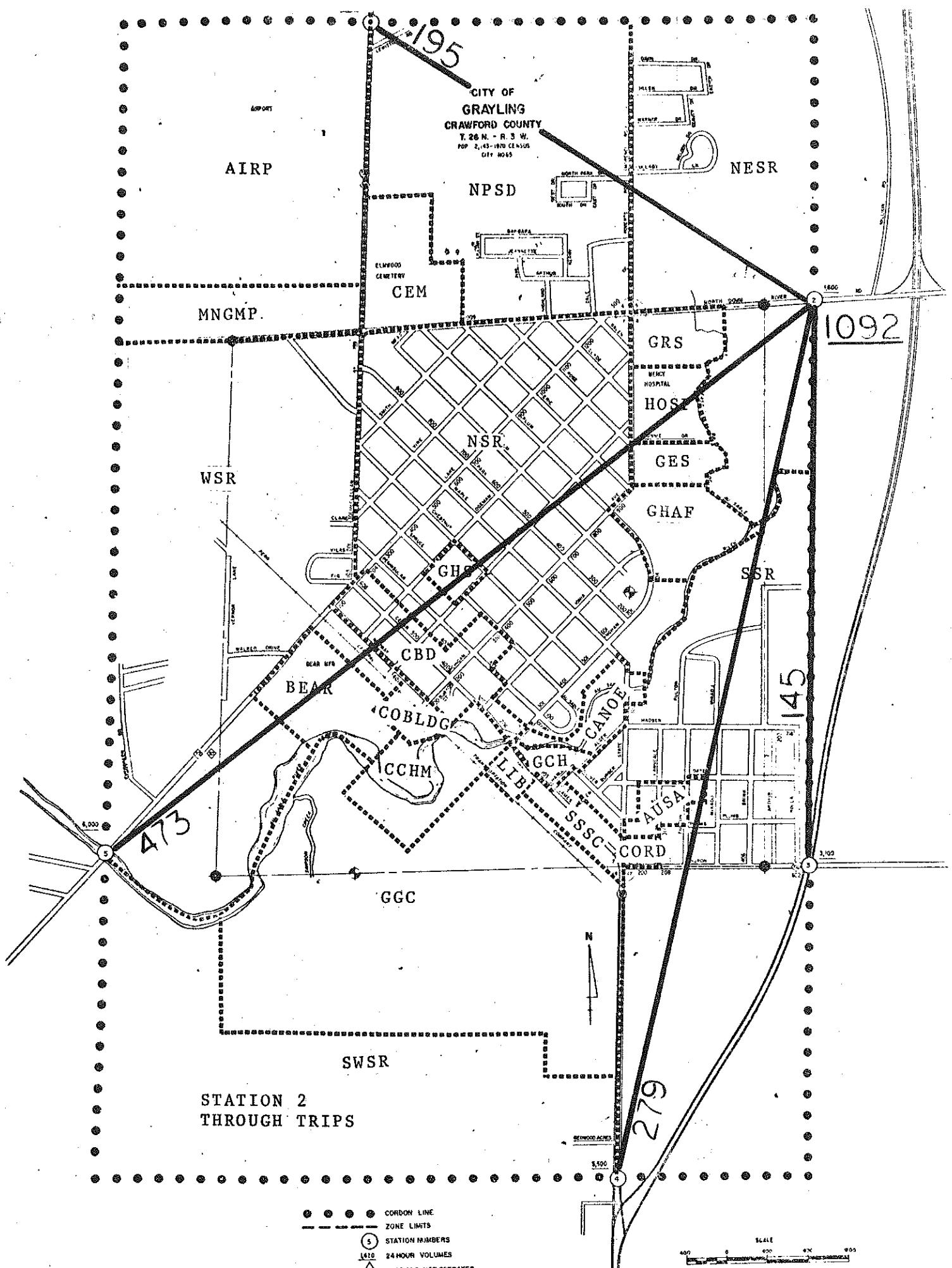


FIGURE 10

TABLE 13
STATION 2
TRIP LENGTHS

<u>Minutes</u>	<u>Trips</u>	<u>Percent of Total</u>
1-20	1953	56.16
20-40	862	24.79
40-60	184	5.29
60-90	175	5.03
90-120	70	2.01
120-180	69	1.98
180-930	<u>165</u>	<u>4.74</u>
Total	3478	100.00

Longest Trip Length- 15 1/2 hours

Average Trip Length- 48 minutes

GRAYLING EXTERNAL ORIGIN DESTINATION SURVEY

STATION 2
NORTH DOWN RIVER ROAD, W. OF I-75
DISTRIBUTION OF TRIP ENDS BY COUNTY

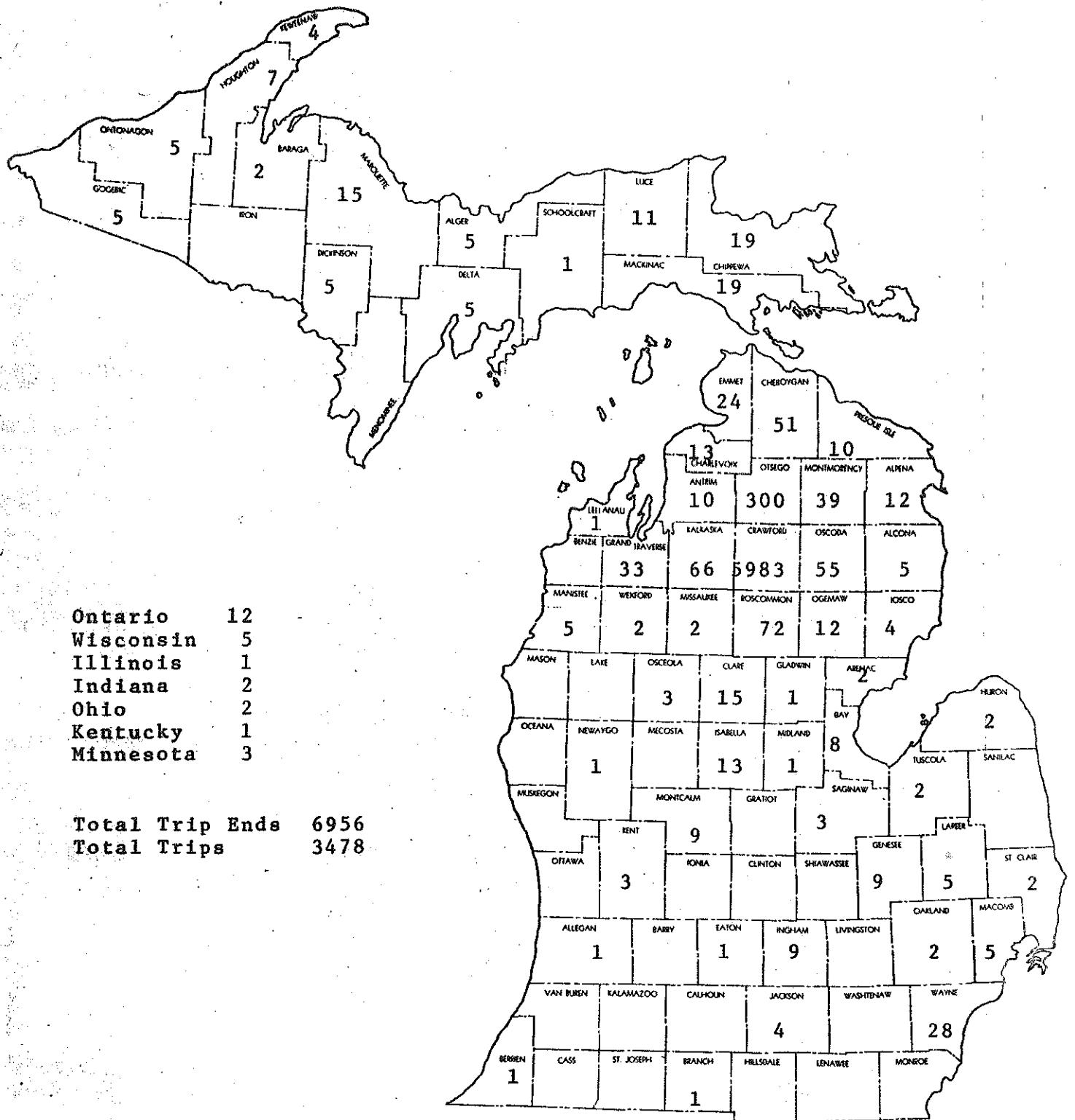


FIGURE 11

STATION 3

Station 3 was located on M-72 east of the I-75 overpass. Vehicle trips at this location (2653) represents 10.69% of all station trips. More than 64% were terminal trips with the remainder being through. Terminal and through trips represent 12.02% and 8.89%, respectively of all station terminal and through trips.

Vehicle trips by vehicle type and purpose are presented in Table 14. Nearly 86% were made by either passenger car or panel or pickup truck. The former constituted 70.19% and the latter 15.52%. Work trips were the most prevalent accounting for 41.44% of all trips. Personal Business, Shopping and Other Social-Recreation contributed an additional 11.66%, 15.59%, and 14.66%, respectively.

As in the case of the previous two stations Zone 19 (CBD) was the primary internal zone of origin or destination for terminal trips. As can be seen in Table 13, the CBD zone accounted for 29.36%, Zone 27 (SSSC), another primary shopping zone accounted for an additional 20.02%. When combined with Zones 14 (NSR) and 9 (SSR) more than 71% of all terminal trips have been accounted for. The interchange of terminal trips from the station between all internal zones is displayed in Figure 12.

More than 73% of the through trips passing through Station 3 entered or exited the study area via either Station 4 or 5. As indicated in Table 16, Station 4 represented 31.28% and Station 5 another 42.01%. Figure 13 graphically displays these through trip interchanges.

Utilizing data from the study and the Statewide Traffic Forecasting Model it was possible to compute lengths of trips passing through the station. As indicated in Table 17, over 55% of the trips had a duration of 20 minutes or less. There were 1830 within an hour of the station which represents 69.79% of the total. The average trip length was one hour one minute with the longest trip at 16 hours 40 minutes.

A county outline map is presented as Figure 14 showing the distribution of the origin and destination of ends of trips passing through the station. Of the 5244 trip ends only .65% were out-of-state or in the upper peninsula. The remainder was concentrated in the northern one-third of the lower peninsula. Otsego, Crawford and Roscommon Counties combined accounted for 78.34% of all trip ends.. Crawford County alone accounted for 75.13%.

TABLE 14

STATION 3

TRIPS BY VEHICLE TYPE AND PURPOSE

<u>Vehicle Type</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal Trips</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Passenger Car	1862	70.19	1192	64.02	670	35.98
Passenger Car with Trailer	34	1.27	14	41.18	20	58.82
Panel or Pickup	412	15.52	289	70.15	123	29.85
Panel or Pickup with Trailer	15	.57	14	93.33	1	6.67
Other Single Unit Trucks	248	9.35	191	77.02	57	22.98
Combinations and Trucks with Trailers	82	3.10	13	15.85	69	84.15
TOTAL	2653	100.00	1713	64.57	940	35.43

<u>Trip Purpose</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Work	1099	41.44	689	62.69	410	37.31
Personal Business	309	11.66	205	66.34	104	33.66
Shopping	414	15.59	380	91.79	34	8.21
Vacation	235	8.87	78	33.19	157	66.81
Other Social-Recreation	389	14.66	215	55.27	174	44.73
All Other	207	7.78	146	70.53	61	29.47
TOTAL	2653	100.00	1713	64.57	940	35.43

TABLE 15
STATION 3
TERMINAL TRIPS

<u>Zone</u>	<u>Origin</u>	<u>Destination</u>	<u>Total</u>	<u>Percent of Total</u>
6	4	5	9	.53
7	26	15	41	2.39
8	7	6	13	.76
9	106	101	207	12.08
10	10	16	26	1.52
11	2	3	5	.29
12	2	2	4	.23
13	37	24	61	3.56
14	82	89	171	9.98
15	16	28	44	2.57
16	2	4	6	.35
17	0	0	0	0
18	4	5	9	.53
19	226	277	503	29.36
20	26	18	44	2.57
21	11	19	30	1.75
22	0	0	0	0
23	0	0	0	0
24	8	12	20	1.17
25	29	29	58	3.39
26	2	7	9	.53
27	190	153	343	20.02
28	38	52	90	5.25
29	4	10	14	.82
30	4	2	6	.35
TOTAL	836	877	1713	100.00

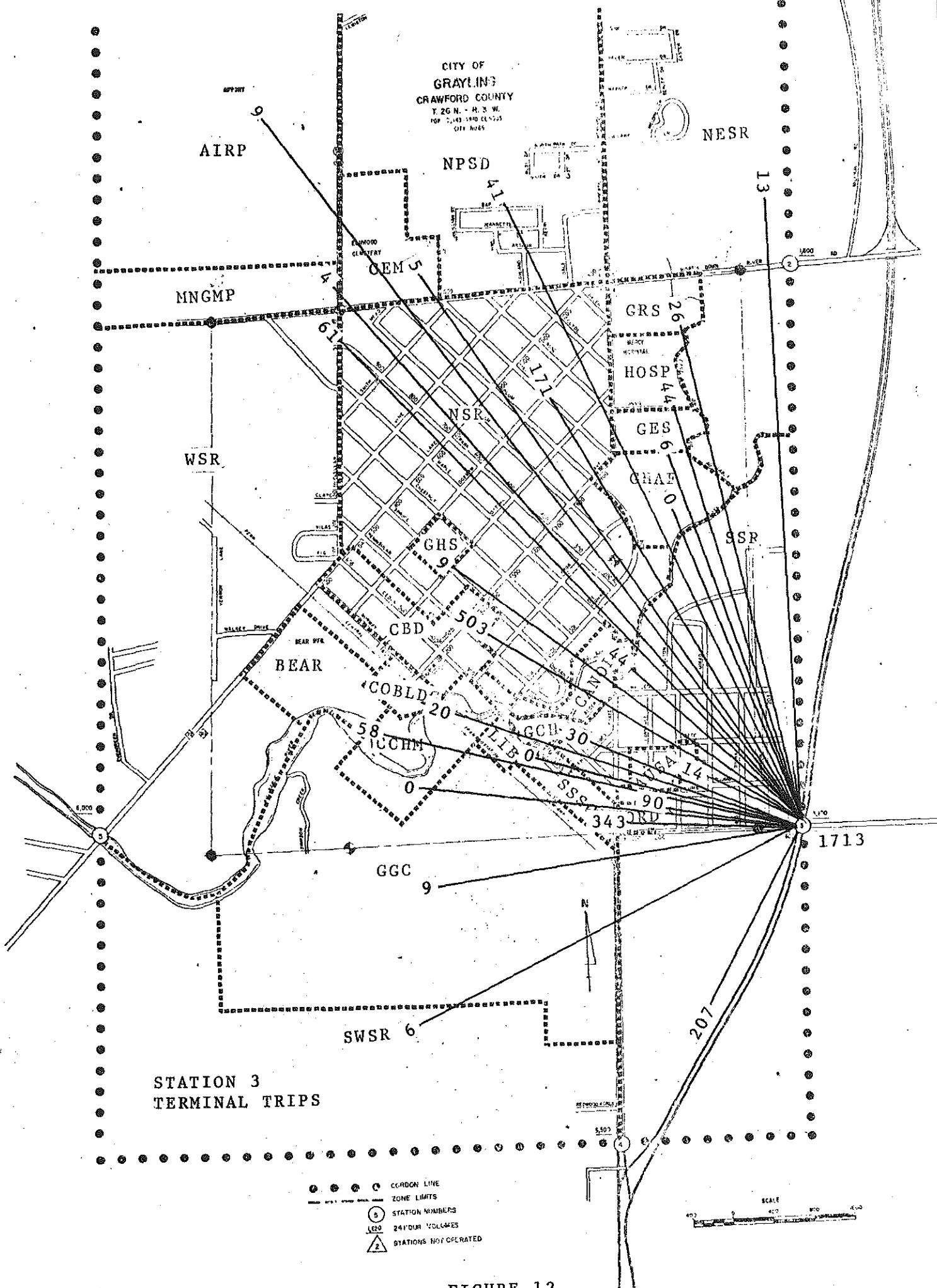


FIGURE 12

TABLE 16
STATION 3
THROUGH TRIPS

<u>Station</u>	<u>Trips</u>	<u>Percent of Total</u>
1	123	13.09
2	128	13.62
4	294	31.28
5	<u>395</u>	<u>42.01</u>
TOTAL	940	100.00

