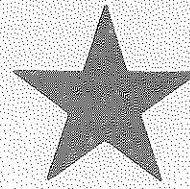


HE  
147.6  
.M5  
RH1  
c.2

Statewide



# Transportation Analysis & Research

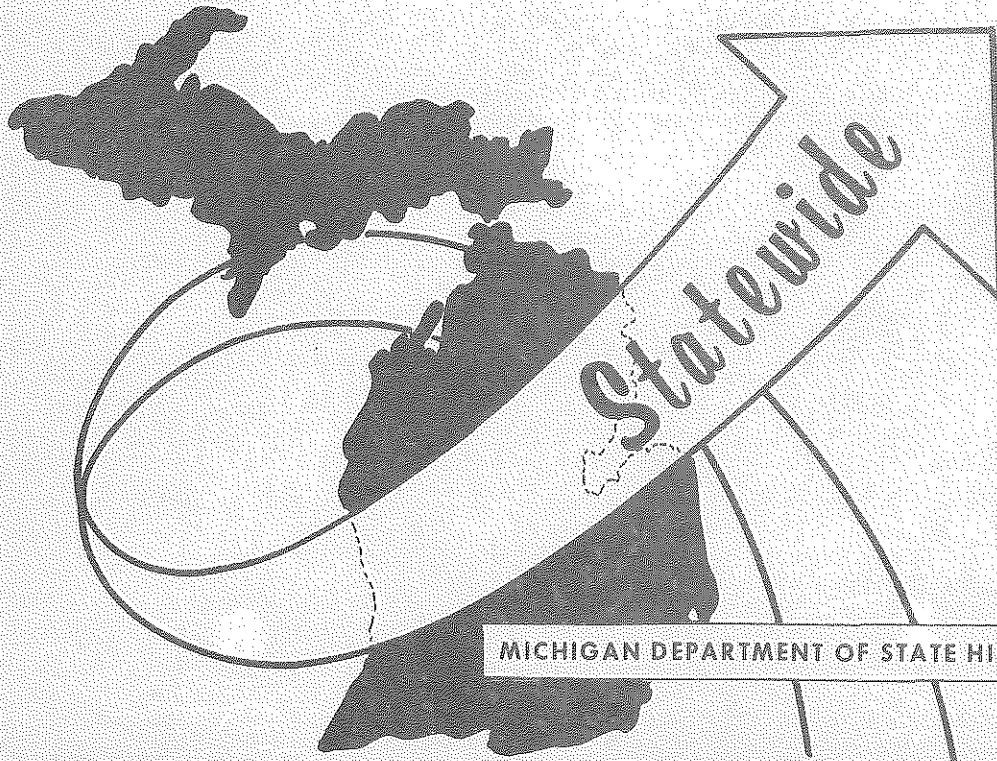
MICHIGAN'S STATEWIDE  
TRANSPORTATION MODELING SYSTEM

STATEWIDE BUS TICKET SURVEY  
TRAVEL CHARACTERISTICS

STATEWIDE TRANSPORTATION  
PLANNING PROCEDURES

REFERENCE HANDBOOK NO. 1

AUGUST, 1977



MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION

# MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION

## BUREAU OF TRANSPORTATION PLANNING

MICHIGAN'S STATEWIDE  
TRANSPORTATION MODELING SYSTEM

STATEWIDE BUS TICKET SURVEY  
TRAVEL CHARACTERISTICS

STATEWIDE TRANSPORTATION  
PLANNING PROCEDURES

REFERENCE HANDBOOK NO. 1

AUGUST, 1977

## STATE HIGHWAY COMMISSION

PETER B. FLETCHER

Chairman

CARL V. PELLONPAA

Vice Chairman

HANNES MEYERS, JR.

WESTON E. VIVIAN

DIRECTOR

John P. Woodford

# STATEWIDE BUS TICKET SURVEY TRAVEL CHARACTERISTICS

BY

DAVID R. SCHADE

INTRODUCTION. . . . .	1
INDIVIDUAL CITY TRIP CHARACTERISTICS. . . . .	8
ALPENA. . . . .	9
ANN ARBOR . . . . .	.13
BAD AXE . . . . .	.17
BATTLE CREEK. . . . .	.21
BAY CITY. . . . .	.25
BENTON HARBOR . . . . .	.29
BIG RAPIDS. . . . .	.33
CADILLAC. . . . .	.37
CHEBOYGAN . . . . .	.41
DETROIT . . . . .	.45
ESCANABA. . . . .	.49
FLINT . . . . .	.53
FRANKFORT . . . . .	.56
GAYLORD . . . . .	.60
GRAND RAPIDS. . . . .	.64
HOUGHTON - HANCOCK. . . . .	.68
IRON MOUNTAIN . . . . .	.72

JACKSON. . . . .	76
KALAMAZOO. . . . .	80
L'ANSE . . . . .	84
LANSING - EAST LANSING . . . . .	88
MANISTEE . . . . .	92
MARQUETTE. . . . .	96
MENOMINEE. . . . .	.100
MUSKEGON . . . . .	.104
NEWBERRY . . . . .	.108
NILES. . . . .	.112
PETOSKEY . . . . .	.116
PORT HURON . . . . .	.120
SAGINAW. . . . .	.124
SAULT STE MARIE. . . . .	.128
TRAVERSE CITY. . . . .	.132
YPSILANTI. . . . .	.136
STATEWIDE TRIP LENGTH DISTRIBUTION . . . . .	.140
APPENDIX "A" . . . . .	.141

# STATEWIDE SYSTEM APPLICATION REPORTS

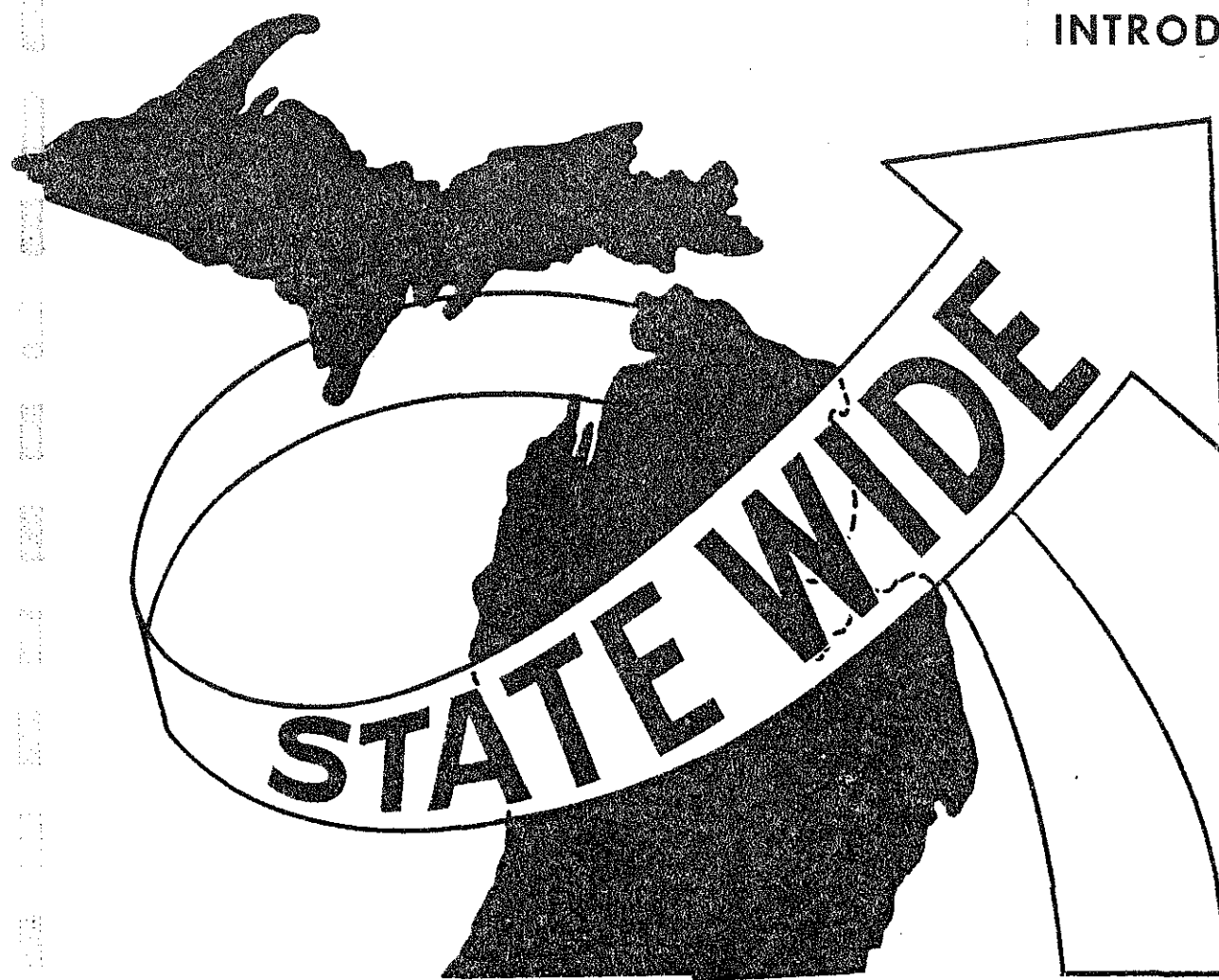
- Report #1 - Community College Service - Area Analysis
- Report #2 - Proximity of People to General Purpose Hospitals
- Report #3 - Industrial Park Proximity Analysis
- Report #4 - Proximity of Automobile Injury Accidents to Hospitals
- Report #5 - Proximity of Airports with Scheduled Service to Population
- Report #6 - Regional Park Proximity Analysis
- Report #7 - Rifle Range Proximity Analysis
- Report #8 - Ambulance Service - Area Analysis
- Report #9 - Comprehensive Statewide Planning
- Report #10 - Graphic Display of Fixed-Object Accident Data
- Report #11 - Preliminary Investigation: A Technique for the Projection of Accident Rates
- Report #12 - Impact of 50, 55, or 60 M.P.H. Statewide Speed Limit
- Report #13 - A Method for Functionally Classifying Rural Arterial Highways
- Report #14 - Economic and Travel Impacts of Speed Limit Reduction Using a Statewide Transportation Modeling System
- Report #15 - I-69 Impact on the Accessibility of Health, Fire, and Ambulance Services to Residential Areas
- Report #16 - Crisis and Opportunity: Application of an Operational Statewide Transportation Modeling System
- Report #17 - US-23 Corridor Location Study - Preliminary Travel Impact Analysis
- Report #19 - Graphic Display of Accident Data
- Report #20 - Demographic Information for the Northwest Region
- Report #21 - AMTRAK Market Area Analysis - System Application

Volume XIV-C - Commodity Flow Matrix - Michigan Railroads 1% Sample  
Volume XV-A - Railroad Financial Impact Analysis  
Volume XV-B - Railroad Community Impact Analysis  
Volume XVI - Dial-A-Ride  
Volume XVII - Intermodal Impact Analysis - Truck and Railroad  
Volume XVIII - Outline Analysis Program

## STATEWIDE SYSTEM APPLICATION REPORTS

- Report #1 - Community College Service - Area Analysis
- Report #2 - Proximity of People to General Purpose Hospitals
- Report #3 - Industrial Park Proximity Analysis
- Report #4 - Proximity of Automobile Injury Accidents to Hospitals
- Report #5 - Proximity of Airports with Scheduled Service to Population
- Report #6 - Regional Park Proximity Analysis
- Report #7 - Rifle Range Proximity Analysis
- Report #8 - Ambulance Service - Area Analysis
- Report #9 - Comprehensive Statewide Planning
- Report #10 - Graphic Display of Fixed-Object Accident Data
- Report #11 - Preliminary Investigation: A Technique for the Projection of Accident Rates
- Report #12 - Impact of 50, 55, or 60 M.P.H. Statewide Speed Limit
- Report #13 - A Method for Functionally Classifying Rural Arterial Highways
- Report #14 - Economic and Travel Impacts of Speed Limit Reduction Using a Statewide Transportation Modeling System
- Report #15 - I-69 Impact on the Accessibility of Health, Fire, and Ambulance Services to Residential Areas
- Report #16 - Crisis and Opportunity: Application of an Operational Statewide Transportation Modeling System
- Report #17 - US-23 Corridor Location Study - Preliminary Travel Impact Analysis
- Report #19 - Graphic Display of Accident Data
- Report #20 - Demographic Information for the Northwest Region
- Report #21 - AMTRAK Market Area Analysis - System Application

INTRODUCTION





## INTRODUCTION

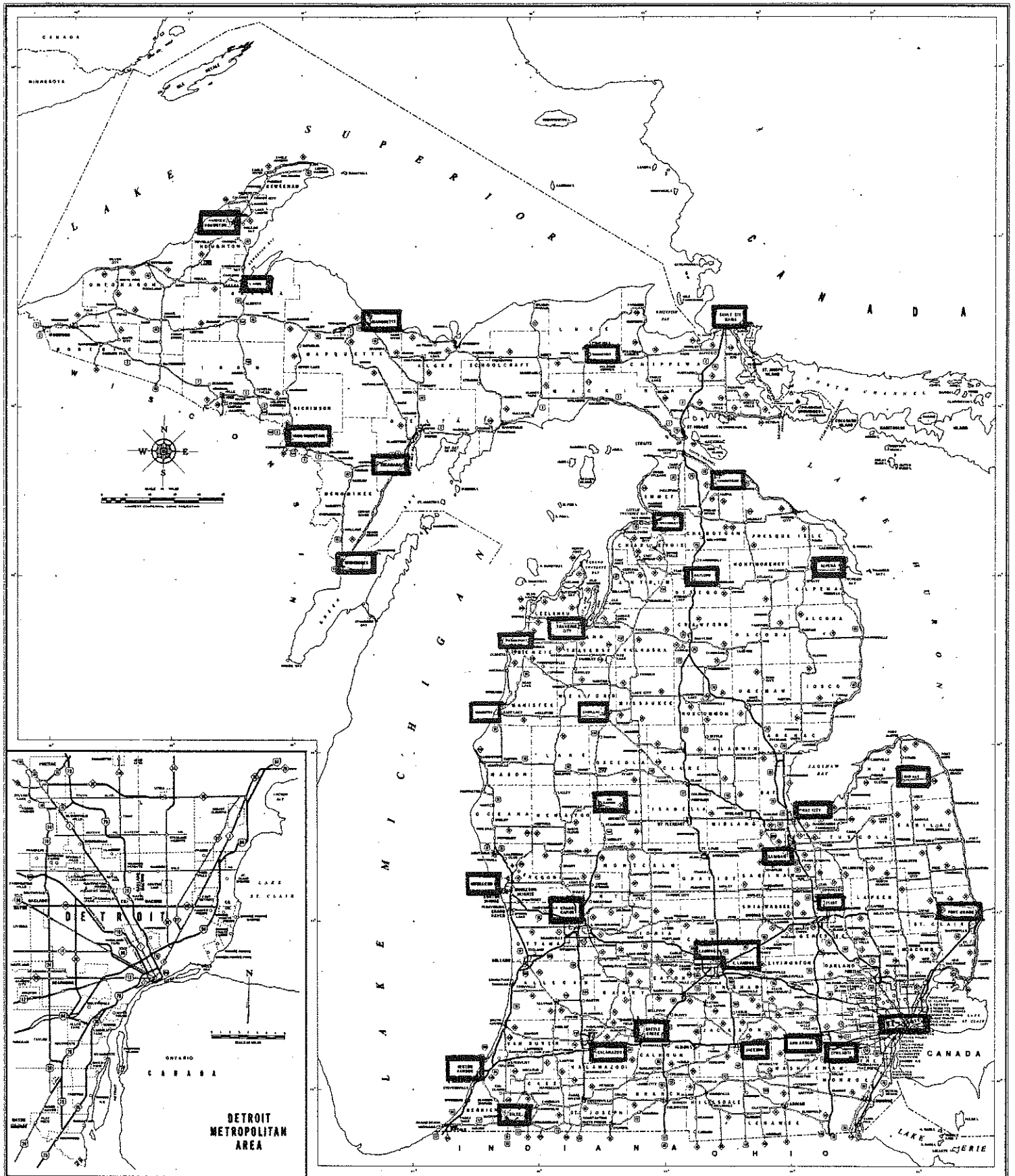
In order to effectively develop a statewide mass transit plan for Michigan, the Department of State Highways and Transportation has completed two types of bus surveys during 1977. One of these surveys is a bus ticket survey and the other an on-board survey. This report deals with the bus ticket survey taken in 35 cities throughout the state. Figure 1 identifies each location.

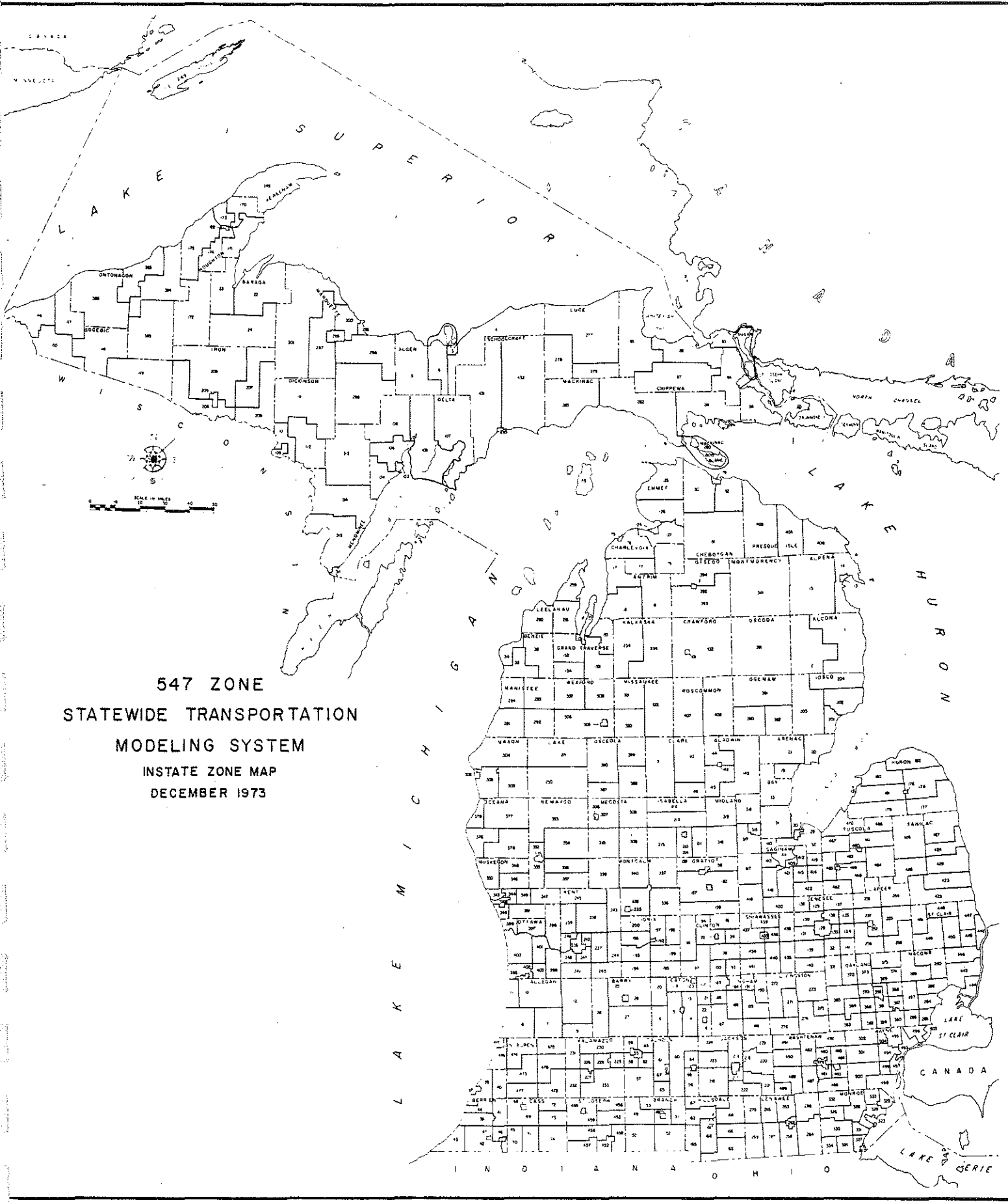
This survey was completed by going to the individual stations and collecting the trip tickets for the week of May 9 - 15, 1977.

To take advantage of existing travel analysis and data manipulation routines developed within the Bureau of Transportation Planning, the origin - destination information was converted to the standard 547 travel zones now used in the Statewide Transportation Modeling System. This zone system appears in Figures 2 and 2a. Each zone corresponds to a specific geographical area. Appendix A is a list of the zone numbers and their corresponding name.

Bus travel fluctuates significantly for certain days of the week; therefore, to make the analysis more meaningful, it was decided that average weekday figures had to be expanded in order to obtain realistic results. For example in the Bad Axe study, there was only one trip to Zone 493 for the whole week. When dividing by seven to get the average weekday total, the results would be .143. This would then be taken as zero trips. Hence, multiplying by 1000 and then dividing by 7, the results would be 143.

FIGURE 1





547 ZONE  
 STATEWIDE TRANSPORTATION  
 MODELING SYSTEM  
 INSTATE ZONE MAP  
 DECEMBER 1973

# MICHIGAN'S TRANSPORTATION MODELING SYSTEM

## 547 ZONE OUTSTATE ANALYSIS ZONES



Because some of the analysis routines do not allow fractional numbers, it was necessary to multiply the trips by 1000. Therefore, some of the travel tables are to three decimal places.

Cities are presented in alphabetic order by city name. Four types of information were prepared for each city. One involves a daily summary of trips. The remaining are for an average weekday. The four items are described below.

1. Matrix of all origin - destination combinations for average weekday trips:

The number of trips is read from this trip table matrix. The sample trip table in Figure 3 shows all trips to all zones in the state from zone 13. If the user is interested in trips going to zone 202, he would follow the left-hand column down until zone 200 is found and then proceed across until he arrives at zone 202. In this sample trip table, there are .143 trips between zones 13 and 202.

2. Trip length distribution chart for each city:

The left-hand column of the chart is the time span in 10 minute increments. The top row of the chart is the percent of total travel. Included in the back of this report is a statewide trip length distribution (TLD).

3. Daily summary of destinations:

All cities were examined during the weekly period of May 9 - 15, 1977 except for Big Rapids. This information was not available for this time period, but was available for the period of June 1 - 7, 1977.

4. Statewide map showing average weekday intercity bus trips by bandwidth desireline:

INTERCHANGE VALUES FROM ZONE 13 TO ALL OTHER ZONES

TABLES NUMBER 101

	0	1	ALPENA 2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	286
5	0	0	0	0	0	143	0	0	0	0
7	0	0	0	0	0	0	0	0	0	142
8	0	0	0	0	286	0	0	0	0	0
10	0	0	0	0	143	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	429	0
20	0	0	143	0	0	0	0	0	0	142
28	0	0	0	0	143	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0
36	143	0	0	0	0	0	0	0	286	0
40	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	143
49	0	0	0	0	0	0	0	0	0	428
53	0	0	0	572	0	0	0	0	0	0
54	0	0	0	142	0	0	0	0	143	0
				0	143	0	0	286		
TOTAL #	#143			MEAN #		7.574				

FIGURE 3

-9-

The following bus travel analysis for each city was prepared for the Mass Transportation Planning Section, Bureau of Transportation Planning, to assist them in the analysis of intercity bus travel.

INDIVIDUAL CITY TRIP CHARACTERISTICS





## INDIVIDUAL CITY TRIP CHARACTERISTICS

1. When interpreting the following data, it is important to keep in mind that the data has been analyzed for the average weekday and that the figures must be factored by 1000.
2. There are two exceptions to the seven day average. These are the Ann Arbor and Ypsilanti studies. The bus stations were only open for six days so the data has been analyzed for a six day average week.
3. Because the data was analyzed at the zone level, there are four studies that had to be combined as two. This was caused by having the same zone of origin (example: Lansing and East Lansing, Houghton and Hancock).

**ALPENA**

3JUL77

PRINT DRS/PYS/ALLOCTY/TT

INTERCHANGE VALUES FROM ZONE 13 TO ALL OTHER ZONES

TABLES NUMBER 101

ALPENA

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
2		0	0	0	0	0	0	0	0	286
5		0	0	0	0	0	143	0	0	0
7		0	0	0	0	0	0	0	0	142
8		0	0	0	286	0	0	0	0	0
10		0	0	0	143	0	0	0	0	0
12		0	0	0	0	0	0	0	429	0
16		0	0	0	0	0	0	0	0	142
20		0	0	143	0	0	0	0	0	0
28		0	0	0	0	143	0	0	0	0
35		0	0	0	0	0	0	0	286	0
36	143	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	143
47	0	0	0	0	0	0	0	0	0	428
49	0	0	0	0	572	0	0	0	0	0
53	0	0	0	0	142	0	0	0	0	0
54	0	0	0	0	0	143	0	286	143	0
TOTAL #	#143				MEAN #	7,574				

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																					0,000	0,000	0
2																					0,000	0,000	0
3																					0,000	0,000	0
4																					0,000	0,000	0
5																					0,000	0,000	0
6																					0,000	0,000	0
7																					0,000	0,000	0
8																					0,000	0,000	0
9																					3,452	3,452	143
10																					0,000	3,452	0
11																					0,000	3,452	0
12																					3,427	6,879	142
13																					0,000	6,879	0
14																					0,000	6,879	0
15																					0,000	6,879	0
16																					0,000	6,879	0
17																					6,903	13,782	286
18																					3,452	17,234	143
19																					0,000	17,234	0
20																					6,903	24,137	286
21																					0,000	24,137	0
22																					10,355	34,492	429
23																					0,000	34,492	0
24																					0,000	34,492	0
25																					0,000	34,492	0
26																					6,903	41,395	296
27																					13,782	55,177	571
28																					3,452	58,629	143
29																					13,806	72,435	572
30																					0,000	72,435	0
31																					0,000	72,435	0
32																					0,000	72,435	0
33																					6,903	79,339	286
34																					0,000	79,339	0
35																					0,000	79,339	0
36																					0,000	79,339	0
37																					3,452	82,790	143
38																					0,000	82,790	0
39																					0,000	82,790	0
40																					0,000	82,790	0
41																					3,427	86,218	142
42																					0,000	86,218	0
43																					0,000	86,218	0
44																					0,000	86,218	0
45																					0,000	86,218	0
46																					0,000	86,218	0
47																					0,000	86,218	0
48																					0,000	86,218	0
49																					0,000	86,218	0
50																					3,427	89,645	142
51																					0,000	89,645	0
52																					0,000	89,645	0
53																					0,000	89,645	0
54																					0,000	89,645	0
55																					0,000	89,645	0
56																					0,000	89,645	0
57																					0,000	89,645	0
58																					6,903	96,548	286
59																					0,000	96,548	0
60																					0,000	96,548	0
61																					0,000	96,548	0
62																					0,000	96,548	0
63																					0,000	96,548	0
64																					0,000	96,548	0
65																					0,000	96,548	0
66																					0,000	96,548	0
67																					0,000	96,548	0
68																					0,000	96,548	0
69																					0,000	96,548	0
70																					0,000	96,548	0
71																					0,000	96,548	0
72																					0,000	96,548	0
73																					0,000	96,548	0
74																					0,000	96,548	0
75																					0,000	96,548	0
76																					0,000	96,548	0
77																					0,000	96,548	0
78																					0,000	96,548	0
79																					0,000	96,548	0
80																					0,000	96,548	0
81																					0,000	96,548	0
82																					0,000	96,548	0
83																					3,452	100,000	143

REMAINING VALUES ARE ALL ZERO  
NUMBER OF OBSERVATIONS# 4143

SUM# 121138,

MEAN# 29,239

VAR# 233,997

SD# 15,29

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

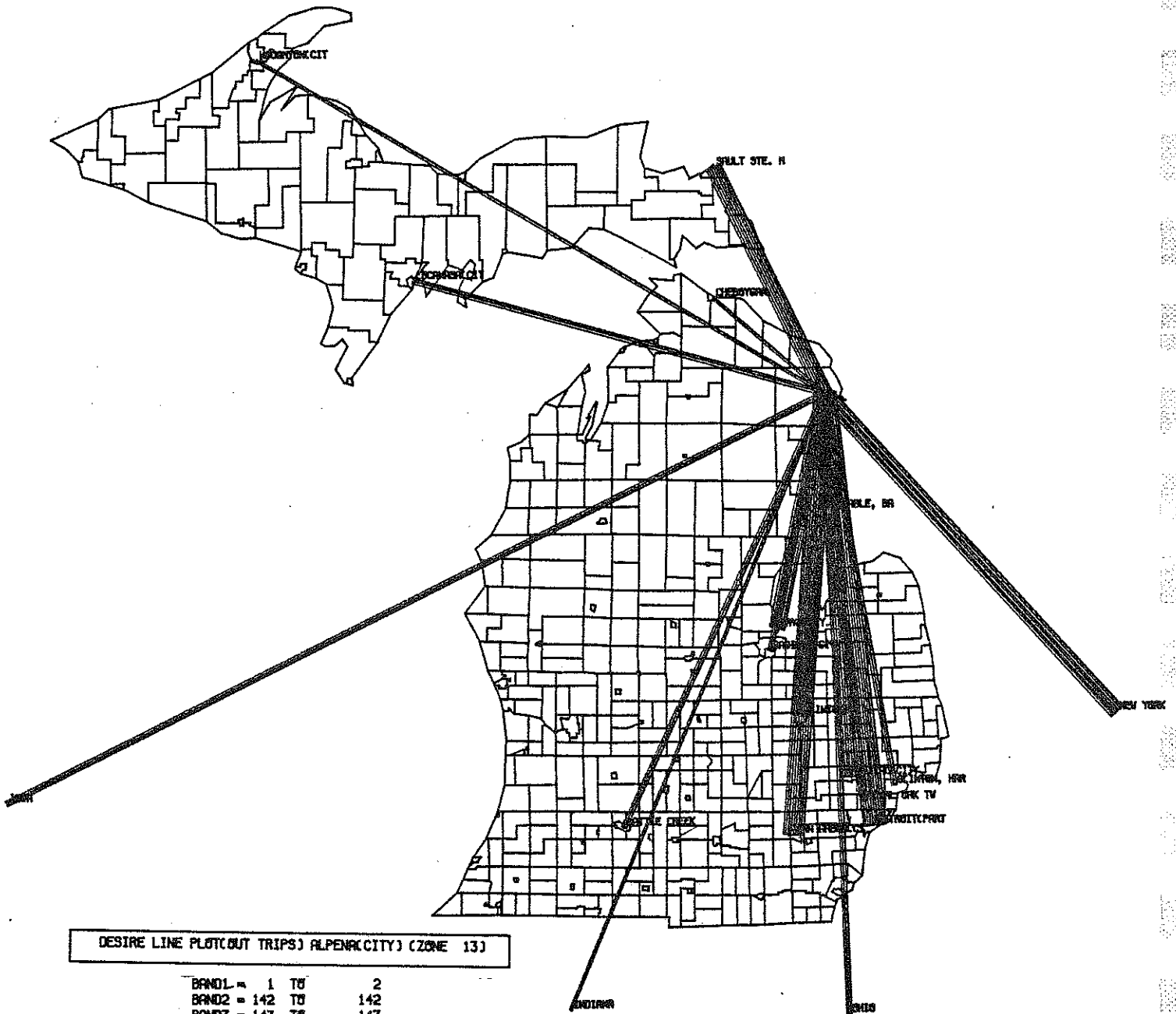
ALPENA-ZONE 13

ORIGIN IS 13 - ALPENA(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
DETROIT(PART 1 OF 3), EA	0	1	2	0	0	1	0
FLINT(CITY).	0	0	1	1	0	0	1
ANN ARBOR(CITY).	0	0	1	0	1	1	0
SAULT STE. MARIE, SUGAR	0	0	0	2	0	0	0
PONTIAC(CITY).	0	1	0	0	0	1	0
BAY CITY.	0	1	0	0	1	0	0
NEW YORK	0	2	0	0	0	0	0
AU SABLE, BALDWIN, WILBE	0	0	0	0	1	0	0
CLINTON, HARRISON.	0	0	1	0	0	0	0
ESCANABA(CITY).	0	0	1	0	0	0	0
ROYAL OAK TWP, AND THE F	0	0	0	0	0	1	0
SAGINAW(CITY).	0	0	0	0	0	1	0
CHEBOYGAN.	0	0	1	0	0	0	0
BATTLE CREEK(CITY).	1	0	0	0	0	0	0
HOUGHTON(CITY).	0	0	0	0	1	0	0
REMAINDER	0	2	0	0	1	0	0
TOTAL	1	7	7	3	5	5	1



DESIRE LINE PLOT(OUT TRIPS) ALPENACITY (ZONE 13)

BRAND1 =	1	TO	2
BRAND2 =	142	TO	142
BRAND3 =	143	TO	143
BRAND4 =	143	TO	143
BRAND5 =	143	TO	143
BRAND6 =	143	TO	143
BRAND7 =	286	TO	286
BRAND8 =	286	TO	286
BRAND9 =	428	TO	428
BRAND10 =	572	TO	9999999

**ANN ARBOR**

INTERCHANGE VALUES FROM ZONE 479 TO ALL OTHER ZONES

TABLES NUMBER 101

	0	1	2	3	4	5	6	7	8	9
0		167	0	0	0	0	0	0	0	0
1	0	0	0	166	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	834
3	0	0	0	0	0	0	0	333	0	0
4	333	0	0	0	0	0	0	0	167	0
5	0	167	0	0	0	1166	0	0	0	0
6	0	0	0	0	0	0	334	333	0	0
7	0	0	0	0	0	167	0	0	0	0
8	166	0	0	500	0	0	0	0	0	0
9	0	0	500	0	0	0	0	0	0	0
10	0	167	0	0	0	0	0	0	0	0
11	0	0	0	0	333	0	0	0	4834	0
12	0	0	0	0	0	0	0	0	0	0
13	166	0	0	0	0	0	167	0	0	0
14	0	500	0	0	0	0	0	0	0	0
15	0	0	167	0	0	0	0	0	0	166
16	167	0	0	0	167	0	0	0	0	0
17	0	0	0	9166	0	0	0	167	0	0
18	0	0	167	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	166	0	0
21	334	0	0	0	0	0	5666	0	0	0
22	0	0	0	0	0	0	4500	0	0	0
23	0	0	0	0	0	0	5834	0	0	0
24	0	0	0	0	0	166	0	0	0	0
25	0	0	0	0	167	0	0	333	0	0
26	0	334	0	0	0	166	0	0	0	0
27	0	0	0	0	0	167	0	0	0	0
28	0	0	1167	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	1166	167
30	833	0	1334	0	0	0	2333	0	500	0
31	0	0	0	0	0	0	0	167	0	0
32	0	0	0	0	0	333	0	0	0	167
33	0	0	0	0	0	0	0	0	0	1666
34	334	0	0	0	0	0	0	0	0	0
35	0	0	166	0	0	0	0	0	0	0
36	0	166	0	0	0	0	167	0	0	167
37	0	0	0	0	0	0	0	0	0	0
38	0	166	0	0	0	0	0	0	0	0
39	0	0	0	5500	0	0	167	0	0	0
40	333	0	0	27000	2000	0	0	1000	0	0
41	1667	1500	0	0	0	333	0	0	0	0
42	0	334	0	0	0	0	0	0	0	0
43	0	0	0	166	167	2500	1167	0	166	0
44	0	0	167	500	333	0	0	334	2833	1500
45	500	167	2000	2833	2000	667	500	1000		

TOTAL = 110167

MEAN = 201.402

-13-



0JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	FREQUENCY	P.C.	CUM.	ACTUAL
0	1	0.000	0.000	0
2	4,992	4.992	4.992	550
4	0,605	0.605	5,597	600
6	2,875	2.875	8,472	310
8	9,077	9.077	17,549	1000
10	26,928	26.928	44,477	2800
12	6,960	6.960	51,437	1600
14	8,774	8.774	60,211	900
16	1,966	1.966	62,177	2100
18	3,479	3.479	65,657	3800
20	3,177	3.177	68,834	3500
22	4,993	4.993	73,827	5500
24	0,302	0.302	74,129	300
26	0,303	0.303	74,432	300
28	5,598	5.598	80,030	6100
30	0,455	0.455	80,485	500
32	1,209	1.209	81,694	1300
34	0,302	0.302	81,996	300
36	0,152	0.152	82,148	100
38	1,059	1.059	83,207	1100
40	0,152	0.152	83,359	100
42	0,454	0.454	83,813	500
44	0,152	0.152	83,964	100
46	0,000	0.000	83,964	0
48	0,151	0.151	84,115	100
50	0,151	0.151	84,266	100
52	1,059	1.059	85,325	1100
54	1,059	1.059	86,384	1100
56	0,000	0.000	86,384	0
58	1,967	1.967	88,351	2100
60	2,420	2.420	90,771	2600
62	0,000	0.000	90,771	0
64	0,454	0.454	91,225	500
66	0,000	0.000	91,225	0
68	0,000	0.000	91,225	0
70	0,605	0.605	91,831	600
72	0,966	0.966	92,738	1000
74	0,000	0.000	92,738	0
76	0,757	0.757	93,495	800
78	0,000	0.000	93,495	0
80	0,000	0.000	93,495	0
82	0,303	0.303	93,799	300
84	0,151	0.151	93,949	100
86	0,000	0.000	93,949	0
88	0,000	0.000	93,949	0
90	0,000	0.000	93,949	0
92	0,000	0.000	93,949	0
94	0,000	0.000	93,949	0
96	0,000	0.000	93,949	0
98	0,000	0.000	93,949	0
100	0,151	0.151	94,100	100
102	0,152	0.152	94,251	100
104	0,000	0.000	94,251	0
106	0,000	0.000	94,251	0
108	0,000	0.000	94,251	0
110	0,000	0.000	94,251	0
112	0,151	0.151	94,402	100
114	1,815	1.815	96,218	2000
116	0,000	0.000	96,218	0
118	0,000	0.000	96,218	0
120	0,000	0.000	96,218	0
122	0,151	0.151	96,368	100
124	0,152	0.152	96,520	100
126	2,572	2.572	99,091	2800
128	0,152	0.152	99,243	100
130	0,000	0.000	99,243	0
132	0,000	0.000	99,243	0
134	0,152	0.152	99,395	100
136	0,000	0.000	99,395	0
138	0,000	0.000	99,395	0
140	0,000	0.000	99,395	0
142	0,000	0.000	99,395	0
144	0,000	0.000	99,395	0
146	0,000	0.000	99,395	0
148	0,000	0.000	99,395	0
150	0,605	0.605	100,000	600

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS: 110167      SUM: 1522343      MEAN: 13,819      VAR: 245,227      SD: 15,668

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

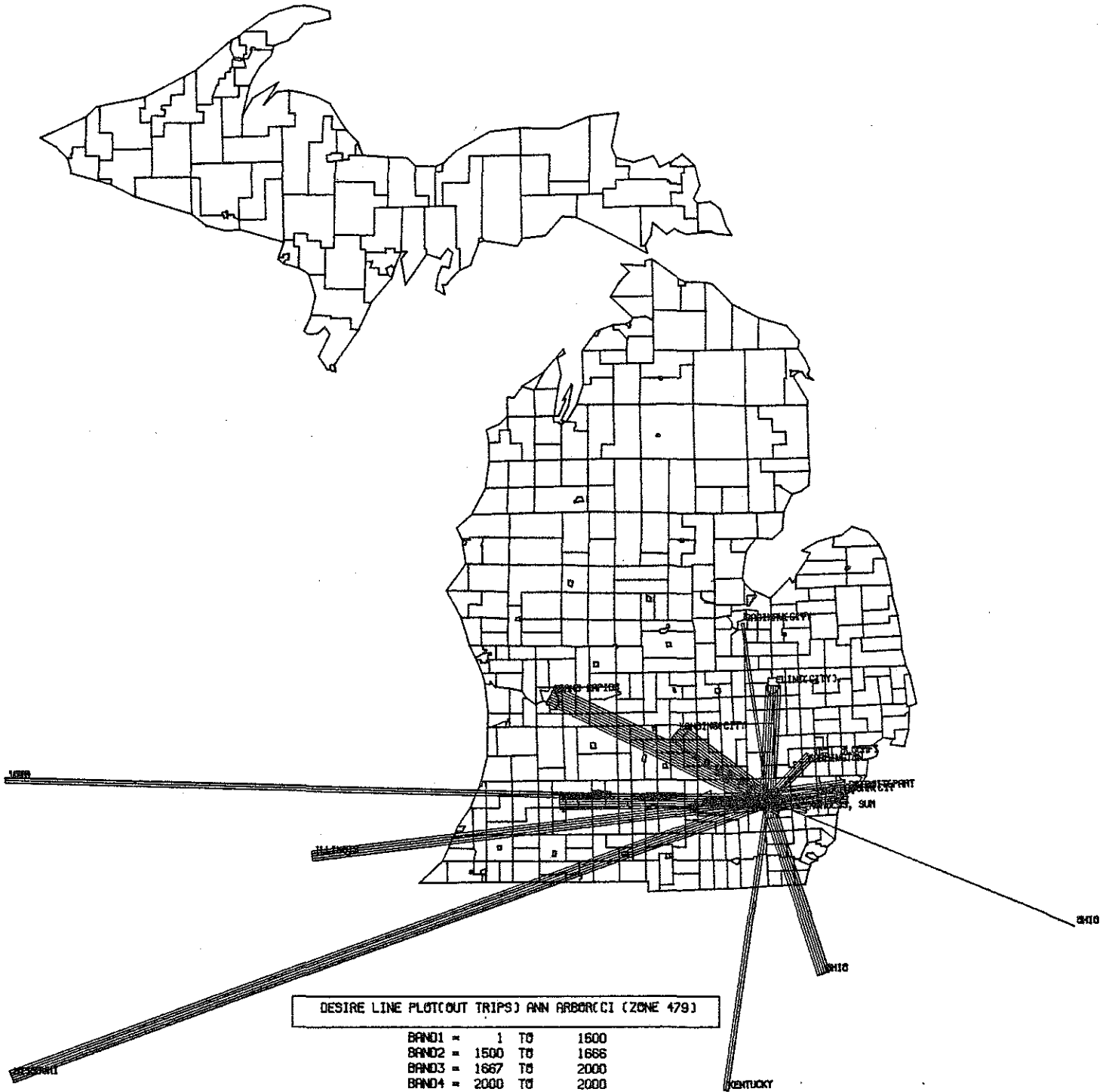
ANN ARBOR-ZONE 479

ORIGIN IS 479 \* ANN ARBOR(CITY).

