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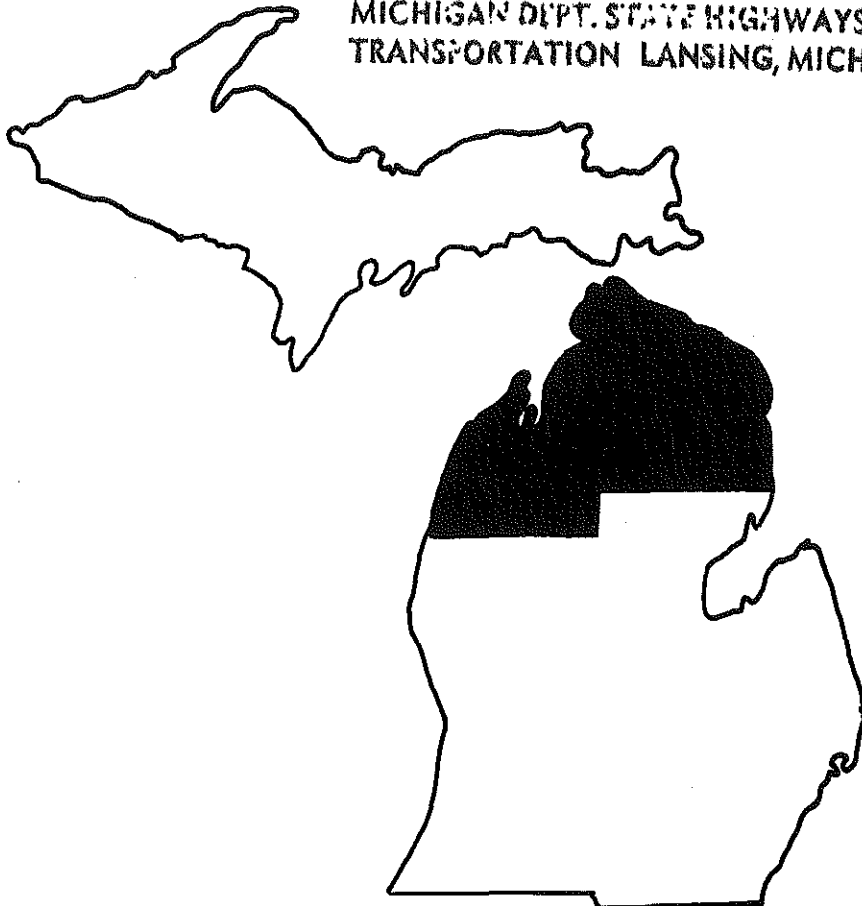
# MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION

KALKASKA 1973

EXTERNAL  
ORIGIN DESTINATION  
SURVEY

FACTUAL DATA REPORT

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MICHIGAN DEPARTMENT  
OF  
STATE HIGHWAYS AND TRANSPORTATION

KALKASKA 1973

EXTERNAL  
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JOHN P. WOODFORD, DIRECTOR

May 27, 1976

Mr. Sam F. Cryderman, Deputy Director  
Bureau of Transportation Planning

Dear Mr. Cryderman:

The Multi-Regional Planning Division of the Bureau of Transportation Planning has documented the results of the "Kalkaska 1973 External-Origin Destination Survey". The purpose of the origin-destination survey, conducted in August and September, 1973, was to determine the traffic patterns in the area in order to provide a sound basis for planning an efficient future transportation system.

This report was jointly prepared by Sam Wallace and Steve Schafer under the direct guidance of Thomas Pickens, Traffic Analyst for the North Region Planning Section.

Sincerely,

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

Keith E. Bushnell, Administrator  
Multi-Regional Planning Division



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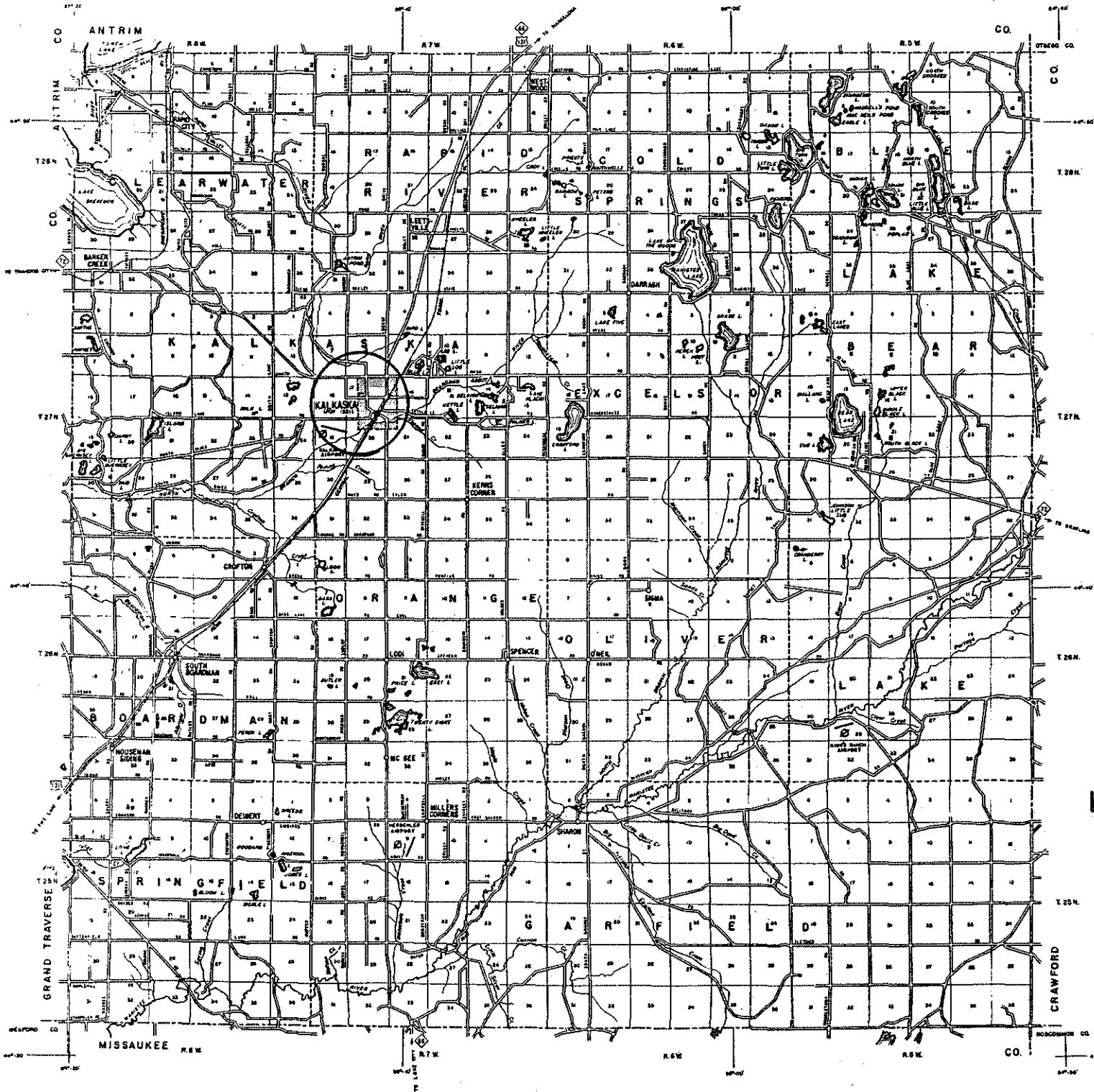
## STUDY AREA

The Village of Kalkaska, the county seat of Kalkaska County, is located in the northwest portion of lower Michigan approximately 220 miles from Detroit and about 135 miles from Grand Rapids.

The economy of Kalkaska, which has a population of 1,500 (1970), centers around tourist trade and several small industries. Many miles of forests and trout streams and an abundance of lakes make the area an ideal vacation center. Wayne Wire Cloth Products, Inc. is one of several small manufacturers in the area which provide employment for the residents.

Three trunk line facilities which service the area are US-131, M-66, and M-72. These highways are principal north-south and east-west routes through the Lower Peninsula of Michigan.





KEY TO COUNTIES



# KALKASKA COUNTY

## TERMINOLOGY AND DEFINITIONS

Central Business District (CBD) --- The Zone or zones comprising the concentrated commercial and retail business center of a city.

Classification Counts --- A survey of vehicles in which those passing through the study area are placed in categories (passenger cars, single unit trucks, etc.).

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

Destination --- The place where a trip ends.

External Station --- A point on a route crossing the cordon line at which the drivers of vehicles are interviewed and classification counts are taken.

Interview Counts --- A survey of vehicles in which those passing through the study area are stopped and drivers interviewed regarding the origin, destination and purpose of the trip.

Origin --- The place where a trip begins.

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

Study Area --- The geographical area selected for the origin and destination study.

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).

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

Trip Ends --- Each trip has two ends; an origin and a destination.

Trip Length-Average --- The value that is determined by summing all of the recorded trip lengths and dividing by the number of trips.

Trip Length-Median ---- The value that is determined by dividing the trip length distribution so that an equal number of trips are on either side of it.



## FIELD PROCEDURE

Field work for the Kalkaska External Origin-Destination Survey was conducted during August and September of 1973. The purpose of the study was to collect data on traffic movement into, out of, and through the Kalkaska area.

A cordon line was drawn around the Kalkaska area in order to define the study area. Where the cordon line crossed a road an external interview station was established. Ten such stations were created for the Kalkaska area of which five were on trunk line. Three of the original ten external interview stations were not operated since preliminary counts indicated that traffic passing through these stations was negligible when compared to the remaining seven stations.

Each of the seven external stations 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. These interviews were made of vehicle traveling in each direction, i.e. inbound and outbound. Manual vehicle classification counts were taken in conjunction with interviews and during the remainder of that twenty-four hour day.

In addition, the study area was sub-divided into analyses zones based generally on homogeneous land uses. Each trip inbound or outbound from these zones was recorded.

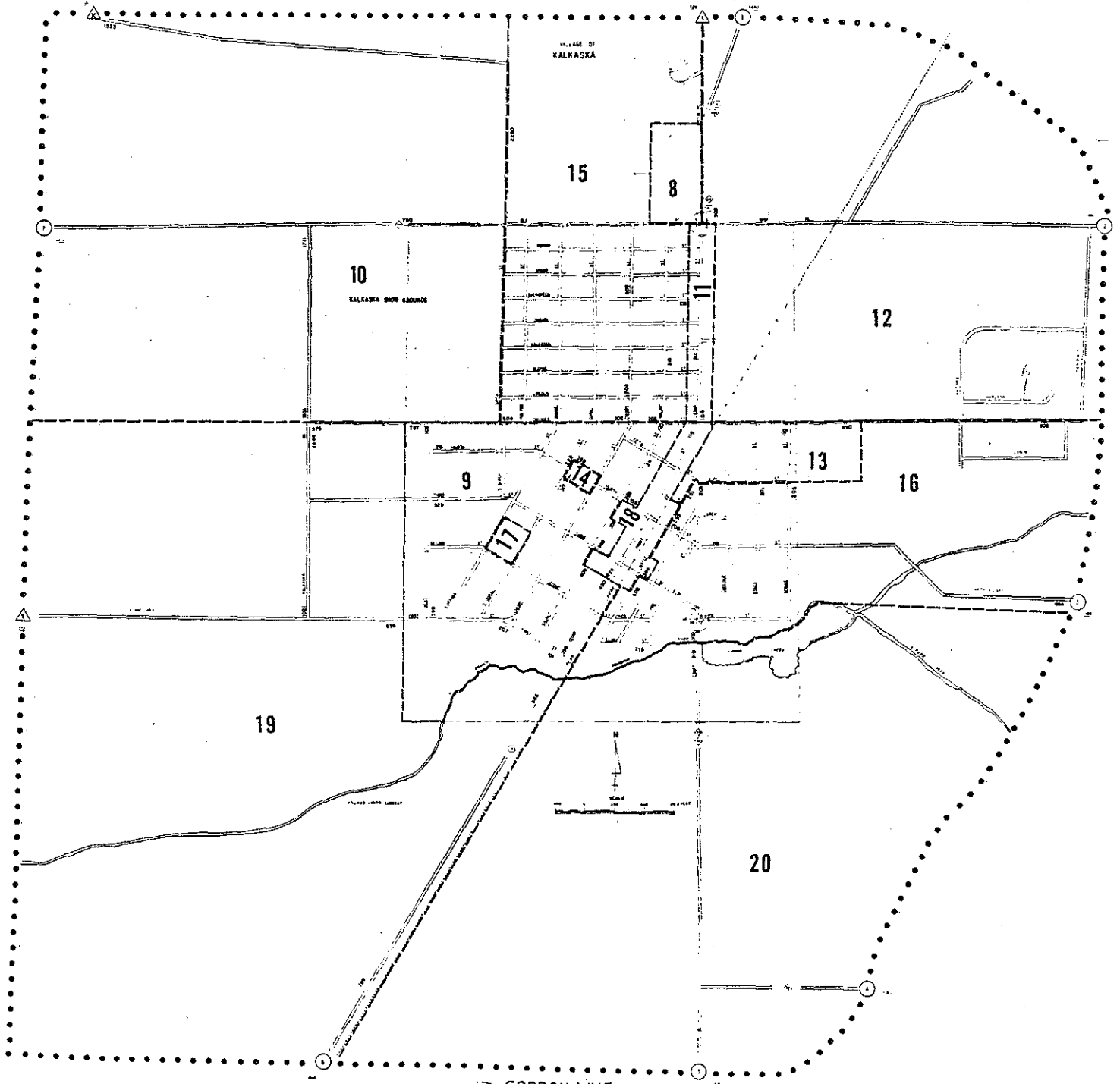
Sample interview forms for both interviews and Manual Vehicle Classification Counts appear in the Appendix.

STATION LOCATIONS

<u>Station Number</u>	<u>Route</u>	<u>Location</u>
1	US-131, North	0.5 Mi. north of M-72
2	Nash Road	1.0 Mi. east of US-131
3	Kettle Lake Road	1.1 Mi. east of US-131
4	M-72, East	0.4 Mi. east of M-66
5	M-66, South	0.2 Mi. south of M-72
6	US-131, South	1.4 Mi. south of junction of US-131, M-66 and M-72
7	M-72, West	0.7 Mi. west of Kalkaska Road

KALKASKA EXTERNAL  
O-D STUDY

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--- CORDON LINE  
 --- ZONE LIMITS  
 --- 24 HR. VOLUME  
 ○ OPERATED STATIONS  
 △ STATIONS NOT OPERATED  
 OO INTERNAL ZONES

## ALL STATIONS

On an average August, September weekday in 1973, there were 21,405 vehicles which passed through the seven interview stations located on the cordon line around the Kalkaska Study Area. Of the 21,405 vehicles recorded during classification counts, 17,984 (84.0 percent) traveled on the state highways.

There were 14,070 interviews taken for 14-hours at the seven stations. This is 65.7 percent of the 21,405 vehicles counted during the 24-hour period. Station 1 (US-131, North) had 2,633 interviews taken in the 14-hour period or 57.1 percent of the 24-hour volume of 4,608 vehicles. This is the lowest percentage for any of the seven stations. The highest percentage of 14-hour interviews to 24-hour volume was 73.2 percent at Station 3 (Kettle Lake Road).

Station 7 (M-72, West) had the highest volume of 5,099 vehicles for a 24-hour period or 23.8 percent of the 21,405 counted vehicles at all stations. Station 3 (Kettle Lake Road) had the lowest volume of traffic for a 24-hour period-500 vehicles or 2.3 percent of the total 21,405 vehicles.

Station 3 (Kettle Lake Road) had the highest percentage of terminal traffic-62.2 percent or 300 vehicles out of the 482 total. Station 1 (US-131, North) had the lowest percent of terminal traffic-24.5 percent or 1,121 vehicles out of the 4,567 total.