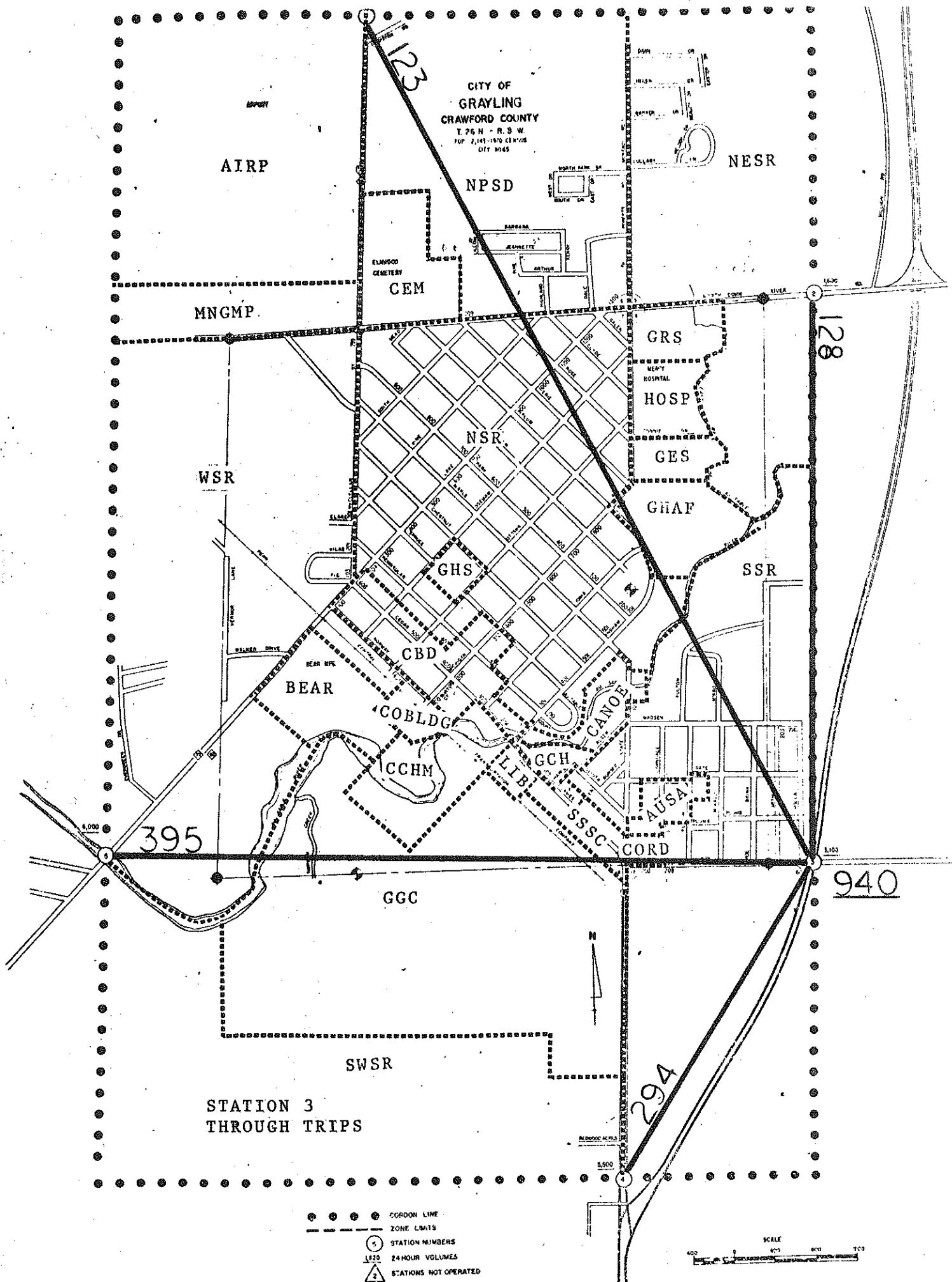


FIGURE 13

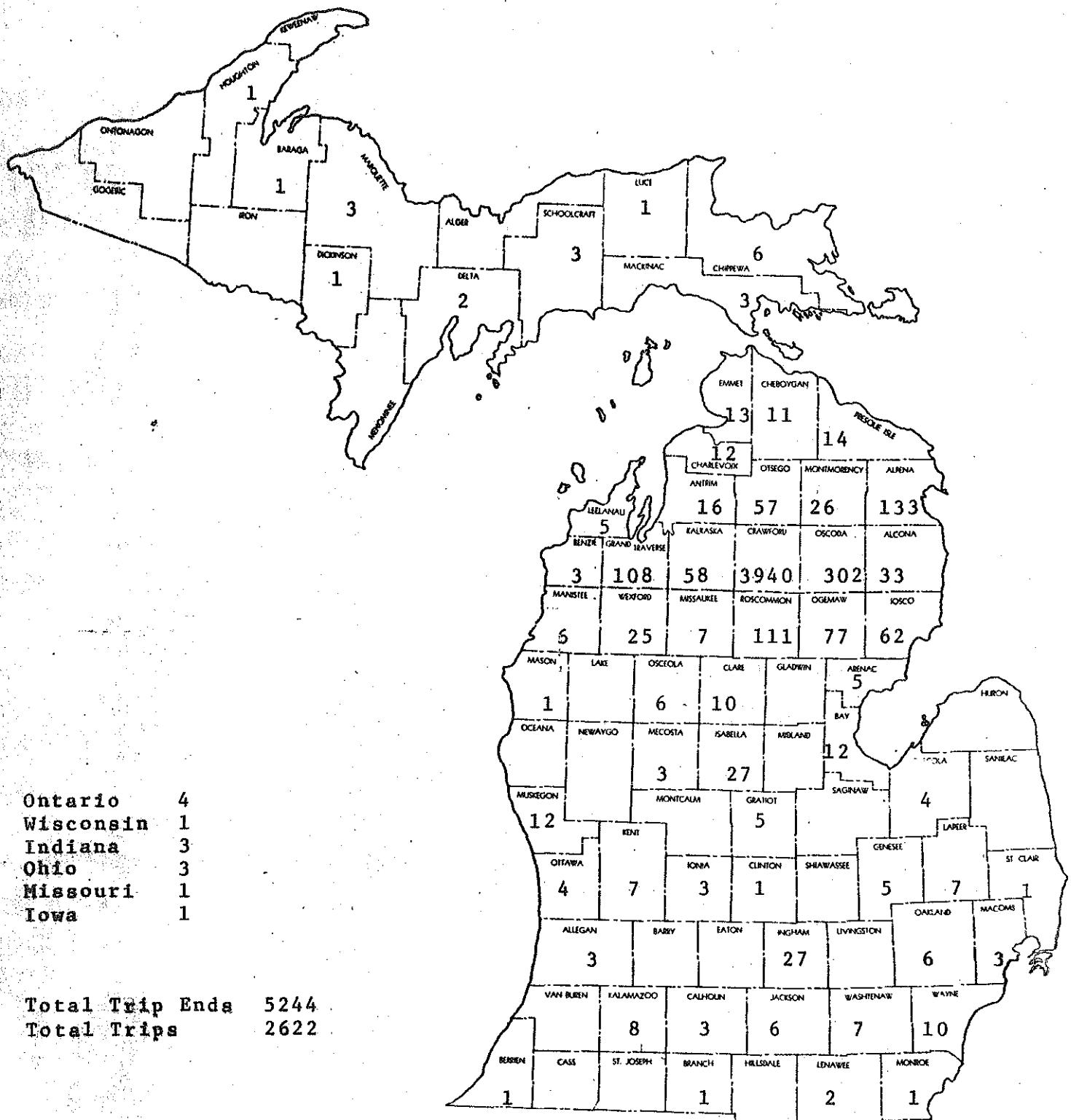
TABLE 17
TRIP LENGTHS
STATION 3

<u>Minutes</u>	<u>Trips</u>	<u>Percent of Total</u>
1-20	1443	55.03
20-40	308	11.75
40-60	79	3.01
60-90	282	10.76
90-120	95	3.62
120-180	222	8.47
180-240	89	3.40
240-880	<u>104</u>	<u>3.96</u>
TOTALS	2622	100.00

Longest Trip Length - 16 hours 40 minutes

Average Trip Length - 1 hour 1 minute

GRAYLING EXTERNAL ORIGIN DESTINATION SURVEY
STATION 3
M-72 E. OF I-75
DISTRIBUTION OF TRIP ENDS BY COUNTY



HIGHWAY LIBRARY
MICHIGAN DEPARTMENT OF STATE

LANSING, MICH.

P. O. DRAWER "K" 48904

FIGURE 14

STATION 4

Station 4 was located on I-75BL north of the junction of I-75 south of Grayling. Vehicle trips at this location (7322) represented 29.49% of all station trips. Terminal trips constituted 44.35% and through trips 55.65%. When compared to all station terminal and through trips, station 4 comprised 22.82% and 38.49% for terminal and through trips, respectively.

A breakdown of vehicle trips by vehicle type and purpose is presented in Table 18. As can be seen 74.84% of the trips were made by passenger car with another 6.59% by panel or pickup truck. Work trips comprised 30.4%. Vacation trips was the second largest purpose category at 23.92% followed by Other Social-Recreation at 19.25% and Shopping at 12.42%.

Nearly 60% of all terminal trips at the station had an origin or destination in one of two internal zones. Zone 19 (CBD) constituted 40.77% and Zone 27 (SSSC) 19.18%. Table 4 lists these trips as well as those to and from all other zones. These interchanges are displayed graphically in Figure 15.

Table 20 presents a list of through trips passing through station 4 to and from all other external stations. The primary interchange of 67.36% of the total occurred with Station 5. The remaining through trips were fairly evenly distributed with the other three stations. These interchanges are shown graphically in Figure 16.

Utilizing data from the study and the Statewide Traffic Forecasting Model it was possible to compute lengths of trips passing through the station. As indicated in Table 21 less

than 11% of all trips had a duration of 20 minutes or less. Only 35.14% occurred within an hour. The longest trip was 14 hours 20 minutes with the average trip length at 2 hours 39 minutes.

A count outline map is provided as Figure 17 showing the distribution of origin and destination ends of trips by county. Those counties surrounding and including Crawford County account for 8812 trip ends which represents 60.5% of the total. Crawford County alone accounted for 39.87%. The remaining trip ends were widely distributed throughout the state, however, the urbanized counties of Saginaw, Genesee, Oakland and Wayne Counties combined contributed 12.78%. Out-of-state trip ends contributed nearly 2%.

TABLE 18
STATION 4
TRIPS BY VEHICLE TYPE AND PURPOSE

<u>Vehicle Type</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal Trips</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Passenger Car	5479	74.84	2430	44.35	3049	55.65
Passenger Car with Trailer	343	4.68	122	35.57	221	64.43
Panel or Pickup	483	6.59	238	49.28	245	50.72
Panel or Pickup with Trailer	33	.45	16	48.48	17	51.52
Other Single Unit Trucks	731	9.98	382	52.26	349	47.74
Combinations and Trucks with Trailers	<u>253</u>	<u>3.46</u>	<u>65</u>	<u>25.69</u>	<u>188</u>	<u>74.31</u>
TOTAL	7322	100.00	3253	44.43	4069	55.57

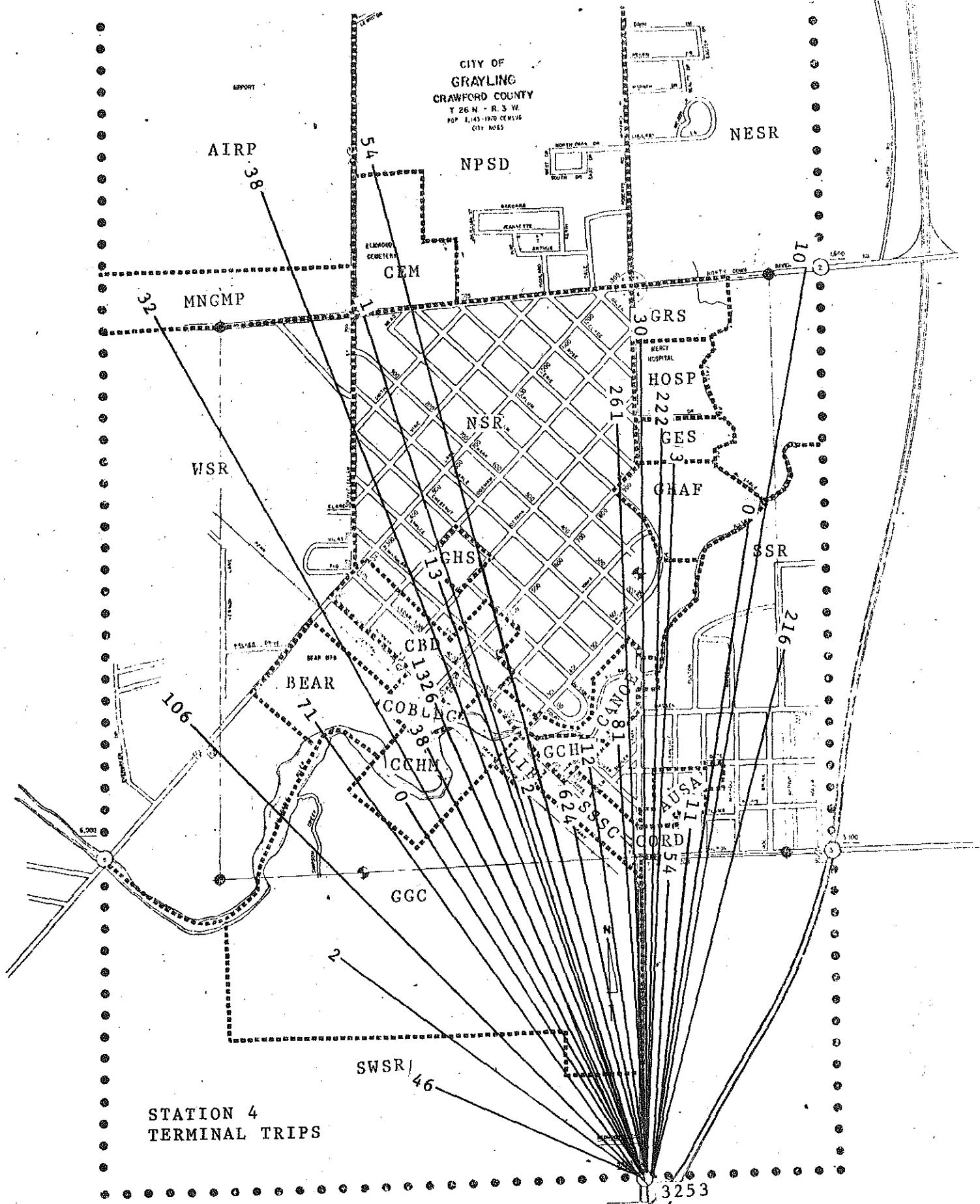
<u>Trip Purpose</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Work	2226	30.40	1070	48.07	1156	51.93
Personal Business	480	6.56	217	45.21	263	54.79
Shopping	909	12.42	814	89.55	95	10.45
Vacation	1751	23.92	387	22.10	1364	77.90
Other Social-Recreation	1410	19.25	494	35.04	916	64.96
All Other	<u>546</u>	<u>7.45</u>	<u>271</u>	<u>49.63</u>	<u>275</u>	<u>50.37</u>
TOTAL	7322	100.00	3253	44.43	4069	55.57

TABLE 19

STATION 4

TERMINAL TRIPS

<u>Zone</u>	<u>Origin</u>	<u>Destination</u>	<u>Total</u>	<u>Percent of Total</u>
6	8	30	38	1.17
7	22	32	54	1.66
8	7	3	10	.31
9	86	130	216	6.65
10	15	15	30	.92
11	0	1	1	.03
12	10	22	32	.98
13	63	43	106	3.26
14	109	152	261	8.02
15	114	108	222	6.82
16	0	3	3	.09
17	0	0	0	0
18	7	6	13	.40
19	596	730	1326	40.77
20	14	67	81	2.49
21	2	10	12	.37
22	2	0	2	.06
23	0	0	0	0
24	18	20	38	1.17
25	40	31	71	2.18
26	2	0	2	.06
27	367	257	624	19.18
28	25	29	54	1.66
29	5	6	11	.34
30	26	20	46	<u>1.41</u>
TOTAL	1538	1715	3253	100.00