BUS TICKET SURVEY

PCT= 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
DETROIT(PART 1 OF 3), EA	21	29	27	14	38	21	12
LANSING(CITY),E.LANSING(CITY)	16	0	7	8	10	5	1
GRAND RAPIDS(CITY).	3	1	4	6	13	1	7
JACKSON(CITY).	2	3	1	7	15	4	2
YPSILANTI(CITY).	4	3	4	2	8	10	2
FLINT(CITY).	2	2	0	5	16	4	0
KALAMAZOO.	5	1	5	3	8	2	3
OHIO	2	0	2	2	3	4	4
MISSOURI	2	1	3	1	4	0	6
ILLINOIS	0	2	2	9	2	0	0
WEST BLOOMFIELD.	0	0	3	1	16	0	0
KENTUCKY	1	5	2	0	0	2	2
IOWA	0	5	1	4	1	0	1
DEARBORN(CITY).	1	4	4	1	2	0	0
ROMULUS, SUMPTER, VAN BU	1	1	1	1	5	0	1
REMAINDER	19	23	24	32	56	17	6
TOTAL	79	80	90	96	199	70	47



DESIRE LINE PLOT(OUT TRIPS) ANN ARBOR(CI (ZONE 479))

BAND1 =	1 TO	1500
BAND2 =	1500 TO	1666
BAND3 =	1667 TO	2000
BAND4 =	2000 TO	2000
BAND5 =	2333 TO	2500
BAND6 =	2833 TO	2833
BAND7 =	4500 TO	4834
BAND8 =	5500 TO	5666
BAND9 =	5834 TO	9166
BAND10 =	27000 TO	99999999

**BADAXE**

INTERCHANGE VALUES FROM ZONE 176 TO ALL OTHER ZONES

TABLES NUMBER 101

	0	1	BAD AXE 2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
23	0		0	0	0	0	0	0	0	0
49	0		0	0	0	0	0	143	0	0
TOTAL *		286						0	0	0
MEAN *						0.523				

8JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

	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	
2.																							0,000	0,000	
3.																							0,000	0,000	
4.																							0,000	0,000	
5.																							0,000	0,000	
6.																							0,000	0,000	
7.																							0,000	0,000	
8.																							0,000	0,000	
9.																							0,000	0,000	
10.																							0,000	0,000	
11.																							0,000	0,000	
12.																							0,000	0,000	
13.																							50,000	50,000	1
14.																							0,000	50,000	
15.																							0,000	50,000	
16.																							50,000	100,000	14

REMAINING VALUES ARE ALL ZERO

NUMBER OF OBSERVATIONS= 286      SUM= 4004      MEAN= 14,000      VAR= 4,000      SD= 2.0

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

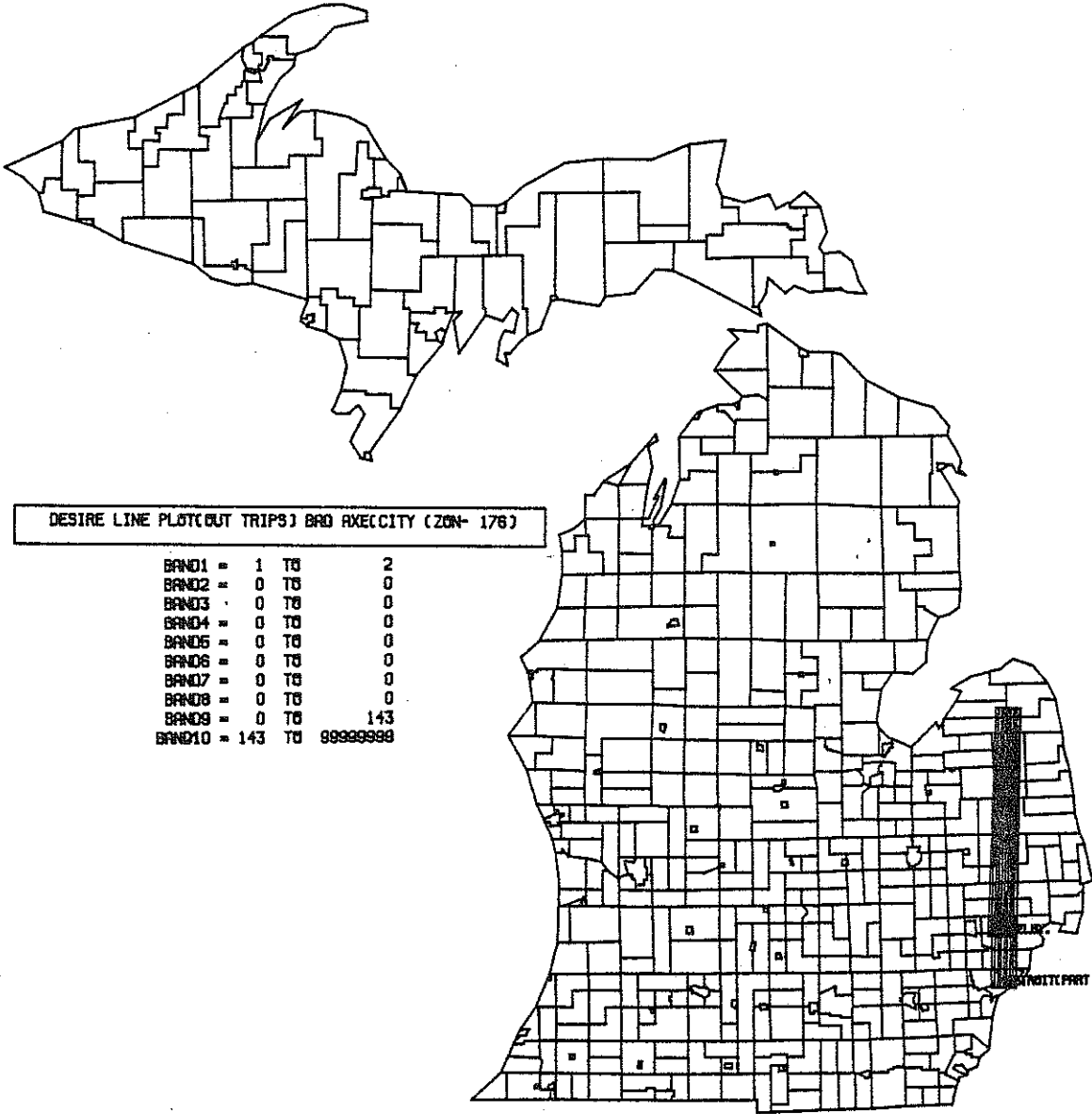
BAD AXE--ZONE 176

ORIGIN IS 176 - BAD AXE(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
SHELBY.	0	0	1	0	0	0	0
DETROIT(PART 1 OF 3), EA	0	0	0	1	0	0	0
REMAINDER	0	0	0	0	0	0	0
TOTAL	0	0	1	1	0	0	0





# BATTLE CREEK

INTERCHANGE VALUES FROM ZONE 55 TO ALL OTHER ZONES

TABLES NUMBER 101

BATTLE CREEK

	0	1	2	3	4	5	6	7	8	9
0										143
1	0									0
3	0							571		0
4	143							0	429	0
5	0							0	19714	0
6	0						3428	2572	0	0
11	0						0	0	0	0
12	0						0	0	1857	0
15	0	286					143	0	0	0
18	0	0					0	0	0	0
20	0	0				143	0	0	0	0
21	714						4000	0	0	0
22	0						10714	0	0	429
23	143						3285	0	0	0
26	0						0	0	0	0
29	0						0	0	0	143
30	0						143	0	0	0
32	0						0	0	0	0
34	0						0	0	0	0
35	0						0	0	429	0
39	0						143	0	0	0
40	0						0	0	0	857
43	0						0	0	0	0
44	0						0	0	0	0
45	0						0	0	0	143
47	0						0	0	142	2000
48	0						0	0	0	0
49	0						0	0	0	0
50	0	571					0	0	0	0
51	0	286					0	0	0	0
52	0	0					0	0	0	0
53	286	0	286				143	0	143	0
54	715	0	1714	2143	714	143	0	429	429	428

TOTAL \* 93429

MEAN \* 170,803

-21-

11JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	FREQUENCY	P.C.	CUM.
0	21,101	21.101	21,101
2	3,212	3.212	24,313
4	0,000	0.000	24,313
6	15,290	15.290	39,602
8	1,223	1.223	40,826
10	4,739	4.739	45,565
12	16,361	16.361	61,926
14	0,000	0.000	61,926
16	6,574	6.574	68,500
18	1,989	1.989	70,489
20	0,764	0.764	71,253
22	0,764	0.764	72,017
24	2,447	2.447	74,464
26	11,927	11.927	86,391
28	2,599	2.599	88,990
30	0,000	0.000	88,990
32	0,153	0.153	89,143
34	1,663	1.663	90,805
36	0,153	0.153	90,958
38	0,459	0.459	91,417
40	0,306	0.306	91,723
42	0,000	0.000	91,723
44	0,764	0.764	92,487
46	0,000	0.000	92,487
48	0,305	0.305	92,792
50	0,000	0.000	92,792
52	0,000	0.000	92,792
54	0,000	0.000	92,792
56	0,000	0.000	92,792
58	0,000	0.000	92,792
60	0,000	0.000	92,792
62	0,000	0.000	92,792
64	0,000	0.000	92,792
66	0,000	0.000	92,792
68	0,000	0.000	92,792
70	0,000	0.000	92,792
72	0,000	0.000	92,792
74	0,000	0.000	92,792
76	0,000	0.000	92,792
78	0,000	0.000	92,792
80	0,000	0.000	92,792
82	0,000	0.000	92,792
84	0,000	0.000	92,792
86	0,000	0.000	92,792
88	0,000	0.000	92,792
90	0,000	0.000	92,792
92	0,000	0.000	92,792
94	0,000	0.000	92,792
96	0,000	0.000	92,792
98	0,000	0.000	92,792
100	0,153	0.153	100,000

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS= 93429      SUM= 923602      MEAN= 9.886      VAR= 143,787      SD= 11

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

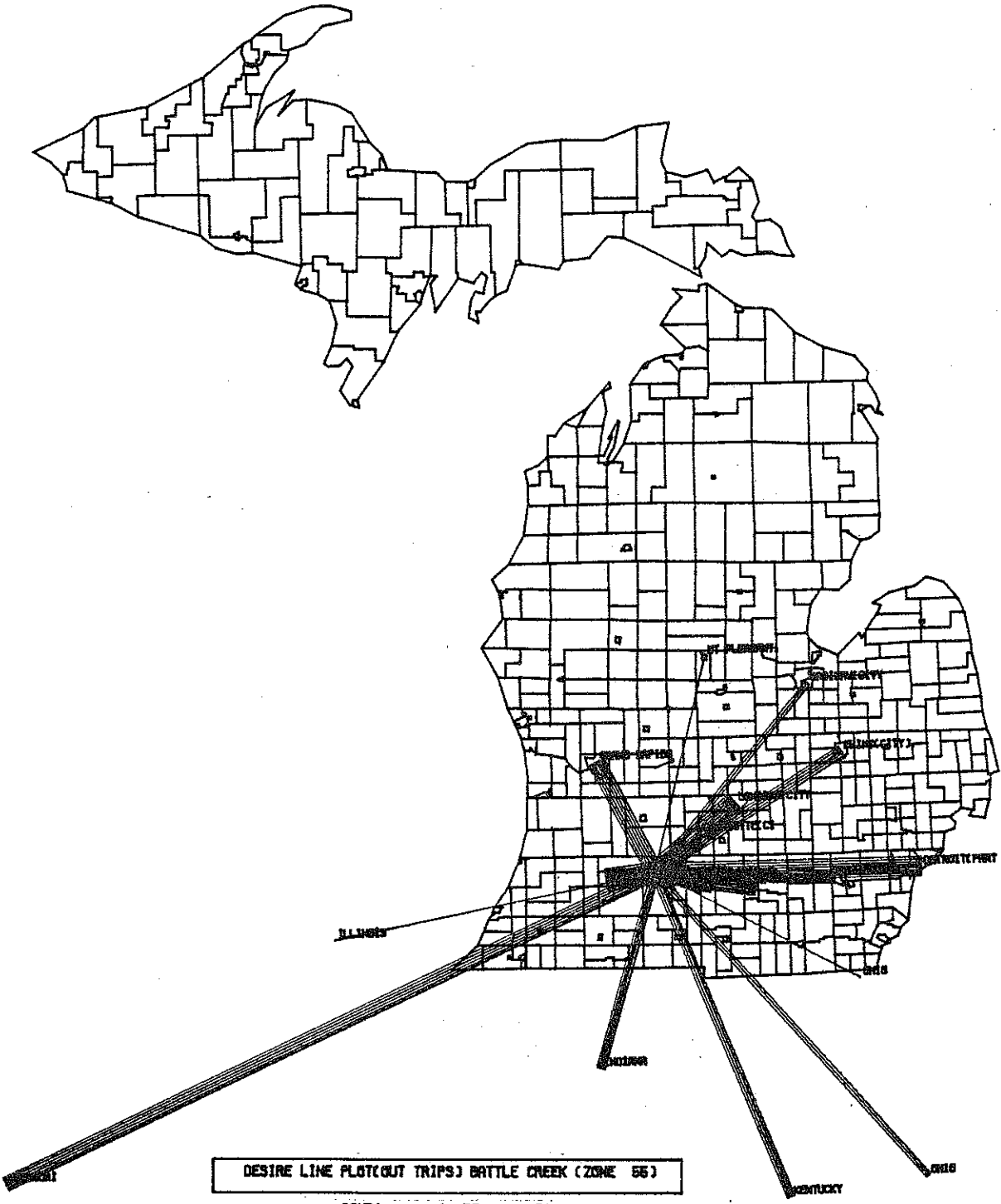
BATTLE CREEK-ZONE 55

ORIGIN IS 55 - BATTLE CREEK(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
BATTLE CREEK.	15	4	17	18	31	41	12
LANSING(CITY),E.LANSING(C	45	4	3	23	13	4	14
KALAMAZOO.	13	10	7	12	17	6	10
DETROIT(PART 1 OF 3), EA	8	13	9	8	19	10	4
JACKSON(CITY).	5	4	7	2	4	4	2
ALBION(CITY).	2	1	1	4	1	9	6
GRAND RAPIDS(CITY).	5	3	3	5	1	4	2
MARSHALL(CITY).	3	3	3	4	3	1	1
MISSOURI	2	4	2	1	0	1	5
ANN ARBOR(CITY).	2	2	2	1	3	3	1
FLINT(CITY).	2	0	1	4	4	1	1
KENTUCKY	0	4	2	1	2	3	0
INDIANA	0	1	1	1	3	1	0
SAGINAW(CITY).	0	1	0	0	3	2	0
MT PLEASANT.	1	1	2	0	1	0	0
REMAINDER	14	18	11	10	19	9	18
TOTAL	117	73	71	94	124	99	76



DESIRE LINE PLOT(GUT TRIPS) BATTLE CREEK (ZONE 55)

BAND1	=	1	TO	714
BAND2	=	714	TO	714
BAND3	=	715	TO	857
BAND4	=	1000	TO	1714
BAND5	=	1657	TO	2000
BAND6	=	2143	TO	2572
BAND7	=	3286	TO	3428
BAND8	=	4000	TO	10143
BAND9	=	10714	TO	15143
BAND10	=	18714	TO	9999999

# BAY CITY

INTERCHANGE VALUES FROM ZONE 29 TO ALL OTHER ZONES

TABLES NUMBER 101

BAY CITY

	0	1	2	3	4	5	6	7	8	9
0			143	0	0	0	0	0	0	0
1	0		0	0	714	0	0	0	0	143
2	0		429	0	0	0	0	0	0	0
3	0		0	0	285	0	0	0	0	0
5	0		0	0	0	0	143	0	0	0
8	286		143	0	0	0	0	0	0	0
10	0		143	0	0	0	0	0	0	0
12	0		0	0	0	142	0	0	858	0
18	0		0	0	1428	0	0	0	0	0
22	0		0	0	0	0	0	286	0	0
23	0		0	0	0	0	0	857	0	0
29	0		0	0	0	0	143	0	0	0
31	0		0	0	0	0	2428	0	0	0
34	0		429	0	0	0	0	0	0	0
35	0		0	0	0	0	0	0	286	0
36	714		0	0	0	0	0	0	0	0
37	143		0	0	0	0	0	0	0	0
38	143		0	0	0	0	0	0	0	0
40	0		0	0	0	0	0	0	0	0
44	0		0	143	0	0	285	0	0	2429
47	0		0	0	0	0	0	0	0	0
49	0		0	0	1857	0	0	0	0	286
50	0		143	0	0	0	0	0	0	0
52	0		0	0	0	0	285	0	0	0
53	0		0	0	0	286	0	0	0	0
54	0		286	0	143	428	0	0	429	285

TOTAL = 17571

MEAN = 32,122

6JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	FREQUENCY	P.C.	CUM.
1	0	0.000	0.000
2	0	0.000	0.000
3	13,824	13.824	13.824
4	15,440	15.440	29.264
5	0,814	0.814	30.078
6	7,325	7.325	37.403
7	0,814	0.814	38.216
8	0,000	0.000	38.216
9	0,814	0.814	39.030
10	1,628	1.628	40.658
11	8,941	8.941	49.599
12	5,691	5.691	55.290
13	1,628	1.628	56.918
14	10,569	10.569	67.486
15	0,814	0.814	68.300
16	6,505	6.505	74.805
17	0,814	0.814	75.619
18	5,691	5.691	81.310
19	2,436	2.436	83.746
20	1,628	1.628	85.374
21	5,691	5.691	91.065
22	0,000	0.000	91.065
23	0,000	0.000	91.065
24	0,000	0.000	91.065
25	1,628	1.628	92.693
26	0,000	0.000	92.693
27	0,000	0.000	92.693
28	0,000	0.000	92.693
29	0,000	0.000	92.693
30	0,000	0.000	92.693
31	0,000	0.000	92.693
32	0,000	0.000	92.693
33	0,000	0.000	92.693
34	0,000	0.000	92.693
35	0,000	0.000	92.693
36	0,000	0.000	92.693
37	0,000	0.000	92.693
38	0,000	0.000	92.693
39	1,628	1.628	94.321
40	0,000	0.000	94.321
41	0,000	0.000	94.321
42	0,000	0.000	94.321
43	0,814	0.814	95.135
44	0,000	0.000	95.135
45	0,000	0.000	95.135
46	1,628	1.628	96.763
47	0,000	0.000	96.763
48	0,000	0.000	96.763
49	0,000	0.000	96.763
50	0,000	0.000	96.763
51	0,000	0.000	96.763
52	0,000	0.000	96.763
53	0,000	0.000	96.763
54	0,000	0.000	96.763
55	0,000	0.000	96.763
56	0,000	0.000	96.763
57	0,000	0.000	96.763
58	0,000	0.000	96.763
59	0,000	0.000	96.763
60	0,000	0.000	96.763
61	0,000	0.000	96.763
62	0,000	0.000	96.763
63	0,000	0.000	96.763
64	0,000	0.000	96.763
65	0,000	0.000	96.763
66	0,000	0.000	96.763
67	0,000	0.000	96.763
68	2,436	2.436	99.199
69	0,000	0.000	99.199
70	0,000	0.000	99.199
71	0,000	0.000	99.199
72	0,000	0.000	99.199
73	0,000	0.000	99.199
74	0,000	0.000	99.199
75	0,000	0.000	99.199
76	0,814	0.814	100.000

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS# 17571      SUM# 243960      MEAN# 13.884      VAR# 182.578      SD#

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

BAY CITY-ZONE 29

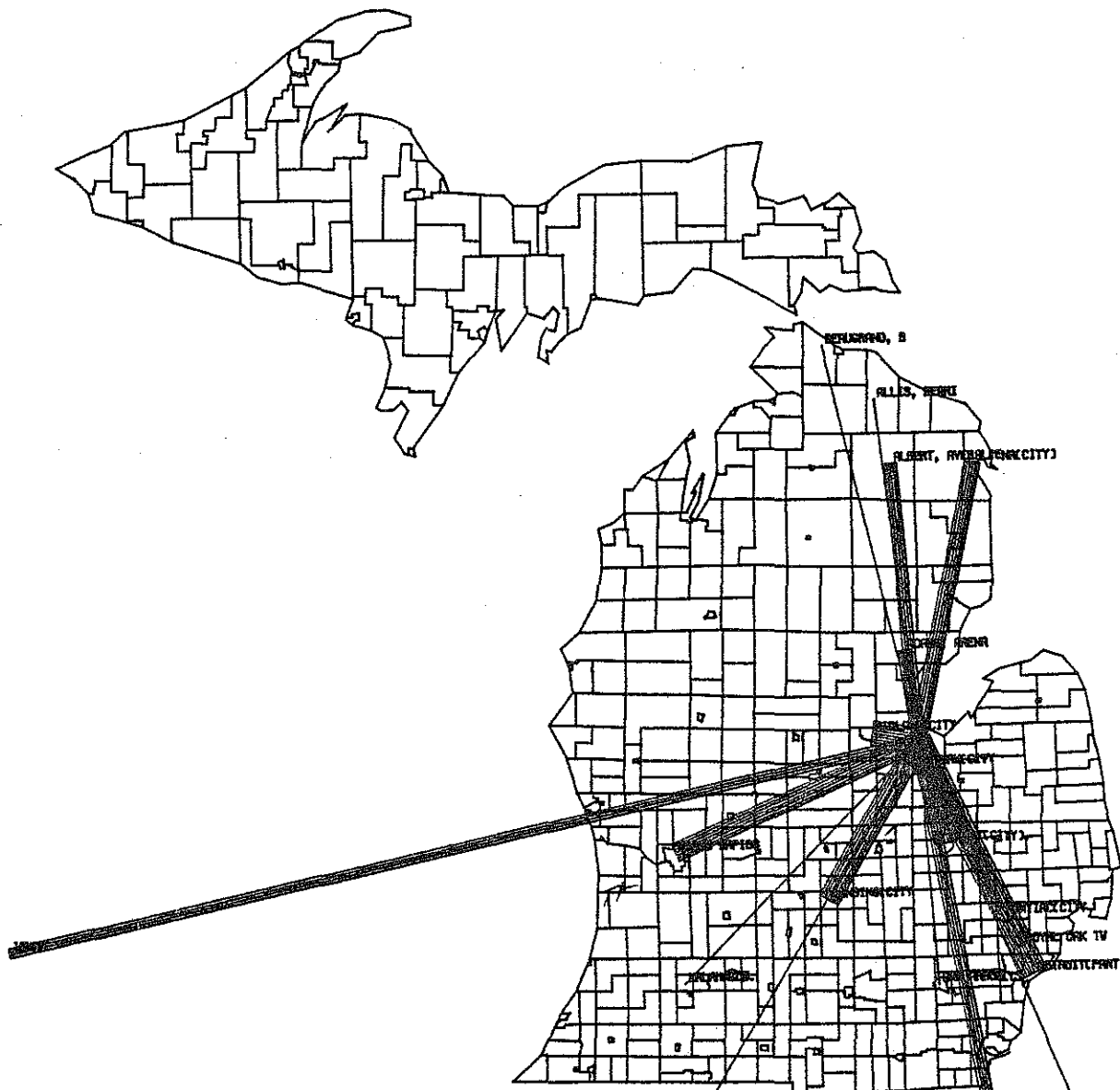


ORIGIN IS 29 - BAY CITY,

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
SAGINAW(CITY).	1	8	3	1	1	3	0
MIDLAND(CITY).	10	0	0	0	1	6	0
DETROIT(PART 1 OF 3), EA	4	0	5	1	1	2	0
LANSING(CITY),E,LANSING(C	1	2	0	0	3	4	0
FLINT(CITY).	0	0	2	0	0	4	0
GRAND RAPIDS(CITY).	0	0	0	3	1	2	0
ROYAL OAK TWP, AND THE F	1	1	2	0	1	0	0
ALPENA(CITY).	0	2	1	0	0	2	0
ALBERT, AVERY, BRILEY, H	0	0	0	0	0	3	0
OHIO	3	0	0	0	0	0	0
IOWA	0	1	0	2	0	0	0
ADAMS, ARENAC, CLAYTON,	0	2	0	0	0	1	0
KALAMAZOO.	0	0	0	1	0	1	0
BEAUGRAND, BURT, HEBRON,	0	0	0	0	0	2	0
ALLIS, BEARINGER, CASE,	0	0	0	0	0	2	0
REMAINDER	4	8	4	2	4	4	0
TOTAL	24	24	17	10	12	36	0



DESIRE LINE PLOT (OUT TRIPS) BAY CITY. (ZONE 29)

BAND1	=	1	TO	286
BAND2	=	286	TO	286
BAND3	=	286	TO	286
BAND4	=	286	TO	428
BAND5	=	429	TO	429
BAND6	=	429	TO	714
BAND7	=	714	TO	857
BAND8	=	858	TO	1428
BAND9	=	1857	TO	2428
BAND10	=	2429	TO	99999999

INDIANA

WEST VIRGINIA

# **BENTON HARBOR**

INTERCHANGE VALUES FROM ZONE 37 TO ALL OTHER ZONES  
BENTON HARBOR

TABLES NUMBER 101

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
4	571	0	0	0	0	572	0	0	0	0
5	0	0	0	0	0	428	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0
18	0	0	0	2143	0	0	0	143	1000	0
21	143	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	5714	0	0	0
23	0	0	0	0	0	0	2286	0	0	0
30	0	0	143	0	0	0	0	0	0	0
34	0	0	714	0	0	0	0	0	0	0
36	143	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	429	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
43	0	0	0	143	0	0	0	0	0	142
47	0	143	0	143	0	0	0	0	0	0
48	0	0	0	286	0	0	0	0	143	571
49	0	0	0	2429	0	0	0	0	0	0
50	0	0	0	0	0	142	0	0	0	0
52	0	0	286	714	0	17000	715	0	143	0
53	0	0	0	1285	0	0	0	143	0	0
54	0	0	2286	3000	1571	572	143	428	0	0

TOTAL " 46857

MEAN # 85.662

8JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	FREQUENCY	P.C.	CUM.
0	1	0,000	0,000
1	2	0,000	0,000
2	3	1,719	1,719
3	4	1,831	3,050
4	5	0,305	3,355
5	6	0,000	3,355
6	7	13,110	16,465
7	8	0,000	16,465
8	9	0,913	17,378
9	10	7,926	25,304
10	11	1,524	26,828
11	12	1,526	28,354
12	13	0,000	28,354
13	14	4,573	32,928
14	15	36,586	69,514
15	16	0,000	69,514
16	17	1,219	70,732
17	18	0,916	71,648
18	19	0,305	71,953
19	20	2,134	74,087
20	21	0,608	74,695
21	22	5,794	80,489
22	23	0,303	80,793
23	24	0,000	80,793
24	25	0,000	80,793
25	26	0,000	80,793
26	27	1,528	82,316
27	28	0,000	82,316
28	29	0,000	82,316
29	30	0,000	82,316
30	31	0,000	82,316
31	32	0,000	82,316
32	33	4,879	87,195
33	34	0,000	87,195
34	35	0,000	87,195
35	36	0,000	87,195
36	37	0,000	87,195
37	38	0,610	87,805
38	39	0,000	87,805
39	40	0,000	87,805
40	41	0,000	87,805
41	42	0,000	87,805
42	43	0,000	87,805
43	44	0,000	87,805
44	45	3,353	91,158
45	46	0,305	91,463
46	47	0,000	91,463
47	48	0,000	91,463
48	49	0,000	91,463
49	50	0,000	91,463
50	51	0,000	91,463
51	52	8,913	92,377
52	53	6,402	98,779
53	54	0,000	98,779
54	55	0,000	98,779
55	56	0,000	98,779
56	57	0,000	98,779
57	58	0,000	98,779
58	59	0,000	98,779
59	60	0,000	98,779
60	61	0,000	98,779
61	62	0,000	98,779
62	63	0,000	98,779
63	64	1,221	100,000

REMAINING VALUES ARE ALL ZERO  
NUMBER OF OBSERVATIONS= 06657

SUM= 903282.

MEAN= 19,277

VAR= 189,676

SD=

TOTAL TRIPS OVER 4000 = 0  
TOTAL TRIPS OVER 255 = 0  
VOLUME TABLE NUMBER = 201  
SKIM TREE NUMBER = 101

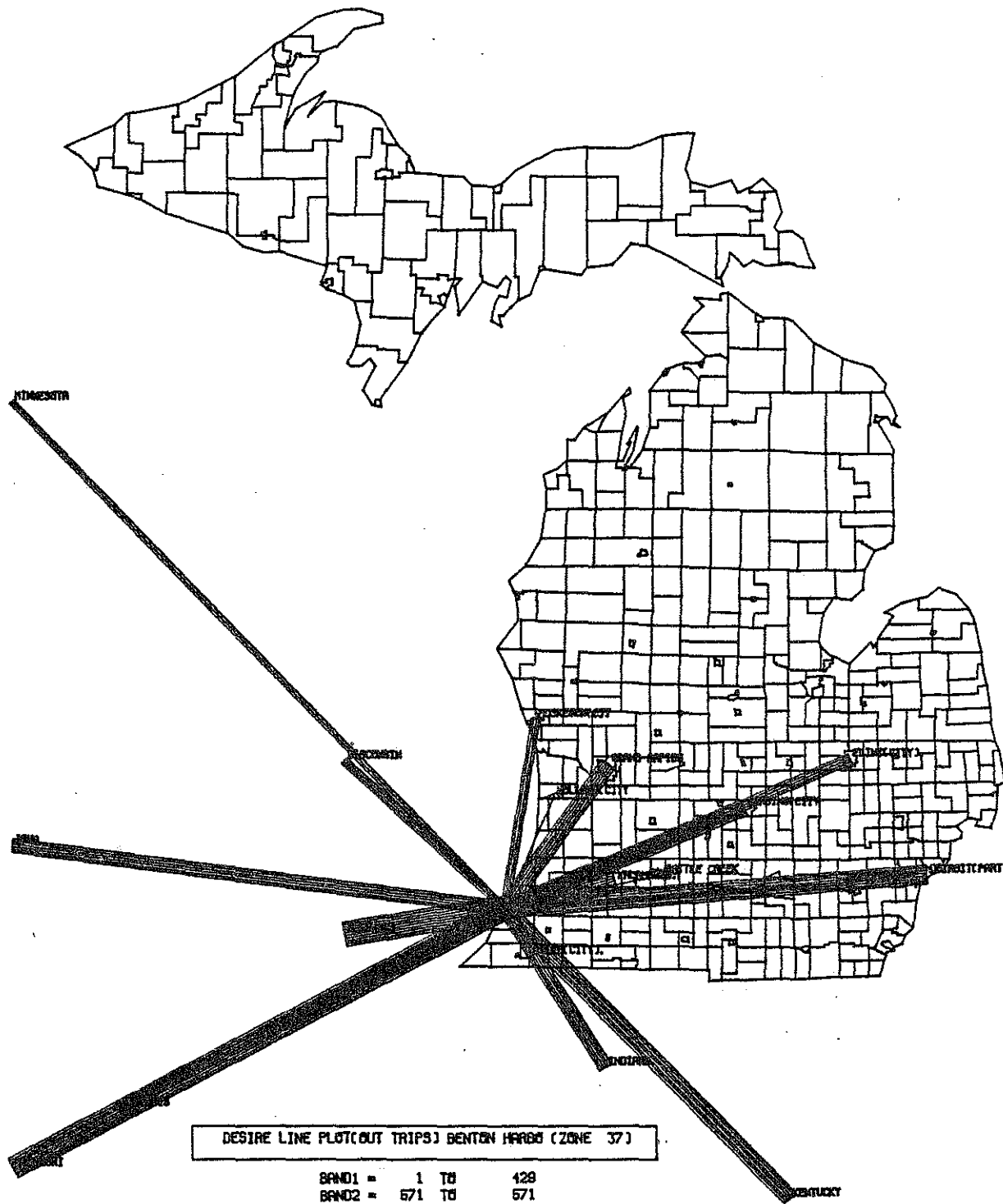
BENTON HARBOR-ZONE 37

ORIGIN IS 37 - BENTON HARBOR(CITY),ST,J

BUS TICKET SURVEY

PCTR 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
ILLINOIS	27	15	13	4	36	15	9
KALAMAZOO.	11	1	6	4	7	3	8
MISSOURI	4	4	6	2	3	0	2
DETROIT(PART 1 OF 3), EA	1	2	3	2	5	2	2
GRAND RAPIDS(CITY).	1	1	3	2	8	0	1
KENTUCKY	2	2	0	1	9	1	1
LANSING(CITY),E.LANSING(	4	1	1	0	1	3	5
IOWA	2	2	2	0	2	1	2
INDIANA	0	0	0	0	6	3	0
FLINT(CITY).	1	0	0	3	1	2	0
MUSKEGON(CITY).	0	0	3	0	2	0	0
WISCONSIN	0	2	0	0	1	0	2
ILLINOIS	0	0	0	0	0	3	2
HILES(CITY).	1	0	0	0	0	3	0
ANN ARBOR(CITY).	2	0	1	0	0	1	0
REMAINDER	9	3	5	3	4	6	4
TOTAL	65	33	43	21	85	43	38



DESIRE LINE PLOT(OUT TRIPS) BENTON HARBOR (ZONE 37)

BAND1	=	1	TO	429
BAND2	=	571	TO	571
BAND3	=	572	TO	572
BAND4	=	714	TO	714
BAND5	=	715	TO	1000
BAND6	=	1286	TO	1571
BAND7	=	2143	TO	2286
BAND8	=	2286	TO	2429
BAND9	=	3000	TO	5714
BAND10	=	17000	TO	99999999

# **BIG RAPIDS**



INTERCHANGE VALUES FROM ZONE 306 TO ALL OTHER ZONES

TABLES NUMBER 101

BIG RAPIDS

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
6	0		0	0	0	0	0	0	0	0
7	0		0	0	0	0	143	0	0	0
9	143		0	0	0	0	0	0	0	0
18	0		0	0	571	0	0	0	0	0
22	0		0	0	0	0	0	0	0	0
23	0		0	0	0	0	143	0	0	0
24	0		0	0	0	0	1714	0	143	0
29	0		0	0	0	0	0	0	0	0
30	0		0	0	0	143	0	0	0	0
36	0		0	0	0	0	0	143	0	0
39	0		0	142	0	0	0	0	0	0
43	0		0	0	0	143	0	0	0	0
47	0		0	0	143	0	0	0	0	0
49	0		0	0	0	0	0	0	0	143
52	0		0	0	1000	0	0	0	0	0
53	0		0	0	0	429	0	0	0	0
54	0		0	0	142	0	0	0	0	0
	0		0	0	0	286	0	0	0	0

TOTAL # 6000

MEAN # 10.969

8JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	P.C.	CUM.	ACTUAL
1	2,383	2,383	143
2	0,000	2,383	0
3	0,000	2,383	0
4	0,000	2,383	0
5	0,000	2,383	0
6	2,383	4,767	143
7	30,950	35,717	1057
8	0,000	35,717	0
9	0,000	35,717	0
10	0,000	35,717	0
11	2,383	38,100	143
12	0,000	38,100	0
13	2,383	40,483	143
14	11,900	52,383	714
15	0,000	52,383	0
16	0,000	52,383	0
17	2,383	54,767	143
18	2,383	57,150	143
19	0,000	57,150	0
20	2,387	59,517	142
21	4,750	64,267	265
22	0,000	64,267	0
23	2,383	66,650	143
24	19,050	85,700	1143
25	0,000	85,700	0
26	0,000	85,700	0
27	0,000	85,700	0
28	0,000	85,700	0
29	0,000	85,700	0
30	7,150	92,850	429
31	0,000	92,850	0
32	0,000	92,850	0
33	0,000	92,850	0
34	0,000	92,650	0
35	0,000	92,650	0
36	0,000	92,650	0
37	0,000	92,650	0
38	0,000	92,650	0
39	0,000	92,650	0
40	0,000	92,650	0
41	0,000	92,650	0
42	0,000	92,650	0
43	0,000	92,650	0
44	0,000	92,650	0
45	2,383	95,233	143
46	0,000	95,233	0
47	0,000	95,233	0
48	0,000	95,233	0
49	0,000	95,233	0
50	0,000	95,233	0
51	0,000	95,233	0
52	0,000	95,233	0
53	0,000	95,233	0
54	0,000	95,233	0
55	0,000	95,233	0
56	0,000	95,233	0
57	0,000	95,233	0
58	0,000	95,233	0
59	0,000	95,233	0
60	0,000	95,233	0
61	0,000	95,233	0
62	0,000	95,233	0
63	0,000	95,233	0
64	0,000	95,233	0
65	0,000	95,233	0
66	0,000	95,233	0
67	0,000	95,233	0
68	0,000	95,233	0
69	0,000	95,233	0
70	0,000	95,233	0
71	0,000	95,233	0
72	0,000	95,233	0
73	0,000	95,233	0
74	0,000	95,233	0
75	0,000	95,233	0
76	0,000	95,233	0
77	0,000	95,233	0
78	4,767	100,000	286