There were 7,391 terminal trips. These are trips that have one end of the trip inside the study area and the other end outside the area. Zone 18 (Central Business District) generated the largest number of terminal trips-1,790 trips or 24.2 percent

of the 7,391 total terminal trips. Three zones (8, 11, and 18) accounted for 3,735 terminal trips or 50.5 percent of the total 7,391 terminal trips.

The traffic volume at each station is as follows:

Station	Traffic	% of Grand Total
1-US-131, North	4608	21.5
2-Nash Road	2921	13.7
3-Kettle Lake Road	500	2.3
4-M-72, East	2676	12.5
5-M-66, South	2210	10.3
6-US-131, South	3391	15.9
7-M-72, West	<u>5099</u>	<u>23.8</u>
GRAND TOTAL	21,405	100.0

	Traffic	% of Grand Total
Trunk line (Stations 1, 4, 5, 6, and 7)	17,984	84.0
Non-Trunk line (Stations 2 and 3)	<u>3,421</u>	<u>16.0</u>
GRAND TOTAL	21405	100.0

KALKASKA  
TOTAL STATION TRIPS

Station	24-Hour <sup>1</sup> Traffic Counts	14-Hour Interviews	Percent Interviewed	Vehicle <sup>2</sup> Trips	Percent of Total Traffic
1	4608	2633	57.1	4567	21.7
2	2921	1985	68.0	2821	13.4
3	500	366	73.2	482	2.3
4	2676	1937	72.4	2607	12.4
5	2210	1417	64.1	2169	10.3
6	3391	2409	71.0	3341	15.9
7	5099	3323	65.2	5040	24.0
TOTAL	21405	14070	65.7	21027	100.0

Station	Vehicle Trips	Terminal Trips	Percent of Total	Through Trips	Percent of Total
1	4567	1121	24.5	3446	75.5
2	2821	1668	59.1	1153	40.9
3	482	300	62.2	182	37.8
4	2607	671	25.7	1936	74.3
5	2169	1109	51.1	1080	48.4
6	3341	1123	33.6	2218	66.4
7	5040	1399	27.8	3641	72.2
Vehicle Trips	21027	7391	35.2	13636	64.8
Adjusted Vehicle Total <sup>3</sup>	14209	7391	52.0	6818	48.0

1 Based on 24-Hour Classification Counts.

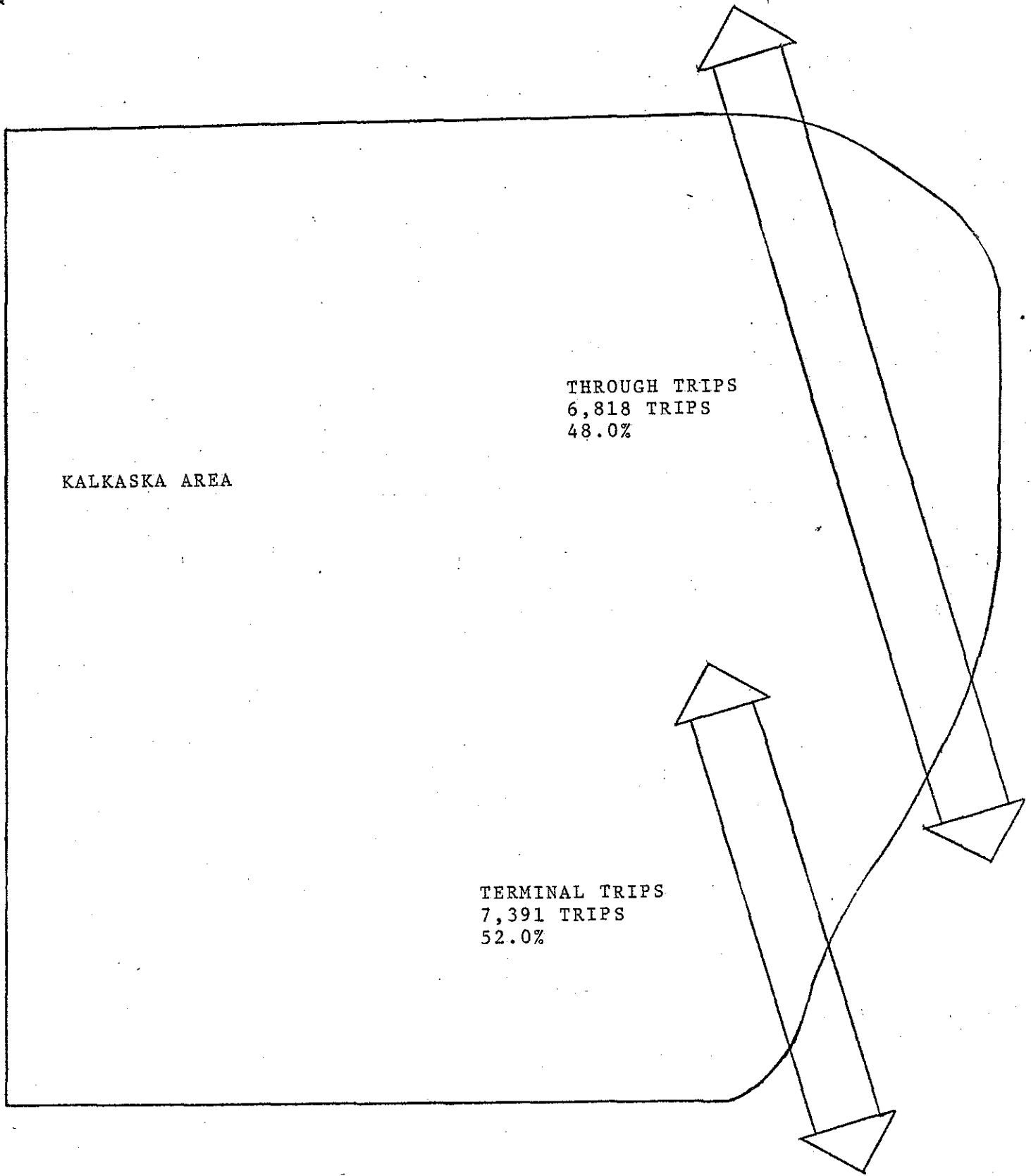
2 Based on 24-Hour Expanded Interview Counts. Expanded Interview Counts do not correspond exactly with Classification Counts due to two factors: (1) Motorcycles and buses, although counted in the Classification Counts, were not interviewed and do not appear in the Expanded Interview Counts. Listed below are the totals of these vehicle types counted at each station.

Station	1	2	3	4	5	6	7	Total
	<u>33</u>	<u>28</u>	<u>11</u>	<u>11</u>	<u>21</u>	<u>41</u>	<u>43</u>	<u>188</u>

(2) Due to the convention of certain computer programs, Expanded Interview Counts may not correspond exactly with 24-Hour Classification 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.

TRIP MOVEMENTS  
1973 AUGUST-SEPTEMBER WEEKDAY  
TOTAL 14,209 TRIPS

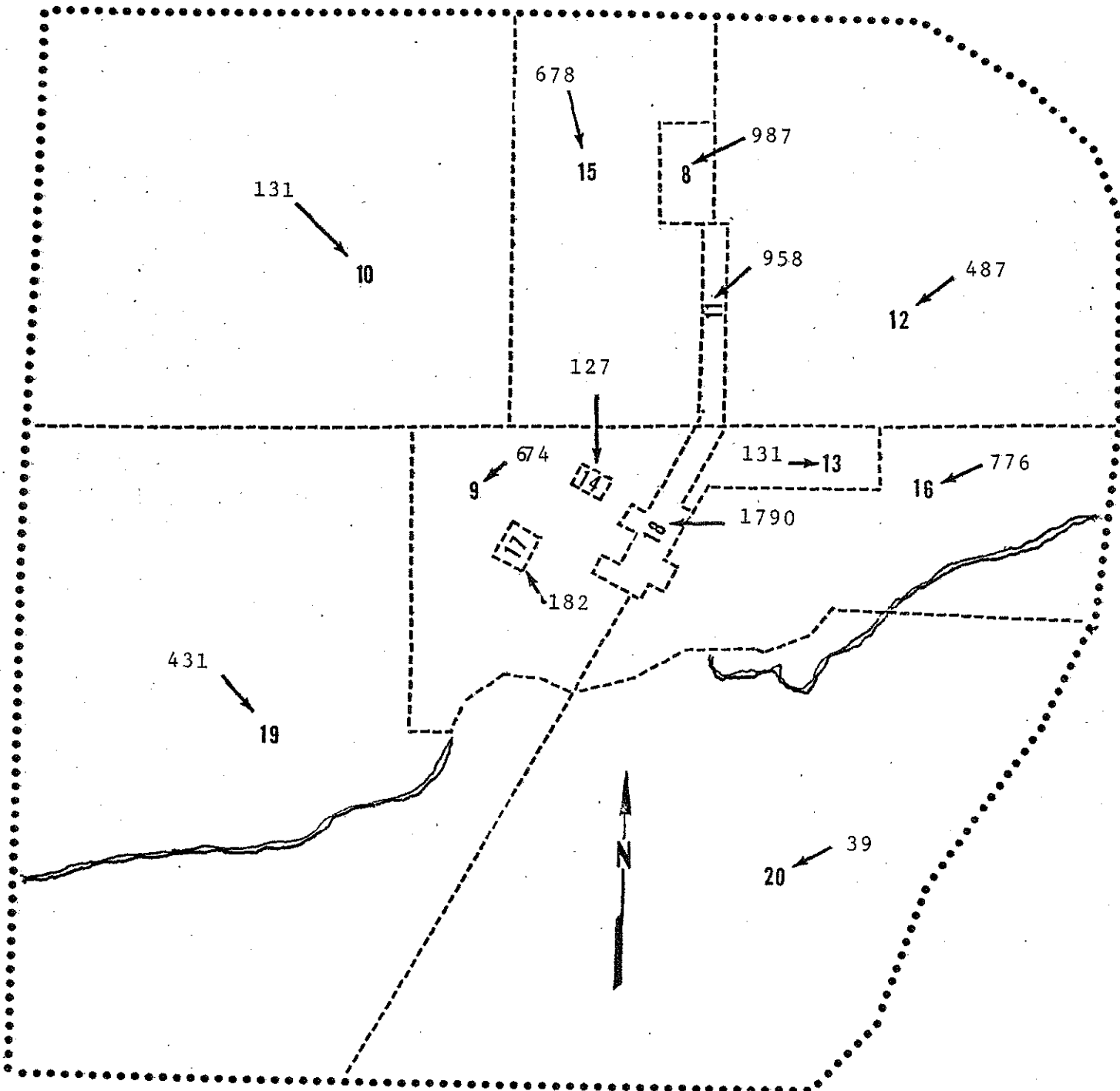




ALL STATIONS COMBINED  
 TERMINAL TRIPS TO STUDY ZONES

<u>Internal Zones</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
8	987	13.3
9	674	9.1
10	131	1.8
11	958	13.0
12	487	6.6
13	131	1.8
14	127	1.7
15	678	9.2
16	776	10.5
17	182	2.5
18	1790	24.2
19	431	5.8
20	<u>39</u>	<u>0.5</u>
TOTAL	7391	100.0

TERMINAL TRAFFIC BETWEEN  
 ALL STATIONS AND INTERNAL ZONES  
 7,391 VEHICLE TRIPS



..... CORDON LINE  
 - - - - ZONE LIMITS KALKASKA AREA  
 00 INTERNAL ZONES

STATION 1, (US-131, NORTH)

Station 1 is located .5 miles north of M-72.

A total of 4,567 vehicles were recorded during the expanded interview counts. Tabulations on the following pages give a detailed documentation of this traffic.

Approximately 7 out of every 10 vehicles had a through trip in the study area. There were 7 out of every 10 vehicles which were autos and 15 out of every 100 vehicles which were panels or pickups irregardless of whether they traveled into or through the area. More than 70 percent of the passenger cars and panels or pickups had through trips in the study area.

The largest trip purpose was work with 1,773 trips or 38.8 percent of the 4,567 total trips. All trip purpose except shopping had more than 60 percent through traffic. Two-thirds of the shopping trips were terminal trips.

Station 6 (US-131, South) accounted for 1,852 trips or 53.7 percent of the 3,446 through trips. Station 6 and 7 accounted for 2,767 trips or 79.1 percent of the 3,446 through trips.

Zone 18 (Central Business District) accounted for 238 trips or 21.2 percent of the 1,121 terminal trips. Zones 8, 11, 16, and 18 accounted for 702 trips or 62.6 percent of the 1,121 terminal trips.

There were 730 trips or 16.0 percent of the 4,567 trips that had a trip length of 1-20 minutes. 1,909 trips (41.8 percent) had a trip length of one hour or less.

The origin and destination of all the trips which passed through the station were tabulated by county, Ontario and 9 states. There are two ends for each trip; an origin and a destination. There were 4,567 trips which passed through Station 1, accounting for 9,134 total trip ends.

There were 2,582 trip ends (28.3 percent) in Kalkaska County. There were 534 trip ends (5.8 percent) in the Upper Peninsula. The Lower Peninsula accounted for 8,358 trip ends (91.5 percent). There were 242 origins and/or destinations (2.7 percent) outstate.

STATION 1, US-131, NORTH

<u>Vehicle Type</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Passenger Car	3120	68.3	706	22.6	2414	77.4
Passenger Car with Trailer	164	3.6	1	0.6	163	99.4
Panel or Pickup	666	14.6	282	42.3	384	57.7
Panel or Pickup with Trailer	64	1.4	7	10.9	57	89.1
Other Single Unit Trucks	261	5.7	88	33.7	173	66.3
Combinations and Trucks with Trailers	<u>292</u>	<u>6.4</u>	<u>37</u>	12.7	<u>255</u>	87.3
TOTAL	4567	100.0	1,121	24.5	3446	75.5

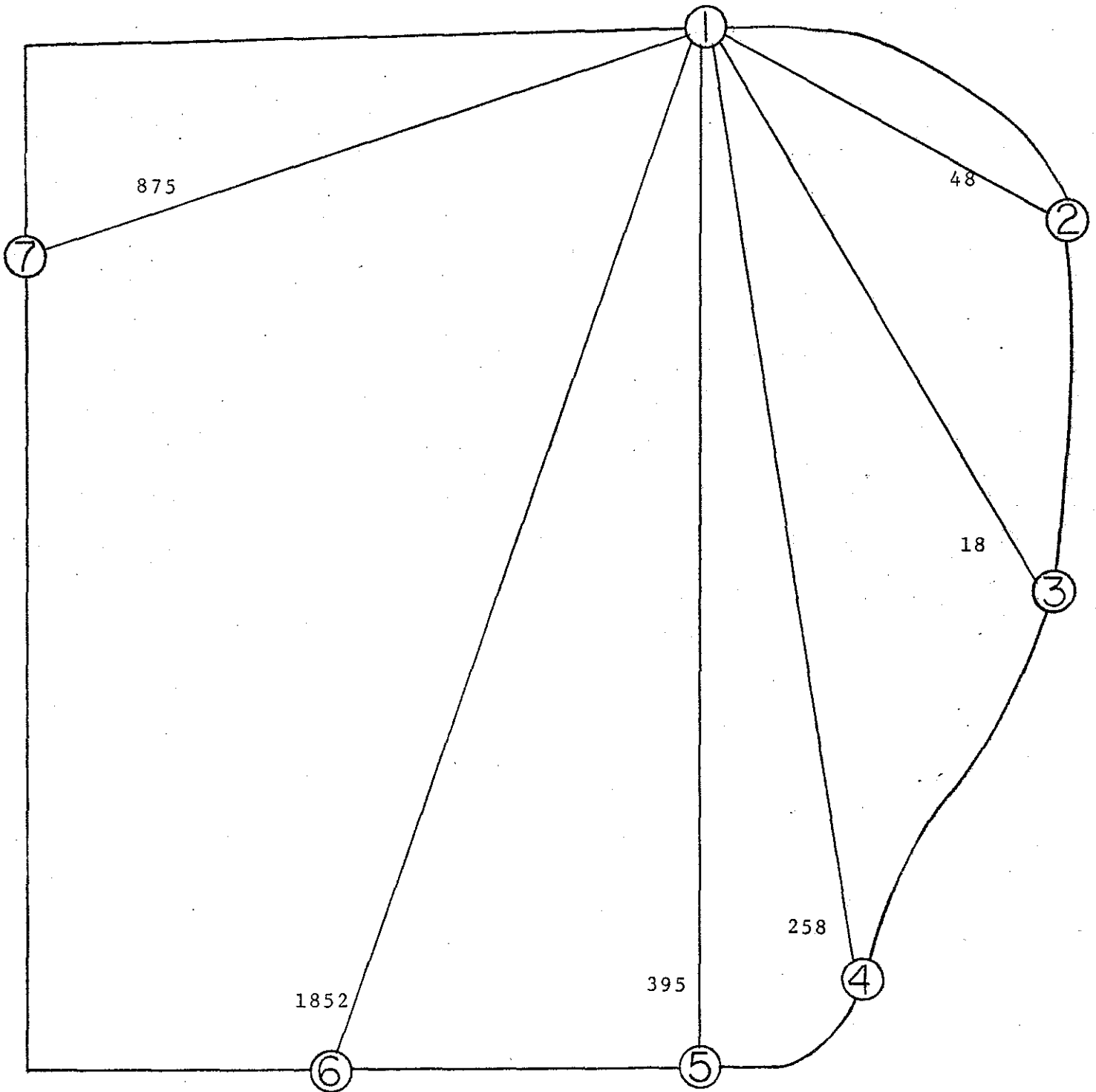
<u>Trip Purpose</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Work	1773	38.8	532	30.0	1241	70.0
Personal Business	284	6.2	107	37.7	177	62.3
Shopping	346	7.6	232	67.1	114	32.9
Vacation	1153	25.2	28	2.4	1125	97.6
Other Soc. or Rec.	669	14.7	107	16.0	562	84.0
All Other	<u>342</u>	<u>7.5</u>	<u>115</u>	33.6	<u>227</u>	66.4
TOTAL	4567	100.0	1121	24.5	3446	75.5