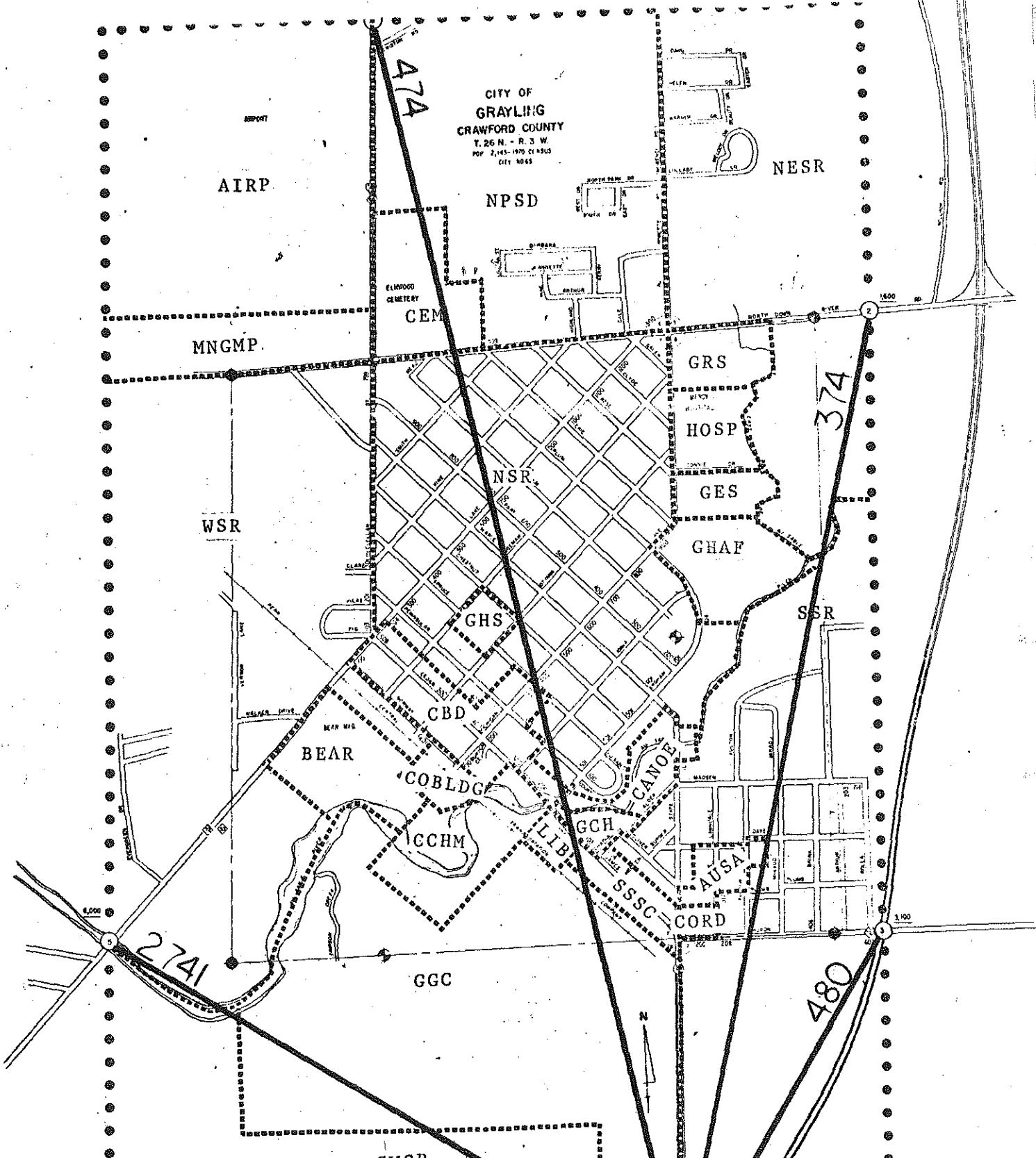
STATION 4
TERMINAL TRIPS

1. GORDON LINE
2. ZONE LIMITS
3. STATION NUMBERS
4. 24-HOUR VOLUMES
5. LESS STATIONS NOT OPERATED

FIGURE 15

TABLE 20
STATION 4
THROUGH TRIPS

<u>Station</u>	<u>Trips</u>	<u>Percent of Total</u>
1	474	11.65
2	374	9.19
3	480	11.80
5	<u>2741</u>	<u>67.36</u>
TOTAL	4069	100.00



CORDON LINE
 ZONE LIMITS
 STATION NUMBERS
 24 HOUR VOLUMES
 STATIONS NOT OPERATED

FIGURE 16

TABLE 21
STATION 4
TRIP LENGTHS

<u>Minutes</u>	<u>Trips</u>	<u>Percent of Total</u>
1-20	785	10.78
20-40	1550	21.28
40-60	224	3.08
60-90	321	4.41
90-120	323	4.44
120-150	440	6.04
150-180	519	7.13
180-240	1153	14.46
240-300	1179	16.19
300-360	674	9.25
360-860	<u>115</u>	<u>2.94</u>
	7283	100.00

Longest Trip Length - 14 hours 20 minutes

Average Trip Length - 2 hours 39 minutes

GRAYLING EXTERNAL ORIGIN DESTINATION SURVEY
STATION 4
I-75BL N. OF JUNCTION I-75

DISTRIBUTION OF TRIP ENDS BY COUNTY

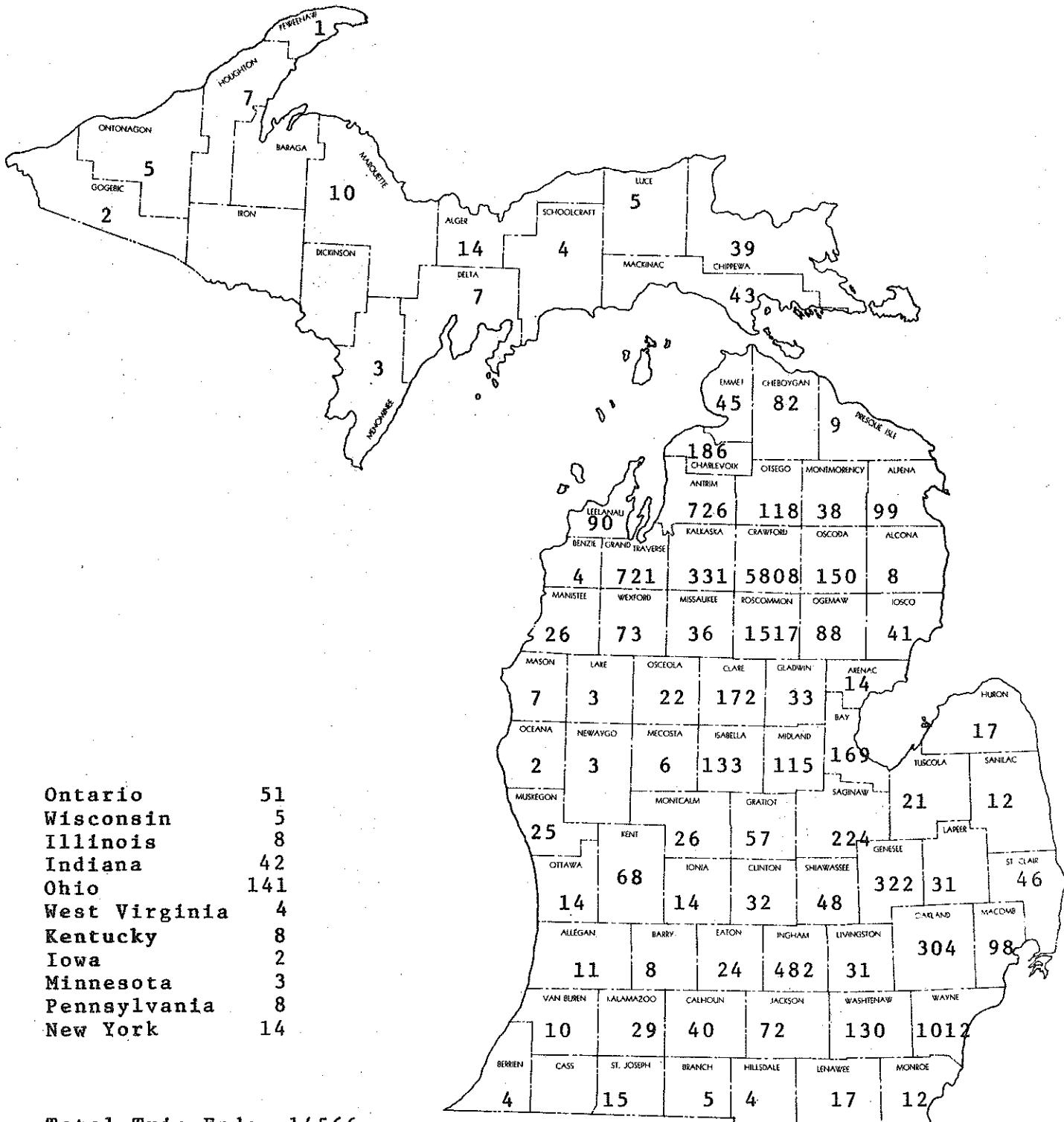


FIGURE 17

STATION 5

Station 5 was located on M-72/M-93 east of Pine Point Road. Vehicle trips at this location (7723) represented 31.1% of all station trips. Terminal trips constituted 58.81% of the total and through trips 41.19%. When compared to all station terminal and through trips, station 5 comprised 31.86% and 30.09% respectively of all station terminal and through trips.

A breakdown of vehicle trips by vehicle type and purpose is presented in Table 22. As can be seen 77.01% of the trips were made by passenger car with another 10.76% by panel or pickup truck. Work trips constituted 35.59% with Shopping, Vacation and Other Social-Recreation comprising 16.91%, 13.03%, and 16.31%, respectively.

More than 56% of all terminal trips had an origin or destination in one of two internal zones. Zone 19 (CBD) constituted 37.25% and Zone 27 (SSSC) 19.37%. Table 23 lists these trips as well as those to and from all other zones. These interchanges are displayed graphically in Figure 18.

Table 24 presents a list of through trips passing through Station 5 to and from all other external stations. The primary interchange of 56.7% of the total occurred with Station 4. The remainder were fairly evenly distributed among the other three stations. These interchanges are graphically illustrated in Figure 19.

Utilizing data from the study and the Statewide Traffic Forecasting Model it was possible to compute lengths of trips

passing through the station. As indicated in Table 25, nearly 48% of all trips were within 20 minutes of the station. There were 5216 trips which had a duration of one hour or less. This represents 67.52% of the total. The longest trip was 13 hours 40 minutes with the average trip length at one hour 18 minutes.

A county outline map is provided as Figure 20 showing the distribution of origin and destination ends of trips passing through the station. Those counties surrounding and including Crawford County account for 12434 trip ends which represents 80.48% of the total. Crawford County alone accounted for 66.96%. The remaining trip ends were primarily located in the top one-third of the lower peninsula.

TABLE 22
STATION 5
TRIPS BY VEHICLE TYPE AND PURPOSE

<u>Vehicle Type</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal Trips</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Passenger Car	5948	77.01	3664	61.60	2284	38.40
Passenger Car with Trailer	193	2.50	26	13.47	167	86.53
Panel or Pickup	831	10.76	520	62.58	311	37.42
Panel or Pickup with Trailer	27	.35	3	11.11	24	88.89
Other Single Unit Trucks	553	7.16	306	55.33	247	44.67
Combinations and Trucks with Trailers	171	2.22	23	13.45	148	86.55
TOTAL	7723	100.00	4542	58.81	3181	41.19

<u>Trip Purpose</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Work	2748	35.59	1622	59.02	1126	40.98
Personal Business	773	10.00	450	58.21	323	41.79
Shopping	1306	16.91	1197	91.65	109	8.35
Vacation	1006	13.03	205	20.38	801	79.62
Other Social-Recreation	1260	16.31	640	50.79	620	49.21
All Other	630	8.16	428	67.94	202	32.06
TOTAL	7723	100.00	4542	58.81	3181	40.98

TABLE 23
STATION 5
TERMINAL TRIPS

<u>Zone</u>	<u>Origin</u>	<u>Destination</u>	<u>Total</u>	<u>Percent of Total</u>
6	66	50	116	2.55
7	73	21	94	2.07
8	11	17	28	.62
9	96	121	217	4.78
10	35	37	72	1.59
11	0	3	3	.07
12	51	43	94	2.07
13	85	95	180	3.96
14	306	269	575	12.66
15	42	53	95	2.09
16	11	13	24	.53
17	2	5	7	.15
18	23	35	58	1.28
19	788	904	1692	37.25
20	27	7	34	.75
21	11	8	19	.42
22	5	2	7	.15
23	2	2	4	.09
24	29	36	65	1.43
25	94	92	186	4.10
26	18	12	30	.66
27	507	373	880	19.37
28	21	10	31	.68
29	7	2	9	.20
30	12	10	22	.48
TOTAL	2322	2220	4542	100.00

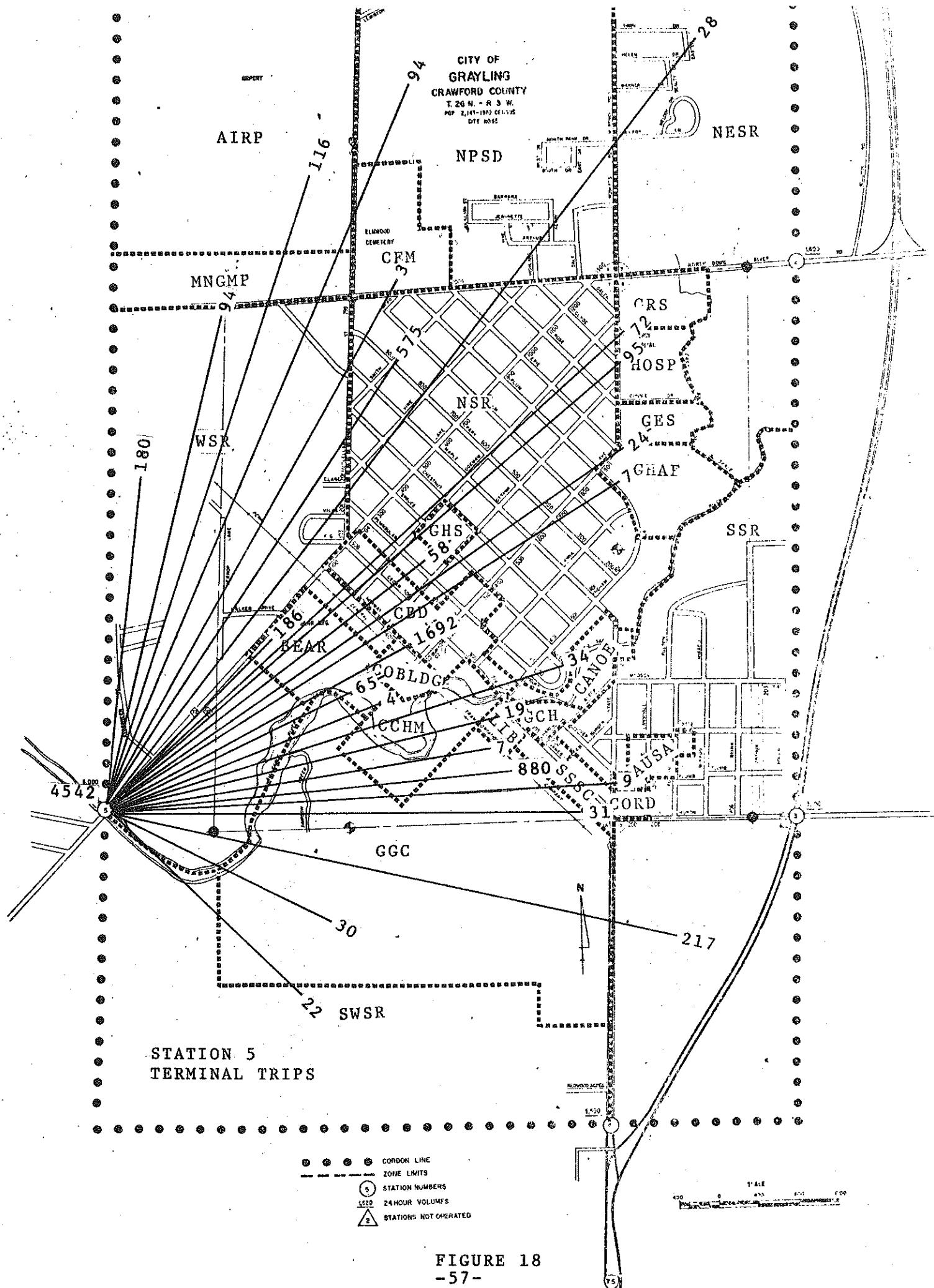


FIGURE 18

TABLE 24

STATION 5

THROUGH TRIPS

<u>Station</u>	<u>Trips</u>	<u>Percent of Trips</u>
1	352	11.07
2	478	15.03
3	547	17.20
4	<u>1804</u>	<u>56.70</u>
TOTAL	3181	100.00