REMAINING VALUES ARE ALL ZERO

NUMBER OF OBSERVATIONS = 6000      SUM = 113592      MEAN = 18,932      VAR = 257,039      SD = 16,057

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

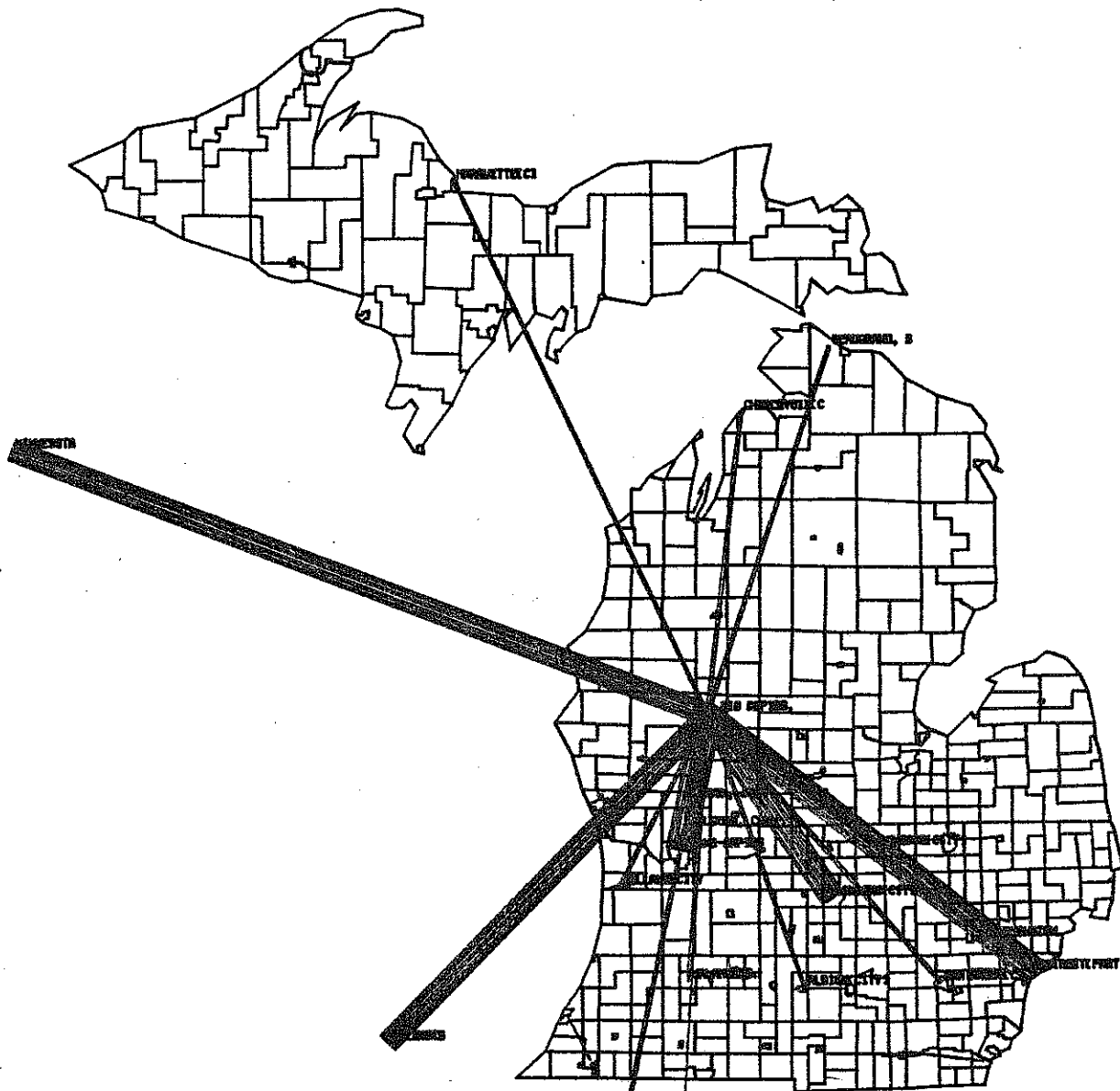
BIG RAPIDS-ZONE 306

ORIGIN IS 306 - BIG RAPIDS(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	6/ 1/77	6/ 2/77	6/ 3/77	6/ 4/77	6/ 5/77	6/ 6/77	6/ 7/77
GRAND RAPIDS(CITY).	0	3	0	3	0	2	4
DETROIT(PART 1 OF 3), EA	1	0	1	0	0	1	4
LANSING(CITY),E.LANSING(C	0	1	1	1	0	0	1
ILLINOIS	0	0	0	3	0	0	0
MINNESOTA	1	1	0	0	0	0	0
BEAUGRAND, BURT, HEBRON,	0	0	0	0	0	1	0
ALGOMA, CANNON, COURTLAN	0	0	0	0	0	0	1
NELSON, SOLON, TYRONE,	0	0	0	0	0	1	0
MARQUETTE(CITY).	1	0	0	0	0	0	0
BIG RAPIDS, COLFAX, GRAN	0	0	0	0	0	0	1
FARMINGTON,	1	0	0	0	0	0	0
HOLLAND(CITY).	0	1	0	0	0	0	0
OWOSSO(CITY).	1	0	0	0	0	0	0
ANN ARBOR(CITY).	0	0	1	0	0	0	0
KALAMAZOO.	0	0	0	0	0	1	0
REMAINDER	1	1	0	1	0	1	0
TOTAL	6	7	3	8	0	7	11



**DESIRE LINE PLOT(OUT TRIPS) BIG RAPIDS, MI (ZONE 308)**

BRND1	=	1	TO	142
BRND2	=	143	TO	143
BRND3	=	143	TO	143
BRND4	=	143	TO	143
BRND5	=	143	TO	143
BRND6	=	143	TO	143
BRND7	=	143	TO	143
BRND8	=	288	TO	428
BRND9	=	571	TO	1008
BRND10	=	1714	TO	9999999

**CADILLAC**

INTERCHANGE VALUES FROM ZONE 505 TO ALL OTHER ZONES

TABLES NUMBER 101

CADILLAC

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
2	0		0	0	0	0	0	0	0	286
8	0		0	0	143	0	0	0	0	0
10	0		0	0	142	0	0	0	0	0
12	0		0	0	0	0	0	0	0	0
15	0	572	0	0	0	0	0	0	143	0
16	0	0	0	0	0	0	143	0	0	0
18	0	0	0	0	1286	0	0	0	0	142
21	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	143	0	0	0
30	0	0	0	0	0	0	1857	0	0	0
34	0	0	0	0	0	0	143	0	0	0
35	0	0	143	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	143	0
39	0	0	0	0	0	0	0	428	0	0
47	0	0	0	0	0	0	0	0	0	286
48	0	0	0	0	286	0	0	0	0	0
49	0	0	0	0	571	0	0	0	0	0
50	286	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	714	0	0
53	0	0	0	0	0	429	0	0	0	0
					143	0	0	0	0	0
TOTAL #	8429				MEAN #	15,410				

8JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	P.C.	CUM.	ACTUAL
0	0.000	0.000	0
1	0.000	0.000	0
2	0.000	0.000	0
3	0.000	0.000	0
4	8.471	8.471	714
5	5.078	13.548	428
6	1.697	15.245	143
7	0.000	15.245	0
8	6.786	22.031	572
9	0.000	22.031	0
10	1.697	23.728	143
11	0.000	23.728	0
12	3.393	27.121	286
13	22.031	49.152	1857
14	0.000	49.152	0
15	1.697	50.848	143
16	15.257	66.105	1286
17	1.697	67.802	143
18	0.000	67.802	0
19	0.000	67.802	0
20	1.697	69.498	143
21	1.697	71.195	143
22	3.393	74.588	286
23	5.090	79.677	429
24	6.774	86.452	571
25	3.393	89.845	286
26	0.000	89.845	0
27	0.000	89.845	0
28	0.000	89.845	0
29	1.697	91.541	143
30	0.000	91.541	0
31	0.000	91.541	0
32	0.000	91.541	0
33	0.000	91.541	0
34	0.000	91.541	0
35	5.090	96.631	429
36	1.685	98.315	142
37	0.000	98.315	0
38	0.000	98.315	0
39	0.000	98.315	0
40	0.000	98.315	0
41	0.000	98.315	0
42	0.000	98.315	0
43	0.000	98.315	0
44	0.000	98.315	0
45	0.000	98.315	0
46	0.000	98.315	0
47	0.000	98.315	0
48	0.000	98.315	0
49	0.000	98.315	0
50	0.000	98.315	0
51	0.000	98.315	0
52	0.000	98.315	0
53	1.685	100.000	142

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS= 8429      SUM= 139261      MEAN= 16.522      VAR= 89.817      SD= 9.477

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

CADILLAC-ZONE 505

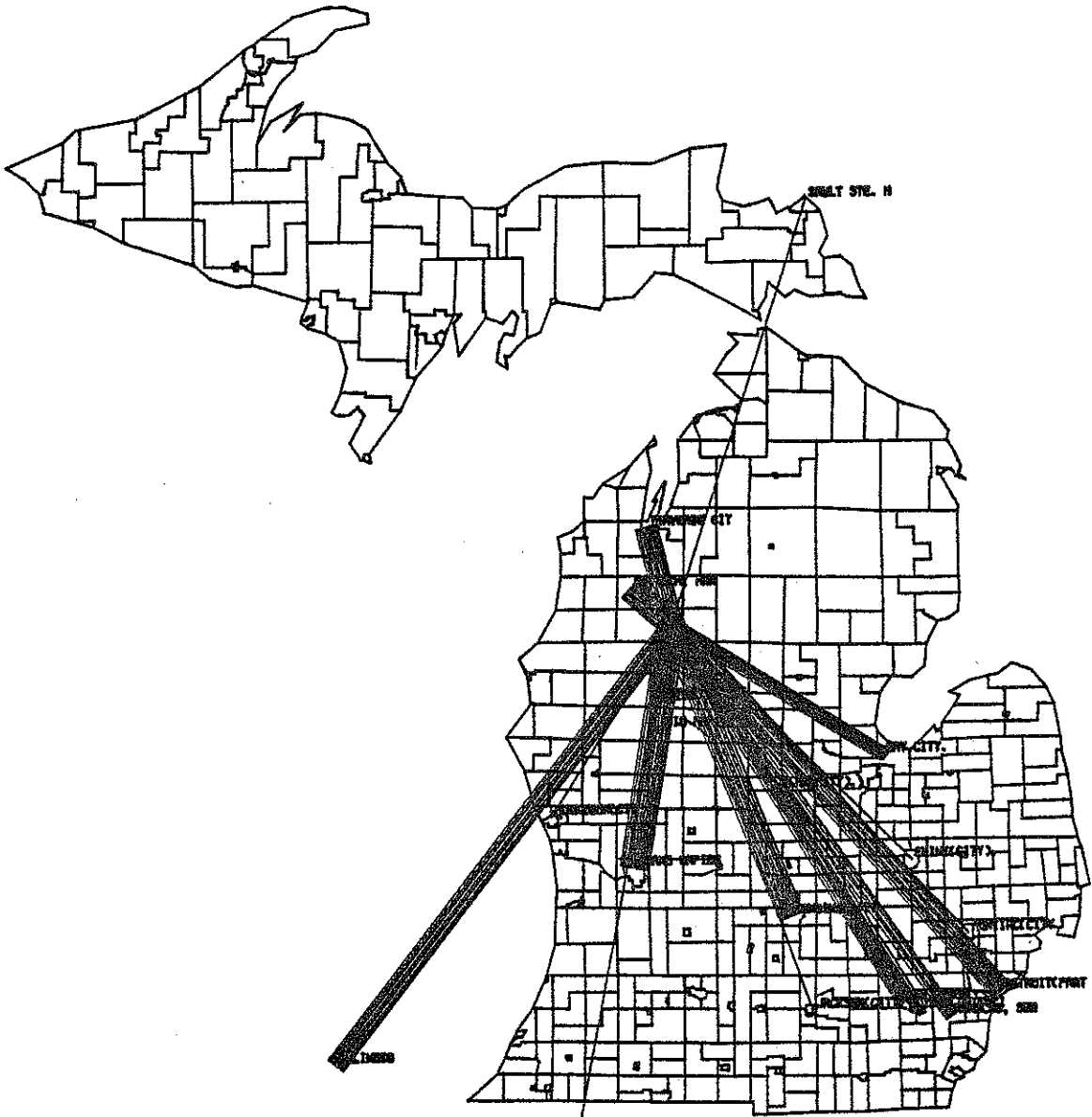
ORIGIN IS 505 - CADILLAC(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
GRAND RAPIDS(CITY).	5	0	0	8	0	0	0
LANSING(CITY),E.LANSING(C	4	0	0	5	0	0	0
ANTIOCH, HANOVER, SPRING	1	0	0	4	0	0	0
TRAVERSE CITY(CITY)ANDPE	0	0	0	4	0	0	0
DETROIT(PART 1 OF 3), EA	3	0	0	1	0	0	0
ILLINDIS	1	0	0	2	0	0	0
HERSEY, RICHMOND.	1	0	0	2	0	0	0
YPSILANTI(CITY).	1	0	0	1	0	0	0
BAY CITY.	2	0	0	0	0	0	0
ROMULUS, SUMPTER, VAN BU	0	0	0	2	0	0	0
ANN ARBOR(CITY).	2	0	0	0	0	0	0
MUSKEGON(CITY).	1	0	0	0	0	0	0
PONTIAC(CITY).	1	0	0	0	0	0	0
JACKSON(CITY).	1	0	0	0	0	0	0
BIG RAPIDS(CITY).	0	0	0	1	0	0	0
REMAINDER	1	0	0	5	0	0	0
TOTAL	24	0	0	35	0	0	0





DESIRE LINE PLOT(OUT TRIPS) CADILLAC CITY (ZONE 505)

BRND1	=	1	TO	143
BRND2	=	143	TO	143
BRND3	=	143	TO	143
BRND4	=	143	TO	143
BRND5	=	286	TO	286
BRND6	=	286	TO	286
BRND7	=	428	TO	428
BRND8	=	571	TO	572
BRND9	=	714	TO	1286
BRND10	=	1857	TO	8888888

1/20/78

**CHEBOYGAN**

INTERCHANGE VALUES FROM ZONE 79 TO ALL OTHER ZONES

TABLES NUMBER 101

CHEBOYGAN

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
8	0	0	0	143	0	0	0	0	0	0
12	0	0	0	0	0	0	143	0	0	0
15	0	143	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	142
52	0	0	0	0	143	0	0	0	0	0
TOTAL #	714				MEAN #	1,305				

BJUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

0	2	4	6	8	10	12	14	16	16	20	22	24	26	28	30	32	34	36	38	40	P.C.	CUM.	ACTU.
1.																					0.000	0.000	
2.																					0.000	0.000	
3.																					0.000	0.000	
4.																					0.000	0.000	
5.																					0.000	0.000	
6.																					20.028	20.028	1
7.																					0.000	20.028	
8.																					0.000	20.028	
9.																					20.028	40.056	143
10.																					0.000	40.056	
11.																					0.000	40.056	
12.																					0.000	40.056	
13.																					0.000	40.056	
14.																					0.000	40.056	
15.																					20.028	60.084	143
16.																					0.000	60.084	
17.																					0.000	60.084	
18.																					0.000	60.084	
19.																					0.000	60.084	
20.																					0.000	60.084	
21.																					0.000	60.084	
22.																					0.000	60.084	
23.																					0.000	60.084	
24.																					19.888	79.972	143
25.																					0.000	79.972	
26.																					0.000	79.972	
27.																					0.000	79.972	
28.																					0.000	79.972	
29.																					0.000	79.972	
30.																					0.000	79.972	
31.																					0.000	79.972	
32.																					0.000	79.972	
33.																					0.000	79.972	
34.																					0.000	79.972	
35.																					0.000	79.972	
36.																					0.000	79.972	
37.																					0.000	79.972	
38.																					0.000	79.972	
39.																					0.000	79.972	
40.																					0.000	79.972	
41.																					0.000	79.972	
42.																					0.000	79.972	
43.																					0.000	79.972	
44.																					0.000	79.972	
45.																					0.000	79.972	
46.																					0.000	79.972	
47.																					0.000	79.972	
48.																					0.000	79.972	
49.																					0.000	79.972	
50.																					0.000	79.972	
51.																					0.000	79.972	
52.																					0.000	79.972	
53.																					0.000	79.972	
54.																					0.000	79.972	
55.																					0.000	79.972	
56.																					0.000	79.972	
57.																					20.028	100.000	

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS= 714      SUM= 15849.      MEAN= 22.197      VAR= 341.032      SD= 18.467

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

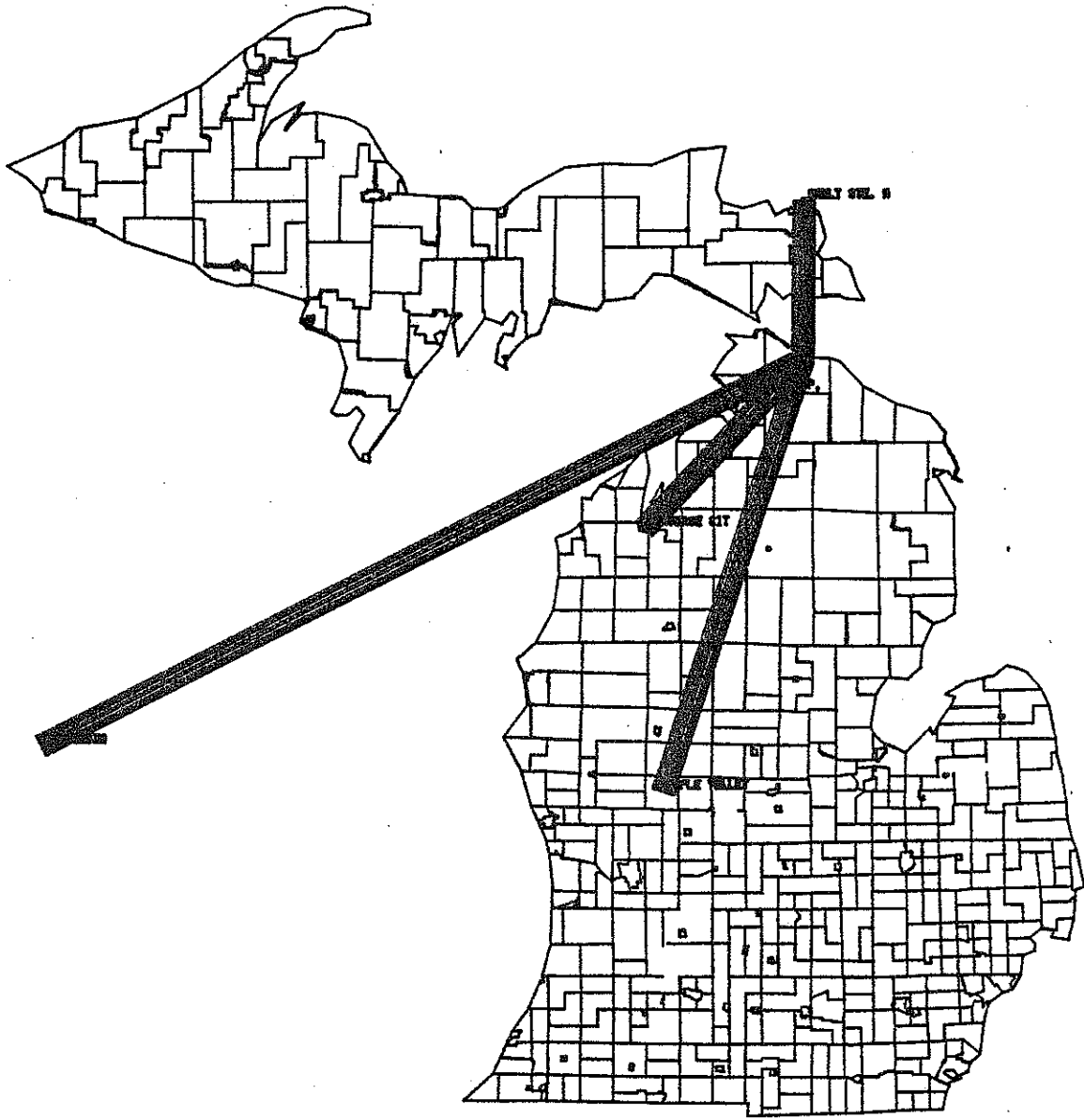
CHEBOYGAN-ZONE 79

ORIGIN IS 79 - CHEBOYGAN.

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
SAULT STE. MARIE, SUGAR	0	0	0	0	0	1	0
FRIENDSHIP, LITTLEFIELD,	0	0	0	0	0	1	0
TRAVERSE CITY(CITY)ANDPE	1	0	0	0	0	0	0
MAPLE VALLEY, PIERSON, R	0	1	0	0	0	0	0
WISCONSIN	0	0	1	0	0	0	0
REMAINDER	0	0	0	0	0	0	0
TOTAL	1	1	1	0	0	2	0



DESIRE LINE PLOTOUT TRIPS) CHEBOYGAN. (ZONE 79)

BAND1	=	1	TO	2
BAND2	=	0	TO	0
BAND3	=	0	TO	0
BAND4	=	0	TO	0
BAND5	=	0	TO	0
BAND6	=	0	TO	0
BAND7	=	0	TO	0
BAND8	=	142	TO	143
BAND9	=	143	TO	143
BAND10	=	143	TO	99999999

**DETROIT**

INTERCHANGE VALUES FROM ZONE 493 TO ALL OTHER ZONES

TABLES NUMBER 101

DETROIT

	0	1	2	3	4	5	6	7	8	9
0		429	0	0	0	0	0	0	0	0
1	0	285	0	286	0	0	0	0	0	143
2	0	0	0	0	0	0	0	0	0	3428
3	0	0	0	0	0	0	0	1286	0	0
4	286	0	428	0	0	143	0	0	429	0
5	286	142	0	0	0	4572	0	0	2857	0
6	0	0	0	0	0	0	857	0	0	429
7	0	0	0	0	0	143	0	0	0	142
8	429	143	0	1143	0	0	0	143	0	142
9	143	0	0	0	0	0	0	0	0	0
10	0	572	0	0	0	0	0	0	0	143
12	0	0	0	0	571	0	0	0	29286	0
13	143	0	0	0	0	0	0	0	0	0
15	0	571	0	0	0	0	143	0	0	0
16	0	0	571	0	0	0	0	0	0	0
17	429	0	0	0	0	0	286	0	0	0
18	0	142	0	47286	0	0	0	0	0	0
19	0	143	3286	0	0	0	0	0	0	0
20	0	0	285	0	1000	0	0	0	0	0
21	1286	0	0	0	0	0	19429	0	0	0
22	0	0	0	0	0	0	8571	0	0	143
23	0	0	0	0	143	0	20714	0	0	0
25	0	0	0	0	0	0	0	0	857	0
26	0	0	286	0	0	0	0	0	0	0
27	0	429	0	0	0	571	0	0	0	0
28	286	0	0	0	0	0	0	285	1000	0
29	0	143	0	0	0	715	0	0	0	142
30	0	0	143	0	0	0	1286	0	0	0
31	0	0	0	0	0	571	0	0	0	0
32	0	0	0	2858	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	142
34	0	0	5286	0	0	0	0	0	0	0
36	143	0	429	428	0	0	0	0	0	0
37	143	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	429	0	0
39	0	0	428	0	0	1714	0	0	0	286
40	0	0	0	0	0	0	0	143	0	11286
41	0	0	0	0	285	0	0	0	0	0
43	0	0	0	1000	0	143	0	0	0	0
44	0	0	6143	0	2000	0	0	0	0	0
45	0	0	1143	0	0	0	286	0	0	0
47	0	0	0	0	0	0	0	0	143	56142
48	0	0	0	30715	0	0	1428	0	0	0
49	286	0	0	143	0	0	0	143	0	2571
50	143	1000	0	0	143	428	0	0	143	0
51	0	13429	7143	3571	0	0	0	0	0	0
52	0	0	0	1572	1857	46000	4571	0	3857	0
53	2572	0	3285	5572	6571	0	0	33000	32857	37143
54	9000	9715	74000	37428	20286	8428	20572	12286		

TOTAL = 687429

MEAN = 1256.726



0JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	FREQ	P.C.	CUM.
1	1	0.021	0.021
2	0	0.000	0.021
3	1	0.416	0.436
4	1	0.291	0.727
5	1	0.229	0.956
6	13	13.342	14.297
7	14	0.478	14.775
8	5	5.736	20.511
9	4	4.281	24.792
10	6	6.315	31.107
11	13	13.113	44.220
12	1	1.808	46.028
13	0	0.063	46.091
14	1	1.579	47.670
15	0	0.499	48.169
16	1	1.787	49.956
17	1	1.304	51.260
18	3	3.283	54.543
19	0	0.187	54.730
20	0	0.831	55.561
21	0	0.332	55.893
22	2	2.868	58.761
23	0	0.249	59.010
24	0	0.374	59.384
25	0	0.062	59.446
26	0	0.478	59.924
27	0	0.000	59.924
28	0	0.042	59.966
29	0	0.042	60.008
30	11	11.513	71.521
31	0	0.041	71.562
32	2	2.452	74.014
33	1	1.097	75.111
34	0	0.000	75.111
35	0	0.000	75.111
36	8	8.126	83.237
37	0	0.000	83.237
38	0	0.164	83.401
39	0	0.000	83.401
40	0	0.000	83.401
41	1	1.954	85.355
42	0	0.000	85.355
43	0	0.000	85.355
44	0	0.000	85.355
45	0	0.000	85.355
46	0	0.000	85.355
47	0	0.000	85.355
48	0	0.229	85.584
49	0	0.000	85.584
50	0	0.000	85.584
51	0	0.000	85.584
52	0	0.000	85.584
53	0	0.000	85.584
54	0	0.104	85.688
55	0	0.000	85.688
56	0	0.021	85.709
57	0	0.021	85.730
58	0	0.000	85.730
59	0	0.270	86.000
60	0	0.000	86.000
61	0	0.000	86.000
62	0	0.000	86.000
63	0	0.000	86.000
64	0	0.000	86.000
65	2	2.951	88.951
66	0	0.000	88.951
67	0	0.000	88.951
68	0	0.000	88.951
69	0	0.000	88.951
70	0	0.062	89.013
71	0	0.000	89.013
72	0	0.000	89.013
73	5	5.736	94.749
74	0	0.000	94.749
75	0	0.000	94.749
76	0	0.000	94.749
77	0	0.000	94.749
78	0	0.000	94.749
79	0	0.000	94.749
80	0	0.000	94.749
81	0	0.000	94.749
82	0	0.000	94.749
83	0	0.000	94.749
84	1	1.226	100.000

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS= 687429      SUM= 16095041      MEAN= 23.414      VAR= 381.574      SD= 19.52

TOTAL TRIPS OVER MAXP = 9  
 TOTAL TRIPS OVER 255 = 0  
 VOLUME TABLE NUMBER = 201  
 SKIN TREE NUMBER = 101

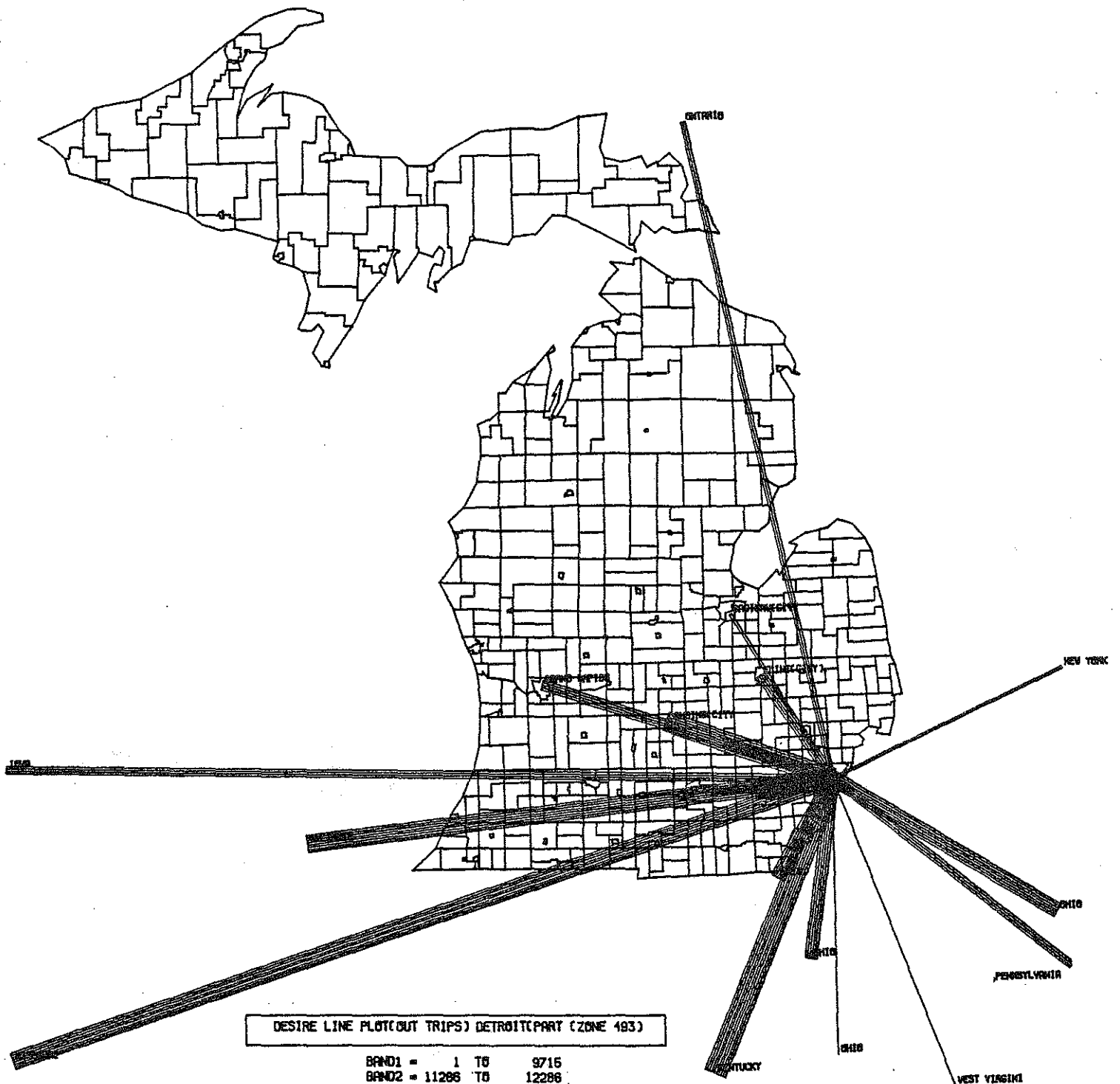
DETROIT-ZONE 493

ORGIN IS 493 - DETROIT(PART 1 OF 3), EA

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
KENTUCKY	80	85	89	74	100	52	38
ANN ARBOR(CITY).	77	57	58	46	65	36	52
LANSING(CITY),C.LANSING(C	76	35	12	31	73	33	71
ILLINOIS	43	34	31	41	77	52	44
MISSOURI	36	28	41	42	53	35	41
OHIO	25	34	31	24	75	47	24
OHIO	33	25	22	25	55	39	32
OHIO	34	22	30	33	72	0	39
YPSILANTI(CITY).	56	25	24	23	31	21	35
FLINT(CITY).	19	17	20	27	45	45	32
GRAND RAPIDS(CITY).	34	23	14	8	36	12	18
PENNSYLVANIA	22	15	14	14	31	19	29
IOWA	13	22	16	40	16	16	19
JACKSON(CITY).	24	21	24	4	25	17	21
ONTARIO	21	20	19	18	0	0	16
REMAINDER	132	135	126	134	288	193	162
TOTAL	727	598	571	584	1042	617	673



DESIRE LINE PLOT(OUT TRIPS) DETROIT(PART (ZONE 493))

BAND1	=	1	TO	9715
BAND2	=	11286	TO	12286
BAND3	=	13429	TO	19429
BAND4	=	20286	TO	20572
BAND5	=	20714	TO	29288
BAND6	=	30715	TO	32867
BAND7	=	33000	TO	37143
BAND8	=	39428	TO	46000
BAND9	=	47286	TO	58142
BAND10	=	74000	TO	9999999

**ESCANABA**

INTERCHANGE VALUES FROM ZONE 103 TO ALL OTHER ZONES

TABLES NUMBER 101

ESCANABA

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
8	286		0	0	428	0	0	0	0	429
10	0	143	0	0	0	0	857	0	0	0
14	0	0	0	0	0	0	286	0	0	0
17	142	0	0	0	0	0	0	0	0	0
21	143	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	715	0	0	0
28	1000	0	0	0	0	0	142	0	0	0
29	0	0	0	0	0	0	0	0	0	0
31	0	143	0	0	0	1286	0	0	0	143
35	0	0	0	0	0	0	0	0	143	0
39	0	0	428	0	0	0	0	0	0	0
42	143	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	143
49	0	0	0	714	0	0	0	0	0	0
52	0	0	0	2000	2429	1286	142	0	0	0
53	0	0	0	0	0	0	0	0	143	0
54	0	0	143	0	286	143	571	0	0	0
TOTAL #	14857				MEAN #	27,161				

0JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	P.C.	CUM.	ACTUAL
0	0.000	0.000	0
1	5.768	5.768	857
2	0.000	5.768	0
3	0.000	5.768	0
4	0.000	5.768	0
5	0.000	5.768	0
6	0.000	5.768	0
7	0.000	5.768	0
8	0.963	6.731	143
9	8.656	15.387	1206
10	0.000	15.387	0
11	0.963	16.349	143
12	0.000	16.349	0
13	0.000	16.349	0
14	0.000	16.349	0
15	0.000	16.349	0
16	0.000	16.349	0
17	0.000	16.349	0
18	0.000	16.349	0
19	0.000	16.349	0
20	6.731	23.080	1000
21	1.925	25.005	286
22	0.000	25.005	0
23	2.881	27.886	428
24	0.000	27.886	0
25	2.881	30.767	428
26	2.881	33.647	428
27	0.000	33.647	0
28	0.000	33.647	0
29	0.963	34.610	143
30	0.000	34.610	0
31	0.000	34.610	0
32	0.000	34.610	0
33	0.000	34.610	0
34	0.000	34.610	0
35	13.462	48.072	2000
36	19.237	67.308	2858
37	0.963	68.271	143
38	0.000	68.271	0
39	0.000	68.271	0
40	0.000	68.271	0
41	0.000	68.271	0
42	0.000	68.271	0
43	0.963	69.233	143
44	9.618	78.852	1429
45	0.000	78.852	0
46	0.000	78.852	0
47	1.918	80.770	285
48	0.000	80.770	0
49	0.963	81.733	143
50	0.000	81.733	0
51	5.762	87.494	856
52	0.000	87.494	0
53	4.813	92.307	715
54	0.000	92.307	0
55	0.000	92.307	0
56	0.000	92.307	0
57	0.000	92.307	0
58	0.963	93.269	143
59	0.000	93.269	0
60	0.000	93.269	0
61	0.000	93.269	0
62	0.000	93.269	0
63	0.000	93.269	0
64	0.000	93.269	0
65	0.000	93.269	0
66	0.000	93.269	0
67	0.000	93.269	0
68	0.000	93.269	0
69	1.925	95.194	286
70	0.000	95.194	0
71	0.000	95.194	0
72	0.000	95.194	0
73	0.000	95.194	0
74	0.000	95.194	0
75	0.000	95.194	0
76	0.963	96.157	143
77	0.000	96.157	0
78	0.000	96.157	0
79	0.000	96.157	0
80	3.843	100.000	57

REMAINING VALUES ARE ALL ZERO  
NUMBER OF OBSERVATIONS= 14857

SUM= 511563.

MEAN= 34.432

VAR= 327.176

SD= 18.088

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

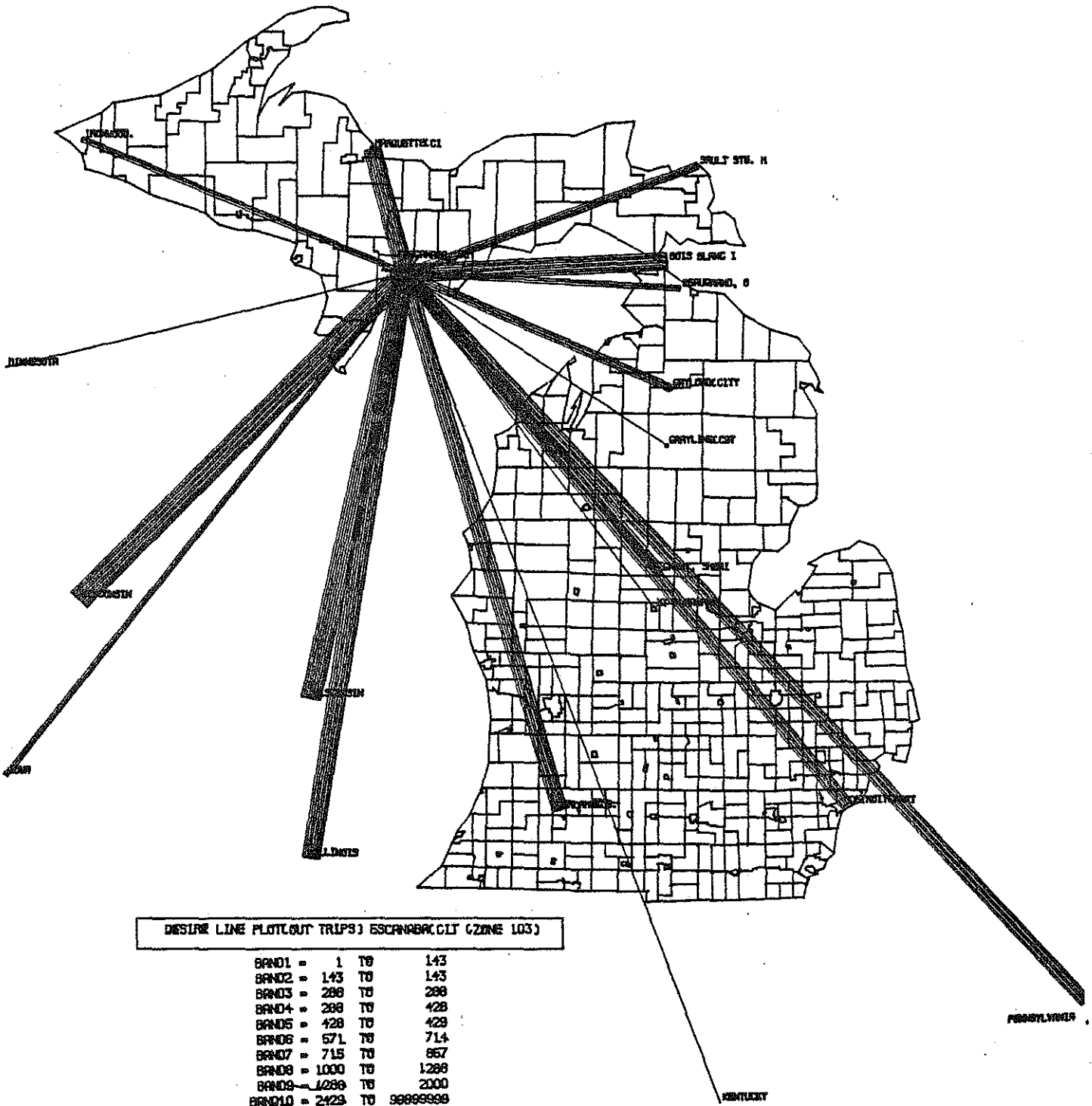
ESCANABA-ZONE 103

ORGIN IS 103 - ESCANABA(CITY).