STATION 1, US-131, NORTH

THROUGH TRIPS TO EXTERNAL STATIONS

<u>External Station</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
2-Nash Road	48	1.4
3-Kettle Lake Road	18	0.5
4-M-72, East	258	7.5
5-M-66, South	395	11.5
6-US-131, South	1852	53.7
7-M-72, West	<u>875</u>	<u>25.4</u>
TOTAL	3446	100.0

THROUGH TRAFFIC INTERCHANGE  
STATION 1, US-131, NORTH



KALKASKA AREA  
EXTERNAL O-D STUDY

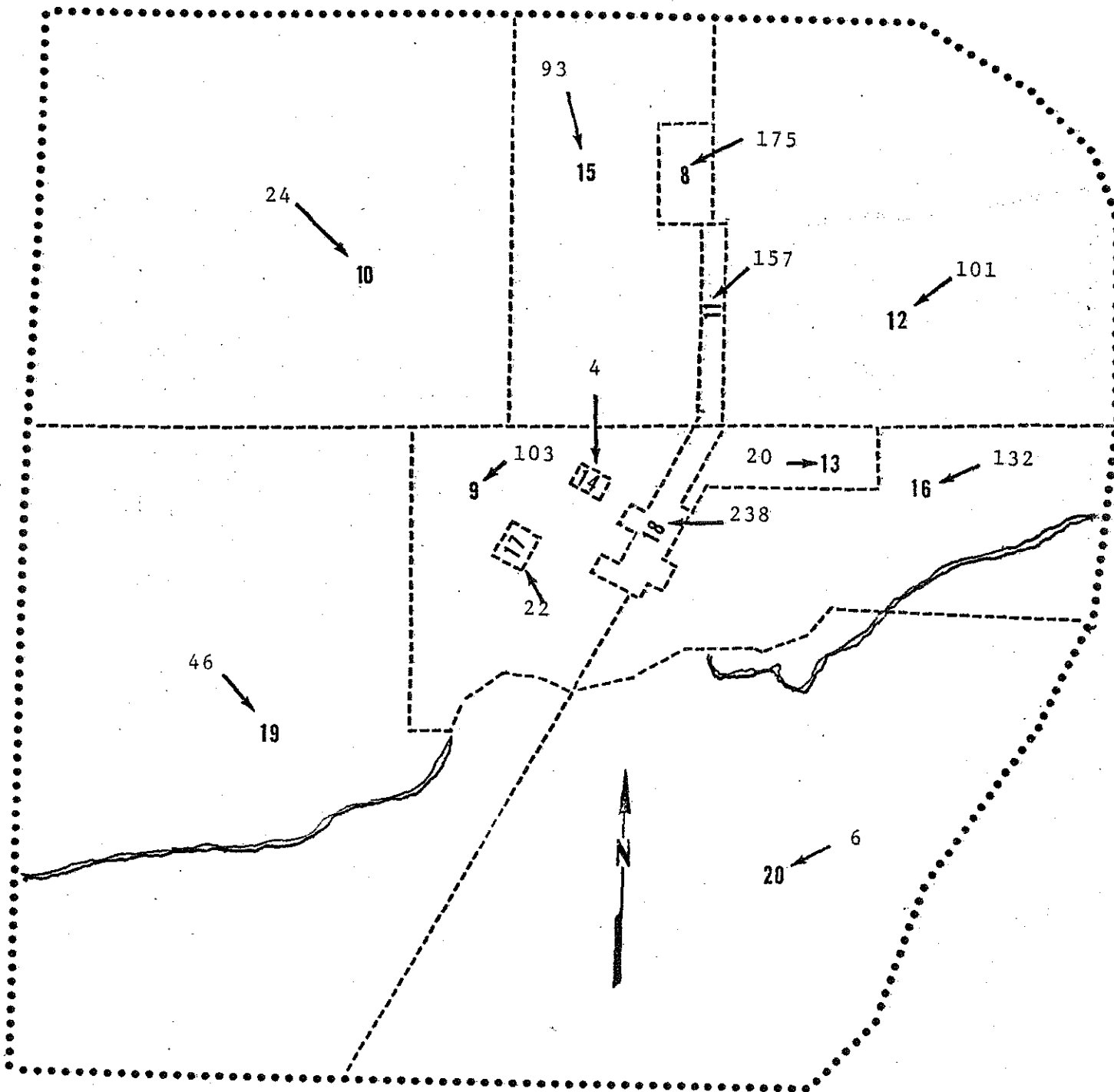
3,446 VEHICLE TRIPS  
AUGUST-SEPTEMBER WEEKDAY 1973

STATION 1, US-131, NORTH  
 TERMINAL TRIPS TO STUDY ZONES

<u>Internal Zone</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
8	175	15.6
9	103	9.2
10	24	2.1
11	157	14.0
12	101	9.0
13	20	1.8
14	4	0.4
15	93	8.3
16	132	11.8
17	22	2.0
18	238	21.2
19	46	4.1
20	<u>6</u>	<u>0.5</u>
TOTAL	1121	100.0



TERMINAL TRAFFIC BETWEEN  
 STATION 1 (US-131, NORTH) AND INTERNAL ZONES  
 1,121 VEHICLE TRIPS



..... CORDON LINE  
 - - - - - ZONE LIMITS  
 00 INTERNAL ZONES

KALKASKA AREA

STATION 1, US-131, NORTH

TRIP LENGTHS

<u>Minutes</u>	<u>No. of Trips</u>	<u>Percent of Totals</u>
1-20	730	16.0
20-40	632	13.8
40-60	547	12.0
60-90	499	10.9
90-120	286	6.3
120-180	342	7.5
180-240	532	11.4
240-300	397	8.7
300-360	233	5.1
360-420	127	2.8
420-480	109	2.4
480-600	72	1.6
600-720	53	1.1
720-840	14	0.3
840-960	<u>3</u>	<u>0.1</u>
TOTAL	4567	100.0

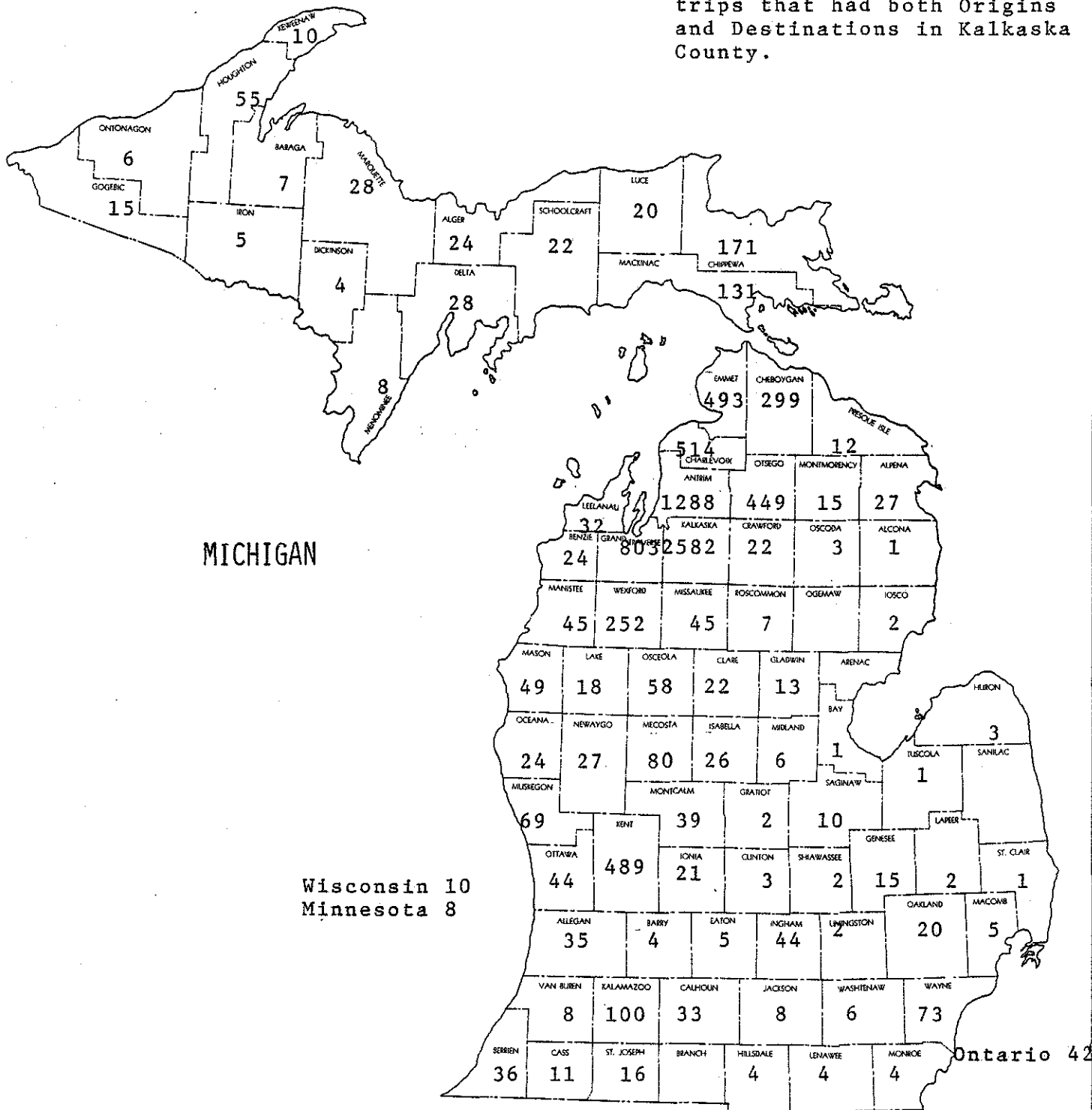
Longest Trip = 15 Hr. 10 Min. Average Trip Length = 147 Min.  
 Median Trip Length = 90 Min.\*

\* Due to the convention of the computer program, this value can be approximated only in 10 minute intervals.

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KALKASKA EXTERNAL O-D STUDY  
STATION 1, US-131, NORTH

Total: 4,567 Trips, 9,134  
Trip ends. There were 724  
trips that had both Origins  
and Destinations in Kalkaska  
County.



Illinois 90    Indiana 41    Ohio 29    New York 2  
Missouri 15    Kentucky 4    Pennsylvania 1

## STATION 2 (NASH ROAD)

Station 2 is located .1 miles east of US-131.

A total of 2,821 vehicles were recorded during the expanded interview counts. Tabulations on the following pages give a detailed documentation of this traffic.

Approximately 6 out of every 10 vehicles had a terminal inside the study area. There were 7 of every 10 vehicles which were autos and 19 out of every 100 vehicles which were panels or pickups irregardless of whether they traveled into or through the area. More than 60 percent of the passenger cars and panels or pickups had a terminal inside the study area.

The largest trip purpose was work with 1,039 trips or 36.8 percent of the 2,821 total trips.

Station 7 (M-72, West) accounted for 796 trips or 69.0 percent of the 1,153 through trips.

Zone 18 (Central Business District) accounted for 345 trips or 20.7 percent of the 1,668 terminal trips. Zones 8, 11, 16, and 18 accounted for 1,016 trips or 60.9 percent of the 1,668 terminal trips.

There were 1,690 trips or 59.9 percent of the 2,821 trips that had a trip length of 1-20 minutes. 2,176 trips (77.1 percent) had a trip length of one hour or less.

The origin and destination of all the trips which passed through the station were tabulated by county, Ontario and 5 states. There are two ends for each trip; an origin and a destination. There were 2,821 trips which passed through Station 2, accounting for 5,642 total trip ends.

There were 3,996 trip ends (70.8 percent) in Kalkaska County. There were 11 trip ends (0.2 percent) in the Upper Peninsula. The Lower Peninsula accounted for 5,615 trip ends (99.5 percent). There were 16 origins and/or destinations (0.3 percent) outstate.