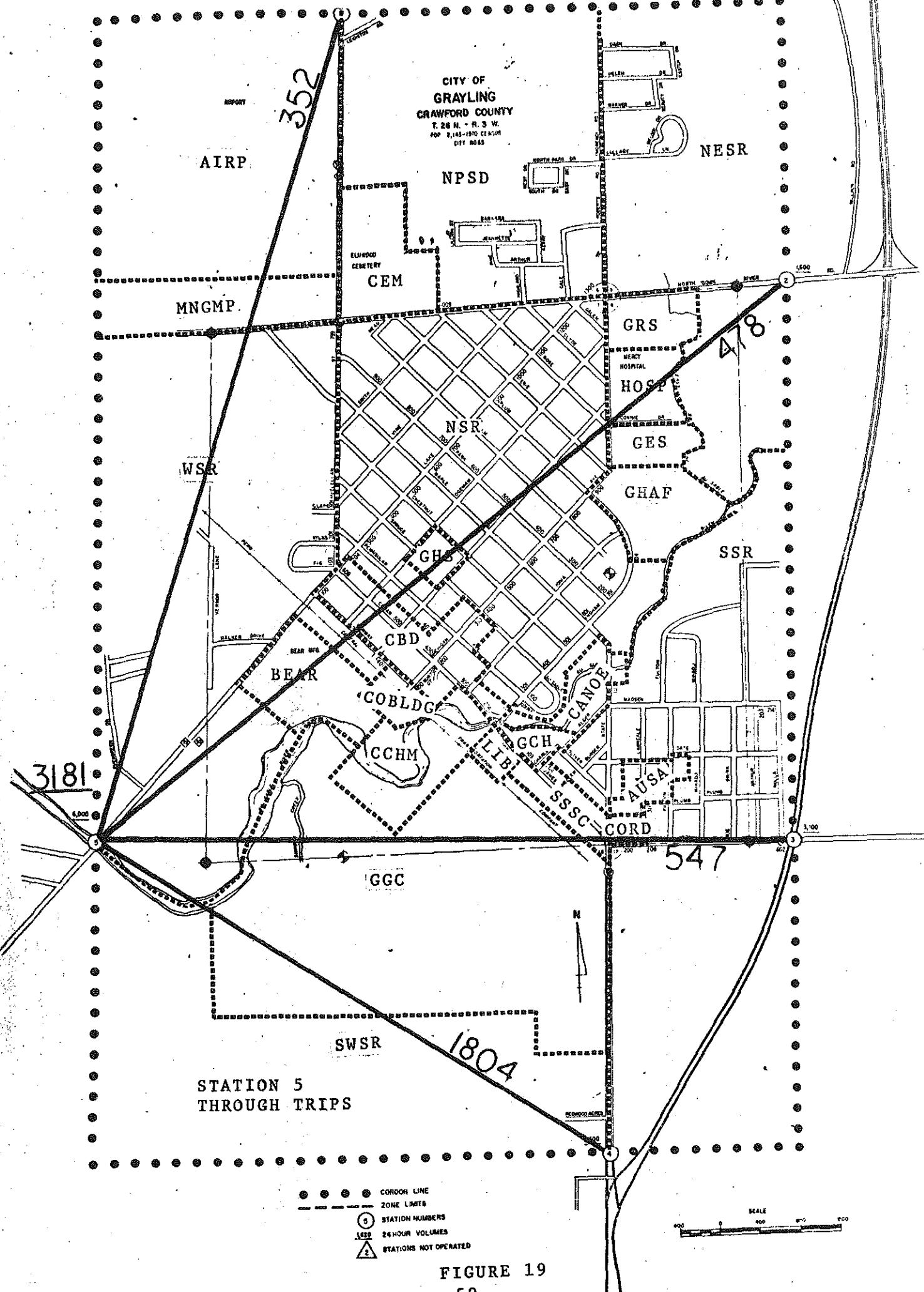


FIGURE 19

TABLE 25
STATION 5
TRIP LENGTHS

<u>Minutes</u>	<u>Trips</u>	<u>Percent of Total</u>
1-20	3702	47.92
20-40	1202	15.56
40-60	312	4.04
60-90	553	7.16
90-120	331	4.29
120-180	540	6.99
180-240	332	4.30
240-300	369	4.78
300-820	<u>384</u>	<u>4.96</u>
TOTAL	7725	100.00

Longest Trip Length - 13 hours 40 minutes

Average Trip Length - 1 hour 18 minutes

GRAYLING EXTERNAL ORIGIN DESTINATION SURVEY
STATION 5
M-72/M-93 E. OF PINE POINT ROAD

DISTRIBUTION OF TRIP ENDS BY COUNTY

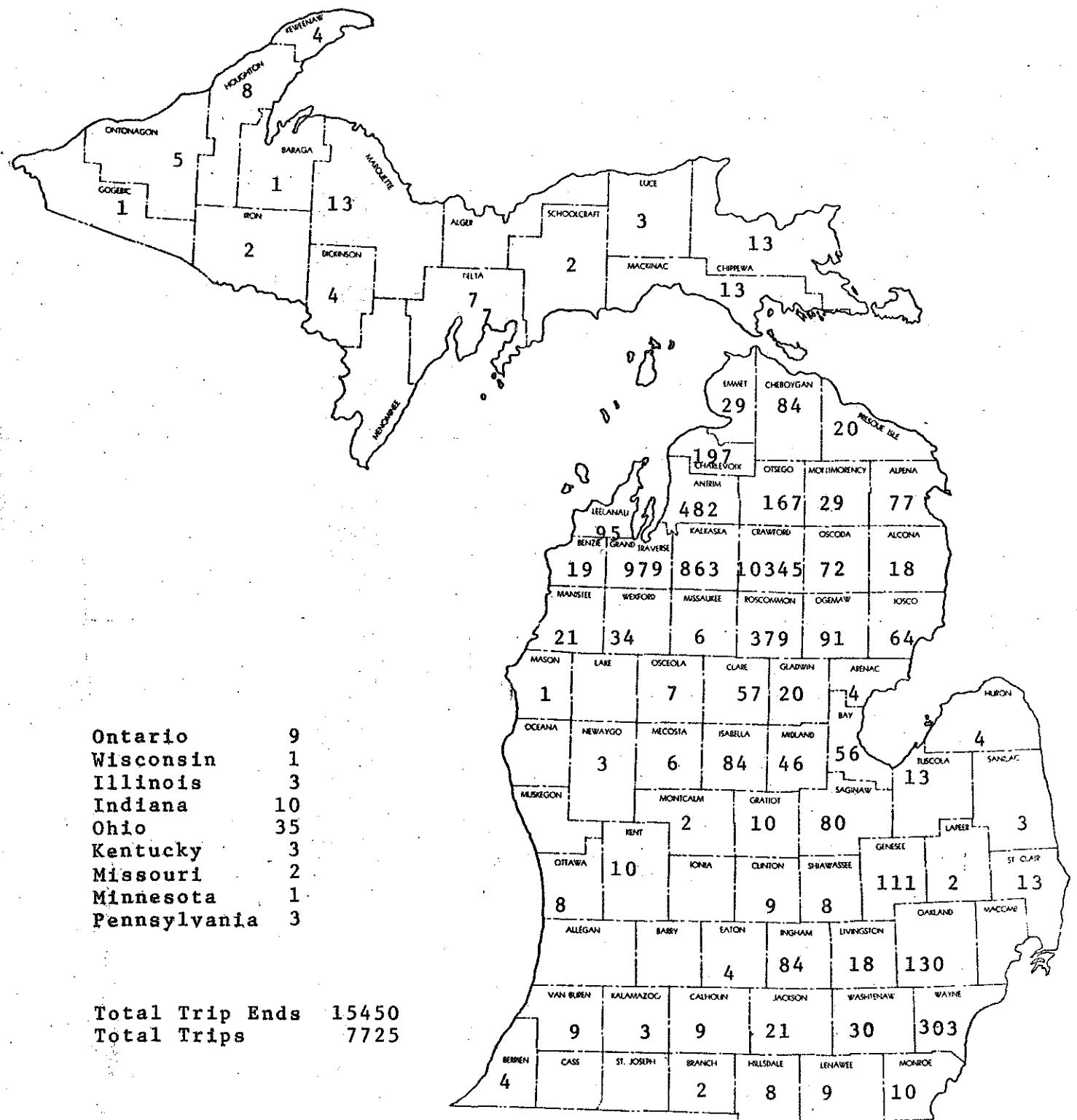


FIGURE 20

APPENDIX A

USE OF TABLES AND CHARTS

USE OF GENERAL PURPOSE SUMMARY TABLES

The table on page shows the distribution of trips passing through the station 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 = Busses
- 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 1968.70 trips which were shopping (3) trips made by passenger cars (1). This first figure in each cell will always be the raw number of trips. The second figure indicates that 94.76 percent of the trips with trip purpose 3 were passenger cars. The third figure indicates that 18.51 percent of the trips made by type 1 vehicles were shopping trips.

The last figure in the cell indicates that 15.91 percent of all trips in the table are of this type (i.e. vehicle type = 1 and trip purpose = 3). The row total at the right shows that 2077.51 trips, or 16.79 percent were shopping trips. The column total at the bottom shows that 10634.44 trips, or 85.96 percent were passenger cars. The total number of trips (12371.82) in this table is indicated at the lower right. There will be a table for each station for each interview date.

Digitized by srujanika@gmail.com

VEHICLE TYPE

8MAR74

GRAYLING EXTERNAL C&D GENERAL PURPOSE SUMMARY

PAGE 1

STATION NUMBER = 1
 EXIT-ENT STATION = 01 TO 05

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TGT %
	1	2	3	4	5	6	7	8		
1 1	247.54	3.62	85.38	1.76	91.82	38.25	0.00	0.00		468.37
T ROW %	52.85	0.77	18.23	0.38	19.60	8.17	0.00	0.00		36.34
COL %	27.09	5.10	59.54	46.81	77.52	100.00	0.00	0.00		
R TOT %	19.21	0.28	6.63	0.14	7.13	2.97	0.00	0.00		
I 2 2	74.22	1.30	13.14	0.00	0.00	0.00	0.00	0.00		88.66
P ROW %	83.71	1.47	14.82	0.00	0.00	0.00	0.00	0.00		6.88
COL %	8.12	1.83	9.16	0.00	0.00	0.00	0.00	0.00		
TOT %	5.76	0.10	1.02	0.00	0.00	0.00	0.00	0.00		
3 3	56.82	5.70	8.24	0.00	2.20	0.00	0.00	0.00		72.66
P ROW %	77.88	7.81	11.29	0.00	3.02	0.00	0.00	0.00		5.66
COL %	6.22	8.03	5.75	0.00	1.86	0.00	0.00	0.00		
U TOT %	4.41	0.44	0.64	0.00	0.17	0.00	0.00	0.00		
R 4 4	213.54	53.85	8.01	2.00	16.64	0.00	0.00	0.00		294.04
P ROW %	72.62	18.31	2.72	0.68	5.66	0.00	0.00	0.00		22.82
COL %	23.37	75.88	5.59	53.19	14.05	0.00	0.00	0.00		
TOT %	16.57	4.18	0.62	0.16	1.29	0.00	0.00	0.00		
O 5 5	252.69	5.40	25.44	0.00	6.60	0.00	0.00	0.00		290.13
S ROW %	87.10	1.86	8.77	0.00	2.27	0.00	0.00	0.00		22.51
COL %	27.65	7.61	17.74	0.00	5.57	0.00	0.00	0.00		
E TOT %	19.61	0.42	1.97	0.00	0.51	0.00	0.00	0.00		
6 6	69.08	1.10	3.18	0.00	1.18	0.00	0.00	0.00		74.54
P ROW %	92.68	1.48	4.27	0.00	1.58	0.00	0.00	0.00		5.76
COL %	7.56	1.55	2.22	0.00	1.00	0.00	0.00	0.00		
TOT %	5.36	0.09	0.25	0.00	0.09	0.00	0.00	0.00		
TOTAL	913.89	70.97	143.39	3.76	118.44	38.25	0.00	0.00		1288.70
TOT %	.70.92	5.51	11.13	0.29	9.19	2.97	0.00	0.00		

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

STATION 1

THROUGH TRIPS

GRAYLING EXTERNAL C&O GENERAL PURPOSE SUMMARY

STATION NUMBER = 1
 EXIT-ENT STATION = 1 TO
 VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL
	1	2	3	4	5	6	7	8	TOT 8
I 1 1	511.07	0.00	203.49	5.73	73.27	30.85	0.00	0.00	824.41
T ROW %	61.99	0.00	24.68	0.70	8.89	3.74	0.00	0.00	34.75
C COL %	28.06	0.00	59.35	33.75	65.55	92.89	0.00	0.00	
R TOT %	21.54	0.00	8.58	0.24	3.09	1.30	0.00	0.00	
I 2 2	127.36	0.00	15.59	1.42	3.93	0.00	0.00	0.00	188.30
T ROW %	85.88	0.00	10.51	0.96	2.65	0.00	0.00	0.00	6.25
P COL %	6.99	0.00	4.55	8.36	3.52	0.00	0.00	0.00	
R TOT %	5.37	0.00	0.66	0.06	0.17	0.00	0.00	0.00	
I 3 3	443.15	7.26	54.96	3.76	19.33	2.36	0.00	0.00	530.82
P ROW %	83.48	1.37	10.35	0.71	3.64	0.44	0.00	0.00	22.37
C COL %	24.33	15.80	16.03	22.14	17.29	7.11	0.00	0.00	
U TOT %	18.68	0.31	2.32	0.16	0.61	0.10	0.00	0.00	
R 4 4	210.72	31.26	12.39	6.07	8.57	0.00	0.00	0.00	269.01
T ROW %	78.33	11.62	4.61	2.26	3.19	0.00	0.00	0.00	11.34
P COL %	11.57	68.03	3.61	35.75	7.67	0.00	0.00	0.00	
R TOT %	8.88	1.32	0.52	0.26	0.36	0.00	0.00	0.00	
I 5 5	294.44	5.58	29.70	0.00	6.68	0.00	0.00	0.00	336.40
S ROW %	87.53	1.66	8.83	0.00	1.99	0.00	0.00	0.00	14.18
C COL %	16.16	12.14	8.66	0.00	5.98	0.00	0.00	0.00	
E TOT %	12.41	0.24	1.25	0.00	0.28	0.00	0.00	0.00	
I 6 6	234.87	1.85	26.76	0.00	0.00	0.00	0.00	0.00	263.48
T ROW %	89.14	0.70	10.16	0.00	0.00	0.00	0.00	0.00	11.11
P COL %	12.89	4.03	7.80	0.00	0.00	0.00	0.00	0.00	
R TOT %	9.90	0.08	1.13	0.00	0.00	0.00	0.00	0.00	
TOTAL	1821.61	45.95	342.89	16.98	111.78	33.21	0.00	0.00	2372.42
TOT %	76.78	1.94	14.45	0.72	4.71	1.40	0.00	0.00	