BUS TICKET SURVEY

PCT= 0

DESTINATIONS -----	5/ 9/77 -----	5/10/77 -----	5/11/77 -----	5/12/77 -----	5/13/77 -----	5/14/77 -----	5/15/77 -----
WISCONSIN	2	6	2	2	5	0	0
WISCONSIN	2	1	2	5	3	0	1
ILLINOIS	0	2	0	1	5	0	1
MARQUETTE(CITY).	1	2	0	0	5	0	1
BOIS BLANC ISLAND, ST.IG	1	3	0	1	2	0	0
ESCANABA, WELLS.	1	0	1	0	2	0	2
KALAMAZOO.	0	3	0	0	1	0	1
DETROIT(PART 1 OF 3), EA	0	1	0	4	0	0	0
PENNSYLVANIA	0	0	0	0	4	0	0
GRANT, SHERIDAN.	0	0	0	0	1	0	2
SAULT STE. MARIE, SUGAR	0	0	0	0	3	0	0
GAYLORD(CITY).	0	1	0	0	2	0	0
IOWA	1	1	0	0	0	0	0
IRONWOOD.	0	1	0	1	0	0	0
BEAUGRAND, BURT, HEBRON,	0	0	0	0	2	0	0
REMAINDER	2	5	1	1	2	0	2
TOTAL	10	26	6	15	37	0	10



DESIRE LINE PLOTOUT TRIPS) ESCANABA, MI (ZONE 103)

BRAND1	=	1	TO	143
BRAND2	=	143	TO	143
BRAND3	=	286	TO	286
BRAND4	=	286	TO	428
BRAND5	=	428	TO	428
BRAND6	=	571	TO	714
BRAND7	=	715	TO	857
BRAND8	=	1000	TO	1286
BRAND9	=	1286	TO	2000
BRAND10	=	2429	TO	9999999



**FLINT**

INTERCHANGE VALUES FROM ZONE 128 TO ALL OTHER ZONES

TABLES NUMBER 101

	0	1	FLINT 2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
1	0		0	0	0	0	0	0	0	429
2	142		0	0	1000	0	0	0	0	2143
3	0		0	0	0	0	0	0	0	0
5	0		0	0	286	0	0	286	0	0
6	0		0	0	0	0	1428	0	0	0
7	0		0	0	0	0	0	286	0	0
8	428		0	0	429	0	0	0	0	429
9	143		0	0	0	0	0	0	0	1000
10	0	142		0	0	0	0	0	0	0
11	0	0		0	143	0	0	0	0	0
12	0	0		0	0	286	0	0	0	0
13	429		0	0	0	1000	0	429	0	0
14	143		0	0	0	0	0	0	0	0
15	0	143		0	0	0	0	0	0	0
16	0	0		0	0	0	0	0	0	143
18	0	0		0	14857	0	0	0	0	0
20	0	0	285		0	0	0	0	0	0
21	143		0	0	429	0	0	0	0	0
22	0		0	0	0	0	0	1000	0	0
23	0		0	0	0	0	0	3428	0	0
25	0		0	0	0	0	0	5143	0	0
26	0		286		0	0	0	0	0	0
28	285		429		0	0	0	0	0	0
29	0		0	143		0	0	0	0	0
30	0		0	0		0	0	0	0	0
31	0		0	0	0	143		0	0	0
32	0		0	285		0	0	0	0	0
34	0		1715		0	0	0	0	0	0
35	0		0	0		0	0	0	0	0
36	3715	285		143		0	0	0	4285	0
37	143		0	0		0	0	0	0	0
39	0		714		0	286		0	0	0
40	0		0	0		0	0	0	0	0
43	0		0	1714		0	0	143	0	5286
44	0		428		0	0	0	0	0	0
45	0		143		0	0	0	0	0	0
47	0	286		0		0	0	0	0	2714
48	0		0	143		0	0	0	0	0
49	0		0	27572	285		0	286	0	0
51	0	714		0		0	0	0	0	0
52	0		0	143		5572	1857	0	285	0
53	0		572	1714	143		0	1429	2142	0
54	429	1571	5857	7572	4143	1000	571	1143		143

TOTAL = 126000

MEAN = 230,347

0JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	FREQUENCY	P.C.	CUM.
1	1	0.113	0.113
2	2	0.226	0.339
3	3	0.339	0.678
4	4	0.452	1.120
5	5	0.565	1.685
6	6	0.678	2.363
7	7	0.791	3.154
8	8	0.904	4.058
9	9	1.017	5.075
10	10	1.130	6.205
11	11	1.243	7.448
12	12	1.356	8.804
13	13	1.469	10.273
14	14	1.582	11.855
15	15	1.695	13.550
16	16	1.808	15.358
17	17	1.921	17.279
18	18	2.034	19.313
19	19	2.147	21.460
20	20	2.260	23.720
21	21	2.373	26.093
22	22	2.486	28.579
23	23	2.599	31.178
24	24	2.712	33.890
25	25	2.825	36.715
26	26	2.938	39.653
27	27	3.051	42.704
28	28	3.164	45.868
29	29	3.277	49.145
30	30	3.390	52.535
31	31	3.503	56.038
32	32	3.616	59.654
33	33	3.729	63.383
34	34	3.842	67.225
35	35	3.955	71.180
36	36	4.068	75.248
37	37	4.181	79.429
38	38	4.294	83.723
39	39	4.407	88.130
40	40	4.520	92.650
41	41	4.633	97.283
42	42	4.746	102.029
43	43	4.859	106.888
44	44	4.972	111.859
45	45	5.085	116.944
46	46	5.198	122.142
47	47	5.311	127.453
48	48	5.424	132.877
49	49	5.537	138.414
50	50	5.650	144.064
51	51	5.763	149.827
52	52	5.876	155.703
53	53	5.989	161.692
54	54	6.102	167.794
55	55	6.215	174.009
56	56	6.328	180.337
57	57	6.441	186.778
58	58	6.554	193.332
59	59	6.667	200.000
60	60	6.780	206.780
61	61	6.893	213.673
62	62	7.006	220.679
63	63	7.119	227.798
64	64	7.232	235.030
65	65	7.345	242.375
66	66	7.458	249.833
67	67	7.571	257.404
68	68	7.684	265.088
69	69	7.797	272.885
70	70	7.910	280.795
71	71	8.023	288.818
72	72	8.136	296.954
73	73	8.249	305.203
74	74	8.362	313.565
75	75	8.475	322.040
76	76	8.588	330.628
77	77	8.701	339.329
78	78	8.814	348.143
79	79	8.927	357.070
80	80	9.040	366.110
81	81	9.153	375.263
82	82	9.266	384.529

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS= 126000      SUM= 2482047      MEAN= 19.699      VAR= 385.019      SD= 19.62

TOTAL TRIPS OVER MAX    0  
 TOTAL TRIPS OVER 255    0  
 VOLUME TABLE NUMBER    201  
 SKIN TREE NUMBER        101

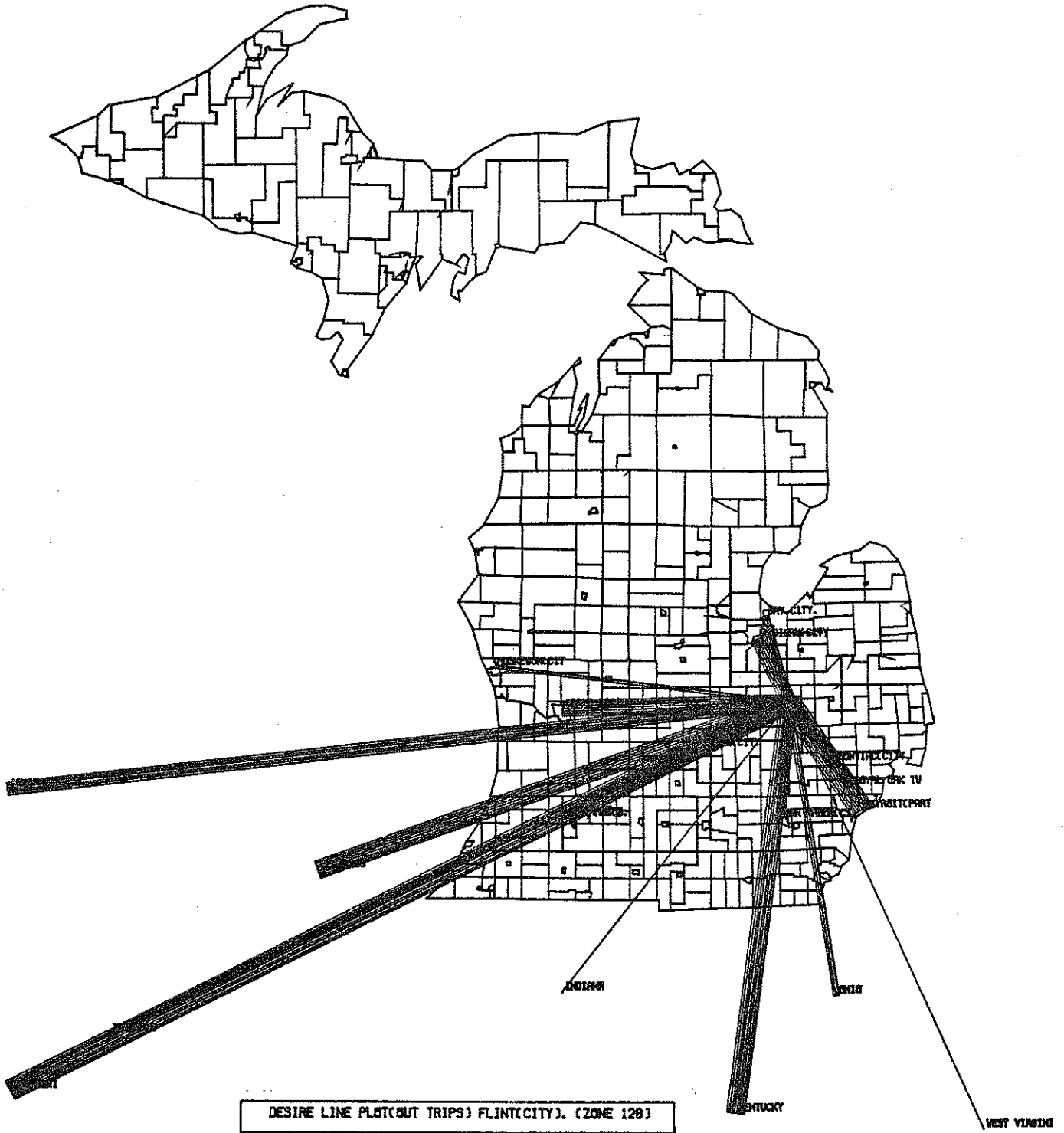
FLINT-ZONE 128

ORGIN IS 128 - FLINT(CITY):

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
DETROIT(PART 1 OF 3), EA	28	17	15	16	54	41	22
LANSING(CITY),E,LANSING(C	19	8	8	8	28	13	20
MISSOURI	7	8	6	11	6	11	4
KENTUCKY	3	7	5	5	13	7	1
ILLINOIS	6	3	3	9	8	10	9
SAGINAW(CITY).	7	2	2	3	6	7	10
GRAND RAPIDS(CITY).	13	5	1	9	2	1	5
PONTIAC(CITY).	1	6	2	0	11	2	0
IOWA	8	2	5	3	5	4	2
ROYAL OAK TWP, AND THE F	5	2	1	0	13	2	3
KALAMAZOO.	1	1	3	0	4	4	11
ANN ARBOR(CITY).	5	2	2	1	0	3	6
BAY CITY.	1	1	0	1	5	4	3
OHIO	1	4	2	3	2	1	2
ILLINOIS	1	0	0	0	1	0	11
REMAINDER	28	21	22	31	53	34	19
TOTAL	134	89	77	100	211	144	127



DESIRE LINE PLOT(OUT TRIPS) FLINT(CITY). (ZONE 128)

BAND1	=	1	TO	1714
BAND2	=	1714	TO	1715
BAND3	=	1867	TO	2142
BAND4	=	2143	TO	2714
BAND5	=	3428	TO	3715
BAND6	=	4143	TO	4285
BAND7	=	5143	TO	5266
BAND8	=	5672	TO	5867
BAND9	=	7572	TO	14867
BAND10	=	27672	TO	99999999

**FRANKFORT**

INTERCHANGE VALUES FROM ZONE 34 TO ALL OTHER ZONES

TABLES NUMBER 101

FRANKFORT

	0	1	2	3	4	5	6	7	8	9
0			0							
34	0	0	286	0	0	0	0	0	0	0
TOTAL *		286								
MEAN *						0.523				

8JUL71

TRIP LENGTH FREQUENCY DISTRIBUTION

	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	P.C.	CUM.	ACT.	
1.																						0,000	0,000		
2.																							0,000	0,000	
3.																							0,000	0,000	
4.																							0,000	0,000	
5.																							0,000	0,000	
6.																							0,000	0,000	
7.																							0,000	0,000	
8.																							0,000	0,000	
9.																							0,000	0,000	
10.																							0,000	0,000	
11.																							0,000	0,000	
12.																							0,000	0,000	
13.																							0,000	0,000	
14.																							0,000	0,000	
15.																							0,000	0,000	
16.																							0,000	0,000	
17.																							100,000	100,000	

REMAINING VALUES ARE ALL ZERO

NUMBER OF OBSERVATIONS= 286      SUM= 4862      MEAN= 17,000      VAR= 0,000      SD=

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

FRANKFORT-ZONE 34

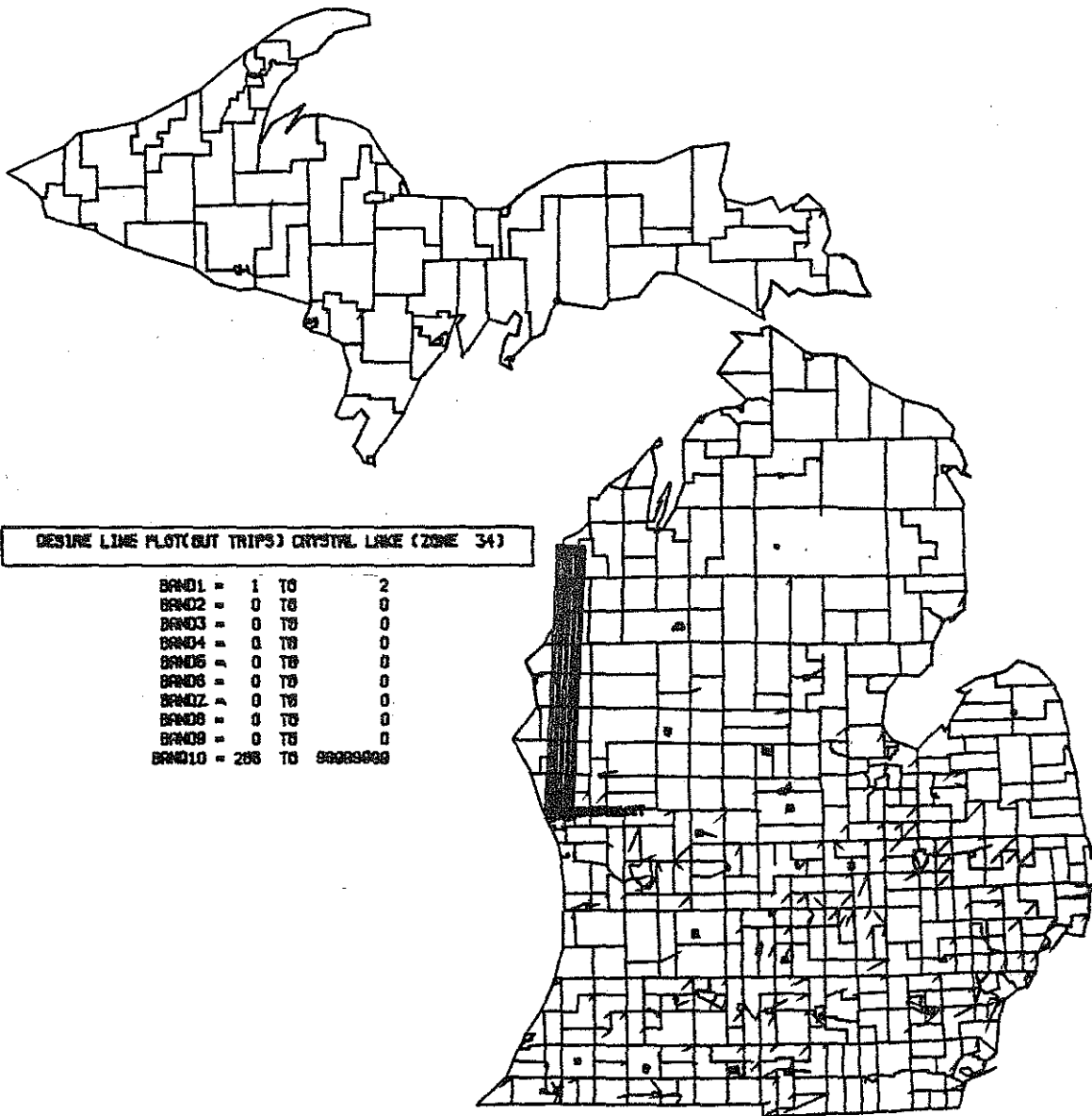


ORIGIN IS 34 - CRYSTAL LAKE, LAKE.

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
MUSKEGON(CITY).	2	0	0	0	0	0	0
REMAINDER	0	0	0	0	0	0	0
TOTAL	2	0	0	0	0	0	0



DESIRE LINE PLOT(OUT TRIPS) CRYSTAL LAKE (ZONE 34)

BAND1	=	1	TO	2
BAND2	=	0	TO	0
BAND3	=	0	TO	0
BAND4	=	0	TO	0
BAND5	=	0	TO	0
BAND6	=	0	TO	0
BAND7	=	0	TO	0
BAND8	=	0	TO	0
BAND9	=	0	TO	0
BAND10	=	208	TO	9999999

**GAYLORD**

INTERCHANGE VALUES FROM ZONE 392 TO ALL OTHER ZONES

TABLES NUMBER 101

GAYLORD

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
8	0	0	0	0	143	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	143	0
16	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	142
35	0	0	0	0	572	0	0	0	0	0
36	858	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	143	0	0	0	0	428
49	0	0	0	0	286	0	0	0	0	0
52	0	0	0	0	0	143	0	0	0	0
54	0	0	0	0	285	0	0	0	0	0
TOTAL	3714				MEAN	6,790				

8JUL77 TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	F.C.	CUM.	ACTUAL
1	0.000	0.000	0
2	0.000	0.000	0
3	0.000	0.000	0
4	0.000	0.000	0
5	0.000	0.000	0
6	0.000	0.000	0
7	0.000	0.000	0
8	0.000	0.000	0
9	0.000	0.000	0
10	0.000	0.000	0
11	0.000	0.000	0
12	0.000	0.000	0
13	0.000	0.000	0
14	3.850	3.850	143
15	11.524	15.374	425
16	0.000	15.374	0
17	0.000	15.374	0
18	0.000	15.374	0
19	3.850	19.225	143
20	15.401	34.626	571
21	0.000	34.626	0
22	0.000	34.626	0
23	11.524	46.150	425
24	0.000	46.150	0
25	26.952	73.102	1001
26	0.000	73.102	0
27	7.701	80.802	286
28	0.000	80.802	0
29	0.000	80.802	0
30	0.000	80.802	0
31	0.000	80.802	0
32	0.000	80.802	0
33	0.000	80.802	0
34	0.000	80.802	0
35	0.000	80.802	0
36	0.000	80.802	0
37	0.000	80.802	0
38	0.000	80.802	0
39	0.000	80.802	0
40	0.000	80.802	0
41	0.000	80.802	0
42	0.000	80.802	0
43	0.000	80.802	0
44	3.823	84.625	142
45	0.000	84.625	0
46	0.000	84.625	0
47	0.000	84.625	0
48	0.000	84.625	0
49	0.000	84.625	0
50	0.000	84.625	0
51	3.850	88.475	143
52	0.000	88.475	0
53	0.000	88.475	0
54	0.000	88.475	0
55	0.000	88.475	0
56	0.000	88.475	0
57	0.000	88.475	0
58	0.000	88.475	0
59	0.000	88.475	0
60	0.000	88.475	0
61	0.000	88.475	0
62	3.850	92.325	143
63	0.000	92.325	0
64	0.000	92.325	0
65	0.000	92.325	0
66	0.000	92.325	0
67	0.000	92.325	0
68	0.000	92.325	0
69	0.000	92.325	0
70	0.000	92.325	0
71	0.000	92.325	0
72	0.000	92.325	0
73	0.000	92.325	0
74	0.000	92.325	0
75	0.000	92.325	0
76	0.000	92.325	0
77	0.000	92.325	0
78	0.000	92.325	0
79	0.000	92.325	0
80	0.000	92.325	0
81	0.000	92.325	0
82	0.000	92.325	0
83	7.674	100.000	285

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS = 3714      SUM = 107803      MEAN = 29.026      VAR = 356.588      SUR = 18.884

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

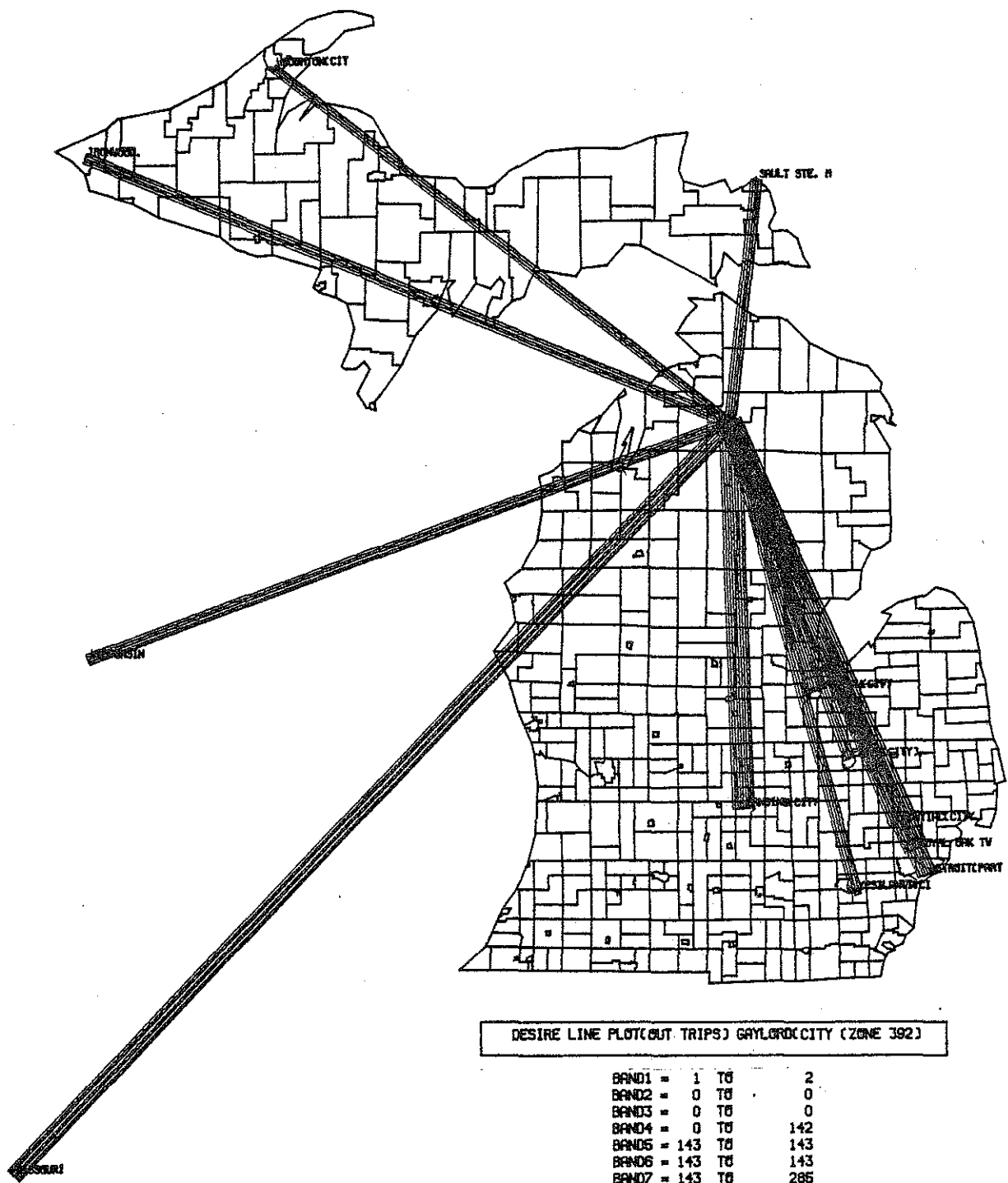
GAYLORD-ZONE 392

ORIGIN IS 392 - GAYLORD(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
ROYAL OAK TWP, AND THE F	1	0	1	1	3	0	0
LANSING(CITY),E.LANSING(C	0	0	3	0	1	0	0
PONTIAC(CITY).	1	0	0	1	0	0	1
SAGINAW(CITY).	1	0	0	1	0	0	1
DETROIT(PART 1 OF 3), EA	0	0	0	1	0	0	1
MISSOURI	0	0	0	0	0	2	0
SAULT STE. MARIE, SUGAR	1	0	0	0	0	0	0
HOUGHTON(CITY).	0	0	0	0	0	0	1
YPSILANTI(CITY).	1	0	0	0	0	0	0
FLINT(CITY).	0	0	0	0	0	0	1
WISCONSIN	0	0	0	0	1	0	0
IRONWOOD,	0	0	0	0	0	0	1
REMAINDER	0	0	0	0	0	0	0
TOTAL	5	0	4	4	5	2	6



DESIRE LINE PLOT(OUT TRIPS) GAYLORD(CITY (ZONE 392)

BAND1	=	1	TO	2
BAND2	=	0	TO	0
BAND3	=	0	TO	0
BAND4	=	0	TO	142
BAND5	=	143	TO	143
BAND6	=	143	TO	143
BAND7	=	143	TO	265
BAND8	=	266	TO	428
BAND9	=	428	TO	572
BAND10	=	858	TO	9999998

# GRAND RAPIDS



INTERCHANGE VALUES FROM ZONE 236 TO ALL OTHER ZONES

TABLES NUMBER 101

GRAND RAPIDS

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	429
1	0	0	428	286	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	286
3	0	0	0	0	0	0	0	3571	0	0
4	0	0	0	143	0	286	0	0	142	0
5	0	0	0	0	0	2143	0	0	0	0
6	0	0	0	0	0	0	0	286	429	0
7	0	0	0	0	0	285	0	0	0	0
8	143	0	0	0	0	0	0	0	0	0
10	0	286	0	143	0	0	0	0	0	0
12	0	0	0	0	571	0	0	0	0	0
13	143	0	0	0	0	0	143	0	3143	0
15	0	2285	0	0	0	0	0	0	0	0
18	0	143	0	17429	0	0	0	0	0	0
19	0	0	1714	0	0	0	0	0	0	0
20	0	0	0	0	143	0	0	0	0	0
21	286	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	14428	0	0	0
23	0	0	0	0	0	0	0	143	286	0
24	0	0	0	0	143	143	0	0	0	0
25	0	0	285	0	0	0	0	0	143	0
26	0	0	286	0	0	143	0	0	0	0
27	0	286	0	0	0	285	0	0	0	0
28	143	0	0	0	286	0	0	0	0	0
29	0	428	0	0	0	143	0	0	0	0
30	0	0	143	0	0	0	143	0	0	0
31	143	0	0	0	0	286	1714	0	0	0
32	0	0	0	286	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	571
34	0	0	7429	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	857	5571
36	286	0	286	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	142	0	0
38	0	0	0	0	0	0	0	1143	0	0
39	0	0	0	0	0	10857	0	0	0	715
40	0	0	0	714	0	0	0	0	0	1000
43	0	0	0	143	0	0	0	0	0	0
44	0	143	143	0	0	0	0	0	0	0
45	0	0	285	143	0	0	0	0	0	572
47	0	857	0	0	0	0	0	0	0	5857
48	0	0	0	428	0	0	0	0	0	0
49	0	0	0	14858	142	0	0	0	0	0
50	0	0	0	0	0	143	0	0	286	0
51	0	714	0	0	0	0	0	0	0	0
52	0	0	0	1143	572	13000	1142	0	1000	0
53	0	0	1000	4572	1000	0	0	571	1143	429
54	285	1000	4572	7571	4429	1143	428	1143		

TOTAL = 156857

MEAN = 286,759

11JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	F, C.	CUM.	AC
1	0,000	0,000	
2	0,091	0,091	
3	0,182	0,273	
4	0,638	0,911	
5	9,107	10,018	
6	5,101	15,119	
7	10,837	25,956	
8	11,111	37,066	
9	2,460	39,527	
10	2,459	41,986	
11	0,566	42,552	
12	1,002	43,555	
13	0,910	44,465	
14	5,738	50,203	
15	4,007	54,210	
16	5,736	59,947	
17	0,455	60,402	
18	10,292	70,694	
19	2,368	73,062	
20	1,093	74,155	
21	0,364	74,519	
22	0,000	74,519	
23	0,691	75,210	
24	9,198	84,408	
25	1,002	85,410	
26	0,000	85,410	
27	0,091	85,501	
28	0,000	85,501	
29	0,000	85,501	
30	0,182	85,683	
31	0,000	85,683	
32	0,182	85,865	
33	0,000	85,865	
34	0,000	85,865	
35	0,000	85,865	
36	0,000	85,865	
37	0,729	86,594	
38	0,455	87,049	
39	0,000	87,049	
40	0,000	87,049	
41	0,000	87,049	
42	2,915	89,964	
43	0,000	89,964	
44	0,000	89,964	
45	0,000	89,964	
46	0,273	89,237	
47	0,456	90,072	
48	0,729	90,801	
49	0,638	91,439	
50	0,000	91,439	
51	0,182	91,621	
52	0,000	91,621	
53	0,000	91,621	
54	2,824	94,445	
55	0,000	94,445	
56	0,000	94,445	
57	0,000	94,445	
58	0,000	94,445	
59	0,000	94,445	
60	0,000	94,445	
61	0,000	94,445	
62	4,827	99,271	
63	0,000	99,271	
64	0,000	99,271	
65	0,000	99,271	
66	0,000	99,271	
67	0,000	99,271	
68	0,000	99,271	
69	0,000	99,271	
70	0,000	99,271	
71	0,000	99,271	
72	0,729	100,000	

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS= 156857

SUM= 2919599.

MEAN= 18,613

VAR= 251,755

SD=

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

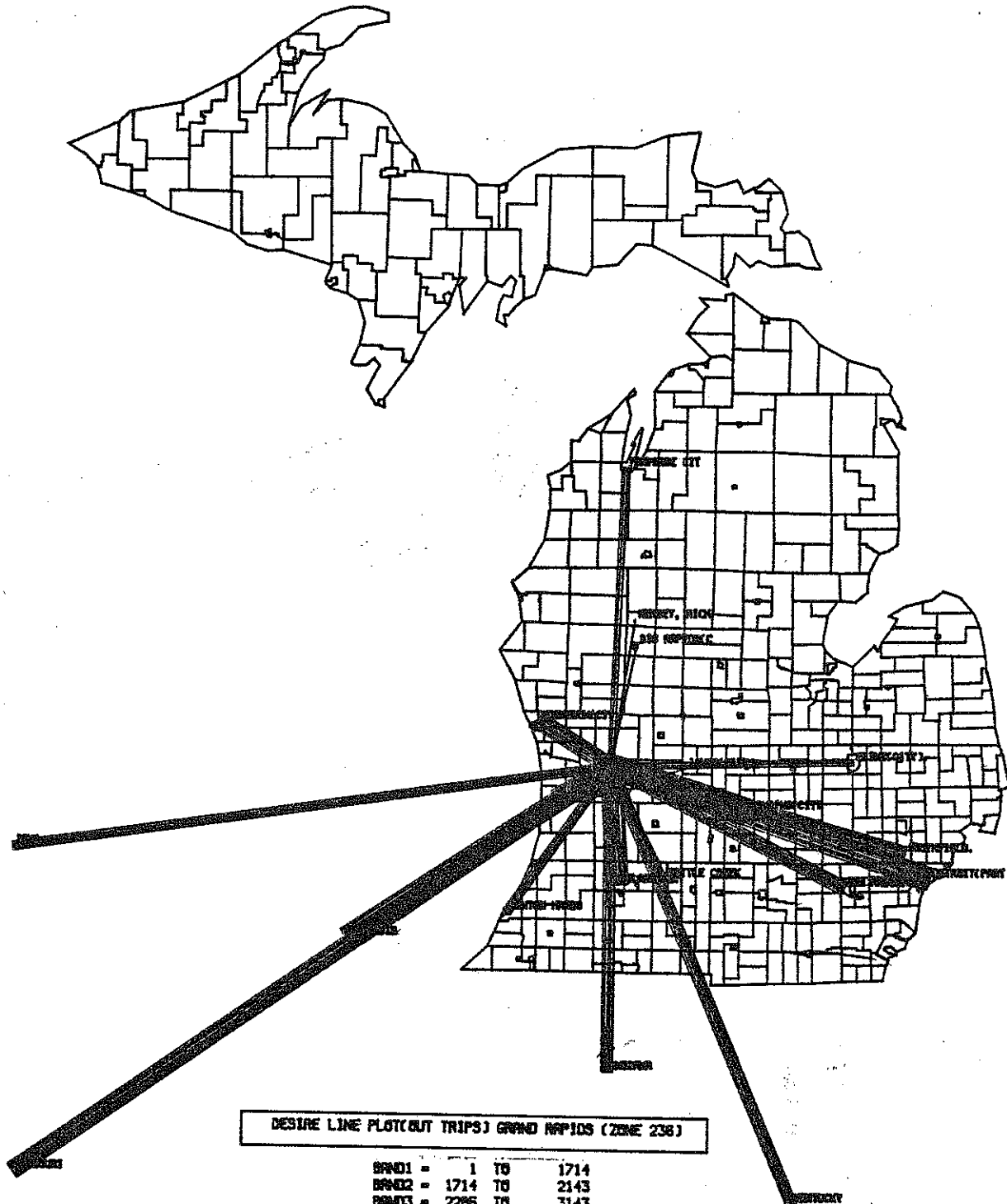
GRAND RAPIDS-ZONE 236

ORGIN IS 236 - GRAND RAPIDS(CITY).

BUS TICKET SURVEY

PCT= 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
LANSING(CITY),E,LANSING(C	20	7	9	16	23	17	30
DETROIT(PART 1 OF 3), EA	11	8	13	14	34	11	15
KALAMAZOO,	8	15	6	17	26	17	12
ILLINOIS	13	6	11	15	22	13	11
HOLLAND(CITY).	4	5	7	7	16	31	6
MISSOURI	8	8	6	13	6	10	2
MUSKEGON(CITY).	13	8	3	6	15	4	3
ANN ARBOR(CITY).	5	3	6	9	10	4	4
SOUTHFIELD.	4	1	2	1	22	6	3
INDIANA	1	2	7	5	7	3	7
KENTUCKY	2	8	4	3	9	4	2
IOWA	7	2	0	9	7	1	5
BENTON HARBOR(CITY),ST.J	4	2	6	3	6	1	3
FLINT(CITY).	6	0	1	2	7	4	2
TRAVERSE CITY(CITY)ANDPE	1	4	3	0	2	1	5
REMAINDER	23	43	27	41	74	26	27
TOTAL	130	122	111	161	286	153	135



DESIRE LINE PLOT(OUT TRIPS) GRAND RAPIDS (ZONE 238)

BRAND1	=	1	TO	1714
BRAND2	=	1714	TO	2143
BRAND3	=	2286	TO	3143
BRAND4	=	3871	TO	4428
BRAND5	=	4572	TO	4572
BRAND6	=	5671	TO	5957
BRAND7	=	7428	TO	7571
BRAND8	=	10867	TO	13000
BRAND9	=	14428	TO	14858
BRAND10	=	17428	TO	88888888

**HOUGHTON**

-

**HANCOCK**

INTERCHANGE VALUES FROM ZONE 169 TO ALL OTHER ZONES

TABLES NUMBER 101

HOUGHTON - HANCOCK

	0	1	2	3	4	5	6	7	8	9
0		0	0	0	0	0	0	0	0	0
2	0	0	429	0	142	0	0	0	0	143
3	0	0	0	0	0	143	0	0	0	0
8	0	0	0	286	0	0	0	0	0	0
10	0	0	0	286	0	0	0	0	0	0
14	0	0	0	0	0	0	1000	0	0	0
15	0	285	0	0	0	0	0	0	0	0
17	715	0	0	0	0	0	0	0	0	0
18	0	0	0	142	0	0	0	0	0	0
21	143	0	0	0	0	0	286	0	0	0
27	0	0	0	0	0	286	0	0	0	0
29	0	0	0	0	0	2857	0	0	0	1143
35	0	0	0	0	0	0	0	0	143	0
36	285	0	0	0	0	0	0	0	0	0
38	0	0	0	143	429	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
49	0	0	0	714	0	0	0	0	0	143
52	0	0	0	286	428	286	428	0	0	0
54	0	0	143	143	429	428	0	0	0	0

TOTAL # 12714

MEAN # 23,243

	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	P.C.	CUM.	ACTUAL
1.																						0.000	0.000	0
2.																						0.000	0.000	0
3.....																						5.624	5.624	715
4.																						0.000	5.624	0
5.																						0.000	5.624	0
6.....																						3.374	8.998	429
7.....																						3.374	12.372	429
8.....																						2.242	14.614	285
9.																						0.000	14.614	0
10.																						0.000	14.614	0
11.																						0.000	14.614	0
12.																						0.000	14.614	0
13.																						0.000	14.614	0
14.....																						8.990	23.604	1143
15.....																						22.471	46.075	2857
16.....																						7.865	53.941	1000
17.																						0.000	53.941	0
18.																						0.000	53.941	0
19.																						0.000	53.941	0
20.																						0.000	53.941	0
21.																						0.000	53.941	0
22.																						0.000	53.941	0
23.....																						2.249	56.190	286
24.																						0.000	56.190	0
25.																						0.000	56.190	0
26.																						0.000	56.190	0
27.																						0.000	56.190	0
28.																						0.000	56.190	0
29.																						0.000	56.190	0
30.																						0.000	56.190	0
31.																						0.000	56.190	0
32.																						0.000	56.190	0
33.																						0.000	56.190	0
34.																						0.000	56.190	0
35.																						0.000	56.190	0
36.																						0.000	56.190	0
37.....																						2.249	58.440	286
38.																						0.000	58.440	0
39.																						0.000	58.440	0
40.																						0.000	58.440	0
41.																						0.000	58.440	0
42.																						0.000	58.440	0
43.....																						3.366	61.806	428
44.																						0.000	61.806	0
45.																						0.000	61.806	0
46.																						0.000	61.806	0
47.																						0.000	61.806	0
48.																						0.000	61.806	0
49.....																						2.249	64.055	286
50.....																						3.366	67.422	428
51.....																						2.242	69.663	285
52.																						0.000	69.663	0
53.																						0.000	69.663	0
54.																						0.000	69.663	0
55.....																						2.249	71.913	286
56.....																						1.125	73.038	143
57.....																						1.125	74.162	143
58.....																						2.249	76.412	286
59.																						0.000	76.412	0
60.																						0.000	76.412	0
61.																						0.000	76.412	0
62.....																						1.117	77.529	142
63.																						0.000	77.529	0
64.....																						2.249	79.778	286
65.....																						4.491	84.269	571
66.....																						4.491	88.760	571
67.																						0.000	88.760	0
68.....																						5.616	94.376	714
69.																						0.000	94.376	0
70.....																						3.374	97.751	429
71.																						0.000	97.751	0
72.																						0.000	97.751	0
73.																						0.000	97.751	0
74.																						0.000	97.751	0
75.																						0.000	97.751	0
76.																						0.000	97.751	0
77.																						0.000	97.751	0
78.																						0.000	97.751	0
79.																						0.000	97.751	0
80.																						0.000	97.751	0
81.																						0.000	97.751	0
82.																						0.000	97.751	0
83.																						0.000	97.751	0
84.																						0.000	97.751	0
85.....																						1.125	98.875	143
86.																						0.000	98.875	0
87.																						0.000	98.875	0
88.																						0.000	98.875	0
89.....																						1.125	100.000	143

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS= 12714      SUM= 424222.      MEAN= 33.367      VAR= 612.571      SD= 24.750

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

HOUGHTON-HANCOCK-ZONE 169

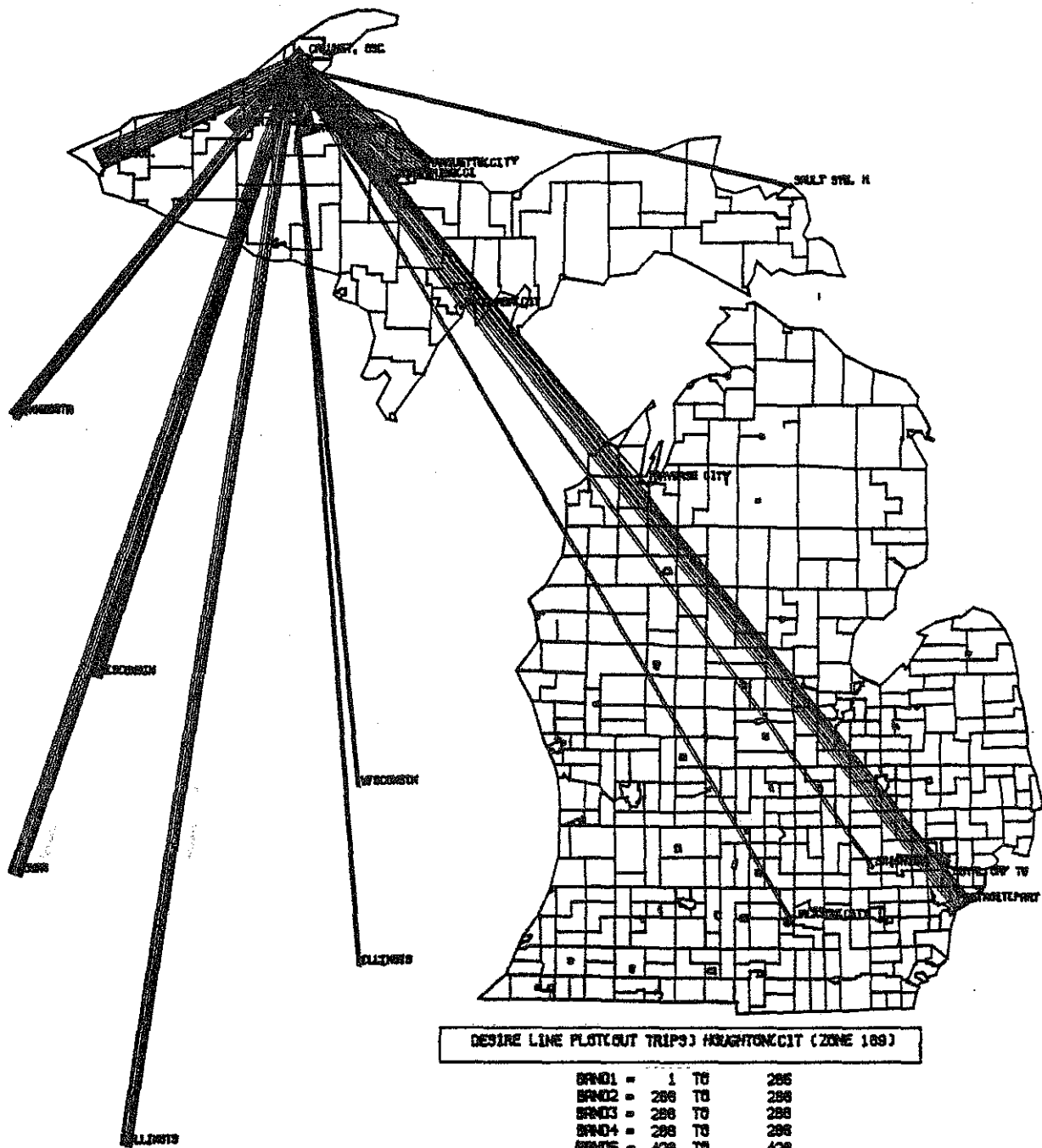
ORIGIN IS 169 - HOUGHTON(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
MARQUETTE(CITY).	8	0	0	7	1	4	0
ISHPEMING(CITY).	2	0	0	1	0	5	0
IRONWOOD.	3	0	0	2	2	0	0
DETROIT(PART 1 OF 3), EA	0	0	0	4	0	1	0
CALUMET, OSCEOLA, SCHOOL	0	0	0	0	0	5	0
MINNESOTA	1	0	0	1	0	1	0
BOHEMIA, GREENLAND, ROCK	1	0	0	0	2	0	0
IOWA	0	0	0	1	0	2	0
WISCONSIN	0	0	0	1	0	2	0
ARVON, LANSE.	0	0	0	0	0	3	0
ILLINOIS	0	2	0	0	1	0	0
JACKSON(CITY).	0	0	0	0	2	0	0
BRIGHTON, GENOA.	0	2	0	0	0	0	0
WISCONSIN	0	0	0	1	0	1	0
TRAVERSE CITY(CITY)ANDPE	0	0	0	1	1	0	0
REMAINDER	5	2	1	6	3	1	0
TOTAL	20	6	1	25	12	25	0