STATION 2, NASH ROAD

<u>Vehicle Type</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Passenger Car	1972	69.9	1170	59.3	802	40.7
Passenger Car with Trailer	41	1.4	12	29.3	29	70.7
Panel or Pickup	546	19.3	357	65.4	189	34.6
Panel or Pickup with Trailer	13	0.5	3	23.1	10	76.9
Other Single Unit Trucks	191	6.8	116	60.7	75	39.3
Combinations and Trucks with Trailers	<u>58</u>	<u>2.1</u>	<u>10</u>	17.2	<u>48</u>	82.8
TOTAL	2821	100.0	1668	59.1	1153	40.9

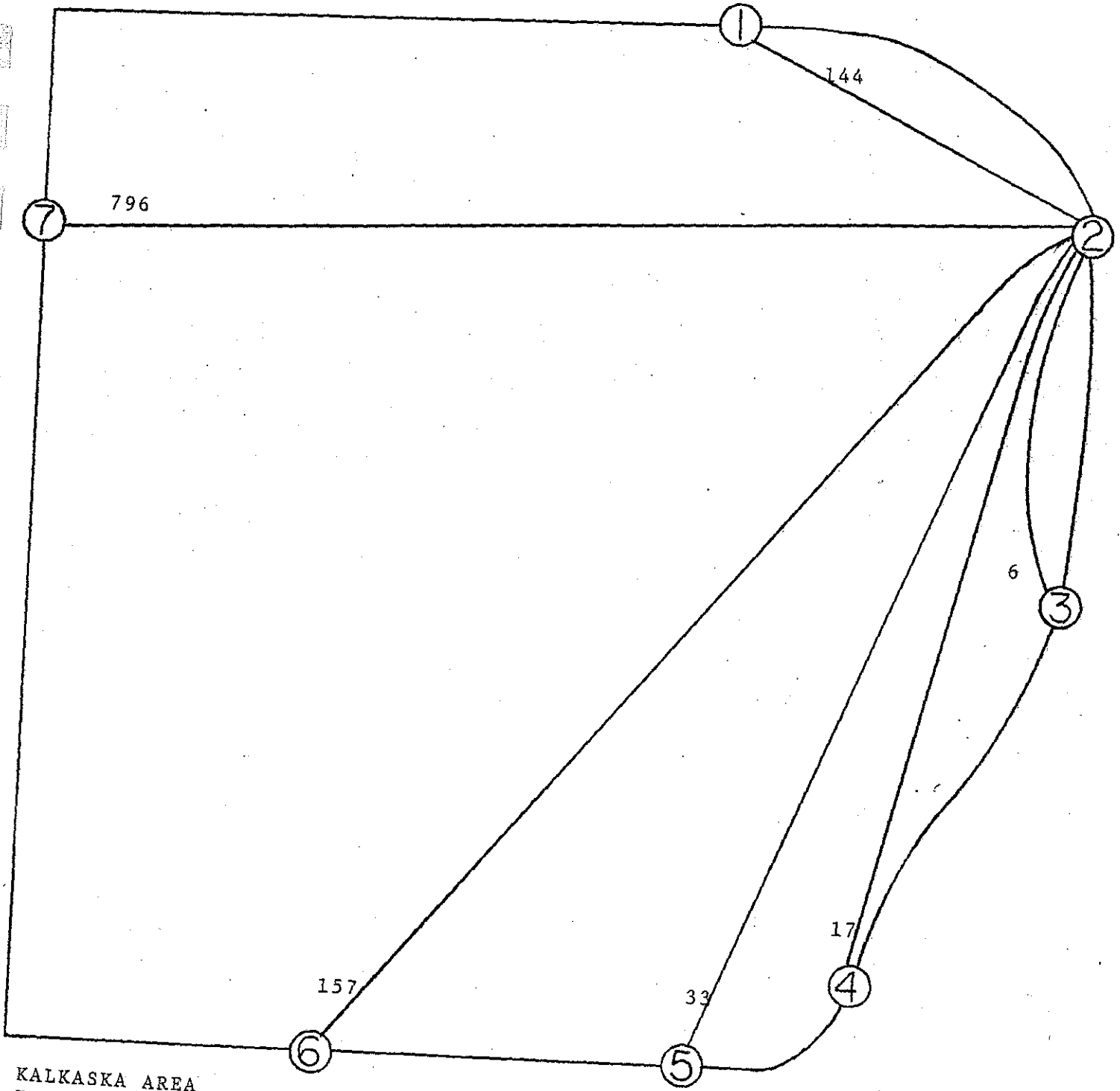
<u>Trip Purpose</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Work	1039	36.8	568	54.7	471	45.3
Personal Business	211	7.5	153	72.5	58	27.5
Shopping	520	18.4	453	87.1	67	12.9
Vacation	183	6.5	20	10.9	163	89.1
Other Soc. or Rec.	676	24.0	327	48.4	349	51.6
All Other	<u>192</u>	<u>6.8</u>	<u>147</u>	76.6	<u>45</u>	23.4
TOTAL	2821	100.0	1668	59.1	1153	40.9

STATION 2, NASH ROAD

THROUGH TRIPS TO EXTERNAL STATIONS

<u>External Station</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
1-US-131, North	144	12.5
3-Kettle Lake Road	6	0.5
4-M-72, East	17	1.5
5-M-66, South	33	2.9
6-US-131, South	157	13.6
7-M-72, West	<u>796</u>	<u>69.0</u>
TOTAL	1153	100.0

THROUGH TRAFFIC INTERCHANGE  
STATION 2, NASH ROAD



KALKASKA AREA  
EXTERNAL O-D STUDY

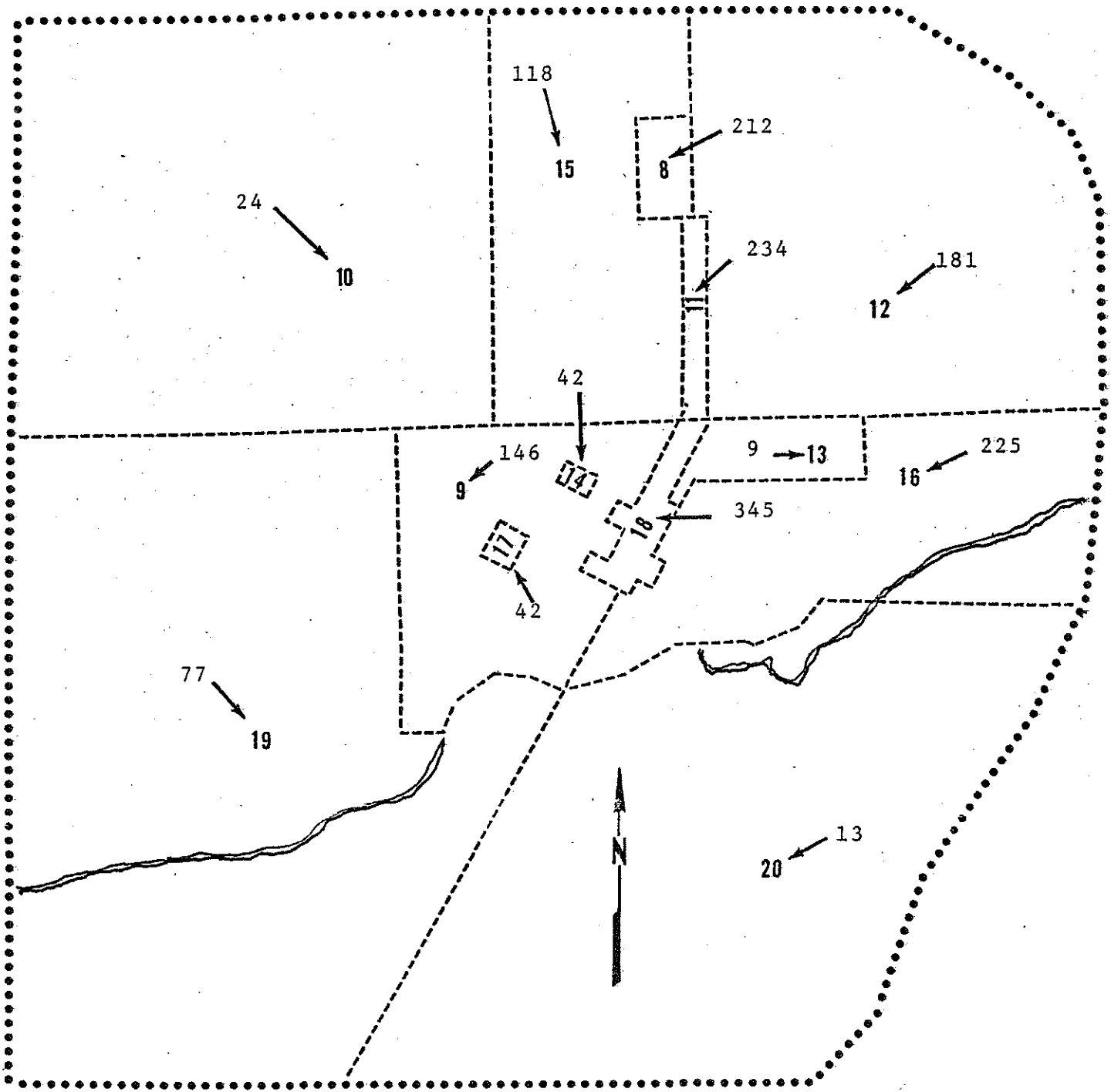
1,153 VEHICLE TRIPS  
AUGUST-SEPTEMBER WEEKDAY 1973



STATION 2, NASH ROAD  
 TERMINAL TRIPS TO STUDY ZONES

<u>Internal Zone</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
8	212	12.7
9	146	8.8
10	24	1.4
11	234	14.0
12	181	10.9
13	9	0.5
14	42	2.5
15	118	7.1
16	225	13.5
17	42	2.5
18	345	20.7
19	77	6.6
20	<u>13</u>	<u>0.8</u>
TOTAL	1668	100.0

TERMINAL TRAFFIC BETWEEN  
 STATION 2 (NASH ROAD) AND INTERNAL ZONES  
 1,668 VEHICLE TRIPS



..... CORDON LINE  
 - - - - ZONE LIMITS  
 00 INTERNAL ZONES

KALKASKA AREA

STATION 2, NASH ROAD

<u>TRIP LENGTHS</u>		
<u>Minutes</u>	<u>No. of Trips</u>	<u>Percent of Totals</u>
1-20	1690	59.9
20-40	201	7.1
40-60	285	10.1
60-90	254	9.0
90-120	69	2.4
120-180	151	5.3
180-240	85	3.0
240-300	64	2.3
300-360	13	0.5
360-420	2	0.1
420-480	1	0.0
480-600	2	0.1
600-720	2	0.1
720-840	<u>2</u>	<u>0.1</u>
TOTAL	2821	100.0

Longest Trip = 12 Hr. 10 Min. Average Trip Length = 50 Min.  
 Median Trip Length = 20 Min.\*

\* Due to the convention of the computer program, this value can be approximated only in 10 minute intervals.



### STATION 3 (KETTLE LAKE ROAD)

Station 3 is located 1.1 miles east of US-131.

A total of 482 vehicles were recorded during the expanded interview counts. Tabulations on the following pages give a detailed documentation of this traffic.

Approximately 6 out of every 10 vehicles had a terminal inside the study area. There were 7 of every 10 vehicles which were autos and 20 out of every 100 vehicles which were panels or pickups irregardless of whether they traveled into or through the area. More than 60 percent of the passenger cars and panels or pickups had a terminal inside the study area.

The largest trip purpose was work with 185 trips or 38.4 percent of the 482 total trips.

Station 1 (US-131 North) and Station 7 (M-72, West) accounted for 100 trips or 55.0 percent of the 182 through trips.

Zone 18 (Central Business District) accounted for 97 trips or 32.3 percent of the 300 terminal trips. Zones 8, 11, 16, and 18 accounted for 244 trips or 81.3 percent of the 300 terminal trips.

There were 399 trips or 82.8 percent of the 482 trips that had a trip length of 1-20 minutes. 471 trips (97.7 percent) had a trip length of one hour or less.

The origin and destination of all the trips which passed through the station were tabulated by county. There are two ends for each trip; an origin and a destination. There were 482 trips which passed through Station 3, accounting for 964 total trip ends.

There were 877 trip ends (91.0 percent) in Kalkaska County. There was 1 trip end (0.1 percent) in the Upper Peninsula. The Lower Peninsula accounted for 963 trip ends (99.9 percent). There were no origins and/or destinations outstate.

STATION 3, KETTLE LAKE ROAD

<u>Vehicle Type</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Passenger Car	363	75.3	237	65.3	126	34.7
Passenger Car with Trailer	5	1.1	2	40.0	3	60.0
Panel or Pickup	95	19.7	50	52.6	45	47.4
Panel or Pickup with Trailer	1	0.2	0	0.0	1	100.0
Other Single Unit Trucks	17	3.5	11	64.7	6	35.3
Combinations and Trucks with Trailers	<u>1</u>	<u>0.2</u>	<u>0</u>	<u>0.0</u>	<u>1</u>	100.0
TOTAL	482	100.0	300	62.2	182	37.8

<u>Trip Purpose</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Work	185	38.4	96	51.9	89	48.1
Personal Business	42	8.7	26	61.9	16	38.1
Shopping	93	19.3	83	89.2	10	10.8
Vacation	7	1.5	3	42.9	4	57.1
Other Soc. or Rec.	83	17.2	43	51.8	40	48.2
All Other	<u>72</u>	<u>14.9</u>	<u>49</u>	68.1	<u>23</u>	31.9
TOTAL	482	100.0	300	62.2	182	37.8

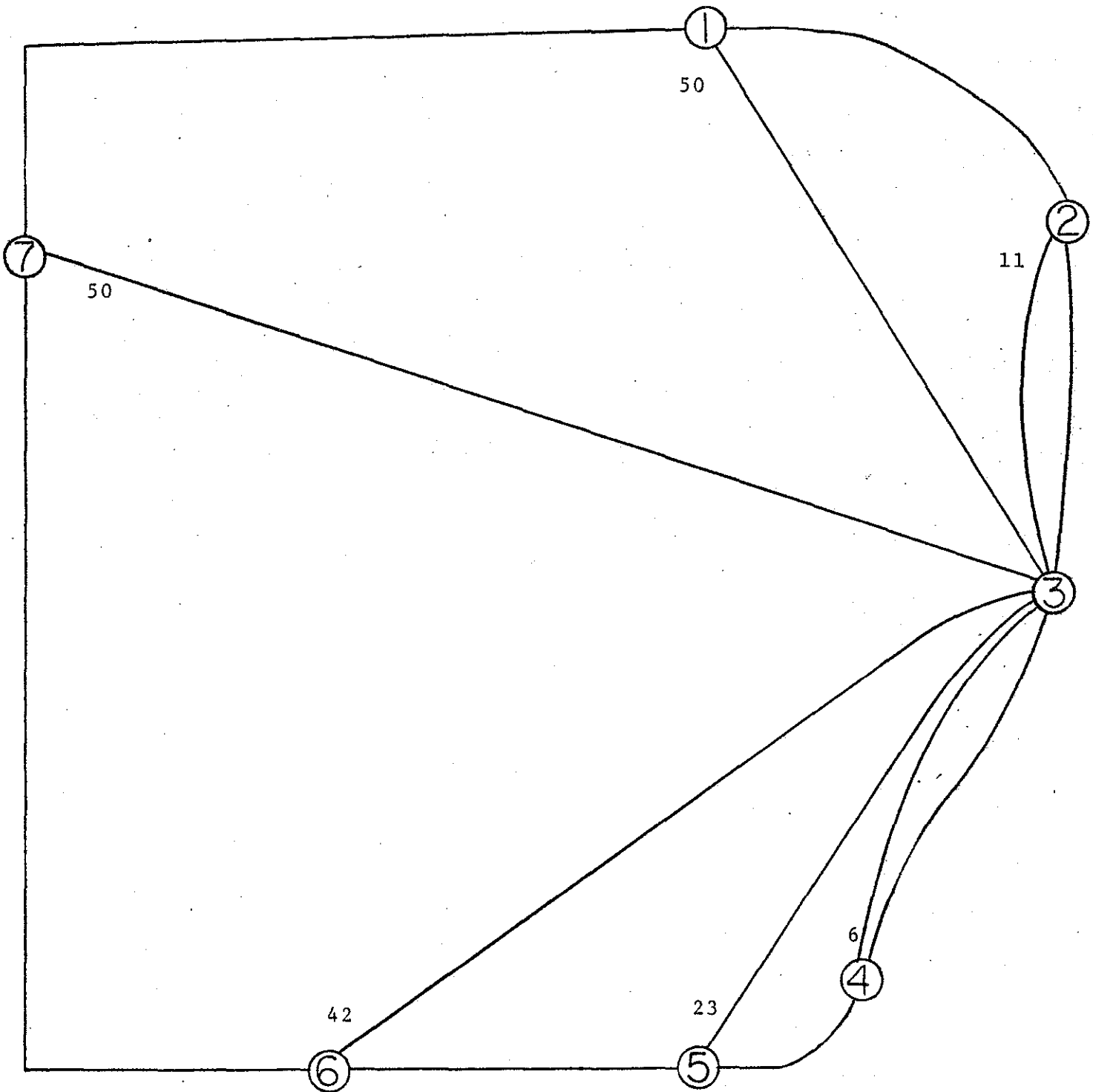
STATION 3, KETTLE LAKE ROAD

THROUGH TRIPS TO EXTERNAL STATIONS

<u>External Station</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
1-US-131, North	50	27.5
2-Nash Road	11	6.0
4-M-72, East	6	3.3
5-M-66, South	23	12.6
6-US-131, South	42	23.1
7-M-72, West	<u>50</u>	<u>27.5</u>
TOTAL	182	100.0