STATION 1

TERMINAL TRIPS

5MAR74

GRAYLING EXTERNAL O&D GENERAL PURPOSE SUMMARY

PAGE 3

STATION NUMBER = 1
 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 1	758.61	3.62	288.87	7.49	165.09	69.10	0.00	0.00	1292.78
T ROW %	58.68	0.28	22.34	0.58	12.77	5.35	0.00	0.00	35.31
P COL %	27.73	3.10	59.40	36.11	71.71	96.70	0.00	0.00	
R TOT %	20.72	0.10	7.89	0.20	4.51	1.89	0.00	0.00	
I 2 2	201.58	1.30	28.73	1.42	3.93	0.00	0.00	0.00	236.96
T ROW %	85.07	0.55	12.12	0.60	1.66	0.00	0.00	0.00	6.47
P COL %	7.37	1.11	5.91	6.85	1.71	0.00	0.00	0.00	
R TOT %	5.51	0.04	0.78	0.04	0.11	0.00	0.00	0.00	
I 3 3	499.97	12.96	63.20	3.76	21.53	2.36	0.00	0.00	603.78
T ROW %	82.81	2.15	10.47	0.62	3.57	0.39	0.00	0.00	16.49
P COL %	18.28	11.08	13.00	18.13	9.35	3.30	0.00	0.00	
R TOT %	13.66	0.35	1.73	0.10	0.59	0.06	0.00	0.00	
I 4 4	424.26	85.11	20.40	8.07	25.21	0.00	0.00	0.00	563.05
T ROW %	75.35	15.12	3.62	1.43	4.48	0.00	0.00	0.00	15.38
P COL %	15.51	72.79	4.20	38.91	10.95	0.00	0.00	0.00	
R TOT %	11.59	2.32	0.56	0.22	0.69	0.00	0.00	0.00	
I 5 5	547.13	10.98	55.14	0.00	13.28	0.00	0.00	0.00	626.53
T ROW %	87.33	1.75	8.80	0.00	2.12	0.00	0.00	0.00	17.11
P COL %	20.00	9.39	11.34	0.00	5.77	0.00	0.00	0.00	
R TOT %	14.94	0.30	1.51	0.00	0.36	0.00	0.00	0.00	
I 6 6	303.95	2.95	29.94	0.00	1.18	0.00	0.00	0.00	338.02
T ROW %	89.92	0.87	8.86	0.00	0.35	0.00	0.00	0.00	9.23
P COL %	11.11	2.52	6.16	0.00	0.51	0.00	0.00	0.00	
R TOT %	8.30	0.08	0.82	0.00	0.03	0.00	0.00	0.00	
TOTAL	2735.50	116.92	486.28	20.74	230.22	71.46	0.00	0.00	3661.12
TOT %	.74.72	3.19	13.28	0.57	6.29	1.95	0.00	0.00	

STATION 1

TOTAL TRIPS

GRAYLING EXTERNAL C&D GENERAL PURPOSE SUMMARY

STATION NUMBER = 2
 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 %
I 1 1	253.23	2.76	182.14	2.48	117.40	25.04	0.00	0.00	583.85
T ROK %	43.43	0.47	31.24	0.43	20.14	4.29	0.00	0.00	53.42
P COL %	36.43	26.80	77.57	100.00	94.91	100.00	0.00	0.00	
E TOT %	23.20	0.25	16.69	0.23	10.76	2.29	0.00	0.00	
I 2 2	48.60	0.00	10.82	0.00	0.00	0.00	0.00	0.00	59.42
T ROK %	81.79	0.00	18.21	0.00	0.00	0.00	0.00	0.00	5.44
P COL %	6.99	0.00	4.61	0.00	0.00	0.00	0.00	0.00	
E TOT %	4.45	0.00	0.99	0.00	0.00	0.00	0.00	0.00	
I 3 3	38.09	1.10	11.28	0.00	1.25	0.00	0.00	0.00	51.72
T ROK %	73.65	2.13	21.81	0.00	2.42	0.00	0.00	0.00	4.74
P COL %	5.48	10.68	4.80	0.00	1.01	0.00	0.00	0.00	
E TOT %	3.49	0.10	1.03	0.00	0.11	0.00	0.00	0.00	
I 4 4	63.73	4.00	3.30	0.00	2.52	0.00	0.00	0.00	73.55
T ROK %	86.65	5.44	4.49	0.00	3.43	0.00	0.00	0.00	6.74
P COL %	9.17	38.83	1.41	0.00	2.04	0.00	0.00	0.00	
E TOT %	5.84	0.37	0.30	0.00	0.23	0.00	0.00	0.00	
I 5 5	204.16	1.34	21.47	0.00	1.26	0.00	0.00	0.00	228.23
T ROK %	89.45	0.59	9.41	0.00	0.55	0.00	0.00	0.00	20.91
P COL %	29.37	13.01	9.14	0.00	1.02	0.00	0.00	0.00	
E TOT %	18.70	0.12	1.97	0.00	0.12	0.00	0.00	0.00	
I 6 6	87.35	1.10	5.80	0.00	1.26	0.00	0.00	0.00	95.51
T ROK %	91.46	1.15	6.07	0.00	1.32	0.00	0.00	0.00	8.75
P COL %	12.57	10.68	2.47	0.00	1.02	0.00	0.00	0.00	
E TOT %	8.00	0.10	0.53	0.00	0.12	0.00	0.00	0.00	
TOTAL	695.16	10.30	234.81	2.48	123.69	25.04	0.00	0.00	1091.48
TOT %	.63.69	0.94	21.51	0.23	11.33	2.29	0.00	0.00	

STATION 2

THROUGH TRIPS

EMAR74

GRAYLING EXTERNAL Q&D GENERAL PURPOSE SUMMARY

PAGE 5

STATION NUMBER = 2
 EXIT-ENT. STATION = TO

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL
	1	2	3	4	5	6	7	8	TGT 2
I 1 1	554.93	1.33	202.99	3.59	78.65	17.95	0.00	0.00	859.44
T ROW %	64.57	0.15	23.62	0.42	9.15	2.09	0.00	0.00	36.15
R COL %	29.64	5.06	55.59	43.20	89.99	100.00	0.00	0.00	
R TOT %	23.34	0.06	8.54	0.15	3.31	0.76	0.00	0.00	
I 2 2	185.40	0.00	26.15	0.00	0.00	0.00	0.00	0.00	211.55
P ROW %	87.64	0.00	12.36	0.00	0.00	0.00	0.00	0.00	8.90
P COL %	9.90	0.00	7.16	0.00	0.00	0.00	0.00	0.00	
P TOT %	7.80	0.00	1.10	0.00	0.00	0.00	0.00	0.00	
P 3 3	491.39	10.69	55.03	3.31	6.25	0.00	0.00	0.00	566.67
P ROW %	86.72	1.89	9.71	0.58	1.10	0.00	0.00	0.00	23.84
P COL %	26.25	40.63	15.07	39.83	7.15	0.00	0.00	0.00	
P U TOT %	20.67	0.45	2.31	0.14	0.26	0.00	0.00	0.00	
A 4 4	76.29	10.47	6.55	0.00	2.50	0.00	0.00	0.00	95.81
A ROW %	79.63	10.93	6.84	0.00	2.61	0.00	0.00	0.00	4.03
A P COL %	4.07	39.79	1.79	0.00	2.86	0.00	0.00	0.00	
A P TOT %	3.21	0.44	0.28	0.00	0.11	0.00	0.00	0.00	
O 5 5	363.88	1.41	56.45	1.41	0.00	0.00	0.00	0.00	423.15
S ROW %	85.99	0.33	13.34	0.33	0.00	0.00	0.00	0.00	17.80
S COL %	19.44	5.36	15.46	16.97	0.00	0.00	0.00	0.00	
S E TOT %	15.31	0.06	2.37	0.06	0.00	0.00	0.00	0.00	
6 6	200.32	2.41	18.01	0.00	0.00	0.00	0.00	0.00	220.74
ROW %	90.75	1.09	8.16	0.00	0.00	0.00	0.00	0.00	9.29
COL %	10.70	9.16	4.93	0.00	0.00	0.00	0.00	0.00	
TOT %	8.43	0.10	0.76	0.00	0.00	0.00	0.00	0.00	
<hr/>									
TOTAL	1872.21	26.31	365.18	8.31	87.40	17.95	0.00	0.00	2377.36
TOT %	78.75	1.11	15.36	0.35	3.68	0.76	0.00	0.00	

STATION 2

TERMINAL TRIPS

GRAYLING EXTERNAL C&D GENERAL PURPOSE SUMMARY

STATION NUMBER = 2
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 2
I 1 1	808.16	4.09	385.13	6.07	196.05	42.99	0.00	0.00	1442.49
T ROW %	56.03	0.28	26.70	0.42	13.59	2.98	0.00	0.00	41.58
P COL %	31.48	11.17	64.19	56.26	92.88	100.00	0.00	0.00	
R TOT %	23.30	0.12	11.10	0.17	5.65	1.24	0.00	0.00	
I 2 2	234.00	0.00	36.97	0.00	0.00	0.00	0.00	0.00	270.97
T ROW %	86.36	0.00	13.64	0.00	0.00	0.00	0.00	0.00	7.81
P COL %	9.11	0.00	6.16	0.00	0.00	0.00	0.00	0.00	
R TOT %	6.75	0.00	1.07	0.00	0.00	0.00	0.00	0.00	
I 3 3	529.48	11.79	66.31	3.31	7.50	0.00	0.00	0.00	618.39
T ROW %	85.62	1.91	10.72	0.54	1.21	0.00	0.00	0.00	17.83
P COL %	20.62	32.20	11.05	30.68	3.55	0.00	0.00	0.00	
R TOT %	15.26	0.34	1.91	0.10	0.22	0.00	0.00	0.00	
I 4 4	140.02	14.47	9.85	0.00	5.02	0.00	0.00	0.00	169.36
T ROW %	82.68	8.54	5.82	0.00	2.96	0.00	0.00	0.00	4.88
P COL %	5.45	39.52	1.64	0.00	2.38	0.00	0.00	0.00	
R TOT %	4.04	0.42	0.28	0.00	0.14	0.00	0.00	0.00	
I 5 5	568.04	2.75	77.92	1.41	1.26	0.00	0.00	0.00	651.38
T ROW %	87.21	0.42	11.96	0.22	0.19	0.00	0.00	0.00	18.78
P COL %	22.13	7.51	12.99	13.07	0.60	0.00	0.00	0.00	
R TOT %	16.38	0.08	2.25	0.04	0.04	0.00	0.00	0.00	
I 6 6	287.67	3.51	23.81	0.00	1.26	0.00	0.00	0.00	316.25
T ROW %	90.96	1.11	7.53	0.00	0.40	0.00	0.00	0.00	9.12
P COL %	11.20	9.59	3.97	0.00	0.60	0.00	0.00	0.00	
R TOT %	8.29	0.10	0.69	0.00	0.04	0.00	0.00	0.00	
TOTAL	2567.37	36.61	599.99	10.79	211.09	42.99	0.00	0.00	3468.84
TOT %	.74.01	1.06	17.30	0.31	6.09	1.24	0.00	0.00	

STATION 2

TOTAL TRIPS

8MAR74

GRAYLING EXTERNAL C&D GENERAL PURPOSE SUMMARY

PAGE 7

STATION NUMBER = 3
 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 1	227.52	2.46	80.88	1.34	38.27	60.16	0.00	0.00	410.63
T ROW %	55.41	0.60	19.70	0.33	9.32	14.65	0.00	0.00	43.69
R COL %	33.97	12.11	66.01	100.00	67.54	86.76	0.00	0.00	
R TOT %	24.21	0.26	8.61	0.14	4.07	6.40	0.00	0.00	
I 2 2	81.06	2.38	16.76	0.00	2.27	1.38	0.00	0.00	103.85
P ROW %	78.05	2.29	16.14	0.00	2.19	1.33	0.00	0.00	11.05
P COL %	12.10	11.72	13.66	0.00	4.01	1.99	0.00	0.00	
P TOT %	8.62	0.25	1.78	0.00	0.24	0.15	0.00	0.00	
P 3 3	27.29	4.66	1.06	0.00	1.38	0.00	0.00	0.00	34.39
P ROW %	79.35	13.55	3.08	0.00	4.01	0.00	0.00	0.00	3.66
P COL %	4.07	22.94	0.87	0.00	2.44	0.00	0.00	0.00	
P TOT %	2.90	0.50	0.11	0.00	0.15	0.00	0.00	0.00	
R 4 4	120.28	10.03	10.86	0.00	8.98	6.66	0.00	0.00	156.83
R ROW %	76.69	6.40	6.94	0.00	5.73	4.25	0.00	0.00	16.69
R COL %	17.96	49.38	8.88	0.00	15.85	9.60	0.00	0.00	
R TOT %	12.80	1.07	1.16	0.00	0.96	0.71	0.00	0.00	
S 5 5	158.66	0.78	7.26	0.00	5.76	1.14	0.00	0.00	173.60
S ROW %	91.39	0.45	4.18	0.00	3.32	0.66	0.00	0.00	18.47
S COL %	23.69	3.84	5.92	0.00	10.17	1.64	0.00	0.00	
S TOT %	16.88	0.08	0.77	0.00	0.61	0.12	0.00	0.00	
6 6	54.90	0.00	5.68	0.00	0.00	0.00	0.00	0.00	60.58
ROW %	90.62	0.00	9.38	0.00	0.00	0.00	0.00	0.00	6.45
COL %	8.20	0.00	4.64	0.00	0.00	0.00	0.00	0.00	
TOT %	5.84	0.00	6.60	0.00	0.00	0.00	0.00	0.00	
TOTAL	669.71	20.31	122.52	1.34	56.66	69.34	0.00	0.00	939.88
TOT %	.71.25	2.16	13.04	0.14	6.03	7.38	0.00	0.00	

STATION 3

THROUGH TRIPS

GRAYLING EXTERNAL C&D GENERAL PURPOSE SUMMARY

STATION NUMBER = 3
 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 X
I 1	333.35	4.74	169.91	7.54	160.26	12.81	0.00	0.00	688.61
T ROW %	48.41	0.69	24.67	1.09	23.27	1.86	0.00	0.00	40.21
P COL %	27.96	35.35	58.78	54.64	83.71	100.00	0.00	0.00	
R TOT %	19.46	0.28	9.92	0.44	9.36	0.75	0.00	0.00	
I 2	157.14	2.16	38.15	1.14	6.90	0.00	0.00	0.00	205.49
T ROW %	76.47	1.05	18.57	0.55	3.36	0.00	0.00	0.00	12.00
P COL %	13.18	16.11	13.20	8.26	3.60	0.00	0.00	0.00	
R TOT %	9.17	0.13	2.23	0.07	0.40	0.00	0.00	0.00	
I 3	325.21	0.00	34.16	2.46	17.40	0.00	0.00	0.00	379.23
T ROW %	85.76	0.00	9.01	0.65	4.59	0.00	0.00	0.00	22.14
P COL %	27.28	0.00	11.82	17.83	9.09	0.00	0.00	0.00	
R TOT %	18.99	0.00	1.99	0.14	1.02	0.00	0.00	0.00	
I 4	62.74	2.67	7.49	1.33	4.12	0.00	0.00	0.00	78.35
T ROW %	80.08	3.41	9.56	1.70	5.26	0.00	0.00	0.00	4.57
P COL %	5.26	19.91	2.59	9.64	2.15	0.00	0.00	0.00	
R TOT %	3.66	0.16	0.44	0.08	0.24	0.00	0.00	0.00	
I 5	189.93	2.47	20.07	1.33	1.36	0.00	0.00	0.00	215.18
T ROW %	88.27	1.15	9.33	0.62	0.64	0.00	0.00	0.00	12.56
P COL %	15.93	18.42	6.94	9.64	0.72	0.00	0.00	0.00	
R TOT %	11.09	0.14	1.17	0.08	0.08	0.00	0.00	0.00	
I 6	123.82	1.37	19.30	0.00	1.38	0.00	0.00	0.00	145.87
T ROW %	84.88	0.94	13.23	0.00	0.95	0.00	0.00	0.00	8.52
P COL %	10.39	10.22	6.68	0.00	0.72	0.00	0.00	0.00	
R TOT %	7.23	0.08	1.13	0.00	0.08	0.00	0.00	0.00	
TOTAL	1192.19	13.41	289.08	13.80	191.44	12.81	0.00	0.00	1712.73
TOT X	.69.61	0.78	16.88	0.81	11.18	0.75	0.00	0.00	