**IRON MOUNTAIN**

INTERCHANGE VALUES FROM ZONE 109 TO ALL OTHER ZONES

TABLES NUMBER 101

IRON MOUNTAIN

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
2	0		0	0	0	0	0	0	0	0
8	0		0	0	0	0	0	0	0	143
9	143		0	0	0	0	0	0	0	143
10	0	142		0	572	0	0	0	0	0
11	0		0	286	0	0	0	0	0	0
14	0		0	0	0	0	285	0	0	143
16	0		0	0	0	0	0	0	0	286
28	143		0	0	0	0	0	0	0	0
35	0		0	0	0	0	0	0	285	0
49	0		0	0	286	0	0	0	0	0
52	0		0	0	143	0	1286	0	0	0
54	0		0	0	0	571	0	0	0	0
TOTAL #	4857				MEAN #	8.879				

8JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	FREQUENCY	P.C.	CUM.
0	0	0.000	0.000
1	0	0.000	0.000
2	0	0.000	0.000
3	0	0.000	0.000
4	0	0.000	0.000
5	0	0.000	0.000
6	0	0.000	0.000
7	0	0.000	0.000
8	0	0.000	0.000
9	0	0.000	0.000
10	0	0.000	0.000
11	0	0.000	0.000
12	0	0.000	0.000
13	0	0.000	0.000
14	0	0.000	0.000
15	0	0.000	0.000
16	0	0.000	0.000
17	0	0.000	0.000
18	0	0.000	0.000
19	0	0.000	0.000
20	0	0.000	0.000
21	0	0.000	0.000
22	0	0.000	0.000
23	0	0.000	0.000
24	0	0.000	0.000
25	0	0.000	0.000
26	0	0.000	0.000
27	0	0.000	0.000
28	0	0.000	0.000
29	0	0.000	0.000
30	0	0.000	0.000
31	0	0.000	0.000
32	0	0.000	0.000
33	0	0.000	0.000
34	0	0.000	0.000
35	0	0.000	0.000
36	0	0.000	0.000
37	0	0.000	0.000
38	0	0.000	0.000
39	0	0.000	0.000
40	0	0.000	0.000
41	0	0.000	0.000
42	0	0.000	0.000
43	0	0.000	0.000
44	0	0.000	0.000
45	0	0.000	0.000
46	0	0.000	0.000
47	0	0.000	0.000
48	0	0.000	0.000
49	0	0.000	0.000
50	0	0.000	0.000
51	0	0.000	0.000
52	0	0.000	0.000
53	0	0.000	0.000
54	0	0.000	0.000
55	0	0.000	0.000
56	0	0.000	0.000
57	0	0.000	0.000

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS: 4857

SUM= 164971      MEAN= 33.966      VAR= 311.458      SD= 17.648

TOTAL TRIPS OVER MAXP \* 0  
 TOTAL TRIPS OVER 255 \* 0  
 VOLUME TABLE NUMBER \* 201  
 SKIN TREE NUMBER \* 101

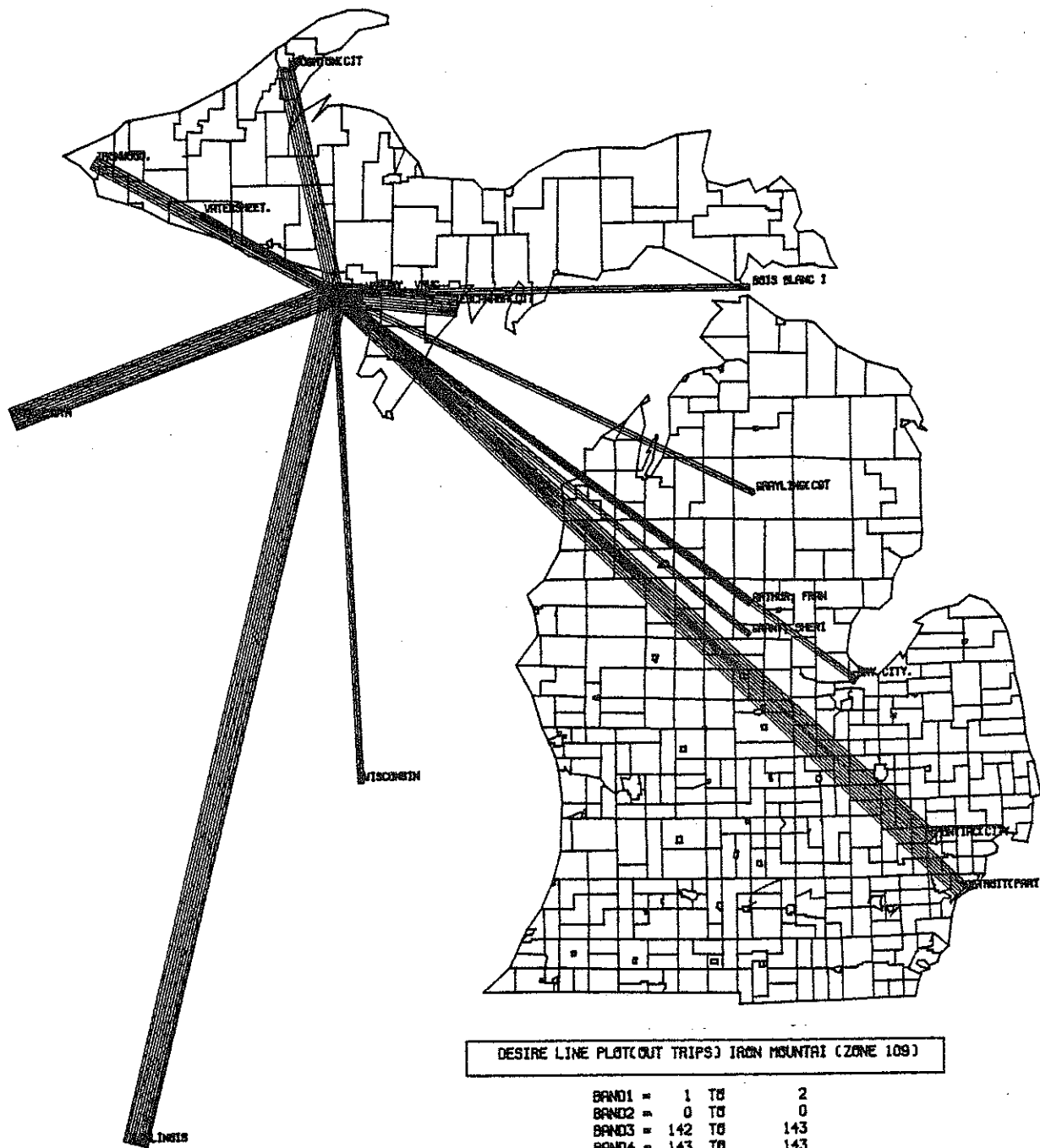
IRON MOUNTAIN-ZONE 109

ORIGIN IS 109 - IRON MOUNTAIN(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
ILLINOIS	1	3	0	4	0	0	1
ESCANABA(CITY).	0	1	0	0	1	2	0
MINNESOTA	1	1	1	1	0	0	0
NORWAY, WAUCEDAH,	0	0	1	0	1	0	0
IRONWOOD.	1	0	0	0	1	0	0
HOUGHTON(CITY).	0	0	0	0	1	0	1
PONTIAC(CITY).	0	1	0	0	0	1	0
DETROIT(PART 1 OF 3), EA	0	1	0	0	0	0	1
GRAYLING(CITY).	0	0	0	0	1	0	0
BOIS BLANC ISLAND, ST.IG	0	0	0	0	0	1	0
GRANT, SHERIDAN.	0	0	1	0	0	0	0
WATERSMEET.	0	0	0	0	1	0	0
WISCONSIN	1	0	0	0	0	0	0
BAY CITY.	0	1	0	0	0	0	0
ARTHUR, FRANKLIN, FROST,	0	0	0	0	0	0	1
REMAINDER	0	0	0	0	0	0	0
TOTAL	4	8	3	5	6	4	4



DESIRE LINE PLOT(OUT TRIPS) IRON MOUNTAI (ZONE 109)

BAND1 =	1 TO	2
BAND2 =	0 TO	0
BAND3 =	142 TO	143
BAND4 =	143 TO	143
BAND5 =	143 TO	143
BAND6 =	143 TO	286
BAND7 =	286 TO	286
BAND8 =	286 TO	286
BAND9 =	571 TO	572
BAND10 =	1286 TO	9999999

**JACKSON**

INTERCHANGE VALUES FROM ZONE 216 TO ALL OTHER ZONES

TABLES NUMBER 101

JACKSON

	0	1	2	3	4	5	6	7	8	9
0			0		0		0		0	
3		0	0		0		0	429	0	0
4	0		0		0		0	0	0	0
5	0		0		0	142	0	0	0	0
6	0		0		0	5856	0	0	0	0
8	0		0		0	0	3285	0	0	0
10	0	285	0	286	0	0	0	0	0	429
12	0		0		0		0	0	0	0
15	0	143	0		143	0	0	0	1429	0
18	0		0		0		0	0	0	0
19	0		0	5143	0	0	428	0	0	0
21	428		143		0	0	143	0	0	0
22	0		0		0		0	0	143	0
23	0		0		0		1000	0	0	0
26	0		286		0		2000	0	0	0
28	0		0		0	143	0	0	0	0
29	0	286	0		142	0	0	0	0	0
34	0		1143		0	0	0	0	0	0
35	0		0		0		0	0	0	0
36	143		0		0		0	0	143	0
39	0		143		0		0	0	0	0
40	0		0		0		0	0	0	0
45	0		0		0		0	285	0	0
47	0		0		0		0	0	0	143
48	0		0		0		0	0	0	5857
49	143		0	1857	0	0	0	0	0	0
50	857	429	143	8143	572	0	0	428	0	0
52	0		0		0		0	0	0	0
53	0		286		0	1285	143	0	143	0
54	0		1715	1000	857	0	0	857	428	0

TOTAL = 31000

MEAN = 93,236



0JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	FREQ	P.C.	CUM.	AL
1	0	0.280	0.280	100
2	0	0.000	0.280	100
3	7	7.002	7.282	357
4	0	0.561	7.843	70
5	215	21.569	29.412	119
6	158	15.868	45.100	600
7	1	1.680	46.780	0
8	5	5.043	51.824	257
9	0	0.000	51.824	0
10	18	18.208	70.031	400
11	4	4.202	74.233	210
12	0	0.839	75.073	0
13	5	5.882	80.955	300
14	0	0.839	81.794	0
15	1	1.120	82.914	50
16	0	0.000	82.914	0
17	2	2.241	85.155	110
18	0	0.000	85.155	0
19	0	0.559	85.714	20
20	0	0.000	85.714	0
21	0	0.559	86.273	20
22	0	0.280	86.553	10
23	0	0.561	87.114	20
24	0	0.000	87.114	0
25	0	0.000	87.114	0
26	0	0.561	87.675	20
27	2	2.800	90.475	100
28	0	0.280	90.755	10
29	0	0.000	90.755	0
30	0	0.000	90.755	0
31	0	0.000	90.755	0
32	3	3.363	94.118	170
33	0	0.000	94.118	0
34	0	0.000	94.118	0
35	0	0.839	94.957	0
36	0	0.561	95.518	20
37	0	0.000	95.518	0
38	0	0.000	95.518	0
39	0	0.000	95.518	0
40	0	0.841	96.359	40
41	0	0.000	96.359	0
42	0	0.000	96.359	0
43	0	0.000	96.359	0
44	0	0.000	96.359	0
45	0	0.000	96.359	0
46	0	0.000	96.359	0
47	0	0.000	96.359	0
48	0	0.000	96.359	0
49	0	0.000	96.359	0
50	0	0.000	96.359	0
51	0	0.000	96.359	0
52	0	0.000	96.359	0
53	0	0.000	96.359	0
54	0	0.000	96.359	0
55	0	0.000	96.359	0
56	0	0.000	96.359	0
57	1	1.680	98.039	0
58	0	0.000	98.039	0
59	0	0.000	98.039	0
60	0	0.000	98.039	0
61	0	0.000	98.039	0
62	0	0.000	98.039	0
63	0	0.000	98.039	0
64	0	0.000	98.039	0
65	0	0.000	98.039	0

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS= 51000      SUM= 618423      MEAN= 12.126      VAR= 151.945      SUM 140

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

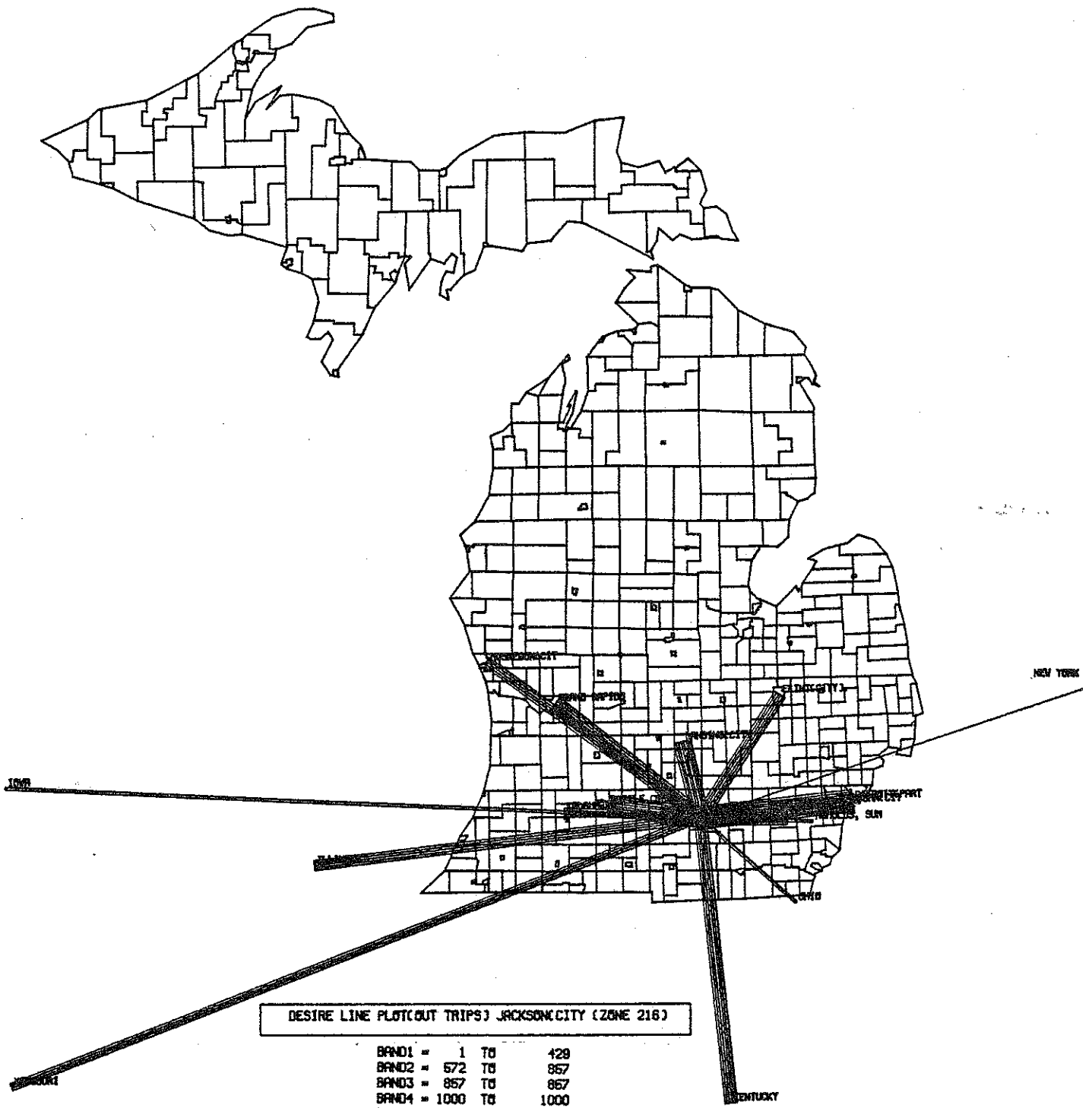
JACKSON-ZONE 216

ORGIN IS 216 = JACKSON(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
DETROIT(PART 1 OF 3), EA	15	7	6	5	8	16	0
BATTLE CREEK(CITY).	1	2	30	1	3	4	0
ANN ARBOR(CITY).	4	5	2	4	6	20	0
LANSING(CITY),E.LANSING(C	6	6	2	3	9	10	0
ALHION(CITY).	6	3	4	2	3	5	0
GRAND RAPIDS(CITY).	1	6	2	0	3	2	0
YPSILANTI(CITY).	1	0	1	4	2	5	0
KENTUCKY	2	0	0	4	1	5	0
FLINT(CITY).	1	2	2	1	2	2	0
ILLINOIS	1	2	0	1	0	5	0
MUSKEGON(CITY).	3	0	0	0	3	2	0
KALAMAZOO.	4	1	0	0	1	1	0
MISSOURI	0	0	2	1	3	1	0
OHIO	1	0	1	0	3	1	0
ROMULUS, SUMPTER, VAN BU	0	0	0	1	2	3	0
REMAINDER	10	8	11	7	21	10	0
TOTAL	56	42	63	34	70	92	0



DESIRE LINE PLOT(OUT TRIPS) JACKSON CITY (ZONE 216)

BAND1	=	1	TO	429
BAND2	=	572	TO	857
BAND3	=	857	TO	857
BAND4	=	1000	TO	1000
BAND5	=	1143	TO	1285
BAND6	=	1429	TO	1715
BAND7	=	1857	TO	2000
BAND8	=	3285	TO	5143
BAND9	=	5857	TO	5858
BAND10	=	8143	TO	9999999

**KALAMAZOO**

INTERCHANGE VALUES FROM ZONE 226 TO ALL OTHER ZONES

TABLES NUMBER 101

KALAMAZOO

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	714
1	0		143	143	0	0	0	0	0	0
2	0		0	0	0	0	0	0	0	143
3	0		0	0	143	0	0	5428	0	0
4	715		0	0	0	428	0	0	0	0
5	0		0	0	0	9000	0	0	1857	0
6	0		0	0	0	0	1572	571	1143	0
7	0		0	0	0	143	0	0	0	0
10	0	143		0	0	0	0	0	0	0
12	0		0	0	285	0	0	0	2858	0
15	0	428		0	0	0	0	0	0	0
17	0		0	143	0	0	0	0	0	0
18	0		0	11143	0	0	0	0	0	0
20	0		0	0	143	0	0	0	0	0
21	285		0	0	0	0	1429	0	0	0
22	0		0	0	0	0	0	0	143	143
23	143		0	571	0	0	9429	0	0	0
25	0		0	0	0	0	0	0	142	0
26	0		143	0	0	0	0	0	0	0
27	0		286	0	0	0	0	0	0	0
28	0		0	0	143	0	0	0	0	0
30	0		286	142	0	0	572	0	0	0
33	0		0	0	0	0	0	0	0	143
34	0		1857	0	0	0	0	0	0	0
35	143		0	0	0	0	0	0	571	143
37	0		0	0	0	0	0	143	0	143
38	0		0	0	0	0	0	571	0	0
39	0		143	0	0	1714	0	0	0	0
40	0		0	0	0	0	0	286	0	1000
42	143		0	0	0	0	0	0	0	0
43	0		0	1143	0	0	0	0	0	0
45	0		285	0	0	0	0	143	0	429
47	0		286	1000	0	0	0	0	2714	4428
48	0		0	572	0	0	0	0	0	0
49	143		0	7000	143	0	0	142	0	0
50	0	286		0	0	143	0	0	0	0
51	0	571		0	0	0	0	0	0	0
52	0		0	715	714	5143	1143	0	857	0
53	0		143	3285	858	0	0	285	572	428
54	143	143	857	1286	2428	858	142	429		

TOTAL \* 98000

MEAN #

179.159

8JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	P.C.	CUM.
1																					0.000	0.000
2																					0.146	0.146
3																					2.915	3.061
4																					13.119	16.181
5																					1.895	18.076
6																					2.480	20.556
7																					16.617	37.172
8																					3.644	40.816
9																					11.370	52.187
10																					3.644	55.831
11																					2.041	57.871
12																					4.810	62.682
13																					2.615	65.307
14																					1.167	66.474
15																					4.664	71.139
16																					0.438	71.577
17																					4.619	81.196
18																					1.458	82.654
19																					0.291	82.945
20																					0.728	83.672
21																					5.978	89.650
22																					0.000	89.650
23																					0.292	89.942
24																					0.000	89.942
25																					0.729	90.670
26																					0.000	90.670
27																					0.000	90.670
28																					0.146	90.816
29																					0.583	91.399
30																					0.000	91.399
31																					0.000	91.399
32																					0.000	91.399
33																					0.730	92.129
34																					0.146	92.274
35																					0.000	92.274
36																					0.000	92.274
37																					0.000	92.274
38																					0.874	93.149
39																					0.000	93.149
40																					0.000	93.149
41																					0.000	93.149
42																					0.145	93.294
43																					0.583	93.877
44																					0.729	94.605
45																					0.000	94.605
46																					0.146	94.751
47																					0.438	95.189
48																					0.000	95.189
49																					0.000	95.189
50																					0.000	95.189
51																					2.478	97.666
52																					0.000	97.666
53																					0.000	97.666
54																					0.000	97.666
55																					0.000	97.666
56																					0.000	97.666
57																					0.000	97.666
58																					0.000	97.666
59																					1.312	98.979
60																					0.000	98.979
61																					0.000	98.979
62																					0.000	98.979
63																					0.000	98.979
64																					0.000	98.979
65																					0.000	98.979
66																					0.000	98.979
67																					0.000	98.979
68																					0.000	98.979
69																					0.876	99.854
70																					0.000	99.854
71																					0.146	100.000

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS# 98000

SUM# 1358591

MEAN# 13.863

VAR# 159.209

SD#

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

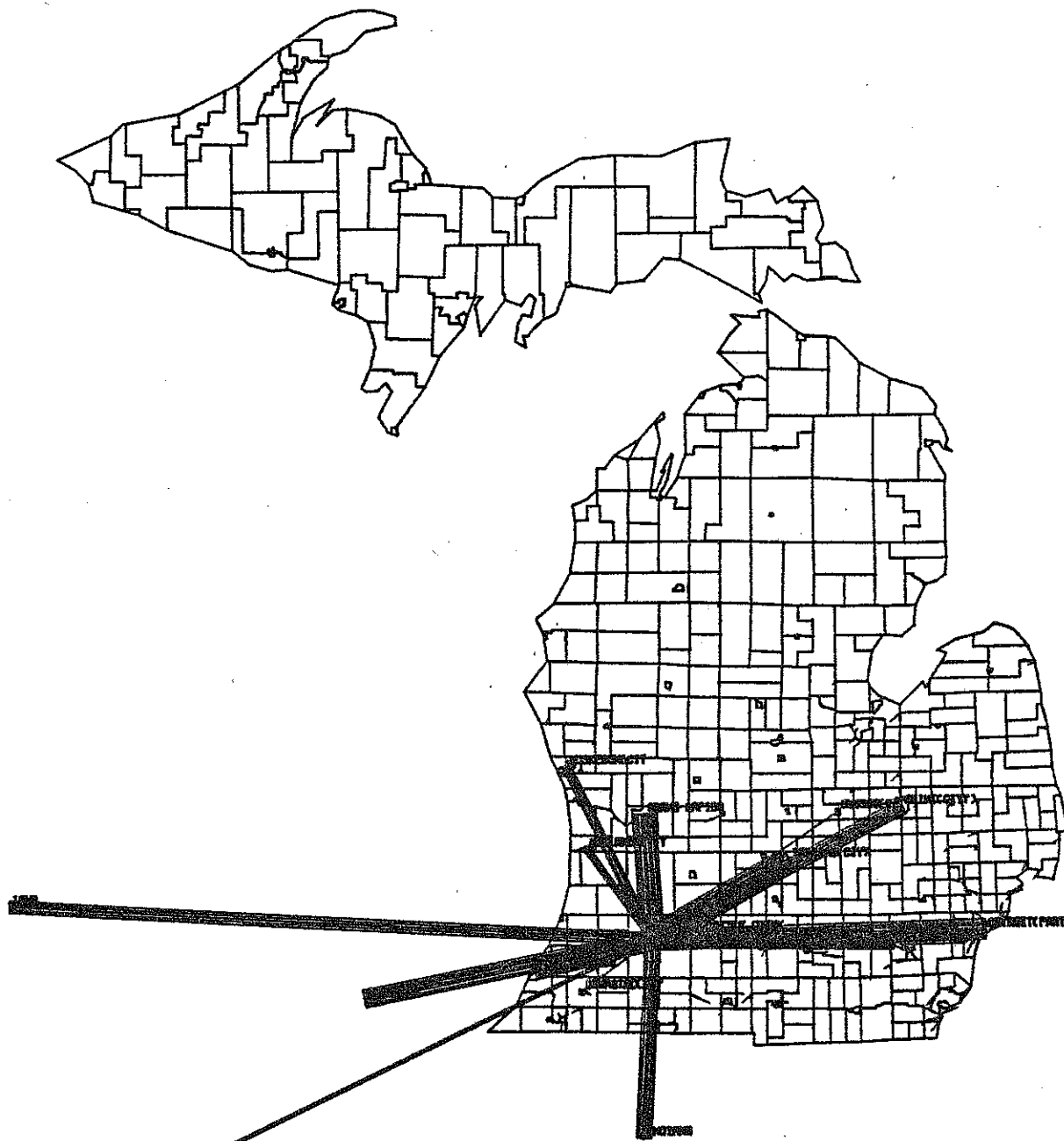
KALAMAZOO-ZONE 226

ORIGIN IS 226 - KALAMAZOO.

BUS TICKET SURVEY

PCT# 0

DESTINATIONS .....	5/ 9/77 .....	5/10/77 .....	5/11/77 .....	5/12/77 .....	5/13/77 .....	5/14/77 .....	5/15/77 .....
LANSING(CITY),E,LANSING(C	15	7	7	2	21	11	15
GRAND RAPIDS(CITY).	9	6	10	10	18	7	6
BATTLE CREEK(CITY).	6	10	2	12	12	12	9
DETROIT(PART 1 OF 3), EA	4	4	11	7	11	6	6
BENTON HARBOR(CITY),ST,J	2	1	5	5	17	4	4
ILLINOIS	5	9	3	3	9	4	3
ANN ARBOR(CITY).	3	2	3	7	10	1	5
INDIANA	1	1	1	6	6	4	4
FLINT(CITY).	1	1	2	5	7	2	2
ALHENA, PAW PAW, WAVERLY	3	4	3	4	4	1	0
IOWA	0	6	3	3	5	0	0
BATTLE CREEK,	1	0	3	1	2	5	1
MUSKEGON(CITY).	1	1	1	0	6	4	0
HOLLAND(CITY).	0	2	2	3	3	2	0
ALBION(CITY).	1	1	4	1	0	1	3
REMAINDER	25	30	17	28	38	37	22
TOTAL	77	85	77	97	169	101	80



DESIRE-LINE PLANTOUT TRIPS - KILORAZOB. (ZONE 226)

BRND1	=	1	TO	1143
BRND2	=	1298	TO	1429
BRND3	=	1672	TO	1714
BRND4	=	1857	TO	1857
BRND5	=	2428	TO	2714
BRND6	=	2858	TO	3285
BRND7	=	4428	TO	5143
BRND8	=	5428	TO	7000
BRND9	=	8000	TO	8428
BRND10	=	11443	TO	9999999



**L'ANSE**

INTERCHANGE VALUES FROM ZONE 22 TO ALL OTHER ZONES TABLES NUMBER 101

	0	1	2	3	4	5	6	7	8	9
0			0		0	0		0		0
2	0	0	0		286	0		0		0
10	0	0	0		143	0		0		0
29	0	0	0		0	0	285	0		0
35	0	0	0		0	0	0	0		0
40	0	0	0		0	0	0	0	143	0
52	0	0	0		0	286	285	0	0	143
TOTAL #	1571									
MEAN #						2,872				

0JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	FREQUENCY	%	CUM.
1	1	0.000	0.000
2	16	16.205	16.205
3	1	0.000	16.205
4	1	0.000	16.205
5	1	0.000	16.205
6	1	0.000	16.205
7	1	0.000	16.205
8	1	0.000	16.205
9	1	0.000	16.205
10	1	0.000	16.205
11	18	18.141	34.346
12	1	0.000	34.346
13	1	0.000	34.346
14	1	0.000	34.346
15	1	0.000	34.346
16	1	0.000	34.346
17	1	0.000	34.346
18	1	0.000	34.346
19	9	9.102	43.449
20	1	0.000	43.449
21	1	0.000	43.449
22	1	0.000	43.449
23	1	0.000	43.449
24	1	0.000	43.449
25	1	0.000	43.449
26	1	0.000	43.449
27	1	0.000	43.449
28	1	0.000	43.449
29	1	0.000	43.449
30	1	0.000	43.449
31	1	0.000	43.449
32	1	0.000	43.449
33	1	0.000	43.449
34	1	0.000	43.449
35	1	0.000	43.449
36	1	0.000	43.449
37	1	0.000	43.449
38	1	0.000	43.449
39	1	0.000	43.449
40	1	0.000	43.449
41	1	0.000	43.449
42	1	0.000	43.449
43	1	0.000	43.449
44	1	0.000	43.449
45	1	0.000	43.449
46	18	18.205	61.654
47	1	0.000	61.654
48	1	0.000	61.654
49	1	0.000	61.654
50	1	0.000	61.654
51	1	0.000	61.654
52	1	0.000	61.654
53	9	9.102	70.756
54	18	18.141	88.898
55	1	0.000	88.898
56	1	0.000	88.898
57	1	0.000	88.898
58	1	0.000	88.898
59	1	0.000	88.898
60	1	0.000	88.898
61	9	9.102	97.999

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS= 1571      SUM= 51272      MEAN= 32.637      VAR= 499.005      SD= 22.338

TOTAL TRIPS OVER MAXP = 0  
 TOTAL TRIPS OVER 255 = 0  
 VOLUME TABLE NUMBER = 201  
 6KM TREE NUMBER = 101

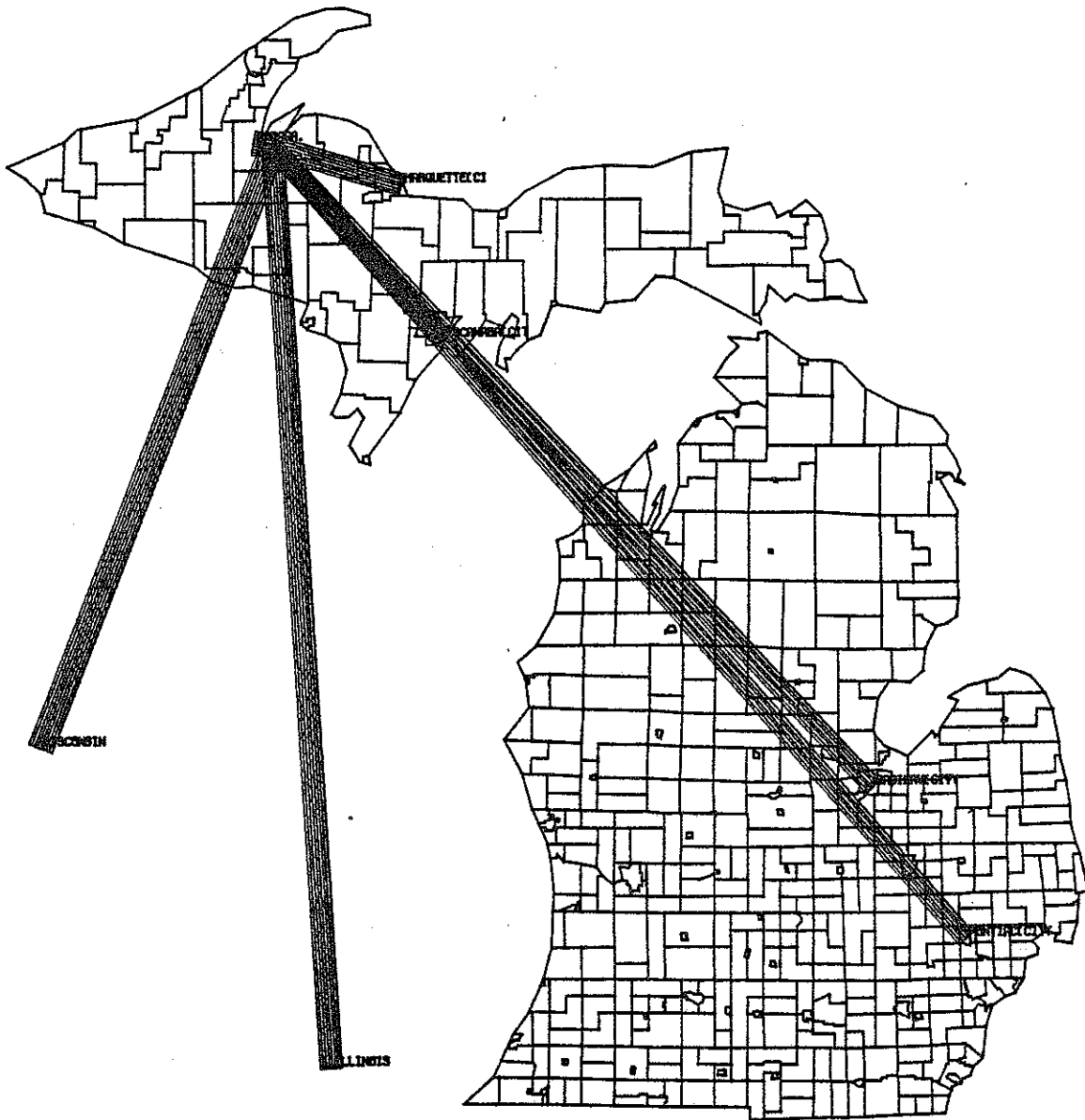
L'ANSE-ZONE 22

ORIGIN IS 22 - ARVON, LANSE.

BUS TICKET SURVEY

PCT# 0

DESTINATIONS -----	5/ 9/77 -----	5/10/77 -----	5/11/77 -----	5/12/77 -----	5/13/77 -----	5/14/77 -----	5/15/77 -----
BARAGA.	0	0	1	0	0	1	0
MARQUETTE(CITY).	0	1	0	0	1	0	0
WISCONSIN	1	0	0	0	1	0	0
ILLINOIS	0	0	0	0	0	1	1
SAGINAW(CITY).	0	0	0	0	0	0	1
ESCANABA(CITY).	0	0	0	1	0	0	0
PONTIAC(CITY).	0	0	1	0	0	0	0
REMAINDER	0	0	0	0	0	0	0
TOTAL	1	1	2	1	2	2	2



DESIRE LINE PLOTOUT TRIPS) ARVON, LANSE (ZONE 22)

BAND1	=	1	TO	2
BAND2	=	0	TO	0
BAND3	=	0	TO	0
BAND4	=	0	TO	0
BAND5	=	0	TO	0
BAND6	=	0	TO	0
BAND7	=	143	TO	143
BAND8	=	143	TO	286
BAND9	=	286	TO	286
BAND10	=	286	TO	9999999

**LANSING**

-

**EAST LANSING**

INTERCHANGE VALUES FROM ZONE 183 TO ALL OTHER ZONES

TABLES NUMBER 101

LANSING - EAST LANSING

	0	1	2	3	4	5	6	7	8	9
0		0	0	0	0	0	0	0	0	0
1	0	0	0	286	0	0	0	0	143	0
2	0	0	0	0	0	0	0	0	0	1285
3	0	0	0	0	0	0	0	2429	0	0
4	0	0	0	0	0	714	0	0	429	0
5	0	0	0	0	0	7428	0	0	143	0
6	0	0	0	0	0	0	572	428	0	0
7	0	0	0	0	0	0	143	0	0	143
8	143	0	0	714	0	0	0	0	0	2429
9	0	0	285	0	0	0	0	0	0	0
11	0	0	0	429	0	428	143	0	0	0
12	0	0	0	0	0	0	0	0	21572	0
14	0	0	0	0	0	0	143	0	0	0
15	0	1857	0	0	0	0	1143	0	0	142
16	429	0	0	0	0	0	0	0	0	429
18	0	0	0	5000	0	0	428	143	0	0
19	0	714	857	0	0	0	0	0	0	0
20	0	0	0	0	143	0	0	0	0	0
21	3143	0	0	0	0	0	8429	0	0	0
22	0	0	571	0	0	0	11857	0	0	0
23	0	0	0	0	0	0	18857	0	0	0
25	0	0	286	0	0	0	0	0	0	0
26	0	0	857	0	0	0	0	0	0	0
27	0	429	143	0	0	1571	0	0	0	0
28	286	0	0	0	143	0	0	0	0	0
29	0	0	0	0	0	143	0	0	0	0
30	0	0	428	0	0	0	429	0	0	0
34	0	0	4571	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	572	55285
36	0	0	7000	143	0	0	0	0	0	0
38	0	0	0	0	0	0	0	143	0	143
39	0	0	0	0	0	2857	0	0	0	429
40	0	0	0	0	0	0	0	142	0	2429
41	0	0	0	0	0	0	143	0	0	0
43	286	0	0	2857	0	0	0	0	0	0
44	0	0	571	0	0	0	0	0	0	0
45	0	0	0	143	0	0	0	0	0	0
47	0	429	142	572	0	0	0	0	571	15429
48	0	0	0	2143	0	0	0	0	0	0
49	285	0	0	53429	429	0	0	2857	0	0
50	0	285	0	0	572	1286	0	0	428	0
52	0	0	0	572	142	6572	571	0	572	0
53	0	0	428	1857	429	0	0	1143	3000	286
54	0	571	1714	4143	3143	1000	1286	0	0	0

TOTAL \* 283286

MEAN \* 517,890

1881

	P.C.	CUM.	ACTUAL
0			
2			
4			
6			
8			
10			
12			
14			
16			
18			
20			
22			
24			
26			
28			
30			
32			
34			
36			
38			
40			
1.....	1.765	1.765	5000
2.....	0.000	1.765	0
3.....	0.706	2.471	1999
4.....	0.202	2.672	571
5.....	4.539	7.211	12857
6.....	0.857	8.068	2427
7.....	11.246	19.313	31857
8.....	14.776	34.089	41856
9.....	26.122	60.212	74001
10.....	2.269	62.481	6925
11.....	20.676	83.157	54571
12.....	2.925	86.081	8285
13.....	0.151	86.232	428
14.....	1.766	87.998	5002
15.....	1.210	89.208	342
16.....	0.454	89.662	126
17.....	0.252	89.914	71
18.....	1.059	90.973	3000
19.....	0.151	91.124	428
20.....	0.000	91.124	0
21.....	0.050	91.174	14
22.....	0.857	92.032	2427
23.....	0.050	92.082	14
24.....	0.252	92.334	714
25.....	0.050	92.385	143
26.....	0.252	92.637	715
27.....	0.000	92.637	0
28.....	2.320	94.957	657
29.....	0.000	94.957	0
30.....	0.000	94.957	0
31.....	0.252	95.209	714
32.....	0.000	95.209	0
33.....	0.000	95.209	0
34.....	0.000	95.209	0
35.....	0.000	95.209	0
36.....	0.605	95.814	1714
37.....	0.101	95.915	284
38.....	0.000	95.915	0
39.....	0.454	96.369	126
40.....	0.202	96.571	571
41.....	0.000	96.571	0
42.....	0.202	96.773	571
43.....	0.000	96.773	0
44.....	0.000	96.773	0
45.....	0.000	96.773	0
46.....	0.000	96.773	0
47.....	0.000	96.773	0
48.....	0.050	96.823	143
49.....	0.000	96.823	0
50.....	0.000	96.823	0
51.....	0.050	96.873	14
52.....	0.000	96.873	0
53.....	0.000	96.873	0
54.....	0.000	96.873	0
55.....	0.000	96.873	0
56.....	0.000	96.873	0
57.....	0.000	96.873	0
58.....	1.109	97.983	3143
59.....	0.000	97.983	0
60.....	0.000	97.983	0
61.....	0.000	97.983	0
62.....	0.151	98.134	428
63.....	0.000	98.134	0
64.....	0.000	98.134	0
65.....	0.000	98.134	0
66.....	1.462	99.597	410
67.....	0.000	99.597	0
68.....	0.050	99.647	143
69.....	0.000	99.647	0
70.....	0.000	99.647	0
71.....	0.000	99.647	0
72.....	0.000	99.647	0
73.....	0.000	99.647	0
74.....	0.000	99.647	0
75.....	0.000	99.647	0
76.....	0.353	100.000	1000

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS= 283286

SUM= 3402483.