THROUGH TRAFFIC INTERCHANGE  
STATION 3, KETTLE LAKE ROAD



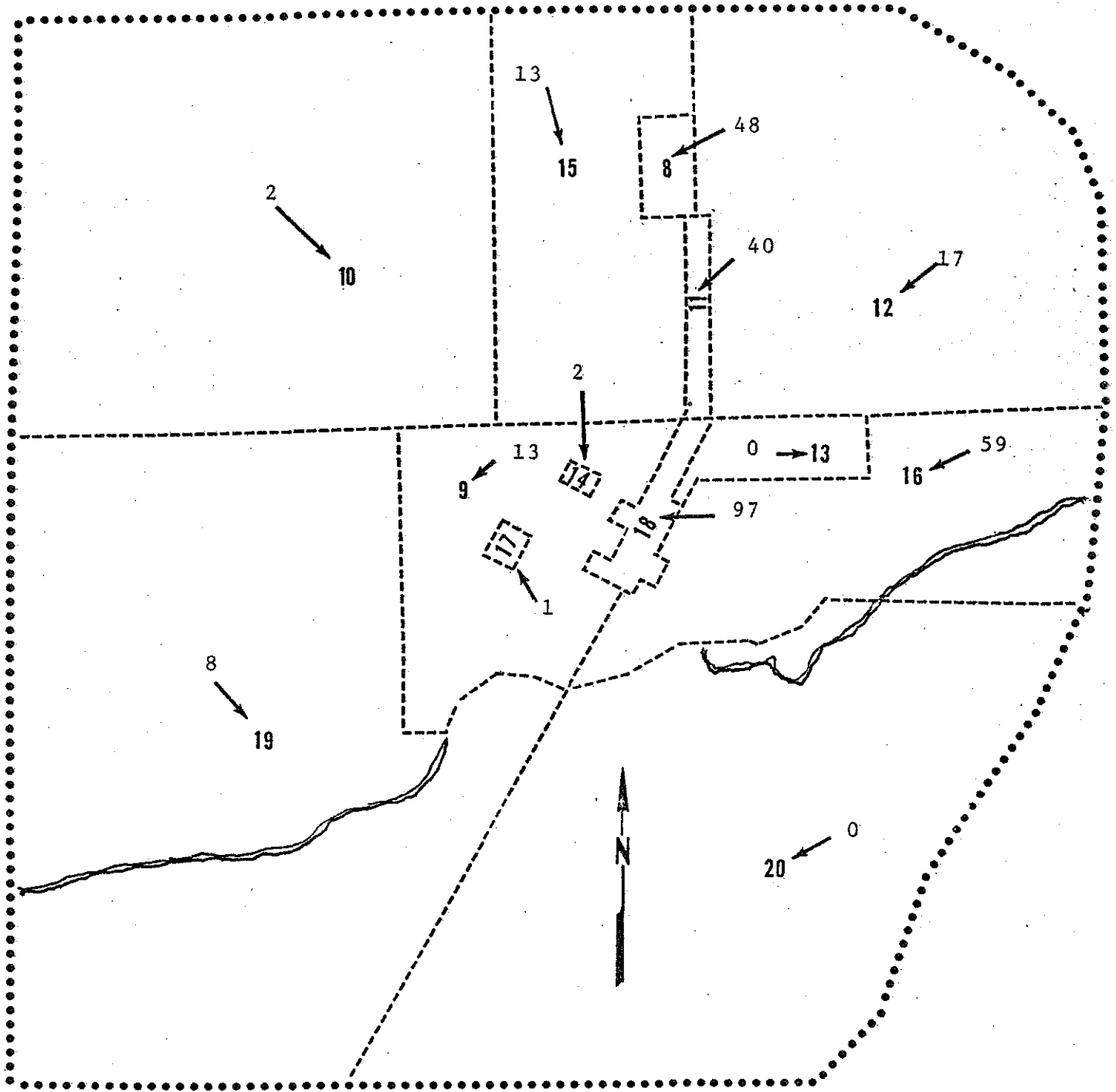
KALKASKA AREA  
EXTERNAL O-D STUDY

182 VEHICLE TRIPS  
AUGUST-SEPTEMBER WEEKDAY 1973

STATION 3, KETTLE LAKE ROAD  
TERMINAL TRIPS TO STUDY ZONES

<u>Internal Zones</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
8	48	16.0
9	13	4.3
10	2	0.7
11	40	13.3
12	17	5.7
13	0	0.0
14	2	0.7
15	13	4.3
16	59	19.7
17	1	0.3
18	97	32.3
19	8	2.7
20	<u>0</u>	<u>0.0</u>
TOTAL	300	100.0

TERMINAL TRAFFIC BETWEEN  
 STATION 3 (KETTLE LAKE ROAD) AND INTERNAL ZONES  
 300 VEHICLE TRIPS



..... CORDON LINE  
 - - - - ZONE LIMITS  
 00 INTERNAL ZONES

KALKASKA AREA

STATION 3, KETTLE LAKE ROAD

TRIP LENGTHS

<u>Minutes</u>	<u>No. of Trips</u>	<u>Percent of Totals</u>
1-20	399	82.8
20-40	52	10.8
40-60	20	4.2
60-90	2	0.4
90-120	3	0.6
120-180	1	0.2
180-240	<u>5</u>	<u>1.0</u>
TOTAL	482	100.0

Longest Trip = 3 Hr. 50 Min. Average Trip Length = 18 Min.  
 Median Trip Length = 10 Min.\*

\* Due to the convention of the computer program, this value can be approximated only in 10 minute intervals.



STATION 4 (M-72, EAST)

Station 4 is located .4 miles east of M-66.

A total of 2,607 vehicles were recorded during the expanded interview counts. Tabulations on the following pages give a detailed documentation of this traffic.

Approximately 7 out of every 10 vehicles had a through trip in the study area. There were 30 of every 100 vehicles which were autos and 28 out of every 100 vehicles which were panels or pickups with trailer irregardless of whether they traveled into or through the area. About 80 percent of the passenger cars and panels or pickups with trailers had a through trip in the study area.

The largest trip purpose was work with 789 trips or 30.3 percent of the 2,607 total trips.

Station 7 (M-72, West) accounted for 1,352 trips or 69.8 percent of the 1,936 through trips.

Zone 18 (Central Business District) accounted for 223 trips or 33.2 percent of the 671 terminal trips. Zones 8, 11, 15, and 18 accounted for 487 trips or 72.6 percent of the 671 terminal trips.

There were 604 trips or 23.2 percent of the 2,607 trips that had a trip length of 1-20 minutes. 1,022 trips (39.2 percent) had a trip length of one hour or less.

The origin and destination of all the trips which passed through the station were tabulated by county, Ontario and 6 states. There are two ends for each trip; an origin and a destination. There were 2,607 trips which passed through Station 4, accounting for 5,214 total trip ends.

There were 1,786 trip ends (34.3 percent) in Kalkaska County.  
There were 42 trip ends (0.8 percent) in the Upper Peninsula.  
The Lower Peninsula accounted for 5,057 trip ends (97.0 percent).  
There were 115 origins and/or destinations (2.2 percent) outstate.

STATION 4, M-72, EAST

<u>Vehicle Type</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Passenger Car	789	30.3	294	37.3	495	62.7
Passenger Car with Trailer	212	8.1	86	40.6	126	59.4
Panel or Pickup	229	8.8	142	62.0	87	3.8
Panel or Pickup with Trailer	719	27.6	13	1.8	706	98.2
Other Single Unit Trucks	512	19.6	71	13.9	441	86.1
Combinations and Trucks with Trailers	<u>146</u>	<u>5.6</u>	<u>65</u>	44.5	<u>81</u>	55.5
TOTAL	2607	100.0	671	25.7	1936	74.3

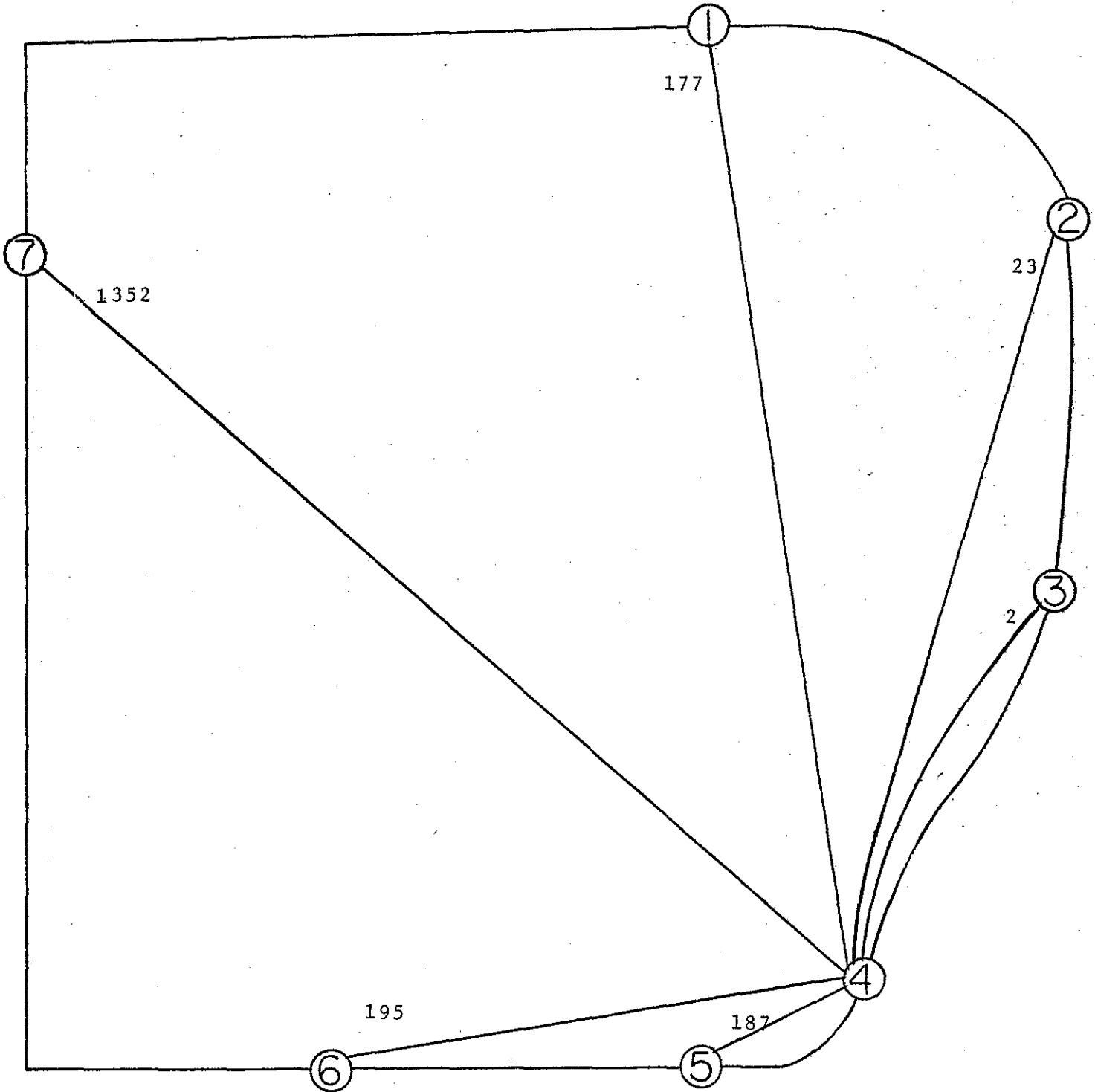
<u>Trip Purpose</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Work	789	30.3	294	37.3	495	62.7
Personal Business	212	8.1	85	40.1	127	59.9
Shopping	229	8.8	142	62.0	87	38.0
Vacation	719	27.6	14	1.9	705	98.1
Other Soc. or Rec.	512	19.6	71	13.9	441	86.1
All Other	<u>146</u>	<u>5.6</u>	<u>65</u>	44.5	<u>81</u>	55.5
TOTAL	2607	100.0	671	25.7	1936	74.3



STATION 4, M-72, EAST  
THROUGH TRIPS TO EXTERNAL STATIONS

<u>External Stations</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
1-US-131, North	177	9.1
2-Nash Road	23	1.2
3-Kettle Lake Road	2	0.1
5-M-66, South	187	9.7
6-US-131, South	195	10.1
7-M-72, West	<u>1352</u>	<u>69.8</u>
TOTAL	1936	100.0

THROUGH TRAFFIC INTERCHANGE  
STATION 4, M-72, EAST



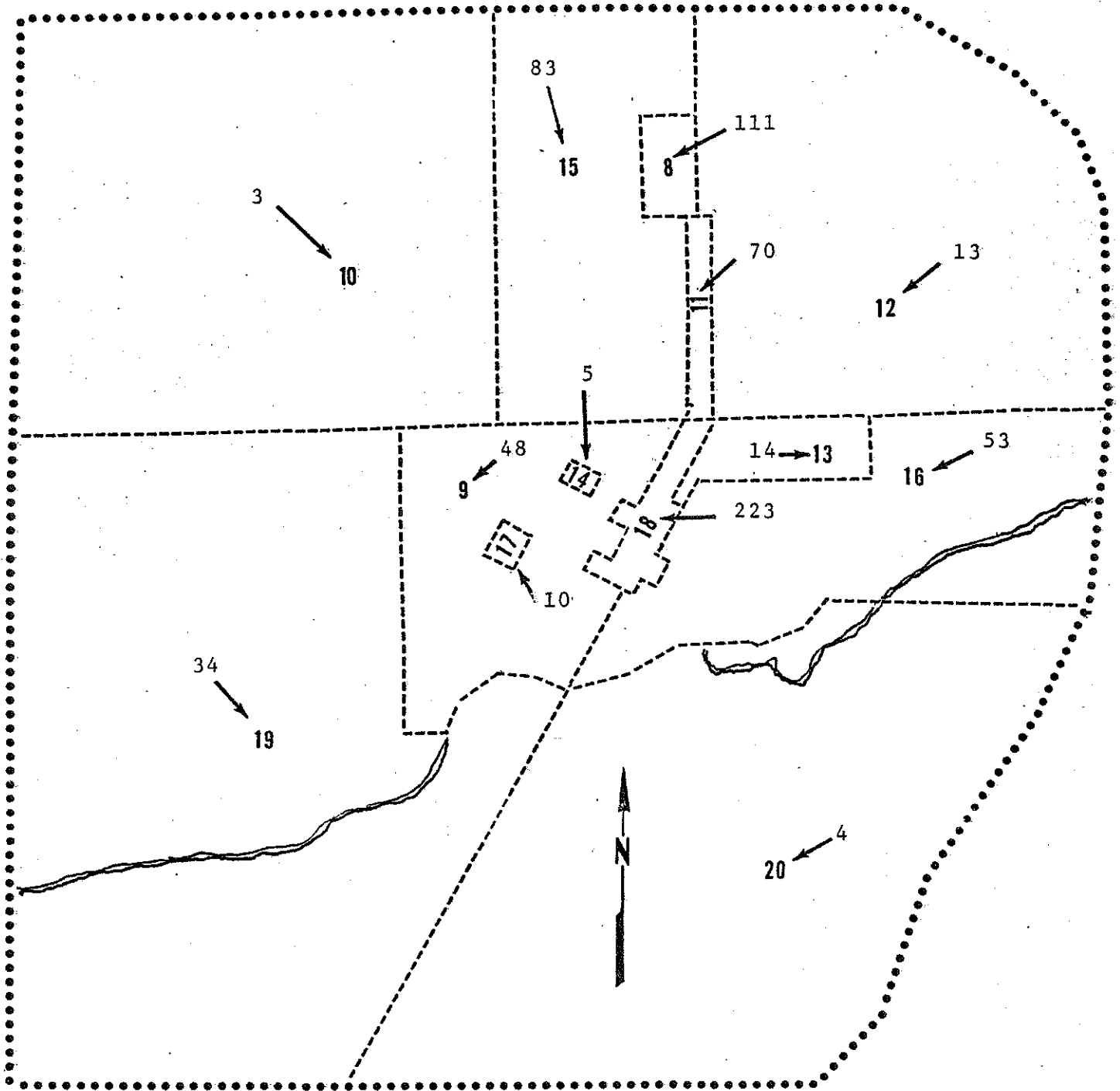
KALKASKA AREA  
EXTERNAL O-D STUDY

1,936 VEHICLE TRIPS  
AUGUST-SEPTEMBER WEEKDAY 1973

STATION 4, M-72, EAST  
TERMINAL TRIPS TO STUDY ZONES

<u>Internal Zones</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
8	111	16.5
9	48	7.2
10	3	0.5
11	70	10.4
12	13	1.9
13	14	2.1
14	5	0.7
15	83	12.4
16	53	7.9
17	10	1.5
18	223	33.2
19	34	5.1
20	<u>4</u>	<u>0.6</u>
TOTAL	671	100.0

TERMINAL TRAFFIC BETWEEN  
 STATION 4 (M-72, EAST) AND INTERNAL ZONES  
 671 VEHICLE TRIPS



..... CORDON LINE  
 - - - - ZONE LIMITS  
 00 INTERNAL ZONES

KALKASKA AREA

STATION 4, M-72, EAST

<u>TRIP LENGTHS</u>		
<u>Minutes</u>	<u>No. of Trips</u>	<u>Percent of Totals</u>
1-20	604	23.2
20-40	316	12.1
40-60	102	3.9
60-90	372	14.3
90-120	176	6.8
120-180	319	12.2
180-240	215	8.2
240-300	348	13.3
300-360	109	4.2
360-420	25	1.0
420-480	6	0.2
480-600	14	0.5
600-720	<u>1</u>	<u>0.1</u>
TOTAL	2607	100.0

Longest Trip = 11 Hr. 20 Min. Average Trip Length = 123 Min.  
 Median Trip Length = 80 Min.\*

\* Due to the convention of the computer program, this value can be approximated only in 10 minute intervals.