STATION 3

TERMINAL TRIPS

6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000

6MART4

GRAYLING EXTERNAL D&D GENERAL PURPOSE SUMMARY

PAGE 9

STATION NUMBER = 3

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		
I 1	560.87	7.20	250.79	8.88	198.53	72.97	0.00	0.00		
T ROW %	51.02	0.65	22.81	0.81	18.06	6.64	0.00	0.00		
P COL %	30.12	21.35	60.93	58.65	80.02	88.83	0.00	0.00		
E TOT %	21.14	0.27	9.45	0.33	7.48	2.75	0.00	0.00		
I 2	238.20	4.54	54.91	1.14	9.17	1.38	0.00	0.00		
T ROW %	77.00	1.47	17.75	0.37	2.96	0.45	0.00	0.00		
P COL %	12.79	13.46	13.34	7.53	3.70	1.68	0.00	0.00		
E TOT %	8.98	0.17	2.07	0.04	0.35	0.05	0.00	0.00		
I 3	352.50	4.66	35.22	2.46	18.78	0.00	0.00	0.00		
T ROW %	85.22	1.13	8.52	0.59	4.54	0.00	0.00	0.00		
P COL %	18.93	13.82	8.56	16.25	7.57	0.00	0.00	0.00		
E TOT %	13.29	0.18	1.33	0.09	0.71	0.00	0.00	0.00		
I 4	183.02	12.70	18.37	1.33	13.10	6.66	0.00	0.00		
T ROW %	77.82	5.40	7.81	0.57	5.57	2.83	0.00	0.00		
P COL %	9.83	37.66	4.46	8.78	5.28	8.11	0.00	0.00		
E TOT %	6.90	0.48	0.69	0.05	0.49	0.25	0.00	0.00		
I 5	348.59	3.25	27.33	1.33	7.14	1.14	0.00	0.00		
T ROW %	89.66	0.84	7.03	0.34	1.84	0.29	0.00	0.00		
P COL %	18.72	9.64	6.64	8.78	2.88	1.39	0.00	0.00		
E TOT %	13.14	0.12	1.02	0.05	0.27	0.04	0.00	0.00		
I 6	178.72	1.37	24.98	0.00	1.38	0.00	0.00	0.00		
T ROW %	86.57	0.66	12.10	0.00	0.67	0.00	0.00	0.00		
P COL %	9.60	4.06	6.07	0.00	0.56	0.00	0.00	0.00		
E TOT %	6.74	0.05	0.94	0.00	0.05	0.00	0.00	0.00		
TOTAL	1861.90	33.72	411.60	15.14	248.10	82.15	0.00	0.00	2652.61	
TOT %	.70.19	1.27	15.52	0.57	9.35	3.10	0.00	0.00		

STATION 3

TOTAL TRIPS

GRAYLING EXTERNAL G&D GENERAL PURPOSE SUMMARY

STATION NUMBER = 4
 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 S
I 1 1	655.67	9.70	119.96	0.00	211.40	159.75	0.00	0.00	1156.48
T ROW %	56.70	0.84	10.37	0.00	18.28	13.81	0.00	0.00	28.42
P COL %	21.50	4.40	48.91	0.00	60.52	85.02	0.00	0.00	
R TOT %	16.11	0.24	2.95	0.00	5.20	3.93	0.00	0.00	
I 2 2	232.13	10.55	7.28	0.00	10.30	2.84	0.00	0.00	263.10
T ROW %	88.23	4.01	2.77	0.00	3.91	1.08	0.00	0.00	6.47
P COL %	7.61	4.78	2.97	0.00	2.95	1.51	0.00	0.00	
R TOT %	5.70	0.26	0.18	0.00	0.25	0.07	0.00	0.00	
I 3 3	90.30	4.46	0.00	0.00	0.00	0.00	0.00	0.00	94.76
T ROW %	95.29	4.71	0.00	0.00	0.00	0.00	0.00	0.00	2.33
P COL %	2.96	2.02	0.00	0.00	0.00	0.00	0.00	0.00	
R U TOT %	2.22	0.11	0.00	0.00	0.00	0.00	0.00	0.00	
I 4 4	1062.88	145.92	56.49	11.79	78.46	8.67	0.00	0.00	1364.21
T ROW %	77.91	10.70	4.14	0.86	5.75	0.64	0.00	0.00	33.53
P COL %	34.86	66.16	23.03	70.05	22.46	4.61	0.00	0.00	
R TOT %	26.12	3.59	1.39	0.29	1.93	0.21	0.00	0.00	
I 5 5	769.35	40.64	39.41	3.90	45.49	16.63	0.00	0.00	915.42
T ROW %	84.04	4.44	4.31	0.43	4.97	1.82	0.00	0.00	22.50
P COL %	25.23	18.42	16.07	23.17	13.02	8.85	0.00	0.00	
R E TOT %	18.91	1.00	0.97	0.10	1.12	0.41	0.00	0.00	
I 6 6	238.73	9.30	22.15	1.14	3.66	0.00	0.00	0.00	274.98
T ROW %	86.82	3.38	8.06	0.41	1.33	0.00	0.00	0.00	6.76
P COL %	7.63	4.22	9.03	6.77	1.05	0.00	0.00	0.00	
R TOT %	5.87	0.23	0.54	0.03	0.09	0.00	0.00	0.00	
TOTAL	3049.06	220.57	245.29	16.83	349.31	187.89	0.00	0.00	4068.95
TOT S	.74.93	5.42	6.03	0.41	8.58	4.62	0.00	0.00	

STATION 4

THROUGH TRIPS

8MAR74

GRAYLING EXTERNAL O&D GENERAL PURPOSE SUMMARY

PAGE 11

STATION NUMBER = 4
 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 %
I 1 1	657.34	8.04	135.63	0.00	219.23	49.48	0.00	0.00	1069.72
T ROW %	61.45	0.75	12.68	0.00	20.49	4.63	0.00	0.00	32.88
CCL %	27.05	6.57	57.14	0.00	57.43	75.88	0.00	0.00	
R TOT %	20.20	0.25	4.17	0.00	6.74	1.52	0.00	0.00	
I 2 2	183.64	4.52	15.94	0.00	9.87	3.27	0.00	0.00	217.26
T ROW %	84.53	2.08	7.34	0.00	4.54	1.51	0.00	0.00	6.68
P COL %	7.56	3.70	6.72	0.00	2.59	5.01	0.00	0.00	
T TOT %	5.64	0.14	0.49	0.00	0.30	0.10	0.00	0.00	
I 3 3	670.56	36.18	35.62	2.62	65.68	3.66	0.00	0.00	814.32
P ROW %	82.35	4.44	4.37	0.32	8.07	0.45	0.00	0.00	25.03
COL %	27.59	29.58	15.01	16.07	17.21	5.61	0.00	0.30	
U TOT %	20.61	1.11	1.09	0.08	2.02	0.11	0.00	0.00	
R 4 4	242.75	60.60	25.82	9.18	40.04	8.80	0.00	0.00	387.19
T ROW %	62.70	15.65	6.67	2.37	10.34	2.27	0.00	0.00	11.90
P COL %	9.99	49.55	10.88	56.32	10.49	13.49	0.00	0.00	
T TOT %	7.46	1.86	0.79	0.28	1.23	0.27	0.00	0.00	
A 5 C	438.27	12.97	14.91	2.25	25.85	0.00	0.00	0.00	494.25
S ROW %	88.67	2.62	3.02	0.46	5.23	0.00	0.00	0.00	15.19
COL %	18.03	10.60	6.28	13.80	6.77	0.00	0.00	0.00	
E TOT %	13.47	0.40	0.46	0.07	0.79	0.00	0.00	0.00	
I 6 6	237.94	0.00	9.43	2.25	21.07	0.00	0.00	0.00	270.69
T ROW %	87.90	0.00	3.48	0.83	7.78	0.00	0.00	0.00	8.32
P COL %	9.79	0.00	3.97	13.80	5.52	0.00	0.00	0.00	
T TOT %	7.31	0.00	0.29	0.07	0.65	0.00	0.00	0.00	
TOTAL	2430.50	122.31	237.35	16.30	381.74	65.21	0.00	0.00	3253.41
TOT %	74.71	3.76	7.30	0.50	11.73	2.00	0.00	0.00	

STATION 4

TERMINAL TRIPS

GRAYLING EXTERNAL C&D GENERAL PURPOSE SUMMARY

STATION NUMBER = 4
 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		
I 1 1	1313.01	17.74	255.59	0.00	430.63	209.23	0.00	0.00		
T ROW %	58.98	0.80	11.48	0.00	19.34	9.40	0.00	0.00		
P COL %	23.96	5.17	52.96	0.00	58.91	82.67	0.00	0.00		
R TOT %	17.93	0.24	3.49	0.00	5.88	2.86	0.00	0.00		
I 2 2	415.77	15.07	23.22	0.00	20.17	6.11	0.00	0.00		
T ROW %	86.56	3.14	4.83	0.00	4.20	1.27	0.00	0.00		
P COL %	7.59	4.40	4.81	0.00	2.76	2.41	0.00	0.00		
R TOT %	5.68	0.21	0.32	0.00	0.28	0.08	0.00	0.00		
I 3 3	760.86	40.64	35.62	2.62	65.68	3.66	0.00	0.00		
P ROW %	83.70	4.47	3.92	0.29	7.22	0.40	0.00	0.00		
P COL %	13.89	11.85	7.38	7.91	6.98	1.45	0.00	0.00		
R TOT %	10.39	0.56	0.49	0.04	0.90	0.05	0.00	0.00		
I 4 4	1305.63	206.52	82.31	20.97	118.50	17.47	0.00	0.00		
T ROW %	74.55	11.79	4.70	1.20	6.77	1.00	0.00	0.00		
P COL %	23.83	60.23	17.05	63.30	16.21	6.90	0.00	0.00		
R TOT %	17.83	2.82	1.12	0.29	1.62	0.24	0.00	0.00		
I 5 5	1207.62	53.61	54.32	6.15	71.34	16.63	0.00	0.00		
T ROW %	85.67	3.80	3.85	0.44	5.06	1.18	0.00	0.00		
P COL %	22.04	15.64	11.25	18.56	9.76	6.57	0.00	0.00		
R TOT %	16.49	0.73	0.74	0.08	0.97	0.23	0.00	0.00		
I 6 6	476.67	9.30	31.58	3.39	24.73	0.00	0.00	0.00		
T ROW %	87.35	1.70	5.79	0.62	4.53	0.00	0.00	0.00		
P COL %	8.70	2.71	6.54	10.23	3.38	0.00	0.00	0.00		
R TOT %	6.51	0.13	0.43	0.05	0.34	0.00	0.00	0.00		
TOTAL	5479.56	342.88	482.64	33.13	731.05	253.10	0.00	0.00	7322.36	
TOT %	74.83	4.68	6.59	0.45	9.98	3.46	0.00	0.00		

STATION 4

TOTAL TRIPS

GRAYLING EXTERNAL G&D GENERAL PURPOSE SUMMARY

STATION NUMBER = 5

EXIT-ENT STATION = 01 TO 05

VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL TCT \$
	1	2	3	4	5	6	7	8	
I 1	631.54	7.16	206.99	2.88	151.05	126.43	0.00	0.00	1126.05
T ROW %	56.08	0.64	18.38	0.26	13.41	11.23	0.00	0.00	35.40
COL %	27.65	4.31	66.39	12.11	61.11	85.97	0.00	0.00	
R TOT %	19.85	0.23	6.51	0.09	4.75	3.97	0.00	0.00	
I 2	274.49	17.28	23.44	4.90	2.20	0.00	0.00	0.00	322.31
T ROW %	85.16	5.36	7.27	1.52	0.68	0.00	0.00	0.00	10.13
P COL %	12.02	10.39	7.52	20.61	0.29	0.00	0.00	0.00	
T TOT %	8.63	0.54	0.74	0.15	0.07	0.00	0.00	0.00	
I 3	95.60	1.90	5.52	0.00	4.00	2.28	0.00	0.00	109.30
P ROW %	87.47	1.74	5.05	0.00	3.66	2.09	0.00	0.00	3.44
COL %	4.19	1.14	1.77	0.00	1.62	1.55	0.00	0.00	
U TOT %	3.01	0.06	0.17	0.00	0.13	0.07	0.00	0.00	
R 4	549.36	124.95	31.58	14.18	63.35	16.92	1.44	0.00	801.78
T ROW %	68.52	15.58	3.94	1.77	7.90	2.11	0.16	0.00	25.20
P COL %	24.06	75.14	10.13	59.63	25.63	11.50	100.00	0.00	
T TOT %	17.27	3.93	0.99	0.45	1.99	0.53	0.05	0.00	
I 5	556.03	13.38	34.70	0.00	13.98	1.44	0.00	0.00	619.33
S ROW %	89.75	2.16	5.60	0.00	2.26	0.23	0.00	0.00	19.47
COL %	24.35	8.05	11.13	0.00	5.66	0.98	0.00	0.00	
E TCT %	17.48	0.42	1.06	0.00	0.44	0.05	0.00	0.00	
I 6	176.68	1.62	9.54	1.82	12.60	0.00	0.00	0.00	202.26
T ROW %	87.35	0.80	4.72	0.90	6.23	0.00	0.00	0.00	6.36
COL %	7.74	0.97	3.06	7.65	5.10	0.00	0.00	0.00	
T TOT %	5.55	0.05	0.30	0.06	0.40	0.00	0.00	0.00	
TOTAL	2283.70	166.29	311.77	23.78	247.18	147.07	1.44	0.00	3181.23
TOT %	71.79	5.23	9.80	0.75	7.77	4.62	0.05	0.00	

STATION 5

THROUGH TRIPS

GRAYLING EXTERNAL O&D GENERAL PURPOSE SUMMARY

STATION NUMBER = 5
 EXIT=ENT STATION = TC
 VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TOT %
	1	2	3	4	5	6	7	8		
I 1 1	1022.05	0.00	309.00	1.30	267.00	22.80	0.00	0.00		
I ROW %	63.01	0.00	19.05	0.08	16.46	1.41	0.00	0.00	1622.15	
P COL %	27.89	0.00	59.47	38.81	87.28	100.00	0.00	0.00		35.71
P TOT %	22.50	0.00	6.80	0.03	5.88	0.50	0.00	0.00		
I 2 2	393.91	7.36	39.01	0.00	9.92	0.00	0.00	0.00		
I ROW %	87.50	1.63	8.67	0.00	2.20	0.00	0.00	0.00	450.20	
P COL %	10.75	27.83	7.51	0.00	3.24	0.00	0.00	0.00		9.91
P TOT %	8.67	0.16	0.86	0.00	0.22	0.00	0.00	0.00		
I 3 3	1096.46	1.78	89.94	0.00	8.36	0.00	0.00	0.00		
P ROW %	91.64	0.15	7.52	0.00	0.70	0.00	0.00	0.00	1196.54	
P COL %	29.93	6.73	17.31	0.00	2.73	0.00	0.00	0.00		26.34
P TOT %	24.14	0.04	1.98	0.00	0.18	0.00	0.00	0.00		
I 4 4	169.45	15.64	15.92	0.00	3.78	0.00	0.00	0.00		
I ROW %	82.74	7.64	7.77	0.00	1.85	0.00	0.00	0.00	204.79	
P COL %	4.62	59.13	3.06	0.00	1.24	0.00	0.00	0.00		4.51
P TOT %	3.73	0.34	0.35	0.00	0.08	0.00	0.00	0.00		
I 5 5	590.47	1.67	33.85	2.05	12.03	0.00	0.00	0.00		
S ROW %	92.25	0.26	5.29	0.32	1.88	0.00	0.00	0.00	640.07	
S COL %	16.12	6.31	6.52	61.19	3.93	0.00	0.00	0.00		14.09
S TOT %	13.00	0.04	0.75	0.05	0.26	0.00	0.00	0.00		
I 6 6	391.68	0.00	31.84	0.00	4.81	0.00	0.00	0.00		
I ROW %	91.44	0.00	7.43	0.00	1.12	0.00	0.00	0.00	428.33	
P COL %	10.69	0.00	6.13	0.00	1.57	0.00	0.00	0.00		9.43
P TOT %	8.62	0.00	0.70	0.00	0.11	0.00	0.00	0.00		
TOTAL	3664.02	26.45	519.56	3.35	305.90	22.80	0.00	0.00	4542.08	
TOT %	.80.67	0.58	11.44	0.07	6.73	0.50	0.00	0.00		