MEAN= 12.011

VAR= 129.905

SD= 10.9

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

LANSING-EAST LANSING-ZONE 183

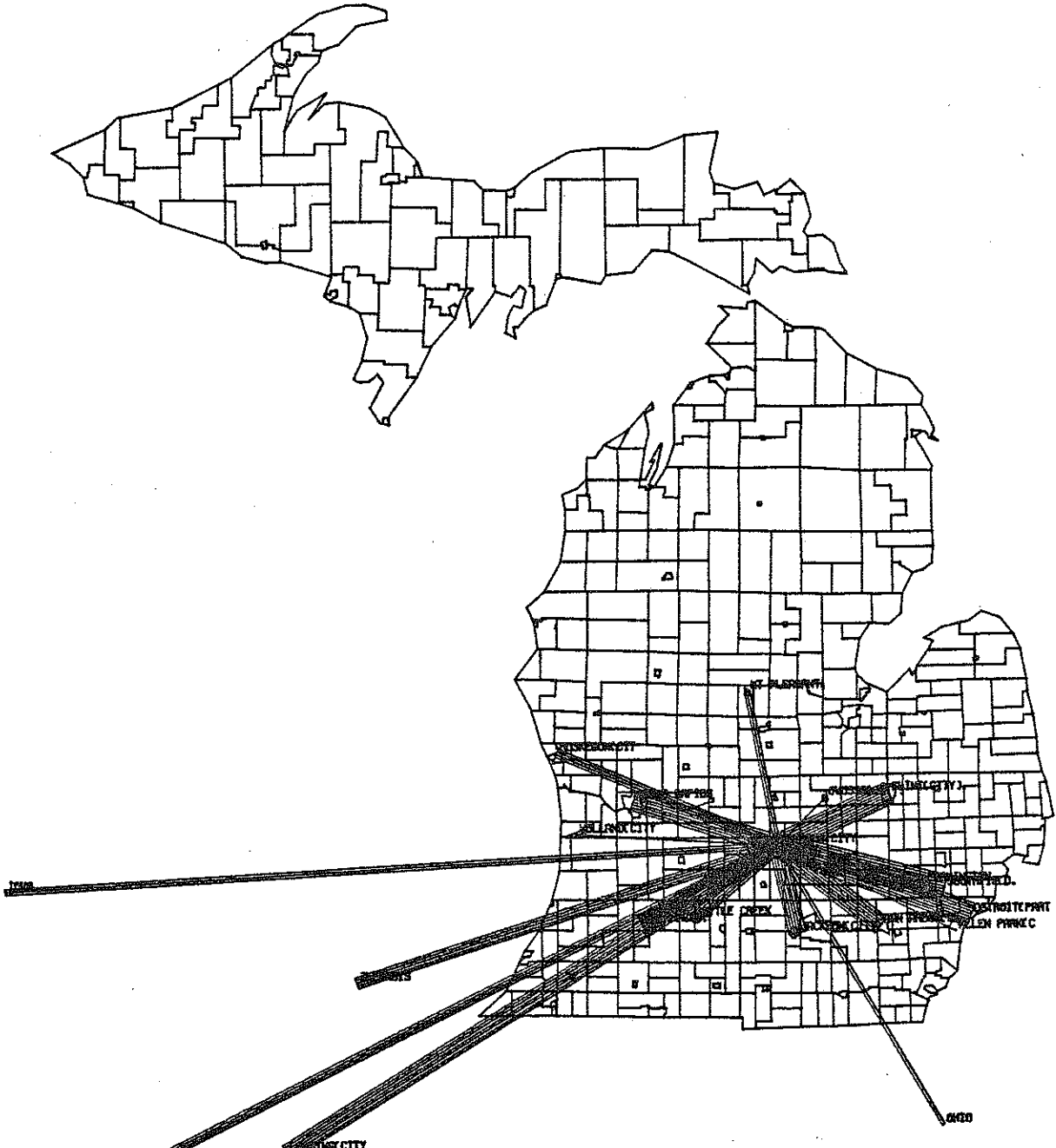


ORGIN IS 183 - LANSING(CITY),E,LANSING(

BUS TICKET SURVEY

PCY= 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
SOUTHFIELD.	0	0	23	74	211	52	27
DETROIT(PART 1 OF 3), EA	37	10	47	66	132	44	38
FLINT(CITY).	10	1	20	19	63	22	16
GRAND RAPIDS(CITY).	7	4	16	23	43	23	16
ANN ARBOR(CITY).	4	4	13	15	32	17	23
KALAMAZOO.	3	4	11	8	33	8	16
JACKSON(CITY).	2	0	13	2	19	19	4
BATTLE CREEK(CITY).	8	3	6	7	19	1	8
FARMINGTON.	2	2	5	6	19	7	8
ILLINOIS	6	1	6	8	11	2	12
LANSING(CITY),E,LANSING(	6	0	6	2	6	4	11
MUSKEGON(CITY).	6	0	3	4	12	3	4
MISSOURI	2	2	6	4	2	5	8
IOWA	5	0	0	1	7	7	2
MT PLEASANT.	3	1	0	5	8	3	2
REMAINDER	35	31	41	59	157	40	39
TOTAL	136	63	216	303	774	257	234



DESIRE LINE PLOT (OUT TRIPS) LANSING CITY (ZONE 183)

BAND1	=	1	TO	2857
BAND2	=	2857	TO	3000
BAND3	=	3143	TO	3143
BAND4	=	4143	TO	4571
BAND5	=	5000	TO	6572
BAND6	=	7000	TO	7428
BAND7	=	8429	TO	11857
BAND8	=	15429	TO	18857
BAND9	=	21572	TO	53429
BAND10	=	55285	TO	99999999

**MANISTEE**

INTERCHANGE VALUES FROM ZONE 291 TO ALL OTHER ZONES

TABLES NUMBER 101

	0	1	2	3	4	5	6	7	8	9
0			0							
12	0		0		0	0		0		0
18	0		0		0	0		0	143	0
23	0		0		143	0		0	0	0
34	0		0		0	0		428	0	0
47	0		0	143	0	0		0	0	0
49	0		0		0	0		0	0	0
52	0		0		143	0		0	0	143
53	0		0		0	0	286	0	0	0
54	0		0		142	0		0	0	0
			0		0	143		0	0	0
TOTAL	1714				MEAN	3.133				

8JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	P.C.	CUM.	ACTUAL
1.	0.000	0.000	0
2.	0.000	0.000	0
3.	0.000	0.000	0
4.	0.000	0.000	0
5.	0.000	0.000	0
6.	0.000	0.000	0
7.	0.000	0.000	0
8.	0.000	0.000	0
9.	0.000	0.000	0
10.	0.000	0.000	0
11.	0.000	0.000	0
12.	0.000	0.000	0
13.	8.343	8.343	143
14.	0.000	8.343	0
15.	0.000	8.343	0
16.	24.971	33.314	428
17.	0.000	33.314	0
18.	0.000	33.314	0
19.	0.000	33.314	0
20.	0.000	33.314	0
21.	8.343	41.657	143
22.	8.343	50.000	143
23.	0.000	50.000	0
24.	0.000	50.000	0
25.	0.000	50.000	0
26.	0.000	50.000	0
27.	0.000	50.000	0
28.	8.343	58.343	143
29.	8.285	66.628	142
30.	8.343	74.971	143
31.	0.000	74.971	0
32.	0.000	74.971	0
33.	0.000	74.971	0
34.	0.000	74.971	0
35.	16.686	91.657	286
36.	0.000	91.657	0
37.	0.000	91.657	0
38.	0.000	91.657	0
39.	0.000	91.657	0
40.	0.000	91.657	0
41.	0.000	91.657	0
42.	0.000	91.657	0
43.	0.000	91.657	0
44.	0.000	91.657	0
45.	0.000	91.657	0
46.	0.000	91.657	0
47.	0.000	91.657	0
48.	0.000	91.657	0
49.	0.000	91.657	0
50.	0.000	91.657	0
51.	0.000	91.657	0
52.	0.000	91.657	0
53.	0.000	91.657	0
54.	0.000	91.657	0
55.	0.000	91.657	0
56.	0.000	91.657	0
57.	0.000	91.657	0
58.	0.000	91.657	0
59.	0.000	91.657	0
60.	0.000	91.657	0
61.	0.000	91.657	0
62.	0.000	91.657	0
63.	0.000	91.657	0
64.	0.000	91.657	0
65.	0.000	91.657	0
66.	0.000	91.657	0
67.	0.000	91.657	0
68.	0.000	91.657	0
69.	0.000	91.657	0
70.	0.000	91.657	0
71.	0.000	91.657	0
72.	0.000	91.657	0
73.	0.000	91.657	0
74.	0.000	91.657	0
75.	0.000	91.657	0
76.	0.000	91.657	0
77.	0.000	91.657	0
78.	0.000	91.657	0
79.	0.000	91.657	0
80.	0.000	91.657	0
81.	0.000	91.657	0
82.	0.000	91.657	0
83.	8.343	100.000	143

REMAINING VALUES ARE ALL ZERO

NUMBER OF OBSERVATIONS= 1714      SUM= 49004.      MEAN= 28.590      VAR= 325.029      SD= 18.029

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

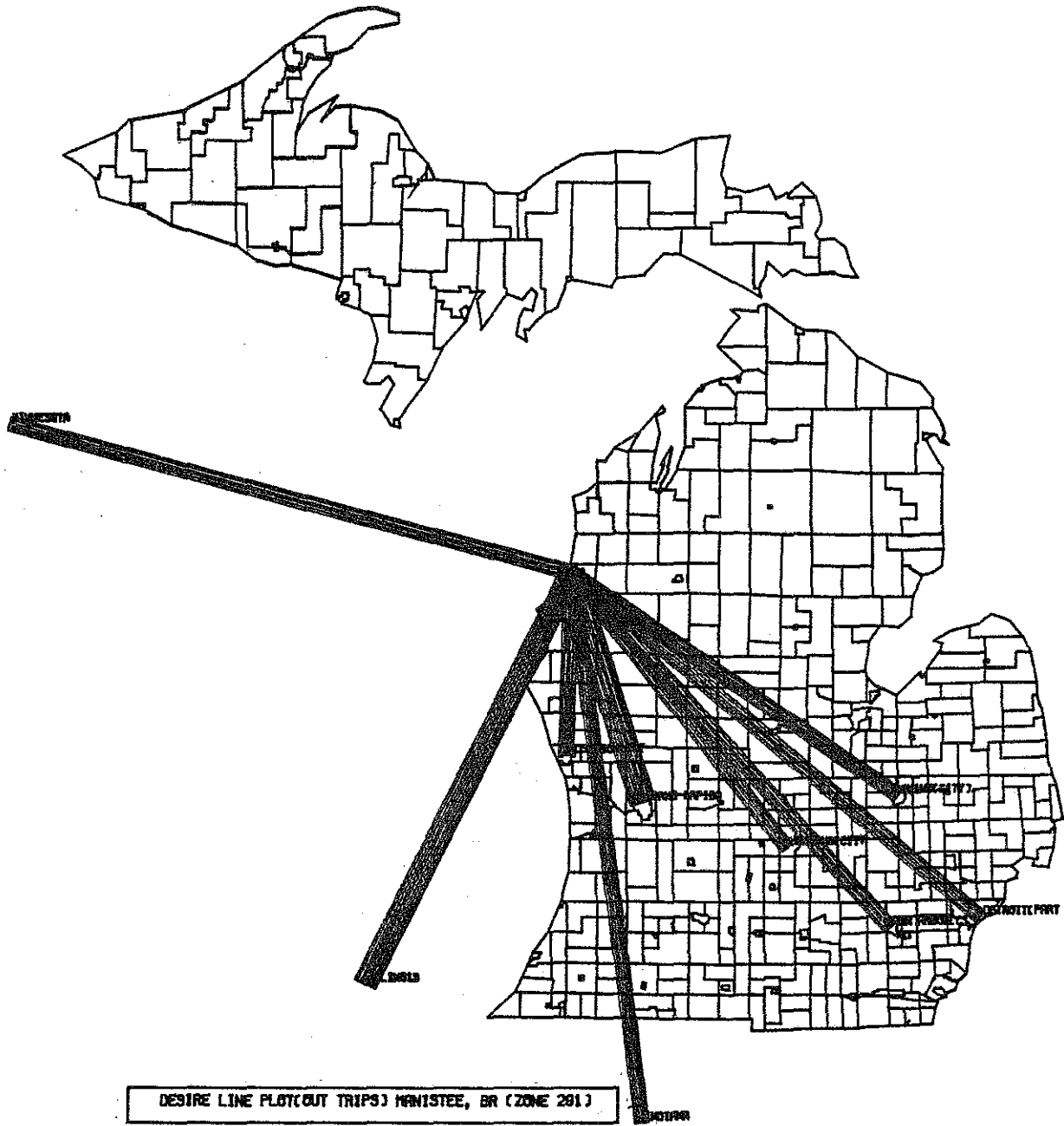
MANISTEE-ZONE 291

ORIGIN IS 291 - BROWN, FILER, HANISTEE,

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
GRAND RAPIDS(CITY).	0	2	0	1	0	0	0
ILLINOIS	0	0	2	0	0	0	0
FLINT(CITY).	0	0	0	0	0	1	0
MUSKEGON(CITY).	0	0	0	0	0	0	1
ANN ARBOR(CITY).	1	0	0	0	0	0	0
DETROIT(PART 1 OF 3), EA	0	1	0	0	0	0	0
LANSING(CITY),E.LANSING(	0	0	0	0	0	1	0
INDIANA	0	0	1	0	0	0	0
MINNESOTA	0	0	0	0	0	0	1
REMAINDER	0	0	0	0	0	0	0
TOTAL	1	3	3	1	0	2	2



DESIRE LINE PLOT(OUT TRIPS) MANISTEE, BR (ZONE 201)

BRND1	=	1	TO	2
BRND2	=	0	TO	0
BRND3	=	0	TO	0
BRND4	=	0	TO	0
BRND5	=	0	TO	0
BRND6	=	142	TO	143
BRND7	=	143	TO	143
BRND8	=	143	TO	143
BRND9	=	143	TO	286
BRND10	=	428	TO	89888888

**MARQUETTE**



INTERCHANGE VALUES FROM ZONE 295 TO ALL OTHER ZONES

TABLES NUMBER 101

MARQUETTE

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
2	0		0	286	0	0	0	0	0	0
8	0		0	0	428	0	0	0	0	0
10	0	143	0	0	572	0	0	0	0	142
12	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	286	0
17	429	143	0	0	0	0	0	0	0	1857
18	0	0	0	0	285	0	0	0	0	0
27	0	0	0	0	0	0	0	572	0	0
28	571	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	429
30	0	286	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	142	0	0	0	0
39	0	0	143	0	0	0	0	286	0	0
43	143	0	0	0	0	0	0	0	0	286
44	0	0	142	0	0	0	0	0	0	0
49	0	0	0	429	0	0	0	0	0	0
50	0	0	0	0	0	143	0	0	0	0
51	0	0	0	143	0	0	0	0	0	0
52	0	0	0	2285	3143	857	286	0	0	0
53	0	0	429	285	0	0	0	0	0	0
54	0	143	429	1143	428	572	285	143	0	0

TOTAL \* 18714

MEAN \*

34.212

TRIP LENGTH	P.C.	CUM.	ACTUAL
0	0.000	0.000	0
1	0.000	0.000	0
2	2.242	2.242	42
3	0.000	2.242	0
4	0.000	2.242	0
5	1.528	3.821	28
6	0.000	3.821	0
7	0.000	3.821	0
8	3.057	6.877	57
9	0.000	6.877	0
10	1.528	8.405	28
11	1.523	9.928	28
12	0.000	9.928	0
13	0.000	9.928	0
14	9.923	19.851	185
15	0.000	19.851	0
16	5.349	25.200	100
17	0.764	25.965	14
18	0.000	25.965	0
19	0.000	25.965	0
20	0.000	25.965	0
21	0.000	25.965	0
22	0.000	25.965	0
23	5.338	31.303	99
24	0.000	31.303	0
25	0.000	31.303	0
26	0.000	31.303	0
27	0.000	31.303	0
28	0.000	31.303	0
29	0.000	31.303	0
30	0.764	32.067	14
31	0.000	32.067	0
32	0.764	32.831	14
33	0.000	32.831	0
34	0.000	32.831	0
35	0.000	32.831	0
36	0.000	32.831	0
37	0.000	32.831	0
38	0.000	32.831	0
39	0.764	33.595	14
40	0.000	33.595	0
41	0.000	33.595	0
42	0.000	33.595	0
43	14.497	48.092	271
44	16.795	64.887	314
45	0.000	64.887	0
46	0.000	64.887	0
47	4.585	69.472	85
48	1.523	70.995	28
49	0.000	70.995	0
50	0.000	70.995	0
51	0.000	70.995	0
52	0.000	70.995	0
53	4.579	75.574	85
54	3.821	79.395	71
55	0.000	79.395	0
56	0.759	80.154	14
57	0.000	80.154	0
58	0.000	80.154	0
59	0.000	80.154	0
60	3.821	83.975	71
61	0.000	83.975	0
62	1.523	85.497	28
63	0.000	85.497	0
64	0.000	85.497	0
65	0.000	85.497	0
66	0.000	85.497	0
67	0.000	85.497	0
68	0.764	86.262	14
69	0.000	86.262	0
70	0.000	86.262	0
71	0.000	86.262	0
72	0.000	86.262	0
73	2.287	88.549	42
74	0.000	88.549	0
75	0.000	88.549	0
76	0.000	88.549	0
77	0.000	88.549	0
78	0.000	88.549	0
79	0.000	88.549	0
80	0.000	88.549	0
81	0.000	88.549	0
82	2.292	90.841	42
83	0.000	90.841	0
84	0.000	90.841	0
85	2.287	93.128	42
86	0.000	93.128	0
87	0.000	93.128	0
88	0.764	93.892	14
89	0.000	93.892	0
90	6.108	100.000	114

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS= 18714      SUM= 786930      MEAN= 42.050      VAR= 533.986      SD= 23.100

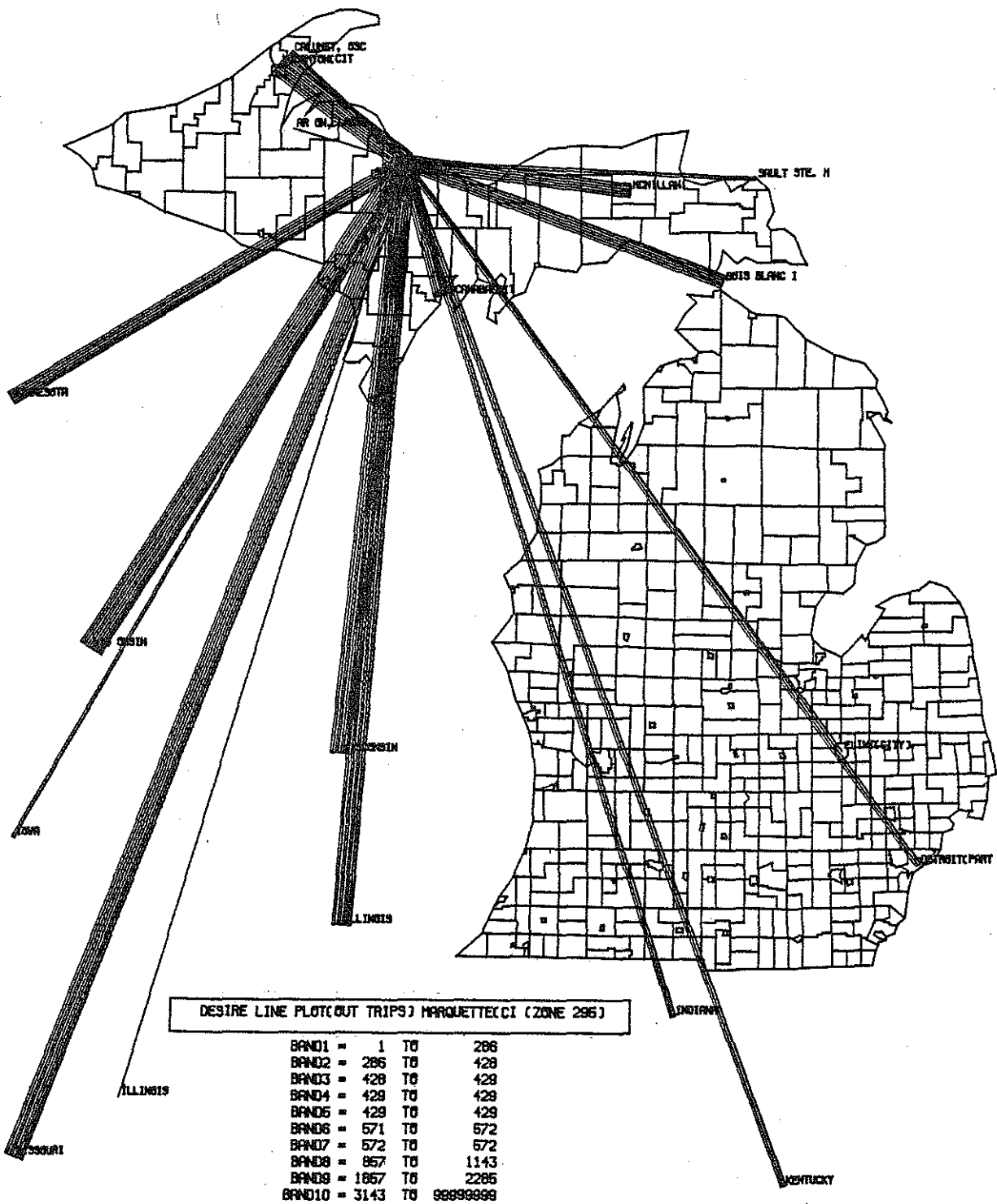
TOTAL TRIPS OVER MAXP = 0  
 TOTAL TRIPS OVER 255 = 0  
 VOLUME TABLE NUMBER = 201  
 SKIM TREE NUMBER = 101

ORIGIN IS 295 - MARQUETTE(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS -----	5/9/77 -----	5/10/77 -----	5/11/77 -----	5/12/77 -----	5/13/77 -----	5/14/77 -----	5/15/77 -----
WISCONSIN	1	6	2	4	3	4	2
WISCONSIN	1	2	2	5	4	1	1
HOUGHTON(CITY).	2	0	0	4	3	3	1
MISSOURI	0	1	3	0	1	3	0
ILLINOIS	0	1	3	2	0	0	0
MCMILLAN.	0	1	1	0	0	0	2
BOIS BLANC ISLAND, ST.IG	1	1	0	1	0	1	0
ESCANABA(CITY).	1	0	0	1	0	1	1
MINNESOTA	0	0	0	0	3	0	1
KENTUCKY	0	1	1	0	1	0	0
INDIANA	3	0	0	0	0	0	0
DETROIT(PART 1 OF 3), EA	0	1	0	1	1	0	0
ISHPEMING(CITY).	0	1	0	0	2	0	0
CALUMET, OSCÉOLA, SCHOOL	1	1	0	0	0	1	0
SAULT STE. MARIE, SUGAR	0	0	1	0	0	2	0
REMAINDER	8	6	3	4	7	1	3
TOTAL	18	22	16	22	25	17	11



**MENOMINEE**

INTERCHANGE VALUES FROM ZONE 311 TO ALL OTHER ZONES

TABLES NUMBER 101

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	143	0	0	0
29	0	0	0	0	0	143	0	0	0	0
31	0	0	428	0	0	0	0	0	0	0
51	0	0	0	143	0	0	0	0	0	0
52	0	0	0	4429	5857	2571	143	0	0	0
54	0	0	143	0	1000	0	714	715	0	0
TOTAL #	16429				MEAN #	30,035				

1940 TRIP FREQUENCY DISTRIBUTION

TRIP	FREQ.	P.C.	CUM.
1.	1	0.000	0.000
2.	1	0.000	0.000
3.	1	0.000	0.000
4.	1	0.000	0.000
5.	1	0.000	0.000
6.	1	0.000	0.000
7.	1	2.005	2.005
8.	1	0.000	2.005
9.	1	0.000	2.005
10.	1	0.870	3.476
11.	1	0.000	3.476
12.	1	0.000	3.476
13.	1	0.000	3.476
14.	1	0.000	3.476
15.	1	0.000	3.476
16.	1	0.000	3.476
17.	1	0.870	4.346
18.	1	0.000	4.346
19.	1	0.000	4.346
20.	1	0.000	4.346
21.	1	0.000	4.346
22.	1	0.000	4.346
23.	1	0.000	4.346
24.	1	0.000	4.346
25.	1	0.000	4.346
26.	1	0.000	4.346
27.	1	0.000	4.346
28.	1	26.955	31.301
29.	1	35.955	66.955
30.	1	0.000	66.955
31.	1	0.000	66.955
32.	1	0.000	66.955
33.	1	0.000	66.955
34.	1	0.000	66.955
35.	1	0.000	66.955
36.	1	0.000	66.955
37.	1	15.649	82.604
38.	1	0.000	82.604
39.	1	0.000	82.604
40.	1	0.000	82.604
41.	1	0.000	82.604
42.	1	0.000	82.604
43.	1	0.000	82.604
44.	1	0.000	82.604
45.	1	0.870	83.474
46.	1	0.000	83.474
47.	1	0.000	83.474
48.	1	0.000	83.474
49.	1	0.000	83.474
50.	1	0.000	83.474
51.	1	0.000	83.474
52.	1	0.000	83.474
53.	1	0.000	83.474
54.	1	0.000	83.474
55.	1	0.000	83.474
56.	1	0.000	83.474
57.	1	0.000	83.474
58.	1	0.000	83.474
59.	1	0.000	83.474
60.	1	0.000	83.474
61.	1	0.000	83.474
62.	1	0.000	83.474
63.	1	0.000	83.474
64.	1	0.000	83.474
65.	1	0.000	83.474
66.	1	0.000	83.474
67.	1	0.000	83.474
68.	1	0.870	84.345
69.	1	0.000	84.345
70.	1	0.000	84.345
71.	1	0.000	84.345
72.	1	0.870	85.215
73.	1	6.087	91.302
74.	1	0.000	91.302
75.	1	0.000	91.302
76.	1	0.000	91.302
77.	1	0.000	91.302
78.	1	0.000	91.302
79.	1	0.000	91.302
80.	1	0.000	91.302
81.	1	0.000	91.302
82.	1	0.000	91.302
83.	1	0.000	91.302
84.	1	0.000	91.302
85.	1	0.000	91.302
86.	1	0.000	91.302
87.	1	0.000	91.302

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS = 16429      SUM = 609198      MEAN = 37.081      VAR = 804.891      SD =

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

MENOMINEE-ZONE 311

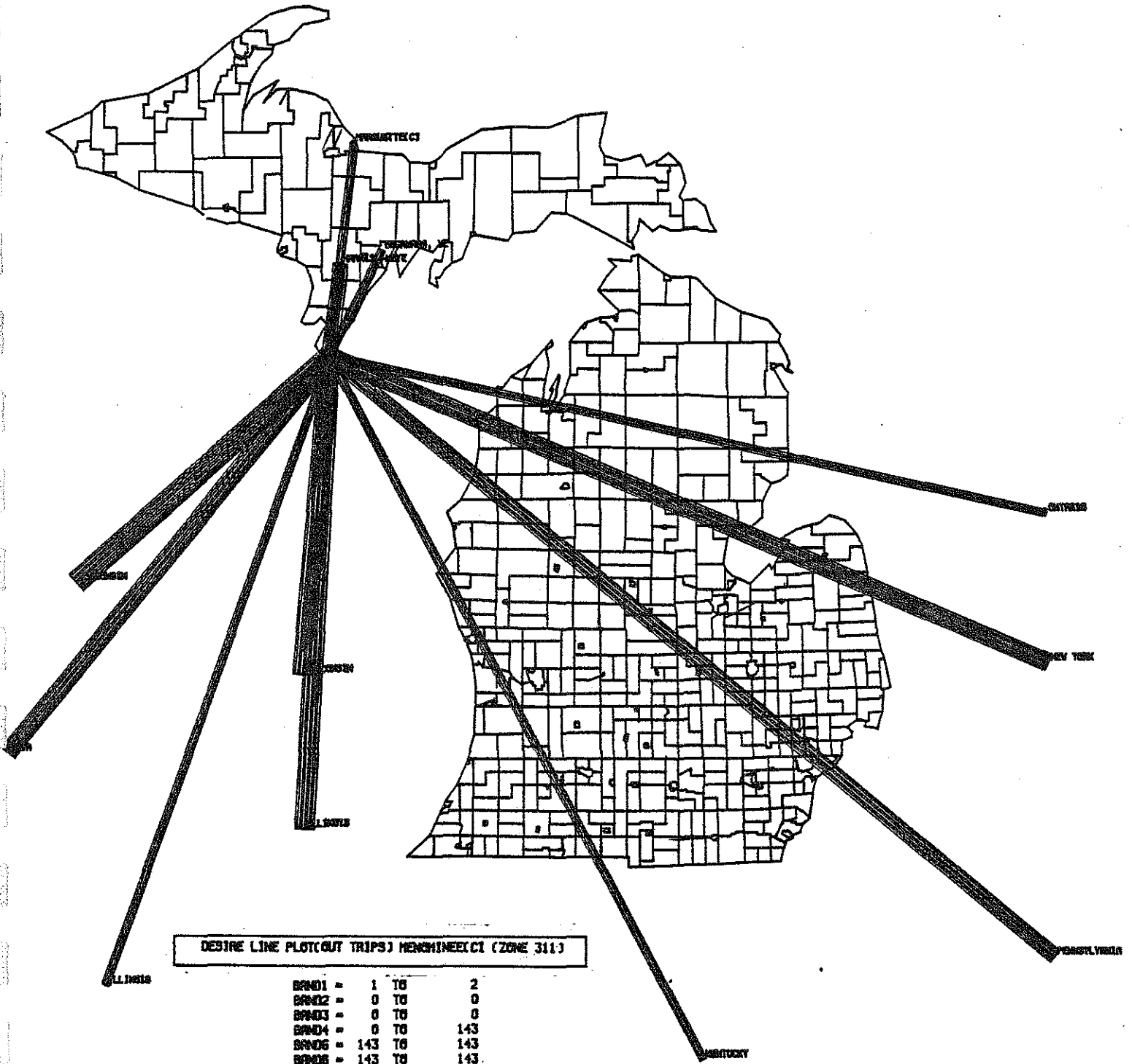
ORIGIN IS 311 - MEHOMINEE(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
WISCONSIN	0	4	8	5	10	9	5
WISCONSIN	7	1	1	7	10	3	2
ILLINOIS	0	0	1	7	0	3	7
IOWA	0	0	2	2	2	1	0
PENNSYLVANIA	0	0	0	0	5	0	0
NEW YORK	0	0	0	5	0	0	0
HARRIS, MEYER, SPALDING,	0	2	0	0	0	1	0
ILLINOIS	1	0	0	0	0	0	0
KENTUCKY	0	0	0	0	0	1	0
ONTARIO	0	0	0	0	1	0	0
MARQUETTE(CITY).	0	0	1	0	0	0	0
ESCANABA, WELLS.	0	0	0	0	1	0	0
REMAINDER	0	0	0	0	0	0	0
TOTAL	8	7	13	26	29	18	14





DESTINE LINE PLOT(OUT TRIPS) MEMPHINEECCI (ZONE 311)

BRND1	=	1	TO	2
BRND2	=	0	TO	0
BRND3	=	0	TO	0
BRND4	=	0	TO	143
BRND6	=	143	TO	143
BRND8	=	143	TO	143
BRND7	=	428	TO	714
BRND8	=	716	TO	1000
BRND9	=	2571	TO	4428
BRND10	=	5867	TO	9999999

**MUSKEGON**

INTERCHANGE VALUES FROM ZONE 342 TO ALL OTHER ZONES  
MUSKEGON

TABLES NUMBER 101

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	143
2	0		0	0	0	0	0	0	0	143
3	0		0	0	0	143	0	428	0	0
4	0		0	0	0	143	0	0	0	0
6	0		0	0	0	0	0	286	0	0
7	0		0	0	0	143	0	0	0	0
8	0		0	142	0	0	0	0	0	0
11	0		0	143	0	0	0	0	0	0
12	0		0	0	0	0	0	0	2857	0
15	0	429	0	0	0	0	0	0	0	0
18	0	0	0	8714	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	143	0	0	0
23	0	0	0	0	0	0	2286	0	0	0
25	0	0	143	0	0	0	8857	0	0	0
26	0	0	143	0	0	0	0	0	0	0
27	0	143	0	0	0	142	0	0	0	0
29	0	143	0	0	0	286	0	0	0	0
30	0	0	571	143	0	0	0	0	0	0
32	0	0	0	286	0	0	0	0	0	0
35	286	0	0	0	0	0	0	0	428	0
36	0	0	143	0	0	0	0	0	0	0
37	0	0	0	0	0	0	143	286	143	142
39	0	0	0	0	0	1286	0	0	0	714
40	0	0	0	0	0	0	0	0	0	715
43	0	0	0	285	0	0	0	0	0	0
44	0	0	143	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0
47	0	0	0	286	0	0	0	0	143	571
48	0	0	0	143	0	0	0	0	0	0
49	0	0	0	6000	0	0	0	0	0	0
50	0	0	0	0	0	286	0	0	0	0
52	0	0	0	428	0	4143	143	0	0	0
51	0	0	0	286	143	0	0	285	715	142
54	143	572	1857	1714	1857	0	715	428		
TOTAL #		52857		MEAN #		96,631				

0JUL77 TRIP LENGTH FREQUENCY DISTRIBUTION

	P, C.	CUM.
0		
1	0.000	0.000
2	0.000	0.000
3	1.892	1.892
4	0.271	2.162
5	2.704	4.866
6	16.757	21.622
7	0.810	22.432
8	1.080	23.512
9	0.000	23.512
10	0.541	24.054
11	5.946	30.000
12	16.757	46.756
13	0.812	47.568
14	0.000	47.568
15	1.082	48.650
16	1.080	49.730
17	0.539	50.270
18	5.405	55.675
19	2.976	58.651
20	1.621	60.272
21	1.892	62.164
22	11.351	73.515
23	0.000	73.515
24	0.541	74.056
25	8.377	82.434
26	0.271	82.704
27	0.271	82.975
28	0.269	83.243
29	1.623	84.867
30	0.000	84.867
31	0.000	84.867
32	0.000	84.867
33	0.000	84.867
34	0.000	84.867
35	0.000	84.867
36	0.000	84.867
37	1.078	85.945
38	0.000	85.945
39	0.000	85.945
40	0.000	85.945
41	0.000	85.945
42	0.000	85.945
43	3.513	89.458
44	0.000	89.458
45	0.000	89.458
46	0.000	89.458
47	0.000	89.458
48	0.000	89.458
49	0.000	89.458
50	0.000	89.458
51	1.353	90.811
52	0.810	91.621
53	0.000	91.621
54	1.623	93.244
55	3.513	96.757
56	0.000	96.757
57	0.000	96.757
58	0.000	96.757
59	0.000	96.757
60	0.000	96.757
61	0.000	96.757
62	0.000	96.757
63	3.243	100.000

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS= 52857      SUM= 1064843,      MEAN= 20.146      VAR= 234.529      SD= 15.316

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

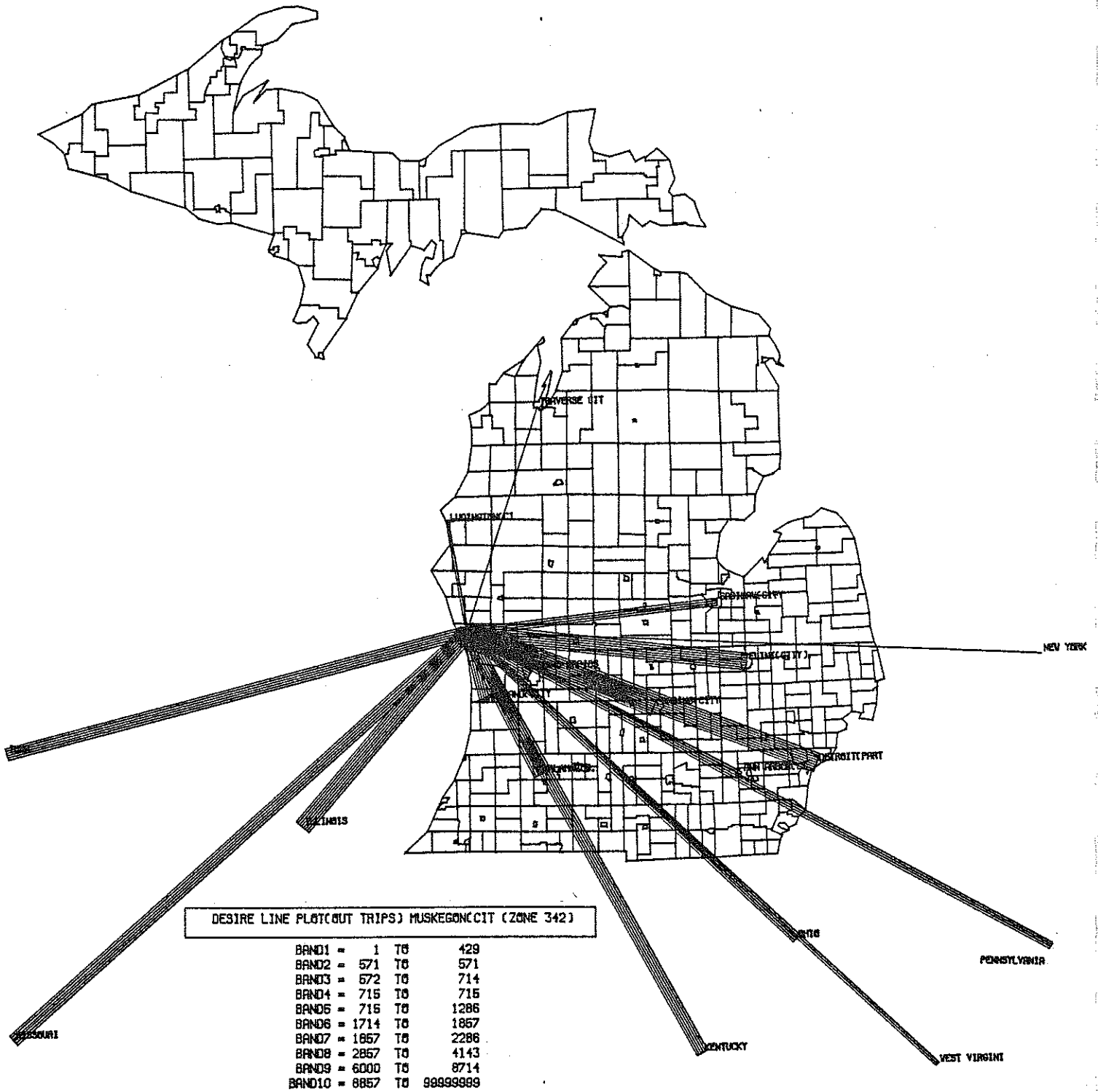
MUSKEGON-ZONE 342

ORIGIN IS 342 - MUSKEGON(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
GRAND RAPIDS(CITY).	13	10	9	9	9	9	3
LANSING(CITY),E.,LANSING(C	25	5	2	5	6	8	10
DETROIT(PART 1 OF 3), EA	7	6	8	4	8	5	4
ILLINOIS	5	1	3	5	3	6	6
FLINT(CITY).	7	5	0	0	5	2	1
KALAMAZOO.	5	4	0	2	1	0	4
KENTUCKY	2	0	1	1	5	2	2
IOWA	2	1	3	3	0	3	1
MISSOURI	1	0	1	0	7	1	2
HOLLAND(CITY).	1	0	0	1	0	5	2
PENNSYLVANIA	0	0	0	3	2	0	0
OHIO	0	1	3	0	1	0	0
SPRING LAKE.	1	1	0	0	0	1	2
SAGINAW(CITY).	3	1	0	1	0	0	0
WEST VIRGINIA	0	0	0	0	2	2	0
REMAINDER	17	5	10	7	7	12	11
TOTAL	89	40	40	41	56	56	48



**NEWBERRY**

INTERCHANGE VALUES FROM ZONE 277 TO ALL OTHER ZONES TABLES NUMBER 101

	0	1	2	3	4	5	6	7	8	9
0			0	0	286	0	0	0	0	0
2	0		0	0	143	0	0	0	0	0
8	0		0	0	285	0	0	0	0	0
16	0		0	0	0	0	0	0	0	0
17	143		0	0	0	0	0	0	0	143
54	0		0	0	0	143	0	0	0	0
TOTAL #	1143				MEAN #	2,090				



0JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	FREQUENCY	P.C.	CUM.
1	0	0.000	0.000
2	0	0.000	0.000
3	0	0.000	0.000
4	0	0.000	0.000
5	0	0.000	0.000
6	0	0.000	0.000
7	0	0.000	0.000
8	0	0.000	0.000
9	0	0.000	0.000
10	0	0.000	0.000
11	49,956	49.956	49.956
12	0	0.000	49.956
13	0	0.000	49.956
14	0	0.000	49.956
15	0	0.000	49.956
16	0	0.000	49.956
17	0	0.000	49.956
18	0	0.000	49.956
19	0	0.000	49.956
20	0	0.000	49.956
21	0	0.000	49.956
22	0	0.000	49.956
23	0	0.000	49.956
24	0	0.000	49.956
25	0	0.000	49.956
26	0	0.000	49.956
27	12,511	12.511	62.467
28	0	0.000	62.467
29	0	0.000	62.467
30	0	0.000	62.467
31	12,511	12.511	74.978
32	0	0.000	74.978
33	12,511	12.511	87.489
34	0	0.000	87.489
35	0	0.000	87.489
36	0	0.000	87.489
37	0	0.000	87.489
38	0	0.000	87.489
39	0	0.000	87.489
40	0	0.000	87.489
41	0	0.000	87.489
42	0	0.000	87.489
43	0	0.000	87.489
44	0	0.000	87.489
45	0	0.000	87.489
46	0	0.000	87.489
47	0	0.000	87.489
48	0	0.000	87.489
49	0	0.000	87.489
50	0	0.000	87.489
51	0	0.000	87.489
52	0	0.000	87.489
53	0	0.000	87.489
54	0	0.000	87.489
55	0	0.000	87.489
56	0	0.000	87.489
57	0	0.000	87.489
58	0	0.000	87.489
59	0	0.000	87.489
60	0	0.000	87.489
61	0	0.000	87.489
62	0	0.000	87.489
63	0	0.000	87.489
64	0	0.000	87.489
65	0	0.000	87.489
66	0	0.000	87.489
67	0	0.000	87.489
68	0	0.000	87.489
69	0	0.000	87.489
70	0	0.000	87.489
71	0	0.000	87.489
72	0	0.000	87.489
73	0	0.000	87.489
74	0	0.000	87.489
75	0	0.000	87.489
76	0	0.000	87.489
77	0	0.000	87.489
78	0	0.000	87.489
79	0	0.000	87.489
80	0	0.000	87.489
81	0	0.000	87.489
82	0	0.000	87.489
83	0	0.000	87.489
84	0	0.000	87.489
85	12,511	12.511	100.000

REMAINING VALUES ARE ALL ZERO

NUMBER OF OBSERVATIONS# 1143      SUM# 11449      MEAN# 27,514      VAR# 554,997      SD#

TOTAL TRIPS OVER MAXP # 0  
 TOTAL TRIPS OVER 255 # 0  
 VOLUME TABLE NUMBER # 201  
 SKIN TOBE NUMBER # 101

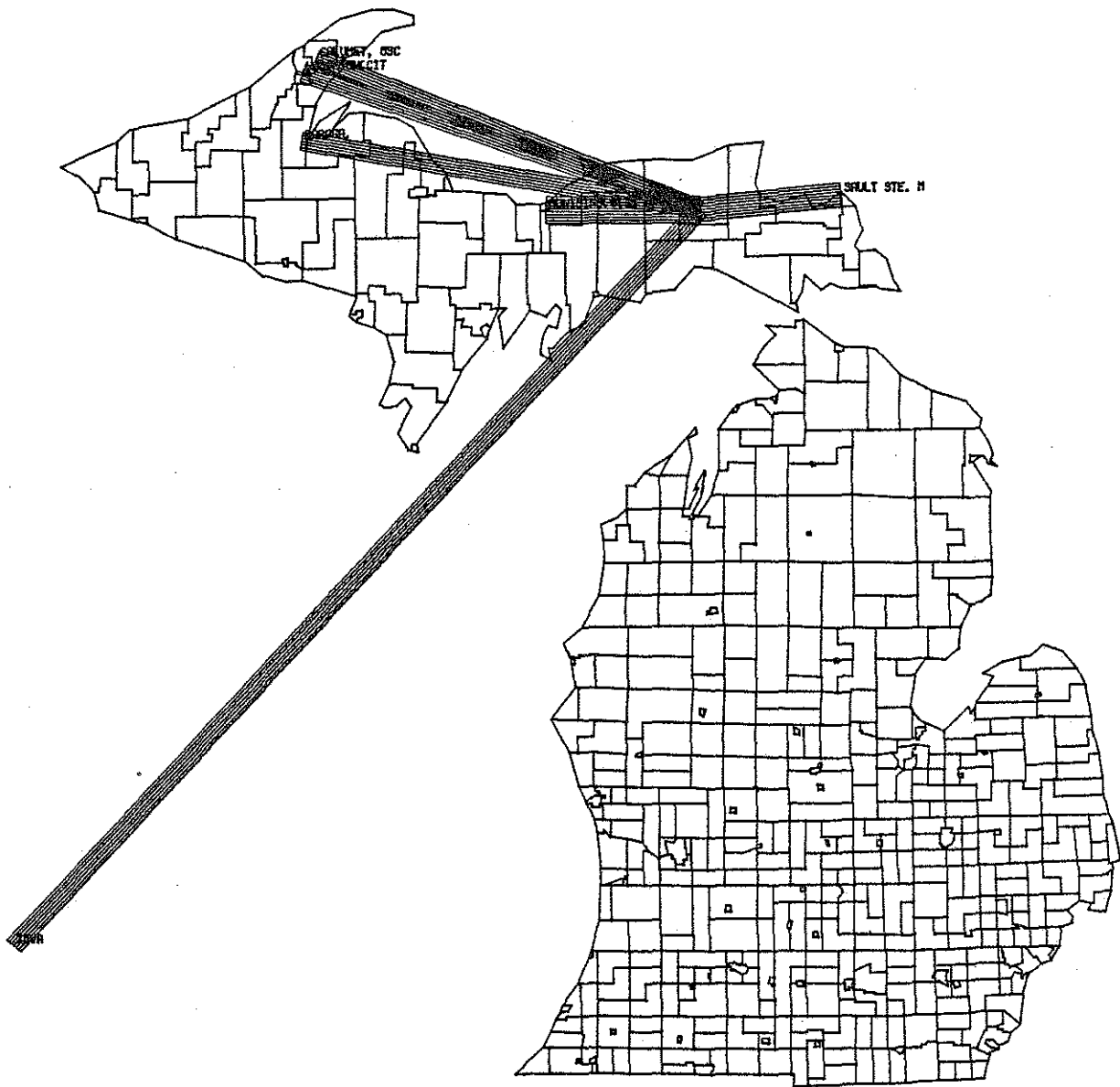
NEWBERRY-ZONE 277

ORIGIN IS 277 - MCHILLAN,

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
MUNISING(CITY).	0	0	0	0	2	0	0
SAULT STE. MARIE, SUGAR	1	0	0	1	0	0	0
BARAGA.	0	0	1	0	0	0	0
HOUGHTON(CITY).	0	0	0	0	1	0	0
CALUMET, OSCEOLA, SCHOOL	0	0	0	0	1	0	0
IOWA	0	0	0	1	0	0	0
REMAINDER	0	0	0	0	0	0	0
TOTAL	1	0	1	2	4	0	0



DESIRE LINE PLOT(OUT TRIPS) MCMILLAN. (ZONE 277)

BAND1	=	1	TO	2
BAND2	=	0	TO	0
BAND3	=	0	TO	0
BAND4	=	0	TO	0
BAND5	=	0	TO	0
BAND6	=	0	TO	0
BAND7	=	0	TO	143
BAND8	=	143	TO	143
BAND9	=	143	TO	286
BAND10	=	286	TO	9999999

**NILES**

INTERCHANGE VALUES FROM ZONE 45 TO ALL OTHER ZONES TABLES NUMBER 101

	0	1	2	3	4	5	6	7	8	9
0			0		0					
7		0	0		0					0
14	143	0			143					0
18	0	0			0					0
21	0	0			285					0
22	0	0			0					0
23	0	0			0					0
30	0	0			0					0
34	0	0			0					0
47	0	0	143		0					0
49	0	0	286		0					143
52	0	0	0		142					0
53	0	0	0		0					0
54	0	0	0		1286					0
			142		429					0
					286					143
										0
TOTAL #	5429									
					MEAN #					
						9.925				

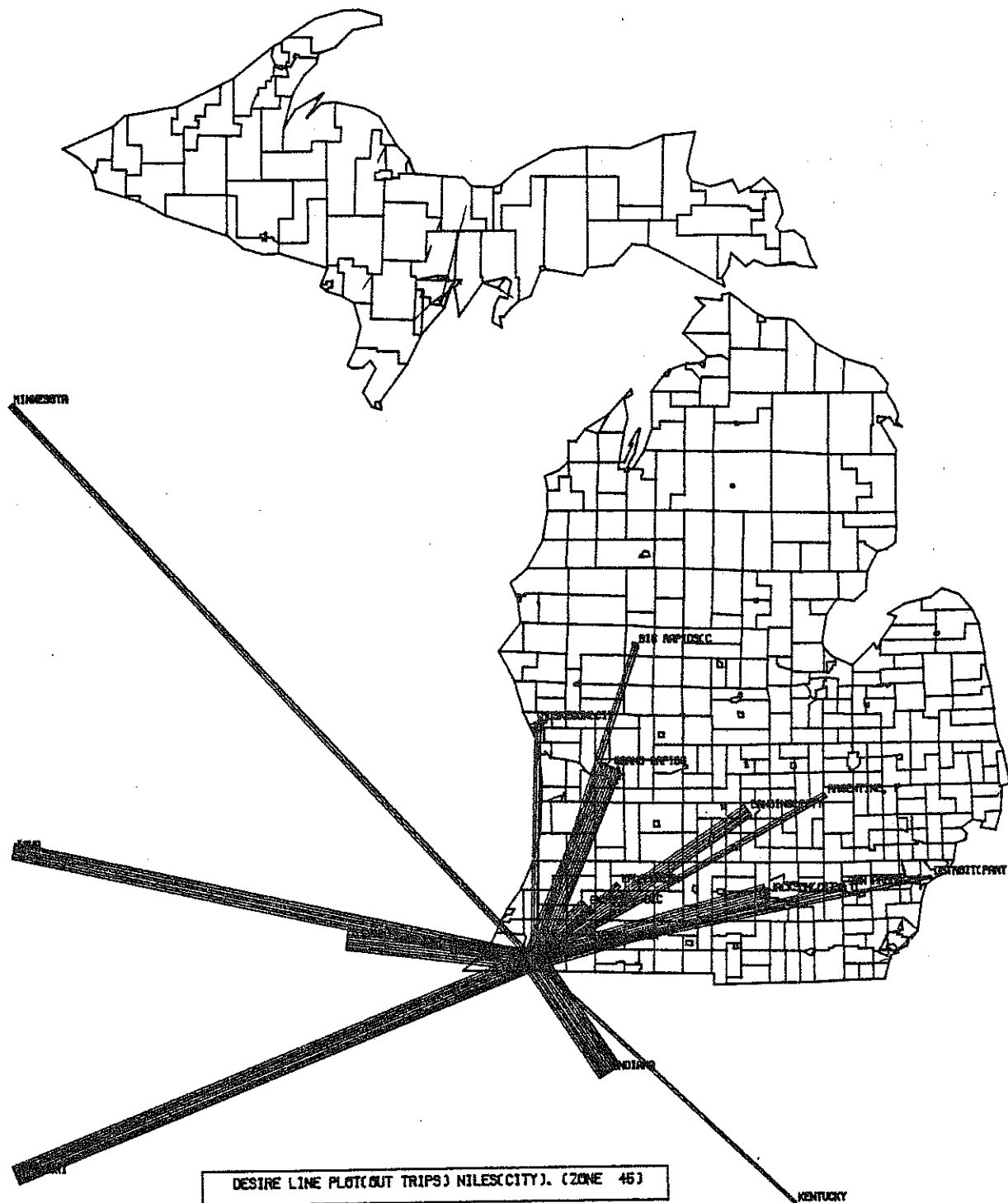


ORIGIN IS 45 - NILES(CITY):

BUS TICKET SURVEY

PCT= 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
INDIANA	5	1	0	0	3	0	0
GRAND RAPIDS(CITY),	1	0	0	1	2	0	0
ILLINOIS	0	0	0	1	0	1	2
JACKSON(CITY).	0	0	0	1	2	0	0
MISSOURI	3	0	0	0	0	0	0
ANTWERP, DECATUR, PORTER	0	0	0	0	2	0	0
LANSING(CITY),E.LANSING(C	1	0	0	0	0	0	1
IOWA	0	0	0	0	0	0	2
ARGENTINE, FENTON,	0	0	1	0	0	0	0
ANN ARBOR(CITY).	0	0	0	0	0	0	1
DETROIT(PART 1 OF 3), EA	0	0	1	0	0	0	0
BIG RAPIDS(CITY).	0	0	0	1	0	0	0
MUSKEGON(CITY).	0	0	0	0	1	0	0
KENTUCKY	0	0	0	0	1	0	0
KALAMAZOO.	0	0	0	0	1	0	0
REMAINDER	0	0	0	1	0	0	1
TOTAL	10	1	2	5	12	1	7



DESIRE LINE PLOT(OUT TRIPS) NILES(CITY). (ZONE 45)

BAND1	=	1	TO	2
BAND2	=	142	TO	142
BAND3	=	143	TO	143
BAND4	=	143	TO	143
BAND5	=	143	TO	143
BAND6	=	143	TO	286
BAND7	=	286	TO	286
BAND8	=	429	TO	429
BAND9	=	571	TO	572
BAND10	=	1286	TO	9999999



**PETOSKEY**

INTERCHANGE VALUES FROM ZONE 124 TO ALL OTHER ZONES

TABLES NUMBER 101

PETOSKEY

	0	1	2	3	4	5	6	7	8	9
0			0		0		0		0	
1	0		0		0		0		0	
8	0		0		143		0		143	
15	0	857	0		0		0		0	
16	0	0	0		0		0		0	
21	0	0	0		0		0		0	143
22	0	0	0		0		285	0	0	0
23	0	0	0		0		286	0	0	0
29	0	0	0		0		714	0	0	0
31	143	0	0		0	143	0	0	0	0
34	0	0	143		0	0	0	0	0	0
35	0	0	0		0		0		0	0
38	0	0	0		0		0		143	0
47	0	0	0		0		0	143	0	0
50	0	0	0		0		0	0	0	143
52	0	0	0		143		285	0	0	0
53	0	0	0		0		0	143	0	0
TOTAL "	4000				MEAN "	7,313				

8JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	P.C.	CUM.	ACTUAL
1	0,000	0,000	0
2	0,000	0,000	0
3	0,000	0,000	0
4	0,000	0,000	0
5	0,000	0,000	0
6	0,000	0,000	0
7	0,000	0,000	0
8	0,000	0,000	0
9	3,575	3,575	143
10	0,000	3,575	0
11	21,425	25,000	857
12	3,575	28,575	143
13	7,125	35,700	285
14	0,000	35,700	0
15	0,000	35,700	0
16	3,575	39,275	143
17	0,000	39,275	0
18	0,000	39,275	0
19	3,575	42,850	143
20	0,000	42,850	0
21	0,000	42,850	0
22	0,000	42,850	0
23	0,000	42,850	0
24	17,650	60,700	714
25	0,000	60,700	0
26	3,575	64,275	143
27	3,575	67,850	143
28	14,275	82,125	571
29	7,150	89,275	286
30	0,000	89,275	0
31	0,000	89,275	0
32	0,000	89,275	0
33	0,000	89,275	0
34	3,575	92,850	143
35	0,000	92,850	0
36	0,000	92,850	0
37	0,000	92,850	0
38	0,000	92,850	0
39	0,000	92,850	0
40	0,000	92,850	0
41	0,000	92,850	0
42	0,000	92,850	0
43	3,575	96,425	143
44	0,000	96,425	0
45	0,000	96,425	0
46	0,000	96,425	0
47	0,000	96,425	0
48	0,000	96,425	0
49	0,000	96,425	0
50	0,000	96,425	0
51	0,000	96,425	0
52	0,000	96,425	0
53	0,000	96,425	0
54	0,000	96,425	0
55	0,000	96,425	0
56	0,000	96,425	0
57	0,000	96,425	0
58	0,000	96,425	0
59	0,000	96,425	0
60	3,575	100,000	143

REMAINING VALUES ARE ALL ZERO  
NUMBER OF OBSERVATIONS= 4600

SUM= 88014.

MEAN= 22,004

VAR= 130,130

SD= 11,407

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

PETOSKEY-ZONE 124

ORIGIN IS 124 - PETOSKEY(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS -----	5/ 9/77 -----	5/10/77 -----	5/11/77 -----	5/12/77 -----	5/13/77 -----	5/14/77 -----	5/15/77 -----
TRAVERSE CITY(CITY)ANDPE	3	1	0	0	0	1	1
GRAND RAPIDS(CITY).	2	0	0	1	1	0	1
JACKSON(CITY).	2	0	0	0	0	0	0
KALAMAZOO.	1	0	1	0	0	0	0
CADILLAC(CITY).	0	0	1	0	1	0	0
HOUGHTON(CITY).	0	0	0	0	0	1	0
SAULT STE. MARIE, SUGAR	0	0	0	0	0	1	0
MARQUETTE(CITY).	0	0	0	0	1	0	0
AETNA, AUSTIN, DEERFIELD	0	0	0	0	1	0	0
MUSKEGON(CITY).	0	0	0	1	0	0	0
PONTIAC(CITY).	0	0	0	1	0	0	0
HERSEY, RICHMOND.	0	0	0	0	0	1	0
ANN ARBOR(CITY).	0	0	0	1	0	0	0
CUSTER, ELK RAPIDS, FORE	0	0	0	0	0	1	0
WISCONSIN	0	0	0	1	0	0	0
REMAINDER	0	0	0	0	1	0	0
TOTAL	8	1	2	5	5	5	2



# PORT HURON

INTERCHANGE VALUES FROM ZONE 442 TO ALL OTHER ZONES

TABLES NUMBER 101

PORT HURON

	0	1	2	3	4	5	6	7	8	9
0			0	0	0	0	0	0	0	0
1	0		0	0	0	0	0	0	0	0
2	0		0	0	0	0	0	0	0	0
4	143		0	0	0	0	0	0	0	857
8	0		0	0	143	0	0	0	0	0
12	0		0	0	0	0	0	0	0	0
18	0	143		0	572	0	0	0	1285	0
21	0		0	0	0	0	0	0	0	0
23	0		0	0	0	0	143	0	0	0
25	0		0	143	0	0	0	0	0	0
28	0		0	0	0	143	0	0	286	0
34	0		0	286	0	0	0	0	0	0
40	0		0	0	0	0	0	0	0	0
44	0		0	0	0	0	0	142	0	143
49	0		0	0	429	286	0	0	0	0
52	0		0	0	8000	0	0	0	0	0
53	0		0	0	0	428	0	0	0	0
54	0		0	0	0	0	0	143	429	0
			1857	428	715	142	143	0		
TOTAL =	17714									
				MEAN =		32,384				

11JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

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

TRIP LENGTH	FREQUENCY	P.C.	CUM.
1	1	0.000	0.000
2	0	0.000	0.000
3	0	0.000	0.000
4	0	0.000	0.000
5	2,422	2.422	2,422
6	0,607	0.607	3,029
7	3,229	3.229	6,258
8	0,607	0.607	6,865
9	45,162	45.162	52,027
10	0,000	0.000	52,027
11	7,250	7.250	59,277
12	0,000	0.000	59,277
13	0,000	0.000	59,277
14	0,000	0.000	59,277
15	0,607	0.607	60,084
16	0,607	0.607	60,691
17	2,422	2.422	63,113
18	0,000	0.000	63,113
19	0,000	0.000	63,113
20	0,000	0.000	63,113
21	0,000	0.000	63,113
22	0,000	0.000	63,113
23	0,602	0.602	63,715
24	0,602	0.602	64,317
25	0,600	0.600	64,917
26	0,607	0.607	65,524
27	1,615	1.615	67,139
28	0,000	0.000	67,139
29	0,607	0.607	67,746
30	0,000	0.000	67,746
31	0,000	0.000	67,746
32	0,000	0.000	67,746
33	0,000	0.000	67,746
34	0,000	0.000	67,746
35	0,000	0.000	67,746
36	10,483	10.483	78,229
37	0,000	0.000	78,229
38	0,000	0.000	78,229
39	1,615	1.615	79,844
40	0,000	0.000	79,844
41	0,000	0.000	79,844
42	0,000	0.000	79,844
43	0,000	0.000	79,844
44	0,000	0.000	79,844
45	0,000	0.000	79,844
46	0,000	0.000	79,844
47	0,000	0.000	79,844
48	0,000	0.000	79,844
49	0,000	0.000	79,844
50	0,000	0.000	79,844
51	0,000	0.000	79,844
52	0,000	0.000	79,844
53	0,000	0.000	79,844
54	0,000	0.000	79,844
55	0,000	0.000	79,844
56	0,000	0.000	79,844
57	0,000	0.000	79,844
58	0,000	0.000	79,844
59	0,000	0.000	79,844
60	0,000	0.000	79,844
61	0,000	0.000	79,844
62	0,000	0.000	79,844
63	0,000	0.000	79,844
64	0,000	0.000	79,844
65	2,416	2.416	82,260
66	0,000	0.000	82,260
67	0,000	0.000	82,260
68	0,000	0.000	82,260
69	0,000	0.000	82,260
70	0,000	0.000	82,260
71	4,036	4.036	86,296
72	0,000	0.000	86,296
73	0,000	0.000	86,296
74	0,000	0.000	86,296
75	0,000	0.000	86,296
76	0,000	0.000	86,296
77	0,000	0.000	86,296
78	0,000	0.000	86,296
79	2,416	2.416	88,712
80	0,000	0.000	88,712
81	0,000	0.000	88,712
82	0,000	0.000	88,712
83	0,000	0.000	88,712
84	0,000	0.000	88,712
85	0,000	0.000	88,712
86	0,000	0.000	88,712
87	0,000	0.000	88,712
88	0,000	0.000	88,712
89	0,000	0.000	88,712
90	0,602	0.602	89,314

REMAINING VALUES ARE ALL ZERO  
NUMBER OF OBSERVATIONS= 17710

SUM= 346466

MEAN= 19,559

VAR= 402,762

SD= 20

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

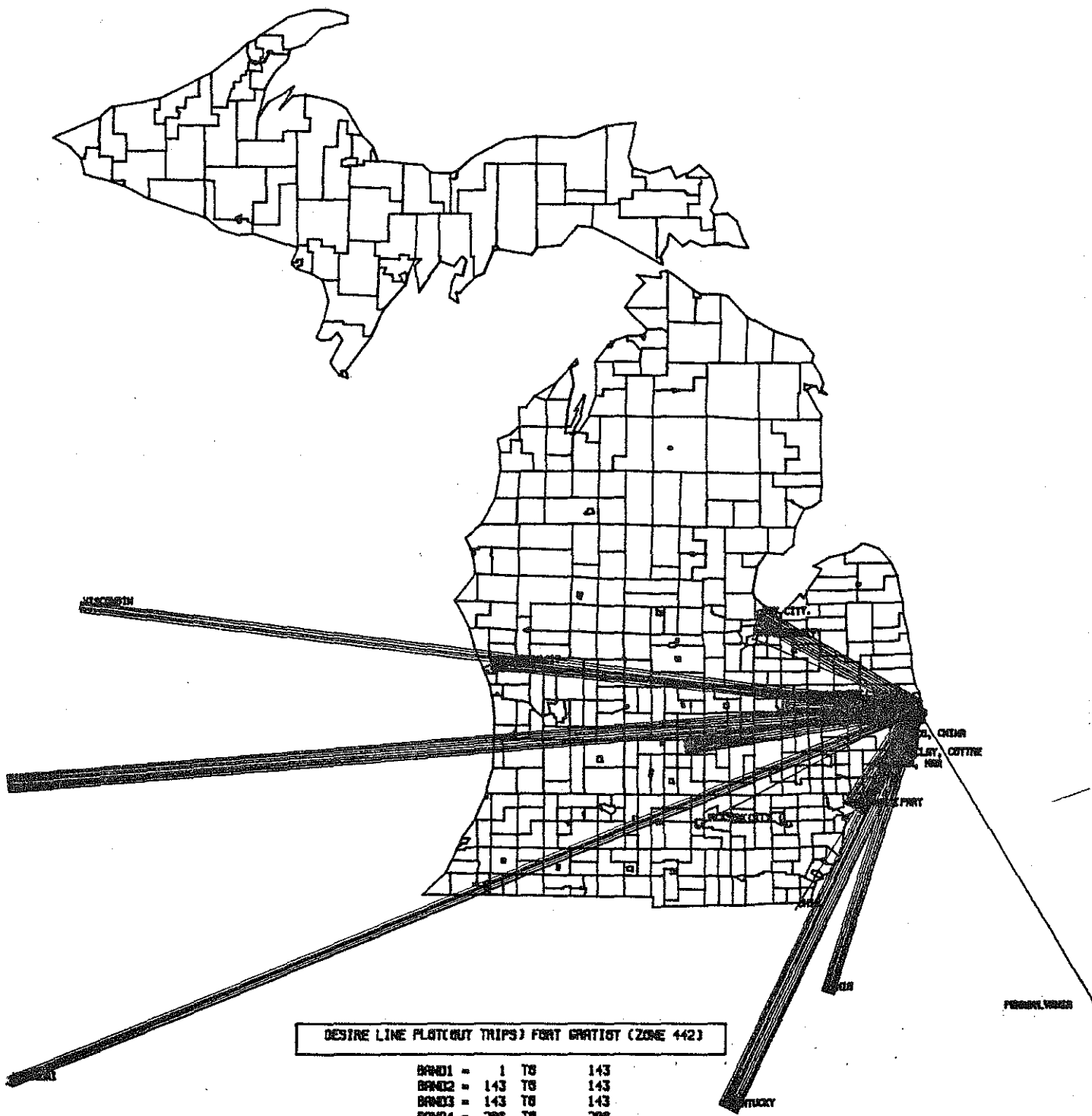


ORIGIN IS 442 - FORT GRATIOT, PORT HURON

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
DETROIT(PART 1 OF 3), EA	4	3	6	8	15	16	4
KENTUCKY	0	6	0	1	2	0	4
FLINT(CITY).	0	0	0	0	8	0	1
BAY CITY.	1	0	0	1	4	0	0
IOWA	1	0	1	2	0	0	1
LANSING(CITY),E.LANSING(	0	0	0	0	4	0	0
OHIO	0	0	0	2	0	0	1
WISCONSIN	1	0	0	2	0	0	0
MISSOURI	1	1	0	0	0	0	1
CASCO, CHINA, EAST CHINA	0	0	0	1	0	0	2
ALMONT, DRYDEN, IMLAY.	0	0	2	0	0	0	0
MUSKEGON(CITY).	2	0	0	0	0	0	0
CLAY, COTTRELLVILLE.	0	0	0	1	1	0	0
DENTON, GERRISH, LAKE, L	0	0	0	0	0	0	1
CLINTON, HARRISON.	0	0	0	0	0	0	1
REMAINDER	4	0	1	1	4	1	0
TOTAL	14	10	10	19	38	17	16



**DESIRE LINE PLOT/OUT TRIPS FORT GARTIST (ZONE 442)**

BAND1	=	1	TO	143
BAND2	=	143	TO	143
BAND3	=	143	TO	143
BAND4	=	286	TO	286
BAND5	=	286	TO	429
BAND6	=	429	TO	429
BAND7	=	429	TO	572
BAND8	=	715	TO	857
BAND9	=	1285	TO	1857
BAND10	=	8000	TO	88888888

**SAGINAW**

INTERCHANGE VALUES FROM ZONE 409 TO ALL OTHER ZONES

TABLES NUMBER 101

SAGINAW

	0	1	2	3	4	5	6	7	8	9
0			0		0		0		0	
1	0		0		0		0		0	
2	0		0		1143		0		0	
3	0		0		0		0		0	6286
5	0		0		0		0	142	0	0
6	0		0		0	715	0	0	0	0
8	0		0		286		0	285	286	0
9	143		0		0		0	0	0	0
10	0	428	0		0		0	0	0	0
12	0		0		0	571	0	0	0	286
13	285		0		0		0	0	10715	0
14	0		0		0		0	0	0	0
15	0	286	0		0		286	0	0	0
18	0		0		4857		0	0	0	0
20	0		0		0	429	0	0	0	0
21	571		0		0		0	429	0	0
22	0		0		0		0	1285	0	0
23	0		0		0		0	715	0	0
26	0		0	285	0		0	0	0	0
28	143		0		0		0	0	0	0
29	0		0		0		0	0	0	0
31	0		0		0	857	0	0	0	0
32	0		0		143		0	0	0	0
34	0		0	286	0		0	0	0	0
35	0		0		0		0	0	0	0
36	428		0		0		0	0	1143	0
41	0		0		0	143	0	0	0	0
43	0		0		1143		0	0	0	0
45	0		0		0		0	0	0	143
47	0		0		0		0	0	0	1571
49	0		0		15000		0	286	0	143
50	286		0		0		571	0	0	0
51	0	143	0		0		0	0	0	0
52	0		0	143	286	142	6286	1000	0	0
53	0		0	857	143	143	0	0	572	0
54	286	143	5714	2571	2572	286	857	714	858	428

TOTAL \* 78000

MEAN \* 142,596

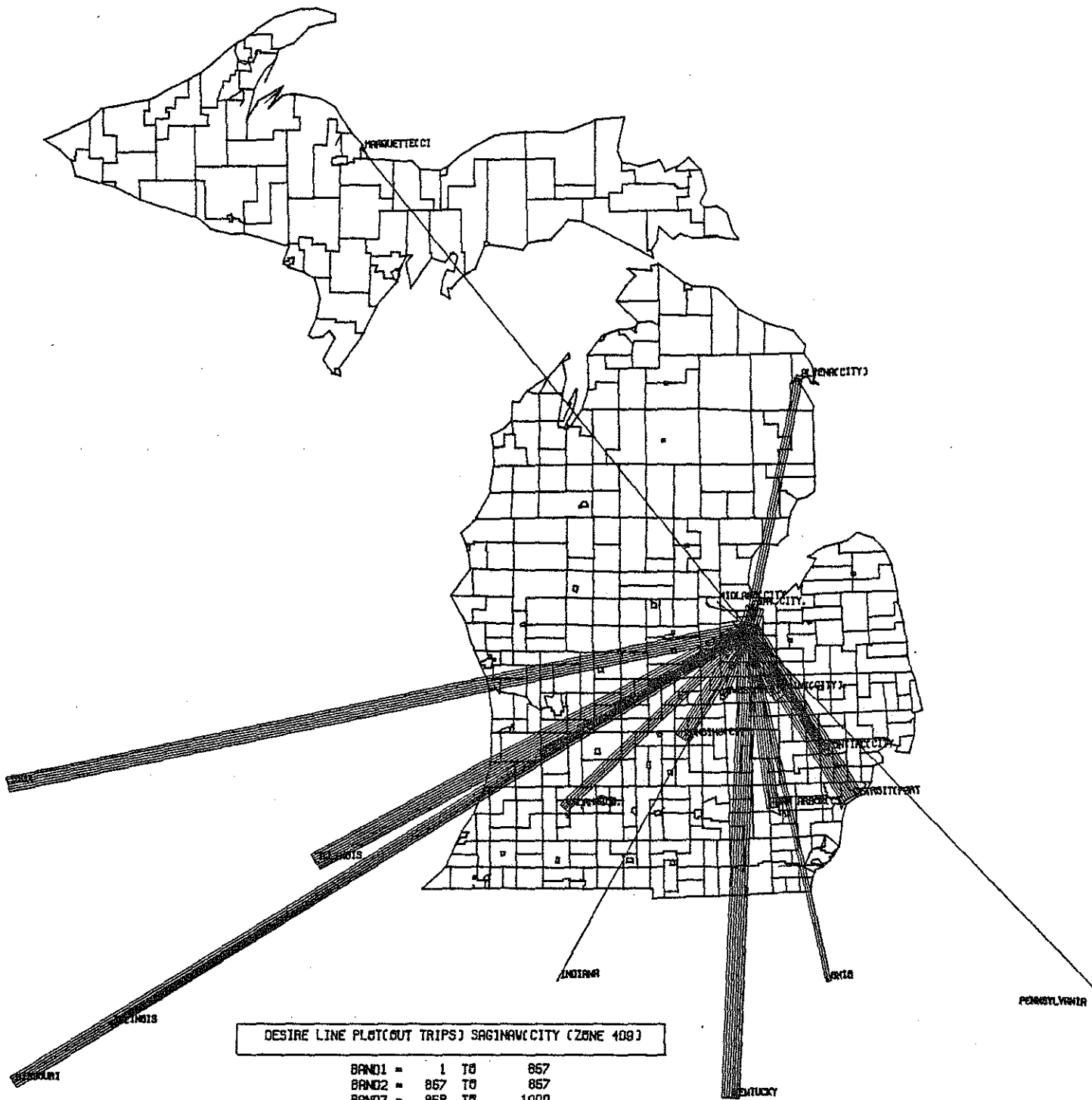


ORIGIN IS 409 - SAGINAW(CITY).

BUS TICKET SURVEY

PCT# 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
DETROIT(PART 1 OF 3), EA	18	10	16	13	18	11	19
FLINT(CITY).	18	6	18	4	10	7	12
ILLINOIS	18	6	10	2	3	3	2
RAY CITY.	6	6	12	5	9	2	4
KENTUCKY	8	8	13	3	4	2	2
LANSING(CITY),E.LANSING(	6	6	0	0	8	3	11
MISSOURI	4	8	1	1	2	2	0
IOWA	2	2	6	2	2	2	0
ANN ARBOR(CITY).	4	4	0	0	0	0	3
KALAMAZOO.	0	2	0	3	1	1	2
OWOSSO(CITY).	2	0	2	0	2	0	2
ALPENA(CITY).	0	4	0	2	0	1	1
PONTIAC(CITY).	2	0	0	1	2	2	1
ILLINOIS	4	0	2	1	0	0	0
MIDLAND(CITY).	0	2	2	0	0	2	0
REMAINDER	22	19	18	6	26	8	12
TOTAL	114	83	102	43	87	46	71



**SAULT STE. MARIE**



INTERCHANGE VALUES FROM ZONE 83 TO ALL OTHER ZONES  
SAULT STE. MARIE

TABLES NUMBER 101

	0	1	2	3	4	5	6	7	8	9
0				143	0	0	0	0	0	0
2	0			0	0	0	0	0	0	714
5	0			0	0	143	0	0	0	0
8	429			429	0	0	0	0	0	143
10	0			143	0	0	0	0	0	143
12	0			0	0	0	0	0	571	0
14	0			0	0	0	143	0	0	0
16	0			0	0	0	0	0	0	143
21	0			0	0	0	143	0	0	0
27	0			0	0	0	0	285	0	0
28	429			0	0	0	0	0	0	0
29	0			0	0	429	0	0	0	0
34	0		142	0	0	0	0	0	0	0
39	0		143	0	0	0	0	0	0	0
43	143		0	0	0	0	0	0	0	0
47	0		0	0	0	0	0	0	0	429
49	0		0	714	0	0	0	0	0	0
50	0		0	0	0	143	0	0	0	0
51	0	571	0	0	0	0	0	0	0	0
52	0	0	0	429	286	142	0	0	0	0
53	0	0	143	0	286	0	0	143	143	0
54	0	143	285	857	286	714	0	0	0	0
TOTAL #	10571				MEAN #	19.325				



ORIGIN IS 83 - SAULT STE. MARIE, SUGAR

BUS TICKET SURVEY

PCT= 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
MISSOURI	5	0	1	0	0	0	0
BAY CITY,	1	0	1	1	2	0	0
DETROIT(PART 1 OF 3), EA	0	1	1	0	0	0	3
MINNESOTA	0	1	2	1	1	0	0
ONTARIO	0	0	0	0	2	0	2
FLINT(CITY).	0	1	0	0	3	0	0
WISCONSIN	1	0	1	0	0	0	1
BEAUGRAND, BURT, HEBRON,	0	0	0	2	0	0	1
SAULT STE. MARIE, SUGAR	0	0	0	0	1	1	1
ANN ARBOR(CITY).	1	2	0	0	0	0	0
BOIS BLANC ISLAND, ST.IG	0	0	0	0	3	0	0
MARQUETTE(CITY).	1	0	0	0	0	2	0
MCMILLAN,	0	1	0	0	1	0	0
KENTUCKY	1	1	0	0	0	0	0
INDIANA	1	0	0	0	1	0	0
REMAINDER	7	2	1	4	2	2	3
TOTAL	18	9	7	8	16	5	11

-130-



# TRAVERSE CITY

INTERCHANGE VALUES FROM ZONE 15; TO ALL OTHER ZONES

TABLES NUMBER 101

TRAVERSE CITY

	0	1	2	3	4	5	6	7	8	9
0										
2	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	571
8	286	0	0	286	0	0	0	286	0	0
10	0	0	0	0	0	0	0	0	0	571
12	0	0	0	0	286	0	0	0	0	143
15	0	143	0	0	0	0	142	0	572	0
16	143	0	0	0	0	0	428	0	0	0
18	0	0	0	0	0	0	0	0	0	0
21	1143	0	0	1714	0	0	0	0	0	0
22	0	0	0	0	0	0	429	0	0	0
23	0	0	0	0	0	0	286	0	0	0
28	571	0	0	0	0	0	2000	0	0	0
29	0	286	0	0	0	0	0	0	0	0
30	0	0	143	0	0	0	0	0	0	0
34	0	0	1286	0	0	0	571	0	0	0
35	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	571	0	0	143	0
47	0	0	0	0	0	0	0	0	0	0
40	0	0	0	3714	0	0	0	0	0	1286
50	0	0	0	0	0	1143	0	0	0	0
51	0	0	0	286	0	0	0	0	0	0
52	0	0	0	0	0	428	0	0	0	0
53	0	0	0	0	0	0	0	143	0	0
54	0	0	143	286	0	0	0	0	0	0

TOTAL = 20429

MEAN = 37.347

11JUL77

TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	FREQUENCY	P.C.	CUM.
0	1	0.700	0.700
1	2	0.000	0.700
2	3	0.000	0.700
3	4	0.000	0.700
4	5	0.000	0.700
5	6	0.000	0.700
6	7	0.000	0.700
7	8	5.595	6.295
8	9	1.400	7.695
9	10	1.400	9.095
10	11	0.695	9.790
11	12	0.000	9.790
12	13	6.290	16.080
13	14	0.000	16.080
14	15	5.595	21.675
15	16	4.195	25.870
16	17	2.095	27.965
17	18	3.495	31.460
18	19	16.065	47.525
19	20	1.400	48.925
20	21	0.000	48.925
21	22	11.185	60.110
22	23	2.600	62.710
23	24	0.000	62.710
24	25	1.400	64.110
25	26	0.700	64.810
26	27	2.100	66.910
27	28	7.695	74.605
28	29	0.000	74.605
29	30	18.180	92.785
30	31	0.000	92.785
31	32	0.000	92.785
32	33	0.000	92.785
33	34	0.700	93.485
34	35	0.000	93.485
35	36	0.000	93.485
36	37	0.000	93.485
37	38	0.000	93.485
38	39	0.000	93.485
39	40	0.700	94.185
40	41	0.000	94.185
41	42	2.095	96.280
42	43	0.000	96.280
43	44	1.400	97.680
44	45	0.000	97.680
45	46	0.000	97.680
46	47	0.000	97.680
47	48	0.000	97.680
48	49	0.000	97.680
49	50	0.000	97.680
50	51	0.000	97.680
51	52	0.000	97.680
52	53	0.000	97.680
53	54	0.000	97.680
54	55	0.000	97.680
55	56	0.700	98.380
56	57	0.000	98.380
57	58	0.000	98.380
58	59	0.000	98.380
59	60	0.000	98.380
60	61	0.000	98.380
61	62	0.000	98.380
62	63	0.000	98.380
63	64	0.000	98.380
64	65	0.000	98.380
65	66	0.000	98.380
66	67	0.000	98.380
67	68	0.000	98.380
68	69	0.000	98.380
69	70	0.000	98.380
70	71	0.000	98.380
71	72	0.000	98.380
72	73	0.000	98.380
73	74	0.000	98.380
74	75	0.000	98.380
75	76	0.000	98.380
76	77	0.000	98.380
77	78	0.000	98.380
78	79	1.400	99.780
79	80	0.000	99.780