## STATION 5 (M-66, SOUTH)

Station 5 is located .2 miles south of M-72.

A total of 2,169 vehicles were recorded during the expanded interview counts. Tabulations on the following pages give a detailed documentation of this traffic.

Approximately 5 out of every 10 vehicles had a terminal inside the study area. There were 7 of every 10 vehicles which were autos and 20 out of every 100 vehicles which were panels or pickups irregardless of whether they traveled into or through the area.

The largest trip purpose was work with 976 trips or 45.1 percent of the 2,169 total trips.

Station 1 (US-131 North) accounted for 374 trips or 35.3 percent of the 1,060 through trips. Station 1 and 4 accounted for 733 trips or 69.2 percent of the 1,060 through trips.

Zone 18 (Central Business District) accounted for 285 trips or 25.7 percent of the 1,109 terminal trips.

There were 1,123 trips or 51.8 percent of the 2,169 trips that had a trip length of 1-20 minutes. 1,602 trips (73.9 percent) had a trip length of one hour or less.

The origin and destination of all the trips which passed through the station were tabulated by county, Ontario and 3 states. There are two ends for each trip; an origin and a destination. There were 2,169 trips which passed through Station 5, accounting for 4,338 total trip ends.

There were 2,913 trip ends (67.2 percent) in Kalkaska County. There were 44 trip ends (1.0 percent) in the Upper Peninsula. The Lower Peninsula accounted for 4,286 trip ends (98.8 percent). There were 8 origins and/or destinations (0.2 percent) outstate.



STATION 5, M-66, SOUTH

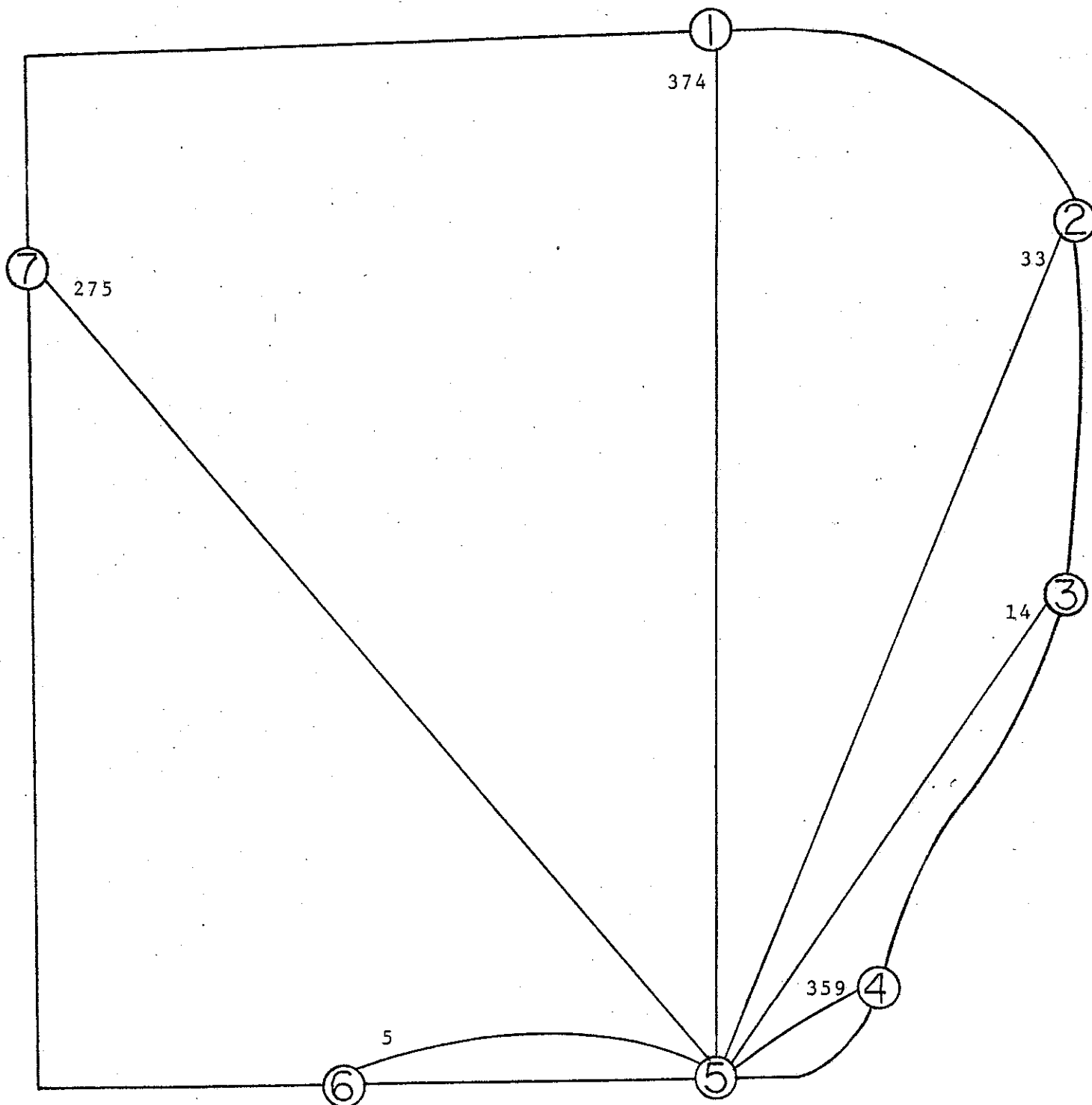
<u>Vehicle Type</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Passenger Car	1445	66.6	757	52.4	688	47.6
Passenger Car with Trailer	32	1.5	4	12.5	28	87.5
Panel or Pickup	439	20.2	237	54.0	202	46.0
Panel or Pickup with Trailer	10	0.5	0	0.0	10	100.0
Other Single Unit Trucks	195	9.0	101	51.8	94	48.2
Combinations and Trucks with Trailers	<u>48</u>	<u>2.2</u>	<u>10</u>	20.8	<u>38</u>	79.2
TOTAL	2169	100.0	1109	51.1	1060	48.9

<u>Trip Purpose</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Work	976	45.1	430	44.1	546	55.9
Personal Business	217	10.0	146	67.3	71	32.7
Shopping	298	13.7	250	83.9	48	16.1
Vacation	209	9.6	30	14.4	179	85.6
Other Soc. or Rec.	298	13.7	132	44.3	166	55.7
All Other	<u>171</u>	<u>7.9</u>	<u>121</u>	70.8	<u>50</u>	29.2
TOTAL	2169	100.0	1109	51.1	1060	48.9

STATION 5, M-66, SOUTH  
THROUGH TRIPS TO EXTERNAL STATIONS

<u>External Station</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
1-US-131, North	374	35.3
2-Nash Road	33	3.1
3-Kettle Lake Road	14	1.3
4-M-72, East	359	33.9
6-US-131, South	5	0.5
7-M-72, West	<u>275</u>	<u>25.9</u>
TOTAL	1060	100.0

THROUGH TRAFFIC INTERCHANGE  
STATION 5, M-66, SOUTH



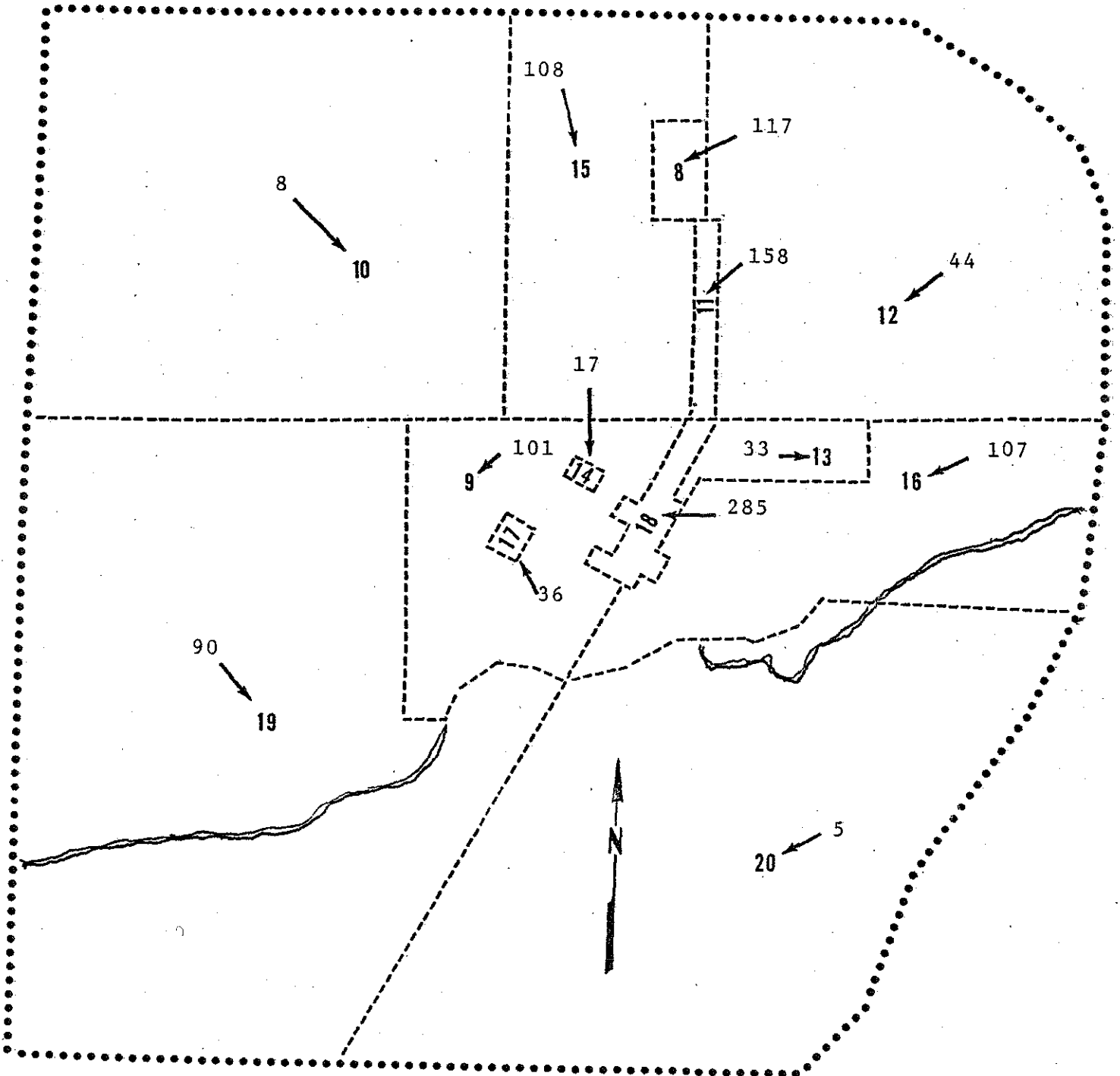
KALKASKA AREA  
EXTERNAL O-D STUDY

1,060 VEHICLE TRIPS  
AUGUST-SEPTEMBER WEEKDAY 1973

STATION 5, M-66, SOUTH  
 TERMINAL TRIPS TO STUDY ZONES

<u>Internal Zones</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
8	117	10.6
9	101	9.1
10	8	0.7
11	158	14.3
12	44	4.0
13	33	3.0
14	17	1.5
15	108	9.7
16	107	9.6
17	36	3.2
18	285	25.7
19	90	8.1
20	<u>5</u>	<u>0.5</u>
TOTAL	1109	100.0

TERMINAL TRAFFIC BETWEEN  
 STATION 5 (M-66, SOUTH) AND INTERNAL ZONES  
 1,109 VEHICLE TRIPS



..... CORDON LINE  
 - - - - ZONE LIMITS KALKASKA AREA  
 00 INTERNAL ZONES

STATION 5, M-66, SOUTH

TRIP LENGTHS

<u>Minutes</u>	<u>No. of Trips</u>	<u>Percent of Totals</u>
1-20	1123	51.8
20-40	299	13.8
40-60	180	8.3
60-90	122	5.6
90-120	127	5.8
120-180	132	6.1
180-240	79	3.6
240-300	71	3.3
300-360	21	1.0
360-420	8	0.4
420-480	2	0.1
480-600	<u>5</u>	<u>0.2</u>
TOTAL	2169	100.0

Longest Trip = 9 Hrs. 40 Min. Average Trip Length = 59 Min.  
 Median Trip Length = 20 Min.\*

\* Due to the convention of the computer program, this value can be approximated only in 10 minute intervals.



STATION 6 (US-131, SOUTH)

Station 6 is located 1.4 miles south of the junction of US-131, M-66 and M-72.

A total of 3,341 vehicles were recorded during the expanded interview counts. Tabulations on the following pages give a detailed documentation of this traffic.

Approximately 7 out of every 10 vehicles had a through trip in the study area. There were 6 of every 10 vehicles which were autos and 18 out of every 100 vehicles which were panels or pickups irregardless of whether they traveled into or through the area. More than 60 percent of the passenger cars and panels or pickups had a through trip in the study area.

The largest trip purpose was work with 1,525 trips or 45.6 percent of the 3,341 total trips.

Station 1 (US-131, North) accounted for 1,640 trips or 73.9 percent of the 2,218 through trips.

Zone 18 (Central Business District) accounted for 320 trips or 28.5 percent of the 1,123 terminal trips. Zones 9, 11, 16, and 18 accounted for 707 trips or 63.0 percent of the 1,123 terminal trips.

There were 886 trips or 26.5 percent of the 3,341 trips that had a trip length of 1-20 minutes. 1,623 trips (48.6 percent) had a trip length of one hour or less.

The origin and destination of all the trips which passed through the station were tabulated by county, Ontario and 10 states. There are two ends for each trip; an origin and a destination. There were 3,341 trips which passed through Station 6, accounting for 6,682 total trip ends.



There were 2,639 trip ends (39.5 percent) in Kalkaska County. There were 294 trip ends (4.4 percent) in the Upper Peninsula. The Lower Peninsula accounted for 6,226 trip ends (93.2 percent). There were 162 origins and/or destinations (2.4 percent) outstate.