STATION 5

TERMINAL TRIPS

8MAR74

GRAYLING EXTERNAL C&D GENERAL PURPOSE SUMMARY

PAGE 15

		STATION NUMBER = 5									
		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	1	1653.59	7.16	515.99	4.18	418.05	149.23	0.00	0.00		2748.20
T	ROW %	60.17	0.26	18.78	0.15	15.21	5.43	0.00	0.00		35.58
P	COL %	27.80	3.71	62.07	15.41	75.59	87.85	0.00	0.00		
R	TOT %	21.41	0.09	6.68	0.05	5.41	1.93	0.00	0.00		
I	2	668.40	24.64	62.45	4.90	12.12	0.00	0.00	0.00		772.51
T	ROW %	86.52	3.19	8.08	0.63	1.57	0.00	0.00	0.00		10.00
P	COL %	11.24	12.78	7.51	18.06	2.19	0.00	0.00	0.00		
R	TOT %	8.65	0.32	0.81	0.06	0.16	0.00	0.00	0.00		
3	3	1192.06	3.68	95.46	0.00	12.36	2.28	0.00	0.00		1305.84
P	ROW %	91.29	0.28	7.31	0.00	0.95	0.17	0.00	0.00		16.91
P	COL %	20.04	1.91	11.48	0.00	2.23	1.34	0.00	0.00		
U	TOT %	15.43	0.05	1.24	0.00	0.16	0.03	0.00	0.00		
R	4	718.81	140.59	47.50	14.18	67.13	16.92	1.44	0.00		1006.57
A	ROW %	71.41	13.97	4.72	1.41	6.67	1.68	0.14	0.00		13.03
P	COL %	12.09	72.94	5.71	52.27	12.14	9.96	100.00	0.00		
R	TOT %	9.31	1.82	0.62	0.18	0.87	0.22	0.02	0.00		
O	5	1146.50	15.05	68.55	2.05	26.01	1.44	0.00	0.00		1259.60
S	ROW %	91.02	1.19	5.44	0.16	2.06	0.11	0.00	0.00		16.31
C	COL %	19.28	7.81	8.25	7.56	4.70	0.85	0.00	0.00		
E	TOT %	14.84	0.19	0.89	0.03	0.34	0.02	0.00	0.00		
6	6	568.36	1.62	41.38	1.82	17.41	0.00	0.00	0.00		630.59
R	ROW %	90.13	0.26	6.56	0.29	2.76	0.00	0.00	0.00		6.16
C	COL %	9.56	0.84	4.98	6.71	3.15	0.00	0.00	0.00		
T	TOT %	7.36	0.02	0.54	0.02	0.23	0.00	0.00	0.00		
TOTAL		5947.72	192.74	831.33	27.13	553.08	169.87	1.44	0.00		7723.31
TOT %		.77.01	2.56	10.76	0.35	7.16	2.20	0.02	0.00		

STATION 5

TOTAL TRIPS

12MART74

GRAYLING ALL STATION GENERAL PURPOSE SUMMARY

PAGE 4

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	1022.52	12.85	341.93	4.23	308.12	213.76	0.00	0.00		
T ROW %	53.72	0.68	17.96	0.22	16.19	11.23	0.00	0.00		1903.41
COL %	26.22	5.08	63.42	17.03	66.92	87.18	0.00	0.00		35.10
R TOT %	18.86	0.24	6.31	0.08	5.68	3.94	0.00	0.00		
I 2	361.06	16.20	36.47	2.45	7.95	2.11	0.00	0.00		
T ROW %	84.71	3.80	8.56	0.57	1.87	0.50	0.00	0.00		426.24
P COL %	9.26	6.41	6.76	9.86	1.73	0.86	0.00	0.00		7.86
TOT %	6.66	0.30	0.67	0.05	0.15	0.04	0.00	0.00		
I 3	157.04	8.91	13.05	0.00	5.04	1.14	0.00	0.00		
P ROW %	84.80	4.81	7.05	0.00	2.72	0.62	0.00	0.00		185.18
COL %	4.03	3.53	2.42	0.00	1.09	0.46	0.00	0.00		3.42
U TOT %	2.90	0.16	0.24	0.00	0.09	0.02	0.00	0.00		
R 4	1055.11	177.04	57.46	14.73	93.01	18.20	0.72	0.00		
T ROW %	74.50	12.50	4.06	1.04	6.57	1.29	0.05	0.00		1416.27
P COL %	27.06	70.05	10.66	59.30	20.20	7.42	100.00	0.00		26.12
TOT %	19.46	3.27	1.06	0.27	1.72	0.34	0.01	0.00		
I 5	983.98	31.16	65.88	1.95	36.93	9.99	0.00	0.00		
S ROW %	87.09	2.76	5.83	0.17	3.27	0.86	0.00	0.00		1129.89
COL %	25.24	12.33	12.22	7.85	8.02	4.07	0.00	0.00		20.84
E TOT %	18.15	0.57	1.22	0.04	0.68	0.18	0.00	0.00		
I 6	319.36	6.56	24.32	1.46	9.35	0.00	0.00	0.00		
T ROW %	88.45	1.82	6.74	0.41	2.59	0.00	0.00	0.00		361.07
COL %	8.19	2.60	4.51	5.96	2.03	0.00	0.00	0.00		6.66
TOT %	5.89	0.12	0.45	0.03	0.17	0.00	0.00	0.00		
TOTAL	3899.07	252.72	539.11	24.84	460.40	245.20	0.72	0.00		
TOT %	71.91	4.66	9.94	0.46	8.49	4.52	0.01	0.00		3422.06

ALL STATIONS
THROUGH TRIPS

12MAR74

PAGE 1

GRAYLING ALL STATION GENERAL PURPOSE SUMMARY

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 E
I 1	3078.74	14.11	1021.02	18.16	798.41	133.89	0.00	0.00	3664.33
T ROW X	60.79	0.26	20.16	0.36	15.77	2.64	0.00	0.00	35.52
P COL X	28.04	6.02	58.21	30.92	74.05	88.10	0.00	0.00	
U TOT X	21.59	0.10	7.16	0.13	5.60	0.94	0.00	0.00	
I-2 2	1047.45	14.04	134.86	2.56	30.62	3.27	0.00	0.00	1232.78
T ROW X	84.97	1.14	10.98	0.21	2.48	0.27	0.00	0.00	8.69
P COL X	9.54	5.99	7.69	4.36	2.84	2.15	0.00	0.00	
U TOT X	7.35	0.10	0.95	0.02	0.21	0.02	0.00	0.00	
3 3	3026.77	55.91	269.71	12.15	117.02	6.02	0.00	0.00	3487.58
P ROW X	86.79	1.60	7.73	0.35	3.36	0.17	0.00	0.00	26.46
P COL X	27.56	23.85	15.38	20.68	10.85	3.96	0.00	0.00	
U TOT X	21.23	0.39	1.89	0.09	0.82	0.04	0.00	0.00	
R 4 4	761.95	120.64	68.17	16.58	59.01	6.80	0.00	0.00	1038.15
A-21 T ROW X	73.61	11.65	6.59	1.60	5.70	0.85	0.00	0.00	7.26
P COL X	6.94	51.46	3.89	28.23	5.47	5.79	0.00	0.00	
U TOT X	5.34	0.85	0.48	0.12	0.41	0.06	0.00	0.00	
S 5 5	1876.99	24.10	154.98	7.06	45.94	0.00	0.00	0.00	2109.05
S ROW X	89.00	1.14	7.35	0.33	2.18	0.00	0.00	0.00	14.77
S COL X	17.09	10.28	6.84	11.99	4.26	0.00	0.00	0.00	
E TOT X	13.16	0.17	1.09	0.05	0.32	0.00	0.00	0.00	
6 6	1188.63	5.63	105.34	2.25	27.26	0.00	0.00	0.00	1329.11
T ROW X	89.43	0.42	7.93	0.17	2.05	0.00	0.00	0.00	9.32
T COL X	10.82	2.40	6.01	3.83	2.53	0.00	0.00	0.00	
T TOT X	8.34	0.04	0.74	0.02	0.19	0.00	0.00	0.00	
TOTAL	10980.53	234.43	1754.06	58.74	1078.26	151.98	0.00	0.00	14250.00
TOT X	77.01	1.64	12.30	0.41	7.56	1.07	0.00	0.00	

ALL STATIONS

TERMINAL TRIPS

12MAR74

GRAYLING ALL STATION GENERAL PURPOSE SUMMARY

PAGE - 6

FORM NUMBER 6
 EXIT-ENT STATION # 01 TO
 VEHICLE TYPE

RANGES	1	2	3	4	5	6	7	8	TOTAL	TOT %
I 1	4101.26	26.96	1362.95	22.39	1106.53	347.65	0.00	0.00		
T ROW %	58.86	0.39	19.56	0.32	15.88	4.99	0.00	0.00		35.41
P COL %	27.56	5.53	59.44	26.79	71.92	87.33	0.00	0.00		
R TOT %	20.84	0.14	6.93	0.11	5.62	1.77	0.00	0.00		
I 2	1408.51	30.24	171.31	5.01	38.57	5.38	0.00	0.00		
T ROW %	84.90	1.82	10.33	0.30	2.32	0.32	0.00	0.00		8.43
P COL %	9.47	6.21	7.47	5.99	2.51	1.35	0.00	0.00		
R TOT %	7.16	0.15	0.87	0.03	0.20	0.03	0.00	0.00		
I 3	3183.81	64.82	282.76	12.15	122.06	7.16	0.00	0.00		
T ROW %	86.69	1.76	7.70	0.33	3.32	0.19	0.00	0.00		18.66
P COL %	21.40	13.31	12.33	14.54	7.93	1.80	0.00	0.00		
R TOT %	16.16	0.33	1.44	0.06	0.62	0.04	0.00	0.00		
I 4	1817.06	297.68	125.63	31.31	152.02	27.00	0.72	0.00		
T ROW %	74.12	12.14	5.12	1.28	6.20	1.10	0.03	0.00		12.46
P COL %	12.21	61.11	5.48	37.46	9.88	6.80	100.00	0.00		
R TOT %	9.23	1.51	0.64	0.16	0.77	0.14	0.00	0.00		
I 5	2660.97	55.26	220.86	8.99	82.87	9.99	0.00	0.00		
T ROW %	88.33	1.71	6.82	0.28	2.56	0.31	0.00	0.00		16.46
P COL %	19.23	11.34	9.63	10.76	5.39	2.52	0.00	0.00		
R TOT %	14.54	0.28	1.12	0.05	0.42	0.05	0.00	0.00		
I 6	1507.99	12.19	129.66	3.73	36.61	0.00	0.00	0.00		
T ROW %	89.22	0.72	7.67	0.22	2.17	0.00	0.00	0.00		8.59
P COL %	10.13	2.50	5.65	4.46	2.38	0.00	0.00	0.00		
R TOT %	7.66	0.06	0.66	0.02	0.19	0.00	0.00	0.00		
TOTAL	14879.60	487.15	2293.17	83.56	1538.66	397.18	0.72	0.00		19680.06
TOT %	75.61	2.48	11.65	0.42	7.82	2.02	0.00	0.00		

ALL STATIONS

TOTAL TRIPS

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, 3299 trips or 42.645 percent of the total were approximately 30 minutes in length. The percent of trips which were 30 minutes or less is 375.866.

Statistical information such as mean and standard deviation are printed at the end of each table. A similar graph for each station for each interview date will be presented.

	PCT	CUM	
1	30.326	30.326	.2346
2	2.896	33.221	.224
3	02.645	75.866	.3299
4	7.497	83.363	.580
5	3.270	86.634	.253
6	3.775	90.408	.292
7	0.982	91.391	.76
8	1.370	92.761	.106
9	0.776	93.537	.60
10	2.081	95.618	.161
11	0.375	95.993	.29
12	0.388	96.381	.30
13	0.608	96.988	.47
14	0.543	97.531	.42
15	0.436	97.867	.26
16	0.168	98.035	.13
17	0.297	98.332	.23
18	0.155	98.488	.12
19	0.090	98.578	.7
20	0.194	98.772	.15
21	0.220	98.992	.17
22	0.271	99.263	.21
23	0.026	99.289	.2
24	0.052	99.341	.4
25	0.052	99.392	.4
26	0.000	99.392	
27	0.026	99.418	
28	0.039	99.457	
29	0.000	99.457	
30	0.026	99.483	
31	0.026	99.509	
32	0.013	99.522	
33	0.039	99.560	
34	0.000	99.560	
35	0.000	99.560	
36	0.026	99.586	
37	0.000	99.586	
38	0.065	99.651	
39	0.000	99.651	
40	0.013	99.664	
41	0.000	99.664	
42	0.026	99.690	
43	0.000	99.690	
44	0.026	99.716	
45	0.026	99.716	
46	0.039	99.754	
47	0.000	99.754	
48	0.052	99.806	
49	0.000	99.806	
50	0.000	99.806	
51	0.000	99.806	
52	0.000	99.806	
53	0.000	99.806	
54	0.000	99.806	
55	0.000	99.806	
56	0.000	99.806	
57	0.000	99.806	
58	0.000	99.806	
59	0.000	99.806	

TRIP LENGTH FREQUENCY DISTRIBUTION

	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	P.C.	CUM.	ACTUAL
1.																					0.000	0.000	0
2.																					40.212	40.212	1879
3.																					10.413	50.625	363
4.																					12.208	62.833	449
5.																					6.444	69.277	237
6.																					0.897	70.174	33
7.																					0.761	70.935	28
8.																					3.317	74.252	122
9.																					3.698	77.950	136
10.																					1.169	79.119	43
11.																					3.181	82.300	117
12.																					0.543	83.143	31
13.																					0.408	83.551	15
14.																					0.625	84.176	23
15.																					1.223	85.400	45
16.																					0.571	85.971	21
17.																					0.489	86.460	18
18.																					0.897	87.357	33
19.																					0.517	87.874	19
20.																					2.121	89.995	78
21.																					0.245	90.239	9
22.																					0.326	90.566	12
23.																					0.870	91.436	32
24.																					0.897	92.333	33
25.																					0.361	92.713	14
26.																					0.353	93.067	13
27.																					0.653	93.719	28
28.																					0.190	93.910	7
29.																					1.523	95.432	56
30.																					0.381	95.813	14
31.																					0.598	96.411	22
32.																					0.326	96.737	12
33.																					0.163	96.900	6
34.																					0.109	97.009	4
35.																					0.054	97.064	23
36.																					0.353	97.417	4
37.																					0.109	97.526	3
38.																					0.082	97.607	7
39.																					0.218	97.825	6
40.																					0.082	97.906	6
41.																					0.027	97.934	7
42.																					0.218	98.151	3
43.																					0.190	98.341	2
44.																					0.082	98.423	0
45.																					0.000	98.423	0
46.																					0.218	98.641	0
47.																					0.000	98.681	0
48.																					0.027	98.668	0
49.																					0.000	98.668	0
50.																					0.027	98.695	0
51.																					0.082	98.777	0
52.																					0.054	98.831	0
53.																					0.136	98.967	0
54.																					0.054	99.021	0
55.																					0.054	99.076	0
56.																					0.136	99.212	0
57.																					0.109	99.320	0
58.																					0.027	99.347	0
59.																					0.163	99.511	0
60.																					0.000	99.511	0

STATION 1

62.		109	99.918
63.		136	99.973
64.		0.000	99.975
65.		0.027	99.9782
66.		0.000	99.9782
67.		0.000	99.9782
68.		0.000	99.9782
69.		0.000	99.9782
70.		0.000	99.9782
71.		0.000	99.9782
72.		0.000	99.9782
73.		0.000	99.9782
74.		0.082	99.984
75.		0.054	99.918
76.		0.000	99.918
77.		0.054	99.973
78.		0.000	99.973
79.		0.000	99.973
80.		0.000	99.973
81.		0.000	99.973
82.		0.000	99.973
83.		0.000	99.973
84.		0.000	99.973
85.		0.000	99.973
86.		0.000	99.973
87.		0.000	99.973
88.		0.000	99.973
89.		0.000	99.973
90.		0.000	99.973
91.		0.000	99.973
92.		0.000	99.973
93.		0.000	99.973
94.		0.000	99.973
95.		0.000	99.973
96.		0.000	99.973
97.		0.000	99.973
98.		0.000	99.973
99.		0.000	99.973
100.		0.027	100.000

REMAINING VALUES ARE ALL ZERO
NUMBER OF OBSERVATIONS = 3678

SUM = 28499.