STATION 6, US-131, SOUTH

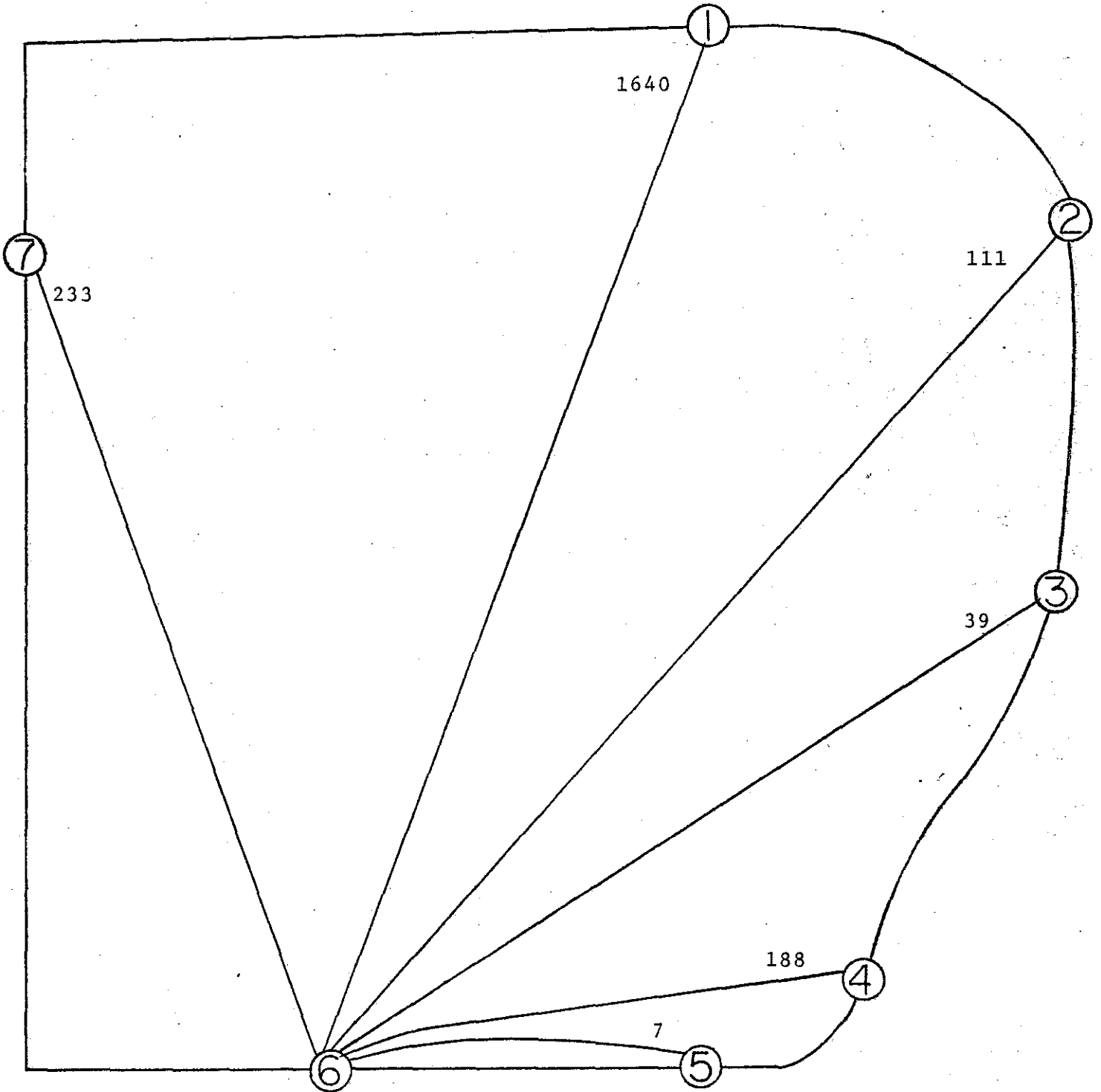
<u>Vehicle Type</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Passenger Car	2121	63.5	678	32.0	1443	68.0
Passenger Car with Trailer	105	3.2	0	0.0	105	100.0
Panel or Pickup	599	17.9	314	52.4	285	47.6
Panel or Pickup with Trailer	51	1.5	8	15.7	43	84.3
Other Single Unit Trucks	227	6.8	71	31.3	156	68.7
Combinations and Trucks with Trailers	<u>238</u>	<u>7.1</u>	<u>52</u>	21.8	<u>186</u>	78.2
TOTAL	3341	100.0	1123	33.6	2218	66.4

<u>Trip Purpose</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Work	1525	45.6	608	39.9	917	60.1
Personal Business	213	6.4	90	42.3	123	57.7
Shopping	197	5.9	158	80.2	39	19.8
Vacation	679	20.3	19	2.8	660	97.2
Other Soc. or Rec.	514	15.4	128	24.9	386	75.1
All Other	<u>213</u>	<u>6.4</u>	<u>120</u>	56.3	<u>93</u>	43.7
TOTAL	3341	100.0	1123	33.6	2218	66.4

STATION 6, US-131, SOUTH  
THROUGH TRIPS TO EXTERNAL STATIONS

<u>External Station</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
1-US-131, North	1640	73.9
2-Nash Road	111	5.0
3-Kettle Lake Road	39	1.8
4-M-72, East	188	8.5
5-M-66, South	7	0.3
7-M-72, West	<u>233</u>	<u>10.5</u>
TOTAL	2218	100.0

THROUGH TRAFFIC INTERCHANGE  
STATION 6, US-131, SOUTH



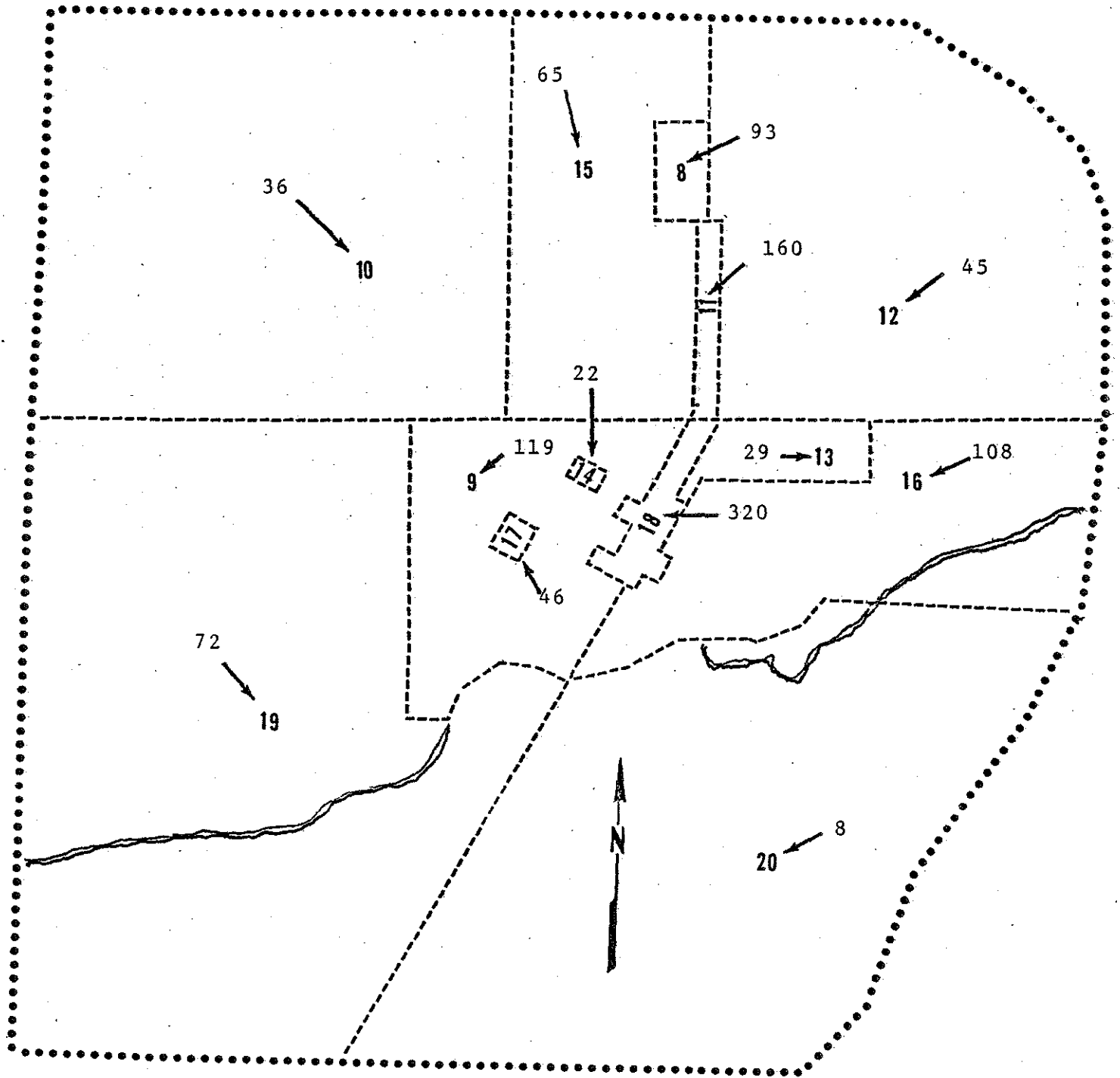
KALKASKA AREA  
EXTERNAL O-D STUDY

2,218 VEHICLE TRIPS  
AUGUST-SEPTEMBER WEEKDAY 1973

STATION 6, US-131, SOUTH  
 TERMINAL TRIPS TO STUDY ZONES

<u>Internal Zones</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
8	93	8.3
9	119	10.6
10	36	3.2
11	160	14.2
12	45	4.0
13	29	2.6
14	22	2.0
15	65	5.8
16	108	9.6
17	46	4.1
18	320	28.5
19	72	6.4
20	<u>8</u>	<u>0.7</u>
TOTAL	1123	100.0

TERMINAL TRAFFIC BETWEEN  
 STATION 6 (US-131, SOUTH) AND INTERNAL ZONES  
 1,123 VEHICLE TRIPS



..... CORDON LINE  
 ----- ZONE LIMITS KALKASKA AREA  
 00 INTERNAL ZONES

STATION 6, US-131, SOUTH

TRIP LENGTHS

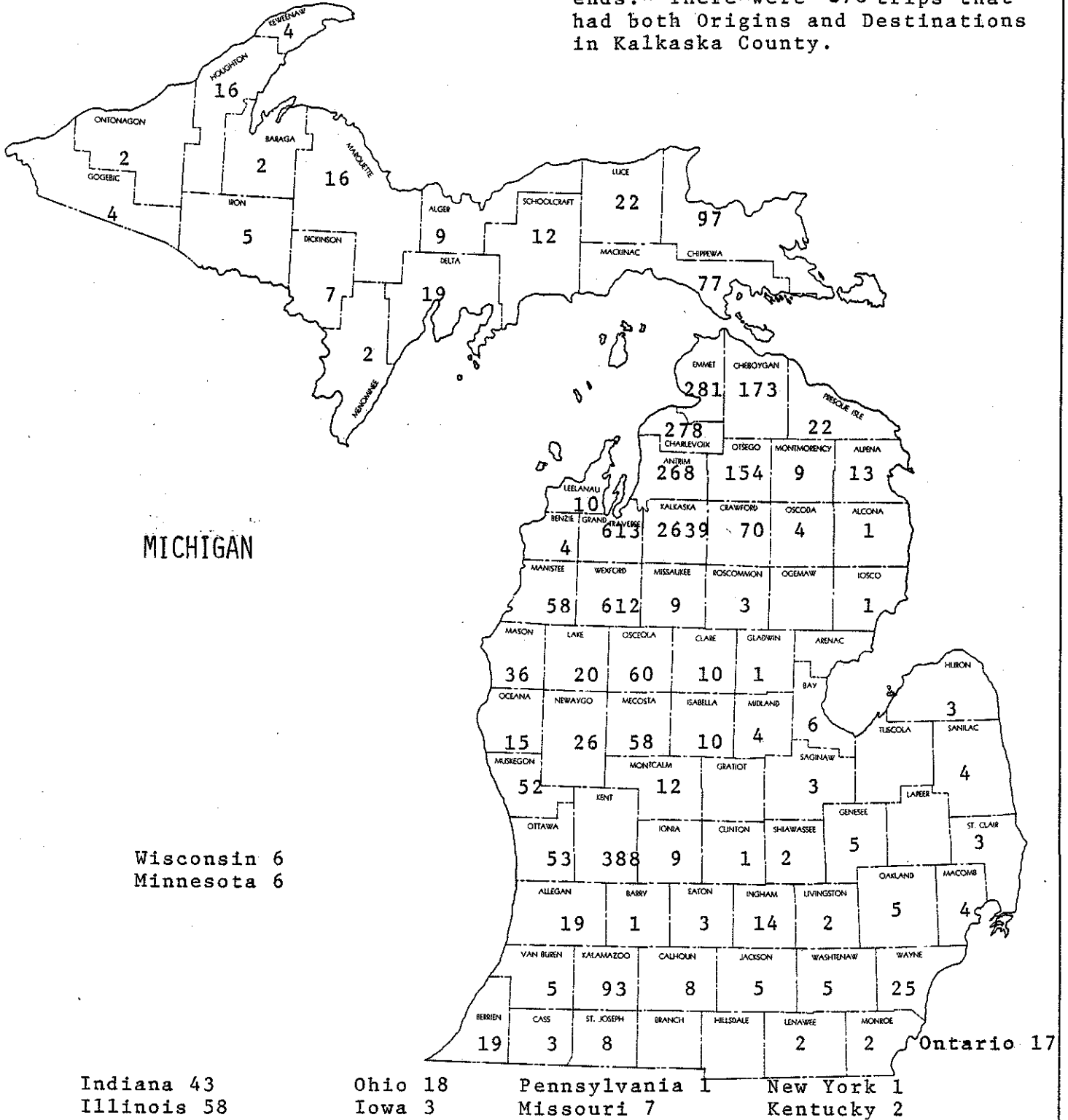
<u>Minutes</u>	<u>No. of Trips</u>	<u>Percent of Totals</u>
1-20	886	26.5
20-40	208	6.2
40-60	529	15.8
60-90	226	6.8
90-120	254	7.6
120-180	245	7.3
180-240	411	12.3
240-300	212	6.3
300-360	142	4.3
360-420	90	2.7
420-480	69	2.1
480-600	37	1.1
600-720	20	0.6
720-840	9	0.3
840-960	2	0.1
960-1070	<u>1</u>	<u>0.0</u>
TOTAL	3341	100.0

Longest Trip = 17 Hr. 50 Min. Average Trip Length = 131 Min.  
 Median Trip Length = 70 Min.\*

\* Due to the convention of the computer program, this value can be approximated only in 10 minute intervals.

KALKASKA EXTERNAL O-D STUDY  
STATION 6, US-131, SOUTH

Total: 3,341 Trips, 6,682 Trip ends. There were 878 trips that had both Origins and Destinations in Kalkaska County.





## STATION 7 (M-72, WEST)

Station 7 is located .7 miles west of Kalkaska Road.

A total of 5,040 vehicles were recorded during the expanded interview counts. Tabulations on the following pages give a detailed documentation of this traffic.

Approximately 7 out of every 10 vehicles had a through trip in the study area. There were 8 of every 10 vehicles which were autos and 13 out of every 100 vehicles which were panels or pickups irregardless of whether they traveled into or through the area. Almost 70 percent of the passenger cars and panels or pickups had a through trip in the study area.

The largest trip purpose was work with 1,620 trips or 32.2 percent of the 5,040 total trips.

Station 4 (M-72, East) accounted for 1,971 trips or 54.2 percent of the 3,641 through trips. Stations 1 and 4 accounted for 2,754 trips or 75.6 percent of the 3,641 through trips.

Zone 18 (Central Business District) accounted for 282 trips or 20.2 percent of the 1,399 terminal trips. Zones 8, 15, and 18 accounted for 711 trips or 50.8 percent of the 1,399 terminal trips.

There were 1,162 trips or 23.1 percent of the 5,040 trips that had trip length of 20-40 minutes. 2,425 trips (48.1 percent) had a trip length of one hour or less.

The origin and destination of all trips which passed through the station were tabulated by county, Ontario and 8 states. There are two ends for each trip; an origin and a destination. There were 5,040 trips which passed through Station 7, accounting for 10,080 total trip ends.

There were 2,868 trip ends (28.5 percent) in Kalkaska County. There were 102 trip ends (1.0 percent) in the Upper Peninsula. The Lower Peninsula accounted for 9,870 trip ends (97.9 percent). There were 108 origins and/or destinations (1.1 percent) outstate.

STATION 7, M-72, WEST

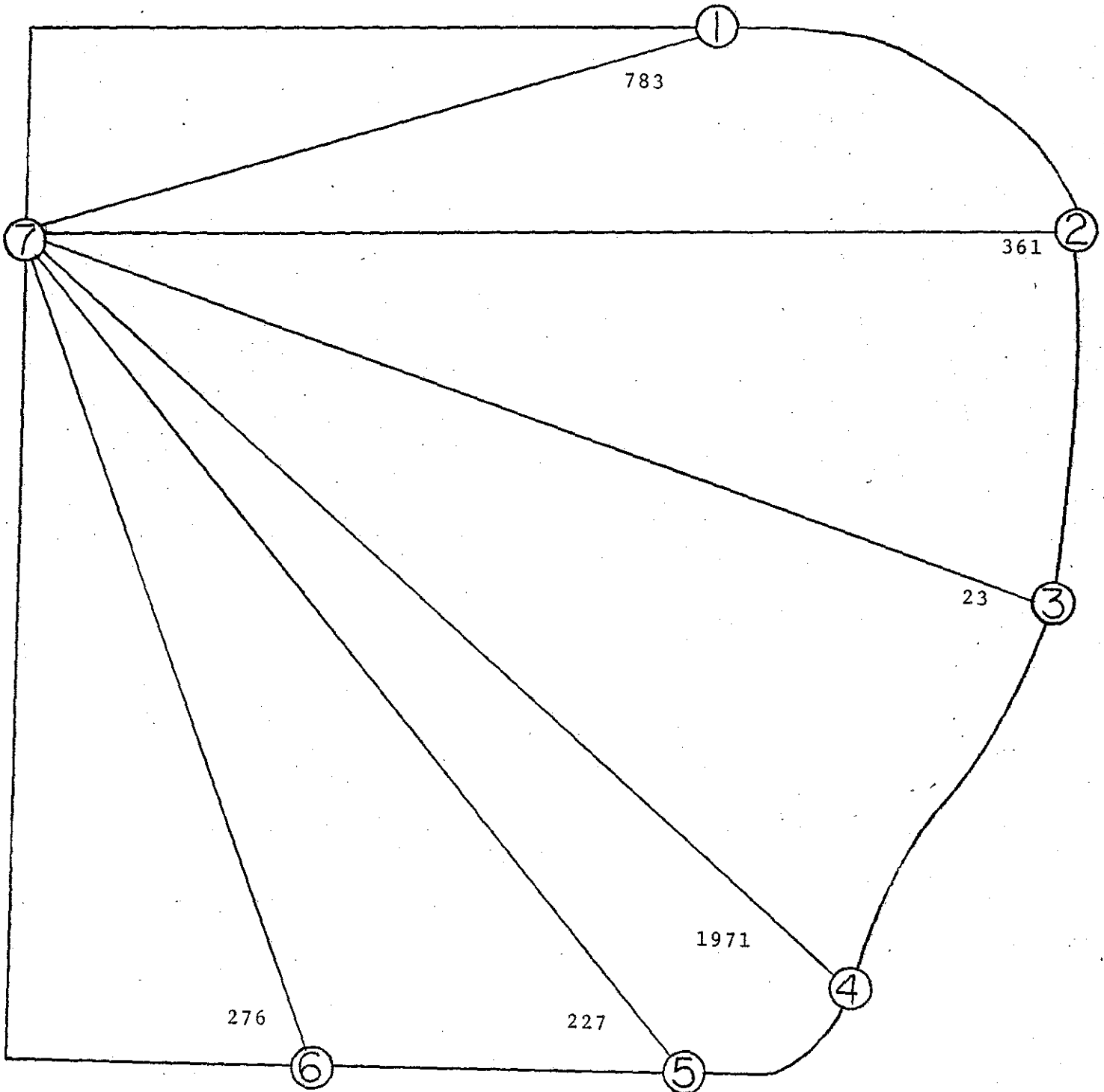
<u>Vehicle Type</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Passenger Car	3851	76.4	1056	27.4	2795	72.6
Passenger Car with Trailer	123	2.4	6	4.9	117	95.1
Panel or Pickup	660	13.1	262	39.7	398	60.3
Panel or Pickup with Trailer	54	1.1	5	9.3	49	90.7
Other Single Unit Trucks	214	4.3	53	24.8	161	75.2
Combinations and Trucks with Trailers	<u>138</u>	<u>2.7</u>	<u>17</u>	12.3	<u>212</u>	87.1
TOTAL	5040	100.0	1399	27.8	3641	72.2

<u>Trip Purpose</u>	<u>Vehicles</u>	<u>Percent of Total</u>	<u>Terminal</u>	<u>%</u>	<u>Through</u>	<u>%</u>
Work	1620	32.2	531	32.8	1089	67.2
Personal Business	335	6.6	144	43.0	191	57.0
Shopping	583	11.6	368	63.1	215	36.9
Vacation	1126	22.3	37	3.3	1089	96.7
Other Soc. or Rec.	1081	21.4	213	19.7	868	80.3
All Other	<u>295</u>	<u>5.9</u>	<u>106</u>	35.9	<u>189</u>	64.1
TOTAL	5040	100.0	1399	27.8	3641	72.2

STATION 7, M-72, WEST  
THROUGH TRIPS TO EXTERNAL ZONES

<u>External Station</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
1-US-131, North	783	21.5
2-Nash Road	361	9.9
3-Kettle Lake Road	23	0.6
4-M-72, East	1971	54.2
5-M-66, South	227	6.2
6-US-131, South	<u>276</u>	<u>7.6</u>
TOTAL	3641	100.0

THROUGH TRAFFIC INTERCHANGE  
STATION 7, M-72, WEST



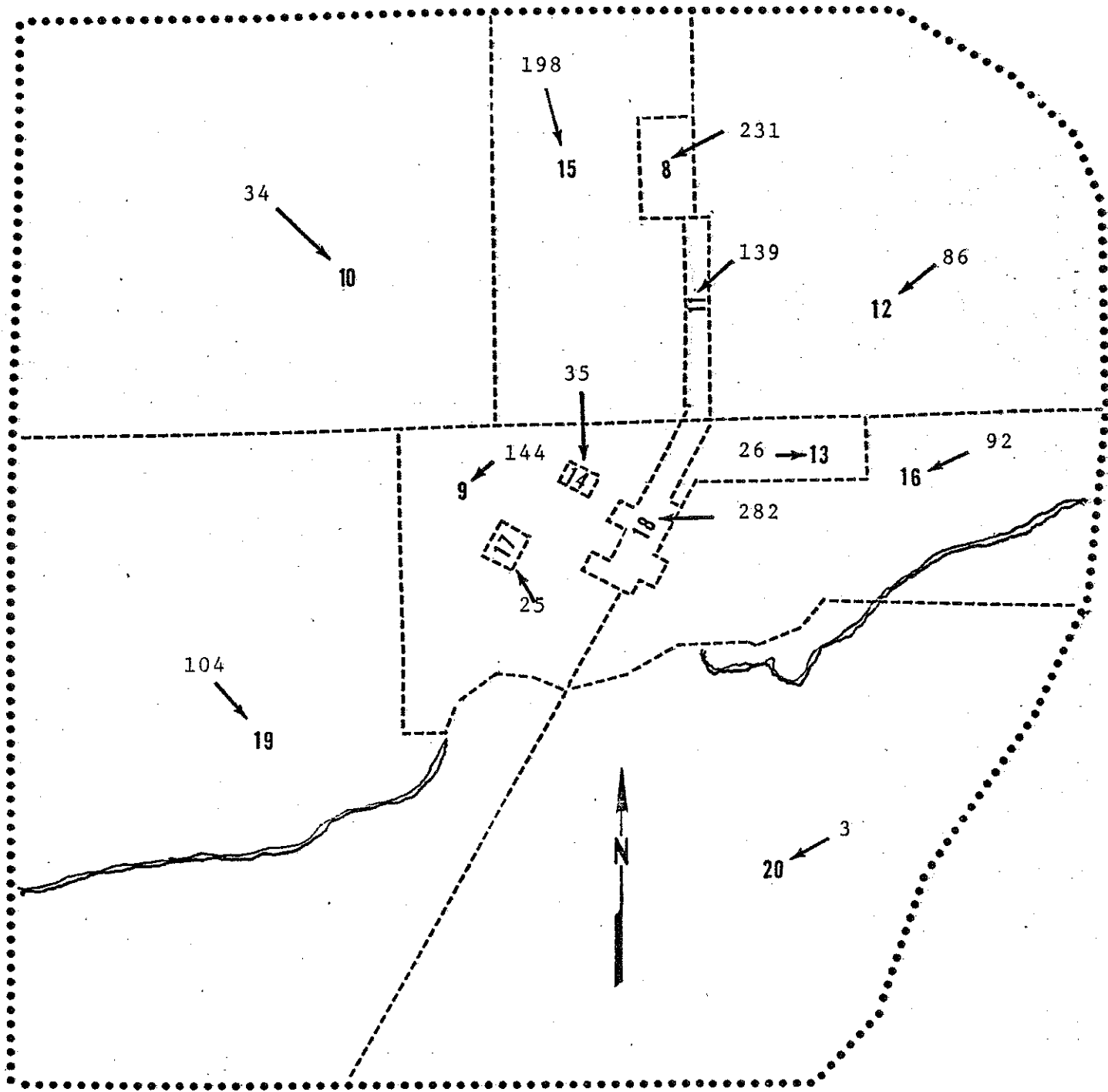
KALKASKA AREA  
EXTERNAL O-D STUDY

3,641 VEHICLE TRIPS  
AUGUST-SEPTEMBER WEEKDAY 1973

STATION 7, M-72, WEST  
TERMINAL TRIPS TO STUDY ZONES

<u>Internal Zones</u>	<u>Total Vehicles</u>	<u>Percent of Total</u>
8	231	16.5
9	144	10.3
10	34	2.4
11	139	9.9
12	86	6.1
13	26	1.9
14	35	2.5
15	198	14.2
16	92	6.6
17	25	1.8
18	282	20.2
19	104	7.4
20	<u>3</u>	<u>0.2</u>
TOTAL	1399	100.0

TERMINAL TRAFFIC BETWEEN  
 STATION 7 (M-72, WEST) AND INTERNAL ZONES  
 1,399 VEHICLE TRIPS



..... CORDON LINE  
 - - - - ZONE LIMITS    KALKASKA AREA  
 00 INTERNAL ZONES

STATION 7, M-72, WEST

TRIP LENGTHS

<u>Minutes</u>	<u>No. of Trips</u>	<u>Percent of Totals</u>
1-20	574	11.4
20-40	1162	23.1
40-60	689	13.7
60-90	836	16.6
90-120	258	5.1
120-180	555	11.0
180-240	324	6.4
240-300	484	9.6
300-360	87	1.7
360-420	26	0.5
420-480	15	0.3
480-600	21	0.4
600-720	1	0.0
720-840	8	0.2
840-960	0	0.0
960-1070	<u>0</u>	<u>0.0</u>
TOTAL	5040	100.0

Longest Trip = 12 Hr. 40 Min.      Average Trip Length = 106 Min.  
 Median Trip Length = 70 Min.\*

\* Due to the convention of the computer program, this value can be approximated only in 10 minute intervals.





APPENDIX

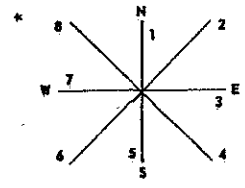
SINGLE STATION RURAL O-D STUDY

FORM NUMBER	6	COUNTY NUMBER	2	3	STATEWIDE NUMBER	4	5	6	7	HOUR PERIOD ENDING	8	9	* DIRECTION	10	DAY ** OF TRAVEL	11	MO.	12	13	DATE	14	15
-------------	---	---------------	---	---	------------------	---	---	---	---	--------------------	---	---	-------------	----	------------------	----	-----	----	----	------	----	----

INTERVIEW NUMBER	VEH. TYPE	NO. IN VEH.	ORIGIN Where did this trip begin?  Co. or State	DESTINATION Where will this trip end?  Co. or State	WHERE IS VEHICLE GARAGED	D. U. S. F. R. S.	ROUTE OF EXIT OR ENT.
					0 0 0		
					0 0 0		
					0 0 0		
					0 0 0		
					0 0 0		
					0 0 0		
					0 0 0		

16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68

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



- DAY OF TRAVEL \*\***
- |           |   |          |   |
|-----------|---|----------|---|
| SUNDAY    | 1 | THURSDAY | 5 |
| MONDAY    | 2 | FRIDAY   | 6 |
| TUESDAY   | 3 | SATURDAY | 7 |
| WEDNESDAY | 4 |          |   |

- GARAGED**
- 1 ORIGIN
  - 2 DESTINATION
  - 3 OTHER

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

ROUTE \_\_\_\_\_ 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**

IN OUT	DIRECT OF TRAVEL			TIME ENDING				PASSENGER CAR						PANEL & PICK-UP (2 AXLE, 4 TIRE)				ALL OTHER SINGLE UNIT TRUCKS WITHOUT TRAILER (5)			ALL TRUCK COMB. AND SINGLE UNIT TRUCK WITH TRAILER (6)			(7) ALL BUSES		(8) MOTOR CYCLE		TOTAL					
				HOUR	MIN.			WITHOUT (1) TRAILER			WITH (2) TRAILER			WITHOUT (3) TRAILER		WITH (4) TRAILER		42	43	44	45	46	47	48	49	50	51						
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
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DAY OF WEEK: Col. 17

Sunday	1	Thursday	5
Monday	2	Friday	6
Tuesday	3	Saturday	7
Wednesday	4		

STATION TYPE: Col. 20

Cordon Line Station	2
Screen Line Station	1
Single Station	3
S. W. Winter Class.	4

**TRUCK IDENTIFICATION**

Panel and Pickup (2 axle, 4 tire)

Light 2-axle, 4-tire trucks of less than one ton rated capacity, including:

- a. Panel and pickups standard type, including mini-vans (Ford Econoline, Volkswagon, etc.)
- b. Pickup trucks carrying a cab high (sleeper style) camper.

All Other Single Unit Trucks

Heavy 2-axles or more (dual tires or super singles) equal to or greater than one ton rated capacity, including:

- a. All multistop or standup delivery trucks (primarily designed for moving rural and urban goods.)
- b. All large 4-tire trucks with flatbed, dump or other heavy cargo bodies.
- c. Pickups and panels, having heavy truck type hubs or axles, or are noticeably larger and longer than the standard type.
- d. Heavy 2-axle trucks with a higher than cab camper body.
- e. Truck tractor without trailer.

Truck Combinations

Truck and/or truck tractor (power unit) pulling semi-trailer or full trailer combinations.

DIRECTION OF TRAVEL: Cols. 23 - 24

Northbound	01	Westbound	07
Northeastbound	02	Northwestbound	08
Eastbound	03	North-South (2-Way)	09
Southeastbound	04	East-West (2-Way)	10
Southbound	05	Northeast-Southwest (2-Way)	11
Southwestbound	06	Northwest-Southeast (2-Way)	12

TIME ENDING: Cols. 25 - 28

TIME	HOUR	MIN.
	Cols. 25 - 26	Cols. 27 - 28
1:05 AM	01	05
2:13 AM	02	13
etc.		
12:00 Noon	12	00
etc.		
3:15 PM	15	15
etc.		
11:45 PM	23	45
etc.		