MEAN = 7.749

VAR = 107.766

SD = 10.381

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

	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	P.C.	CUM.	ACTUAL
1.																						0.029	0.029	1
2.																						56.124	56.153	1952
3.																						16.459	74.612	642
4.																						6.325	80.937	220
5.																						5.060	85.996	176
6.																						0.230	86.228	8
7.																						1.265	87.493	44
8.																						1.294	88.787	45
9.																						2.185	90.972	76
10.																						0.518	91.489	18
11..																						0.978	92.467	34
12..																						0.518	92.984	18
13..																						0.403	93.387	14
14..																						0.489	93.876	17
15..																						0.431	94.307	15
16..																						0.115	94.422	4
17..																						0.230	94.652	8
18..																						0.316	94.968	11
19..																						0.431	95.400	15
20..																						0.518	95.917	18
21..																						0.029	95.946	1
22..																						0.000	95.946	0
23..																						0.575	96.521	20
24..																						0.259	96.780	9
25..																						0.173	96.952	6
26..																						0.489	97.441	17
27..																						0.058	97.499	2
28..																						0.029	97.527	1
29..																						0.115	97.642	4
30..																						0.086	97.729	3
31..																						0.086	97.815	3
32..																						0.230	98.045	1
33..																						0.058	98.102	1
34..																						0.000	98.102	1
35..																						0.029	98.131	1
36..																						0.316	98.447	11
37..																						0.058	98.505	3
38..																						0.086	98.591	0
39..																						0.144	98.735	0
40..																						0.000	98.735	0
41..																						0.144	98.879	0
42..																						0.000	98.879	0
43..																						0.058	98.936	0
44..																						0.000	98.936	0
45..																						0.058	98.994	0
46..																						0.029	99.022	0
47..																						0.058	99.080	0
48..																						0.000	99.080	0
49..																						0.144	99.224	0
50..																						0.115	99.339	0
51..																						0.000	99.339	0
52..																						0.058	99.396	0
53..																						0.029	99.425	0
54..																						0.086	99.511	0
55..																						0.058	99.569	0
56..																						0.086	99.655	0
57..																						0.144	99.799	0
58..																						0.000	99.799	0
59..																						0.000	99.799	0
60..																						0.000	99.799	0
																						0.000	99.799	0

STATION 2

62.		0.000	99.799	
63.		0.000	99.799	0
64.		0.000	99.799	0
65.		0.000	99.799	0
66.		0.000	99.799	0
67.		0.000	99.799	0
68.		0.000	99.799	0
69.		0.000	99.799	0
70.		0.000	99.799	0
71.		0.000	99.799	0
72.		0.000	99.799	0
73.		0.058	99.856	22
74.		0.058	99.914	22
75.		0.000	99.914	0
76.		0.000	99.914	0
77.		0.029	99.942	1
78.		0.000	99.942	0
79.		0.000	99.942	0
80.		0.029	99.971	1
81.		0.000	99.971	0
82.		0.000	99.971	0
83.		0.000	99.971	0
84.		0.000	99.971	0
85.		0.000	99.971	0
86.		0.000	99.971	0
87.		0.000	99.971	0
88.		0.000	99.971	0
89.		0.000	99.971	0
90.		0.000	99.971	0
91.		0.000	99.971	0
92.		0.000	99.971	0
93.		0.029	100.000	1

A-2 REMAINING VALUES ARE ALL ZERO
NUMBER OF OBSERVATIONS= 3478

SUMS. 16647.

MEAN = 4.786

VAR s

60,239

50m 7,761

TOTAL TRIPS OVER MAXP	0
TOTAL TRIPS OVER 255	0
VOLUME TABLE NUMBER	202
SKIM TREE NUMBER	101

	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	P.C.	CUM.	ACTUAL	
1.	0.000	0.000	0																						
2.	55.034	55.034	1843																						
3.	10.259	65.294	269																						
4.	1.487	66.781	39																						
5.	2.517	69.298	66																						
6.	0.496	69.794	13																						
7.	5.912	75.706	155																						
8.	2.593	78.299	68																						
9.	2.250	80.549	59																						
10.	1.449	81.998	38																						
11.	0.992	82.990	26																						
12.	1.182	84.172	31																						
13.	1.602	85.774	42																						
14.	3.166	88.940	83																						
15.	0.648	89.588	17																						
16.	0.458	90.046	12																						
17.	0.801	90.847	21																						
18.	1.793	92.639	47																						
19.	0.458	93.097	12																						
20.	0.763	93.860	20																						
21.	0.763	94.622	20																						
22.	0.267	94.889	7																						
23.	0.763	95.652	20																						
24.	0.381	96.034	10																						
25.	0.343	96.377	9																						
26.	0.915	97.292	24																						
27.	0.381	97.674	10																						
28.	0.153	97.826	8																						
29.	0.229	98.055	6																						
30.	0.229	98.284	6																						
31.	0.229	98.513	6																						
32.	0.076	98.589	2																						
33.	0.343	98.932	9																						
34.	0.038	98.970	1																						
35.	0.381	99.352	10																						
36.	0.076	99.428	2																						
37.	0.191	99.619	5																						
38.	0.000	99.619	0																						
39.	0.076	99.695	2																						
40.	0.038	99.733	1																						
41.	0.038	99.771	1																						
42.	0.038	99.809	1																						
43.	0.000	99.809	0																						
44.	0.000	99.809	0																						
45.	0.000	99.809	0																						
46.	0.000	99.809	0																						
47.	0.000	99.809	0																						
48.	0.000	99.809	0																						
49.	0.000	99.809	0																						
50.	0.000	99.809	0																						
51.	0.000	99.809	0																						
52.	0.038	99.847	1																						
53.	0.000	99.847	0																						
54.	0.038	99.886	1																						
55.	0.000	99.886	0																						
56.	0.000	99.886	0																						
57.	0.000	99.886	0																						
58.	0.000	99.886	0																						
59.	0.000	99.886	0																						
60.	0.000	99.886	0																						

STATION 3

62.		0.000	99.924	
63.		0.000	99.924	
64.		0.000	99.924	
65.		0.000	99.924	
66.		0.000	99.924	
67.		0.000	99.924	
68.		0.000	99.924	
69.		0.000	99.924	
70.		0.000	99.924	
71.		0.000	99.924	
72.		0.000	99.924	
73.		0.000	99.924	
74.		0.000	99.924	
75.		0.000	99.924	
76.		0.000	99.924	
77.		0.000	99.924	
78.		0.000	99.924	
79.		0.000	99.924	
80.		0.000	99.924	
81.		0.000	99.924	
82.		0.000	99.924	
83.		0.000	99.924	
84.		0.038	99.962	1
85.		0.000	99.962	0
86.		0.000	99.962	0
87.		0.000	99.962	0
88.		0.038	100.000	1

REMAINING VALUES ARE ALL ZERO

NUMBER OF OBSERVATIONS= 2622

SUM= 16028.

MEAN= 6.113

VAR= 56,804

SD= 7.537

A
-30
TOTAL TRIPS OVER MAXP = 0
TOTAL TRIPS OVER 255 = 0
VOLUME TABLE NUMBER = 203
SKIM TREE NUMBER = 101

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	P.C.	CUM.	ACTUAL
1.																						0.027	0.027	2
2.																						10.751	10.779	783
3.																						11.795	22.573	659
4.																						9.488	32.061	691
5.																						2.156	34.217	157
6.																						0.920	35.137	67
7.																						0.879	36.015	64
8.																						1.784	37.759	127
9.																						1.785	39.544	130
10.																						1.126	40.670	82
11.																						1.950	42.620	142
12.																						1.359	43.979	99
13.																						1.538	45.517	112
14.																						3.076	48.593	224
15.																						1.428	50.021	104
16.																						0.604	50.625	44
17.																						4.847	55.472	353
18.																						1.675	57.147	122
19.																						1.593	58.740	116
20.																						2.664	61.403	194
21.																						1.730	63.133	126
22.																						2.787	65.921	203
23.																						3.117	69.037	227
24.																						2.568	71.605	187
25.																						5.877	77.482	428
26.																						3.158	80.640	230
27.																						1.249	81.589	91
28.																						2.238	84.127	163
29.																						2.128	86.256	155
30.																						1.538	87.793	112
31.																						3.460	91.254	252
32.																						2.719	93.972	198
33.																						1.455	95.428	106
34.																						0.618	96.046	45
35.																						0.618	96.663	45
36.																						0.384	97.048	28
37.																						0.206	97.254	15
38.																						0.549	97.803	40
39.																						0.192	97.995	14
40.																						0.069	98.064	5
41.																						0.110	98.174	8
42.																						0.137	98.311	10
43.																						0.137	98.448	10
44.																						0.069	98.517	5
45.																						0.041	98.558	3
46.																						0.082	98.641	6
47.																						0.000	98.641	0
48.																						0.041	98.682	3
49.																						0.055	98.737	4
50.																						0.178	98.915	13
51.																						0.110	99.025	8
52.																						0.014	99.039	1
53.																						0.151	99.190	11
54.																						0.220	99.410	16
55.																						0.000	99.410	0
56.																						0.000	99.410	0
57.																						0.124	99.533	9
58.																						0.069	99.602	5
59.																						0.000	99.602	0
60.																						0.041	99.643	4
																						0.000	99.722	2

STATION 4

62.	0.018	99.87
63.	0.027	99.87
64.	0.014	99.767
65.	0.000	99.767
66.	0.027	99.794
67.	0.000	99.794
68.	0.000	99.794
69.	0.000	99.794
70.	0.014	99.808
71.	0.014	99.822
72.	0.000	99.822
73.	0.027	99.849
74.	0.014	99.863
75.	0.000	99.863
76.	0.069	99.931
77.	0.000	99.931
78.	0.000	99.931
79.	0.000	99.931
80.	0.000	99.931
81.	0.014	99.945
82.	0.000	99.945
83.	0.000	99.945
84.	0.027	99.973
85.	0.014	99.986
86.	0.014	100.000

REMAINING VALUES ARE ALL ZERO
NUMBER OF OBSERVATIONS = 7263

SUM = 115933.

MEAN = 15.918

VAR = 145.878

SD = 12.078

TOTAL TRIPS OVER MAXP	=	0
TOTAL TRIPS OVER 255	=	0
VOLUME TABLE NUMBER	=	204
SKIM TREE NUMBER	=	101

A133

	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
--	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

1.																					
2.																					
3.																					
4.																					
5.																					
6.																					
7.																					
8.																					
9.																					
10.																					
11.																					
12.																					
13.																					
14.																					
15.																					
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.																					

P.C.	CUM.	ACTUAL
0.026	0.026	2
47.696	47.922	3700
10.757	58.680	831
4.803	63.482	371
3.560	67.042	275
0.479	67.521	37
0.414	67.935	32
5.333	73.269	412
1.411	74.680	109
1.631	76.311	126
1.644	77.955	127
1.010	78.964	78
1.385	80.350	107
1.942	82.291	150
0.984	83.275	76
0.557	83.832	43
0.699	84.531	54
1.424	85.955	110
0.841	86.796	65
0.854	87.650	66
0.492	88.182	38
0.544	88.686	42
0.777	89.463	60
0.790	90.252	61
0.608	90.861	47
0.880	91.741	68
0.790	92.531	61
0.777	93.307	60
1.307	94.615	101
0.414	95.029	32
1.644	96.673	127
1.023	97.696	79
0.544	98.239	42
0.285	98.524	22
0.117	98.641	9
0.117	98.757	9
0.181	98.939	14
0.194	99.133	15
0.142	99.275	11
0.078	99.353	6
0.078	99.430	6
0.013	99.443	1
0.026	99.469	2
0.000	99.469	0
0.039	99.508	3
0.013	99.521	1
0.013	99.534	1
0.000	99.538	0
0.026	99.560	2
0.026	99.586	2
0.052	99.638	4
0.000	99.638	0
0.000	99.638	0
0.052	99.689	4
0.052	99.741	2
0.026	99.767	2
0.039	99.806	3
0.000	99.806	0
0.013	99.819	1
0.052	99.871	2
0.000	99.871	0

STATION 5

64.		0.000	99.871	
65.		0.000	99.871	
66.		0.039	99.909	
67.		0.000	99.909	
68.		0.000	99.909	
69.		0.000	99.909	
70.		0.000	99.909	
71.		0.000	99.909	
72.		0.026	99.935	
73.		0.000	99.935	
74.		0.000	99.935	
75.		0.000	99.935	
76.		0.000	99.935	
77.		0.000	99.935	
78.		0.026	99.961	
79.		0.000	99.961	
80.		0.026	99.987	
81.		0.000	99.987	
82.		0.013	100.000	

REMAINING VALUES ARE ALL ZERO
NUMBER OF OBSERVATIONS= 7725

SUM= 60321.

MEAN= 7.809

VAR=

93.867

SD= 9.689

TOTAL TRIPS OVER MAXP	0
TOTAL TRIPS OVER 255	0
VOLUME TABLE NUMBER	205
SKIM TREE NUMBER	101

	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	P.C.	CUM.	ACTUAL
1.																						0.025	0.025	3
2.																						47.226	47.251	9355
3.																						9.405	56.656	1863
4.																						8.062	64.716	1597
5.																						2.464	67.182	488
6.																						0.535	67.717	106
7.																						1.313	69.029	260
8.																						3.049	72.078	604
9.																						1.893	73.971	375
10.																						0.878	74.850	174
11.																						1.636	76.485	324
12.																						0.798	77.283	158
13.																						0.974	78.257	193
14.																						1.550	79.807	307
15.																						0.843	80.650	167
16.																						0.358	81.009	71
17.																						1.737	82.745	344
18.																						0.934	83.679	185
19.																						0.666	84.345	132
20.																						1.277	85.623	253
21.																						0.636	86.259	126
22.																						1.035	87.294	205
23.																						1.095	88.389	217
24.																						0.934	89.323	182
25.																						1.959	91.262	388
26.																						1.035	92.317	205
27.																						0.505	92.821	100
28.																						0.687	93.508	136
29.																						0.663	94.371	171
30.																						0.469	94.841	93
31.																						1.131	95.972	224
32.																						0.924	96.895	183
33.																						0.480	97.375	95
34.																						0.202	97.577	40
35.																						0.197	97.774	39
36.																						0.303	98.077	60
37.																						0.136	98.213	27
38.																						0.278	98.491	55
39.																						0.197	98.687	39
40.																						0.056	98.743	11
41.																						0.081	98.824	16
42.																						0.081	98.905	16
43.																						0.061	98.965	12
44.																						0.030	98.995	6
45.																						0.030	99.026	6
46.																						0.061	99.086	12
47.																						0.015	99.101	3
48.																						0.015	99.117	3
49.																						0.045	99.162	9
50.																						0.086	99.248	17
51.																						0.061	99.308	12
52.																						0.030	99.339	6
53.																						0.066	99.404	13
54.																						0.111	99.515	22
55.																						0.025	99.541	6
56.																						0.035	99.576	7
57.																						0.086	99.662	14
58.																						0.020	99.682	14
59.																						0.025	99.707	15
60.																						0.025	99.732	15
61.																						0.030	99.763	6

ALL STATIONS

62.
 63.
 64.
 65.
 66. 880 AM
 67.
 68. ZDNF1 547
 69. ZFNU 1
 70. MAY 255
 71. PGMAX 255
 72. DELTA 10
 73. UZNT 1
 74. U7NT 547
 75. UTSL 1 SKIM TREE NO. 101 TOTAL TABLE NO. 201
 76.
 RTRU
 78.
 79.
 80.
 81. EETIN
 82.
 83. INTNL 1 F
 84. IGN 1 F
 85. PTCM 1 F
 86.
 880
 88.
 89.
 90.
 91.
 92. ECT
 93.
 94.
 95. U(1) = 547
 96.
 97.
 98.
 99.
 100.

REMAINING VALUES ARE ALL ZERO

NUMBER OF OBSERVATIONS	SUM	MEAN	VAR	SD
19809	163521.	8.255	109,660	10,672

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

APPENDIX B

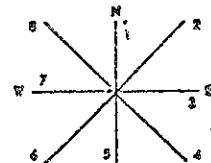
SINGLE STATION RURAL O-D STUDY

**STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS
TRANSPORTATION AND PLANNING**

STA. LOCATION AND NO

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 COMMERCIAL MOTOR VEHICLES



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

- WORK
PERS. BUSINESS
SHOPPING
VACATION
OTHER SOC. OR REC.

ROUTE _____ **LOCATION DESCRIPTION** _____ **CITY** _____

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

RECORDER

DO NOT ACCUMULATE