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS= 2029

SUM= 465184

MEAN= 22,771

VAR= 117,821

SD= 10

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

TRAVERSE CITY-ZONE 151

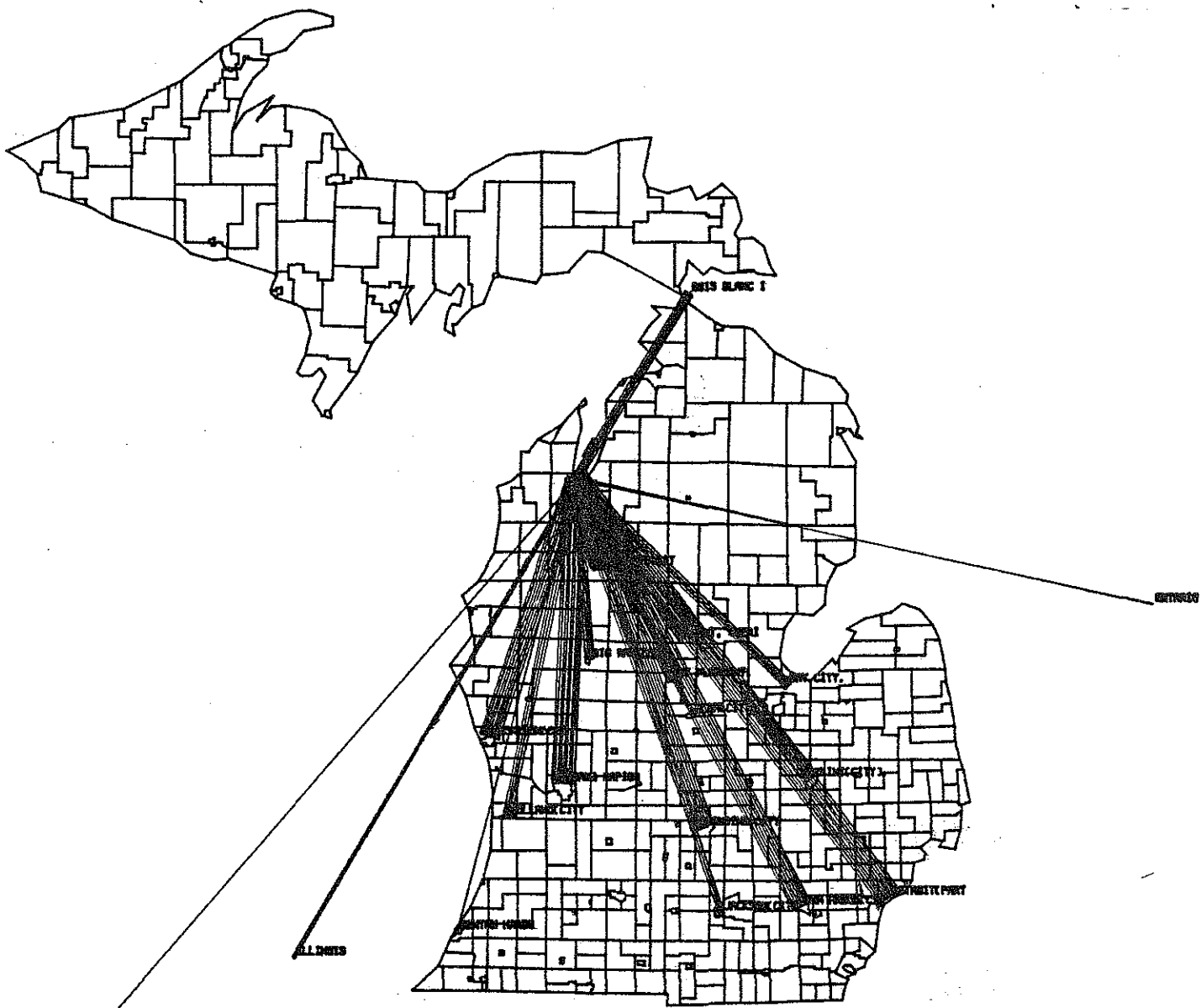
ORIGIN IS 151 - TRAVERSE CITY(CITY)ANDPE

BUS TICKET SURVEY

PCT= 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
DETROIT(PART 1 OF 3), EA	22	0	0	2	0	2	0
GRAND RAPIDS(CITY).	2	2	3	0	3	2	2
LANSING(CITY),C.LANSING(CITY)	1	0	3	3	0	0	5
ANN ARBOR(CITY).	1	2	0	3	0	0	3
MUSKEGON(CITY).	0	0	3	5	0	0	1
CADILLAC(CITY).	2	2	0	2	1	0	1
MT PLEASANT.	0	0	0	0	6	1	1
GRANT, SHERIDAN.	0	0	0	0	1	3	0
FLINT(CITY).	1	0	0	1	1	1	0
BOIS BLANC ISLAND, ST.IG	1	0	1	2	0	0	0
BIG RAPIDS(CITY).	0	0	3	0	0	1	0
HOLLAND(CITY).	1	0	2	0	0	1	0
BAY CITY.	0	0	1	0	2	0	1
ALMA(CITY).	0	2	0	1	0	0	0
JACKSON(CITY).	0	0	0	0	1	0	2
REMAINDER	4	2	4	4	5	1	7
TOTAL	35	10	20	23	20	12	23





DESIRE LINE PLOT(OUT TRIPS) TRAVERSE CIT (ZONE 151)

BAND1	=	1	TO	288
BAND2	=	288	TO	428
BAND3	=	428	TO	428
BAND4	=	571	TO	571
BAND5	=	571	TO	571
BAND6	=	571	TO	572
BAND7	=	1143	TO	1143
BAND8	=	1288	TO	1288
BAND9	=	1714	TO	2000
BAND10	=	3714	TO	9999999

**YPSILANTI**

11AUG77

PRINT DRS/BTS/YPSILANTI/TT

PAGE 2

INTERCHANGE VALUES FROM ZONE 483 TO ALL OTHER ZONES

TABLES NUMBER 101

	0	1 YPSILANTI	2	3	4	5	6	7	8	9
0		0	0	0	0	0	0	0	0	0
1	0	0	0	167	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	333
3	0	0	0	0	0	0	0	167	0	0
4	0	0	0	0	0	0	0	0	333	0
5	0	0	0	0	0	167	0	0	166	0
6	0	0	0	0	0	0	167	333	0	0
8	0	0	0	0	0	0	0	0	0	334
11	0	0	166	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	1000	0
16	0	0	334	0	0	0	0	0	166	0
18	0	0	0	1834	0	0	0	0	0	0
19	0	0	166	0	0	0	0	0	0	0
21	167	0	0	0	0	0	2167	0	0	0
22	0	0	0	0	0	0	666	0	0	0
26	0	0	0	0	0	0	167	0	0	0
31	0	0	0	0	0	167	0	0	0	0
32	0	0	0	500	0	0	0	0	0	0
34	0	0	166	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	667	0
39	0	0	0	0	0	167	0	0	0	0
40	0	0	0	0	0	0	0	0	0	166
44	0	0	834	0	0	0	0	0	0	0
45	0	0	166	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	12500
48	0	0	0	667	0	0	167	166	0	0
49	167	0	0	37500	1000	0	0	500	0	0
50	500	4000	0	0	0	333	0	0	0	0
51	0	334	0	0	0	0	0	0	0	0
52	0	0	0	0	0	1333	0	0	500	0
53	0	0	0	333	0	0	0	334	833	500
54	0	167	1166	667	1667	833	333	0	0	0
TOTAL =	78333				MEAN =	143,205				

-136-

11 JUL 77 TRIP LENGTH FREQUENCY DISTRIBUTION

TRIP LENGTH	FREQUENCY	P.C.	CUM.
0	1	0.851	0.851
1	16	11.771	12.622
2	5	3.557	16.179
3	2	1.428	17.607
4	0	0.000	17.607
5	0	0.000	17.607
6	51	36.277	53.884
7	1	0.728	54.612
8	1	0.728	55.340
9	3	2.183	57.523
10	1	0.728	58.251
11	1	0.728	58.979
12	1	0.728	59.707
13	1	0.728	60.435
14	0	0.000	60.435
15	0	0.000	60.435
16	0	0.000	60.435
17	0	0.000	60.435
18	1	0.728	61.163
19	0	0.000	61.163
20	0	0.000	61.163
21	0	0.000	61.163
22	0	0.000	61.163
23	0	0.000	61.163
24	0	0.000	61.163
25	0	0.000	61.163
26	0	0.000	61.163
27	0	0.000	61.163
28	0	0.000	61.163
29	1	0.728	61.891
30	0	0.000	61.891
31	0	0.000	61.891
32	2	1.456	63.347
33	0	0.000	63.347
34	0	0.000	63.347
35	0	0.000	63.347
36	0	0.000	63.347
37	0	0.000	63.347
38	0	0.000	63.347
39	0	0.000	63.347
40	0	0.000	63.347
41	0	0.000	63.347
42	0	0.000	63.347
43	0	0.000	63.347
44	0	0.000	63.347
45	0	0.000	63.347
46	0	0.000	63.347
47	0	0.000	63.347
48	0	0.000	63.347
49	0	0.000	63.347
50	0	0.000	63.347
51	0	0.000	63.347
52	0	0.000	63.347
53	0	0.000	63.347
54	0	0.000	63.347
55	0	0.000	63.347
56	0	0.000	63.347
57	0	0.000	63.347
58	0	0.000	63.347
59	0	0.000	63.347
60	0	0.000	63.347
61	2	1.456	64.803
62	0	0.000	64.803
63	0	0.000	64.803
64	0	0.000	64.803
65	0	0.000	64.803
66	0	0.000	64.803
67	0	0.000	64.803
68	0	0.000	64.803
69	0	0.000	64.803
70	0	0.000	64.803
71	0	0.000	64.803
72	0	0.000	64.803
73	0	0.000	64.803
74	0	0.000	64.803
75	0	0.000	64.803
76	0	0.000	64.803
77	0	0.000	64.803
78	0	0.000	64.803
79	0	0.000	64.803
80	1	0.728	65.531

REMAINING VALUES ARE ALL ZERO  
 NUMBER OF OBSERVATIONS = 75333      SUM = 760469      MEAN = 9.708      VAR = 109.071      SD = 10.444

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

YPSILANTI-ZONE 483

ORIGIN IS 483 - YPSILANTI(CITY).

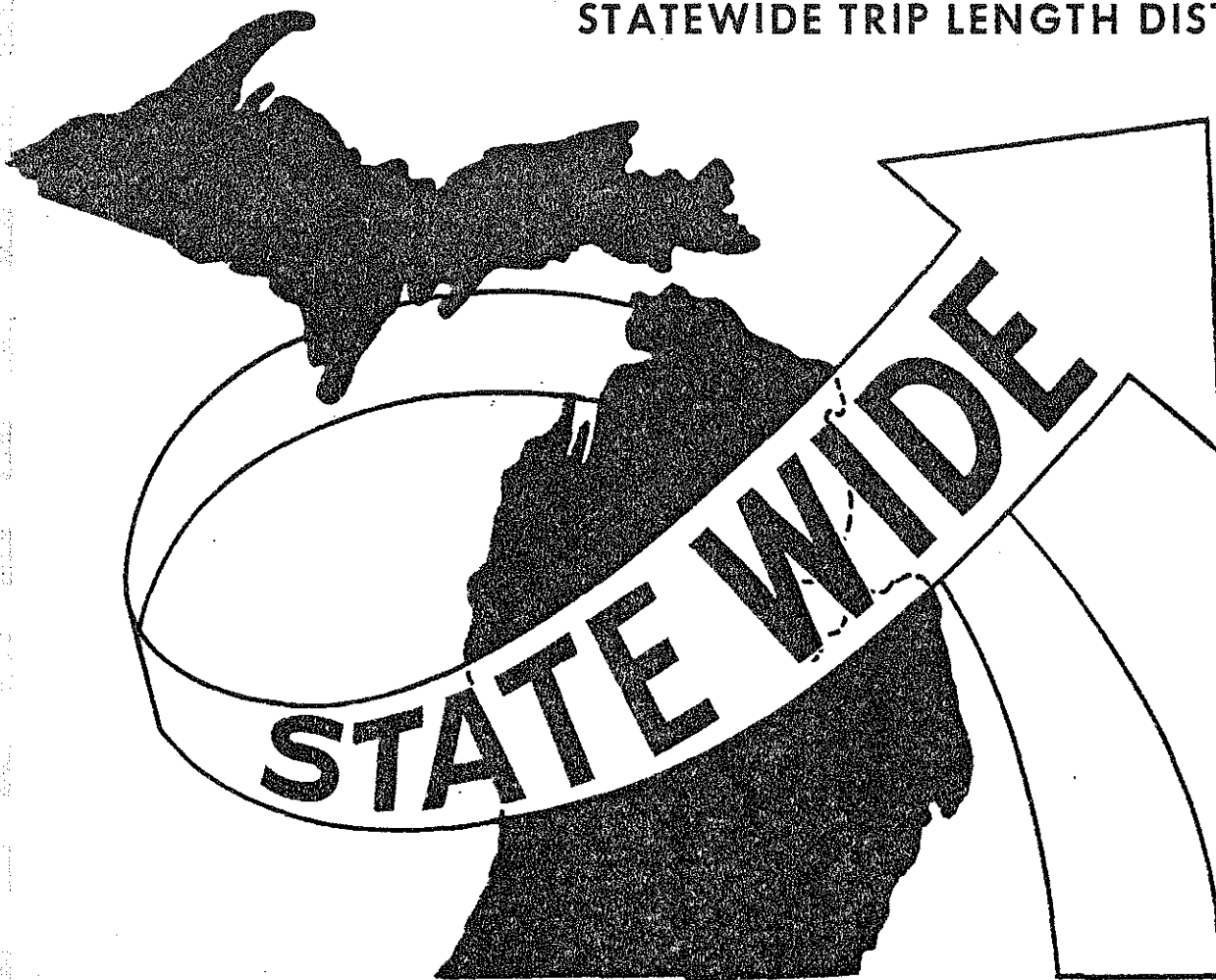
BUS TICKET SURVEY

PCT= 0

DESTINATIONS	5/ 9/77	5/10/77	5/11/77	5/12/77	5/13/77	5/14/77	5/15/77
DETROIT(PART 1 OF 3), EA	29	27	32	41	57	39	0
ANN ARBOR(CITY).	13	12	11	12	13	14	0
CANTON.	4	5	6	2	5	2	0
JACKSON(CITY).	0	1	2	2	7	1	0
LANSING(CITY),E.LANSING(CITY)	1	2	0	0	4	4	0
IOWA	1	4	1	0	3	1	0
ILLINOIS	0	0	4	2	2	0	0
KENTUCKY	0	2	0	4	1	0	0
FLINT(CITY).	1	1	0	0	2	2	0
DEARBORN(CITY).	0	0	3	0	1	2	0
OHIO	1	0	2	1	1	0	0
MINNESOTA	4	0	0	0	1	0	0
FORT GRATIOT, PORT HURON	0	0	0	0	4	1	0
PONTIAC(CITY).	1	0	2	1	0	0	0
YPSILANTI(CITY).	1	0	0	1	2	0	0
REMAINDER	16	6	7	10	20	3	0
TOTAL	72	60	70	76	123	69	0



**STATEWIDE TRIP LENGTH DISTRIBUTION**

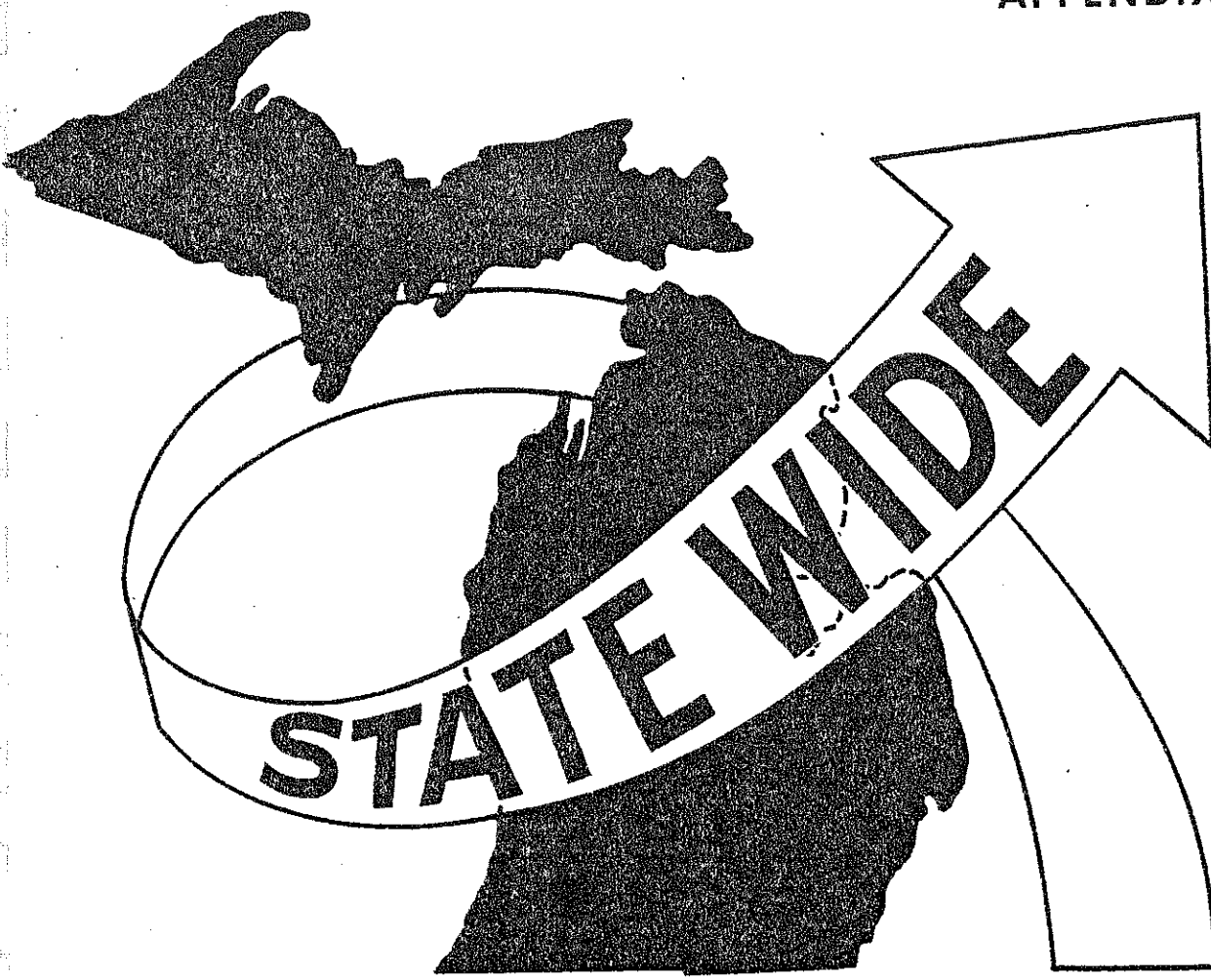


**STATE TOTAL**





APPENDIX "A"



## 5 4 7 Z O N E S T A T E W I D E M O D E L

ZONE	COUNTY	TOWNSHIP OR CITY
----	-----	-----
001	ALCONA	ALCONA, CALEDONIA, GREENBUSH, GUSTIN, HARRISVILLE, HAWES, HAYNES, MIKADO.
002	ALCONA	CURTIS, MILLEN, MITCHELL.
003	ALGER	MUNISING(CITY).
004	ALGER	BURT, MUNISING.
005	ALGER	LIMESTONE, MATHIAS, ONOTA, ROCK RIVER.
006	ALGER	AU TRAIN, GRAND ISLAND.
007	ALLEGAN	ALLEGAN, CHESHIRE, TROWBRIDGE, VALLEY.
008	ALLEGAN	CASCO, CLYDE, GANGES, LEE.
009	ALLEGAN	GUNPLAIN, OTSEGO.
010	ALLEGAN	FILLMORE, HEATH, MANLIUS, MONTEREY, OVERISEL, SALEM.
011	ALLEGAN	LAKETOWN, SAUGATUCK.
012	ALLEGAN	DORR, HOPKINS, LEIGHTON, MARTIN, WATSON, WAYLAND.
013	ALPENA	ALPENA(CITY).
014	ALPENA	ALPENA, SANBORN.
015	ALPENA	GREEN, LONG RAPIDS, MAPLE RIDGE, OSSINEKE, WELLINGTON. WILSON.
016	ANTRIM	CHESTONIA, JORDAN, MANCELONA, STAR, WARNER.
017	ANTRIM	BANKS, CENTRAL LAKE, ECHO, TORCH LAKE.
018	ANTRIM	CUSTER, ELK RAPIDS, FOREST HOME, HELENA, KEARNEY, MILTON.
019	ARENAC	LINCOLN, STANDISH.
020	ARENAC	AU GRES, SIMS, TURNER, WHITNEY.
021	ARENAC	ADAMS, ARENAC, CLAYTON, DEEP RIVER, MASON, MOFFATT.
022	BARAGA	ARVON, LANSE.
023	BARAGA	BARAGA.
024	BARAGA	COVINGTON, SPURF.
025	BARRY	HASTINGS(CITY).
026	BARRY	CARLTON, CASTLETON, HASTINGS, IRVING, RUTLAND, WOODLAND.
027	BARRY	ASSYRIA, BALTIMORE, BARRY, HOPE, JOHNSTOWN, MAPLE GROVE.
028	BARRY	ORANGEVILLE, PRAIRIEVILLE, THORNAPPLE, YANKEE SPRINGS.
029	BAY	BAY CITY.
030	BAY	BANGOR.
031	BAY	BEAVER, KAWKAWLIN, MONITOR, WILLIAMS.
032	BAY	FRANKENLUST, HAMPTON, MERRITT, PORTSMOUTH.
033	BAY	FRASER, GARFIELD, GIBSON, MT. FOREST, PINCONNING.
034	BENZIE	CRYSTAL LAKE, LAKE.
035	BENZIE	BENZONIA, BLAINE, GILMORE, JOYFIELD, WELDON.
036	BENZIE	ALMIRA, COLFAX, HOMESTEAD, INLAND, PLATTE.
037	BERRIEN	BENTON HARBOR(CITY), ST. JOE(CITY).
038	BERRIEN	BARODA, LAKE, DRONOKO.
039	BERRIEN	BENTON, HAGAR, ST. JOSEPH.
040	BERRIEN	BAINBRIDGE, COLOMA, WATERVLIET.
041	BERRIEN	BERRIEN, PIPESTONE.
042	BERRIEN	BERTRAND, BUCHANAN, GALIEN, WEESAW.
043	BERRIEN	CHIKAMING, NEW BUFFALO, THREE OAKS.
044	BERRIEN	LINCOLN, ROYALTON, SODUS.
045	BERRIEN	NILES(CITY).
046	BERRIEN	NILES.
047	BERRIEN	BUCHANAN(CITY).

048 BRANCH	COLDWATER(CITY).
049 BRANCH	BATAVIA, MATTESON, SHERWOOD.
050 BRANCH	BETHEL, BRONSON, GILEAD, NOBLE.
051 BRANCH	BUTLER, QUINCY.
052 BRANCH	ALGANSEE, CALIFORNIA, KINDERHOOK, OVID.
053 BRANCH	GIRARD, UNION.
054 BRANCH	COLDWATER.
055 CALHOUN	BATTLE CREEK(CITY).
056 CALHOUN	ALBION, HOMER.
057 CALHOUN	ATHENS, BURLINGTON, LEROY, NEWTON.
058 CALHOUN	BATTLE CREEK.
059 CALHOUN	BEDFORD.
060 CALHOUN	CLARENCE, CLARENDON, ECKFORD, LEE, MARENGO,
061 CALHOUN	CONVIS, FREDONIA, MARSHALL.
062 CALHOUN	EMMETT.
063 CALHOUN	PENNFIELD.
064 CALHOUN	SHERIDAN.
065 CALHOUN	TEKONSHA.
066 CALHOUN	ALBION(CITY).
067 CALHOUN	MARSHALL(CITY).
068 CASS	DOWAGIAC(CITY).
069 CASS	LA GRANGE, POKAGON, SILVER CREEK, WAYNE.
070 CASS	HOWARD, MILTON.
071 CASS	JEFFERSON, ONTWA.
072 CASS	MARCELLUS, VOLINIA.
073 CASS	NEWBERG, PENN.
074 CASS	CALVIN, MASON, PORTER.
075 CHARLEVOIX	CHARLEVOIX(CITY), PEAINE, ST. JAMES.
076 CHARLEVOIX	BOYNE VALLEY, CHANDLER, HUDSON, MELROSE.
077 CHARLEVOIX	SOUTH ARM, WILSON.
078 CHARLEVOIX	BAY, CHARLEVOIX, EVANGELINE, EVELINE, HAYES, MARION, NORWOOD.
079 CHEBOYGAN	CHEBOYGAN.
080 CHEBOYGAN	BEAUGRAND, BURT, HEBRON, INVERNESS, MACKINAW, MULLETT, MUNRO.
081 CHEBOYGAN	ELLIS, FOREST, KOEHLER, MENTOR, NUNDA, TUSCARORA, WALKER, WAVERLY, WILMOT.
082 CHEBOYGAN	ALOHA, BENTON, GRANT.
083 CHIPPEWA	SAULT STE. MARIE, SUGAR ISLAND.
084 CHIPPEWA	BRUCE, PICKFORD.
085 CHIPPEWA	CHIPPEWA, HULBERT, WHITEFISH.
086 CHIPPEWA	DETOUR, DRUMMOND, RABER.
087 CHIPPEWA	KINROSS, RUDYARD, TROUT LAKE.
088 CHIPPEWA	BAY MILLS, DAFTER, SUPERIOR.
089 CLARE	GRANT, SHERIDAN.
090 CLARE	ARTHUR, FRANKLIN, FROST, HAMILTON, HATTON, HAYES.
091 CLARE	FREEMAN, GARFIELD, GREENWOOD, LINCOLN, REDDING, SUMMERFIELD, SURREY, WINTERFIELD.
092 CLINTON	ST. JOHNS(CITY).
093 CLINTON	BATH.
094 CLINTON	BENGAL, BINGHAM, ESSEX.
095 CLINTON	DALLAS, LEBANON, WESTPHALIA.
096 CLINTON	DUPLAIN, GREENRUSH.
097 CLINTON	EAGLE, RILEY, WATERTOWN.
098 CLINTON	OLIVE, VICTOR.
099 CLINTON	OVID.
100 CLINTON	DEWITT.

101	CRAWFORD	GRAYLING(CITY).
102	CRAWFORD	BEAVER CREEK, FREDERIC, GRAYLING, LOVELLS, MAPLE FOREST, SOUTH BRANCH.
103	DELTA	ESCANABA(CITY).
104	DELTA	BARK RIVER, FORD RIVER.
105	DELTA	BAY DE NOC, ENSIGN, MASONVILLE.
106	DELTA	ESCANABA, WELLS.
107	DELTA	FAIRBANKS, GARDEN, NAHMA.
108	DELTA	BALDWIN, BRAMPTON, CORNELL, MAPLE RIDGE.
109	DICKINSON	IRON MOUNTAIN(CITY).
110	DICKINSON	BREITUNG.
111	DICKINSON	BREEN, FELCH, SAGOLA, WEST BRANCH.
112	DICKINSON	NORWAY, WAUCEDAH.
113	EATON	CHARLOTTE(CITY).
114	EATON	BENTON, BROOKFIELD, EATON.
115	EATON	CARMEL, CHESTER, WALTON.
116	EATON	BELLEVUE, KALAMO.
117	EATON	DELTA.
118	EATON	EATON RAPIDS, HAMLIN.
119	EATON	ONEIDA, ROXAND.
120	EATON	SUNFIELD, VERMONTVILLE.
121	EATON	WINDSOR.
122	EATON	EATON RAPIDS(CITY).
123	EATON	GRAND LEDGE(CITY).
124	EMMET	PETOSKEY(CITY).
125	EMMET	BLISS, CARP LAKE, CROSS VILLAGE, CENTER, MCKINLEY, READMOND, WAWATAM.
126	EMMET	FRIENDSHIP, LITTLEFIELD, LITTLE TRAVERSE, MAPLE RIVER, PLEASANT VIEW, WEST TRAVERSE.
127	EMMET	BEAR CREEK, RESORT, SPRINGVALE.
128	GENESEE	FLINT(CITY).
129	GENESEE	VIENNA.
130	GENESEE	FLUSHING, MT MORRIS.
131	GENESEE	CLAYTON, FLINT.
132	GENESEE	GRAND BLANC.
133	GENESEE	BURTON(CITY).
134	GENESEE	DAVISON.
135	GENESEE	RICHFIELD.
136	GENESEE	GENESEE.
137	GENESEE	FOREST, THETFORD.
138	GENESEE	MONTROSE.
139	GENESEE	GAINES, MUNDY.
140	GENESEE	ARGENTINE, FENTON.
141	GENESEE	ATLAS.
142	GLADWIN	GLADWIN(CITY).
143	GLADWIN	BENTLEY, BILLINGS, BOURRET, BUTMAN, CLEMENT, GRIM, HAY, SECORD, SHERIDAN, TOBACCO.
144	GLADWIN	GLADWIN, SAGE, SHERMAN.
145	GLADWIN	BEAVERTON, BUCKEYE, GROUT.
146	GOGEBIC	IRONWOOD.
147	GOGEBIC	WAKEFIELD.
148	GOGEBIC	MARENISCO.
149	GOGEBIC	WATERSMEET.
150	GOGEBIC	BESSEMER, ERWIN.
151	GRAND TRAVERSE	TRAVERSE CITY(CITY)ANDPENINSULA.
152	GRAND TRAVERSE	BLAIR, GARFIELD, GREEN LAKE, LONG LAKE.

153	GRAND TRAVERSE	EAST BAY, FIFE LAKE, PARADISE, UNION.
154	GRAND TRAVERSE	GRANT, MAYFIELD.
155	GRAND TRAVERSE	ACME, WHITEWATER.
156	GRATIOT	ALMA(CITY).
157	GRATIOT	ARCADA, EMERSON, HAMILTON, LAFAYETTE, NORTH STAR, NEW HAVEN NEWARK, SUMNER.
158	GRATIOT	BETHANY, PINE RIVER, SEVILLE, WHEELER.
159	GRATIOT	ELBA, FULTON, NORTH SHADE, WASHINGTON.
160	GRATIOT	ITHACA(CITY).
161	HILLSDALE	HILLSDALE(CITY).
162	HILLSDALE	ALLEN, FAYETTE.
163	HILLSDALE	AMBOY, RANSOM, WRIGHT.
164	HILLSDALE	CAMBRIA, HILLSDALE, WOODBRIDGE.
165	HILLSDALE	CAMDEN, READING.
166	HILLSDALE	JEFFERSON, PITTSFORD.
167	HILLSDALE	LITCHFIELD, MOSCOW, SCIPO.
168	HILLSDALE	ADAMS, SOMERSET, WHEATLAND.
169	HOUGHTON	HOUGHTON(CITY).
170	HOUGHTON	CALUMET, OSCEOLA, SCHOOLCRAFT.
171	HOUGHTON	CHASSELL, TORCH LAKE
172	HOUGHTON	DUNCAN, LAIRD.
173	HOUGHTON	FRANKLIN, HANCOCK, QUINCY.
174	HOUGHTON	PORTAGE.
175	HOUGHTON	ADAMS, ELM RIVER, STANTON.
176	HURON	BAD AXE(CITY).
177	HURON	BINGHAM, PARIS, SAND BEACH, SHERMAN.
178	HURON	BLOOMFIELD, LINCOLN, RIBICON, SIGEL, VERONA.
179	HURON	BROOKFIELD, GRANT, SEBEWAING, SHERIDAN.
180	HURON	CASEVILLE, CHANDLER, LAKE, MCKINLEY, MEADE.
181	HURON	COLFAX, FAIRHAVEN, OLIVER, WINSOR.
182	HURON	DWIGHT, GORE, HUME, HURON, PORT AUSTIN, POINT AUX BARQUES.
183	INGHAM	LANSING(CITY), E.LANSING(CITY).
184	INGHAM	MERIDIAN.
185	INGHAM	DELHI.
186	INGHAM	ALAIEDON, VEVAY.
187	INGHAM	AURELIUS, LESLIE, ONONDAGA.
188	INGHAM	BUNKER HILL, STOCKBRIDGE.
189	INGHAM	INGHAM, WHITE OAK.
190	INGHAM	LEROY, LOCKE.
191	INGHAM	WHEATFIELD, WILLIAMSTON.
192	IONIA	IONIA(CITY).
193	IONIA	BERLIN, BOSTON.
194	IONIA	CAMPBELL, ODESSA.
195	IONIA	DANBY, SEBEWA.
196	IONIA	EASTON, KEENE.
197	IONIA	IONIA, RONALD.
198	IONIA	LYONS, NORTH PLAINS.
199	IONIA	ORANGE, PORTLAND.
200	IONIA	ORLEANS, OTISCO.
201	IDSCO	ALABASTER, TAWAS.
202	IDSCO	AU SABLE, BALDWIN, WILPER.
203	IDSCO	BURLEIGH, GRANT, PLAINFIELD, RENO, SHERMAN.
204	IDSCO	OSCODA.
205	IRON	IRON RIVER(CITY).
206	IRON	STAMBAUGH.
207	IRON	CRYSTAL FALLS.
208	IRON	MANSFIELD, MASTODON.

209	IRON	DATES, HEMATITE, IRON RIVER.
210	ISABELLA	MT PLEASANT.
211	ISABELLA	CHIPPEWA, COF.
212	ISABELLA	COLDWATER, GILMORE, VERNON, WISE.
213	ISABELLA	DENVER, ISABELLA, NOTTAWA, SHERMAN.
214	ISABELLA	LINCOLN, UNION.
215	ISABELLA	BROOMFIELD, DEERFIELD, FREMONT, ROLLAND.
216	JACKSON	JACKSON(CITY).
217	JACKSON	SUMMIT.
218	JACKSON	CONCORD, HANOVER, PULASKI, SPRING ARBOR.
219	JACKSON	BLACKMAN, RIVES.
220	JACKSON	GRASS LAKE, LEONI.
221	JACKSON	NAPOLEON, NORVELL.
222	JACKSON	COLUMBIA, LIBERTY.
223	JACKSON	PARMA, SANDSTONE.
224	JACKSON	SPRINGPORT, TOMKINS.
225	JACKSON	HENRIETTA, WATERLOO.
226	KALAMAZOO	KALAMAZOO.
227	KALAMAZOO	PORTAGE.
228	KALAMAZOO	COMSTOCK.
229	KALAMAZOO	CHARLESTON.
230	KALAMAZOO	COOPER, RICHLAND, ROSS.
231	KALAMAZOO	ALAMO, OSHTMO.
232	KALAMAZOO	PRAIRIE RONDE, TEXAS.
233	KALAMAZOO	BRADY, CLIMAX, PAVILION, SCHOOLCRAFT, WAKESHMA.
234	KALKASKA	BOARDMAN, CLEARWATER, KALKASKA, ORANGE, RAPID RIVER, SPRINGFIELD.
235	KALKASKA	BEAR LAKE, BLUE LAKE, COLD SPRINGS, EXCELSIOR, GARFIELD, OLIVER.
236	KENT	GRAND RAPIDS(CITY).
237	KENT	ADA, CASCADE.
238	KENT	ALGOMA, CANNON, COURTLAND, PLAINFIELD.
239	KENT	ALPINE, SPARTA.
240	KENT	BOWNE, CALEDONIA.
241	KENT	BYRON, GAINES.
242	KENT	GRAND RAPIDS.
243	KENT	GRATTAN, OAKFIELD, SPENCER.
244	KENT	LOWELL, VERGENNES.
245	KENT	NELSON, SOLON, TYRONE.
246	KENT	WALKER.
247	KENT	KENTWOOD.
248	KENT	WYOMING(CITY).
249	KEWEENAW	ALLOUEZ, EAGLE HARBOR, GRANT, HOUGHTON, SHERMAN.
250	LAKE	CHASE, CHERRY VALLEY, LAKE, PINORA, PLEASANT PLAIN, SWEETWATER, WEBBER, YATES.
251	LAKE	DOVER, EDEN, ELK, ELLSWORTH, NEWKIRK, PEACOCK, SAUBLE.
252	LAPEER	LAPEER(CITY).
253	LAPEER	ARCADIA, ATTICA, GODDLAND.
254	LAPEER	BURLINGTON, BURNSIDE, NORTH BRANCH.
255	LAPEER	DEERFIELD, MARATHON, RICH.
256	LAPEER	ELBA, HADLEY, METAMORA.
257	LAPEER	LAPEER, MAYFIELD, OREGON.
258	LAPEER	ALMONT, DRYDEN, IMLAY.
259	LEELANAU	LEELANAU, LELAND, SUTTONS BAY
260	LEELANAU	CLEVELAND, EMPIRE, GLEN ARBOR, KASSON.
261	LEELANAU	BINGHAM, CENTERVILLE, ELMWOOD, SOLON.

262	LENAWEE	ADRIAN(CITY).
263	LENAWEE	ADRIAN, FRANKLIN.
264	LENAWEE	BLISSFIELD, DEERFIELD, OGDEN, PALMYRA, RIGA.
265	LENAWEE	CAMBRIDGE, ROME.
266	LENAWEE	CLINTON, MACON, RAISIN, RIDGEWAY, TECUMSEH.
267	LENAWEE	DOVER, SENECA.
268	LENAWEE	FAIRFIELD, MADISON.
269	LENAWEE	HUDSON, MEDINA.
270	LENAWEE	ROLLIN, WOODSTOCK.
271	LIVINGSTON	HOWELL, MARION.
272	LIVINGSTON	COHOCTAH, CONWAY, HANDY, IOSCO.
273	LIVINGSTON	DEERFIELD, HARTLAND, OCEOLA, TYRONE.
274	LIVINGSTON	GREEN OAK, HAMBURG.
275	LIVINGSTON	BRIGHTON, GENOA.
276	LIVINGSTON	PUTNAM, UNADILLA.
277	LUCE	MCMILLAN.
278	LUCE	COLUMBUS, LAKEFIELD.
279	LUCE	PENTLAND.
280	MACKINAC	BOIS BLANC ISLAND, ST.IGNACE(CITY).
281	MACKINAC	CLARK, MARQUETTE, ST IGNACE.
282	MACKINAC	BREVORT, HENDRICKS, HUDSON, MORAN.
283	MACKINAC	GARFIELD, NEWTON, PORTAGE.
284	MACOMB	CLINTON, HARRISON.
285	MACOMB	ST CLAIR SHORES(CITY)E,DET(CITY),ROSEVILLE(CITY).
286	MACOMB	WARREN(CITY).
287	MACOMB	SHELBY.
288	MACOMB	CHESTERFIELD, MACOMB.
289	MACOMB	BRUCE, RAY, WASHINGTON.
290	MACOMB	ARMADA, LENOX, RICHMOND.
291	MANISTEE	BROWN, FILER, MANISTEE, STRONACH.
292	MANISTEE	DICKSON, NORMAN.
293	MANISTEE	CLEON, MAPLE GROVE, MARILLA, SPRINGDALE.
294	MANISTEE	ARCADIA, BEAR LAKE, ONEKAMA, PLEASANTON.
295	MARQUETTE	MARQUETTE(CITY).
296	MARQUETTE	CHOCOLAY, RICHMOND, SANDS, SKANDIA, WEST BRANCH.
297	MARQUETTE	ELY, ISHPEMING, TILDEN.
298	MARQUETTE	EWING, FORSYTH, TURIN, WELLS.
299	MARQUETTE	ISHPEMING(CITY).
300	MARQUETTE	MARQUETTE, NEGAUNEE.
301	MARQUETTE	CHAMPION, HUMBOLDT, MICHIGAMME, POWELL, REPUBLIC.
302	MASON	LUDINGTON(CITY).
303	MASON	BRANCH, CUSTER, EDEN, LOGAN.
304	MASON	FREESOIL, GRANT, HAMLIN, MEADE, SHERIDAN, SHERMAN, VICTORY.
305	MASON	AMBER, PERE MARQUETTE, RIVERTON, SUMMIT.
306	MECOSTA	BIG RAPIDS(CITY).
307	MECOSTA	BIG RAPIDS, COLFAX, GRANT, GREEN.
308	MECOSTA	CHIPPEWA, FORK, MARTINY, SHERIDAN.
309	MECOSTA	HINTON, MILLBROOK, MORTON, WHEATLAND.
310	MECOSTA	AETNA, AUSTIN, DEERFIELD, MECOSTA.
311	MENOMINEE	MENOMINEE(CITY).
312	MENOMINEE	HARRIS, MEYER, SPALDING.
313	MENOMINEE	INGALLSTON, LAKE, MELLE, MENOMINEE, STEPHENSON.
314	MENOMINEE	CEDARVILLE, DAGGETT, FAITHORN, GOURLEY, HOLMES, NADEAU.
315	MIDLAND	MIDLAND(CITY).



316	MIDLAND	GREENDALE, JASPER, LEE, PORTER.
317	MIDLAND	HOMER, INGERSOLL, MIDLAND, MT. HALEY.
318	MIDLAND	HOPE, LARKIN, LINCOLN, MILLS.
319	MIDLAND	EDENVILLE, GENEVA, JEROME, WARREN.
320	MISSAUKEE	LAKE, REEDER, RICHLAND, RIVERSIDE.
321	MISSAUKEE	BLOOMFIELD, CALDWELL, FOREST, PIONEER.
322	MISSAUKEE	AETNA, BUTTERFIELD, CLAM UNION, ENTERPRISE, HOLLAND, NORWICH, WEST BRANCH.
323	MONROE	MONROE(CITY).
324	MONROE	BEDFORD.
325	MONROE	BERLIN.
326	MONROE	DUNDEE.
327	MONROE	ERIE.
328	MONROE	EXETER, RAISINVILLE.
329	MONROE	FRENCHTOWN, MONROE.
330	MONROE	IDA, SUMMERFIELD.
331	MONROE	LASALLE.
332	MONROE	LONDON, MILAN.
333	MONROE	ASH.
334	MONROE	WHITEFORD.
335	MONTCALM	GREENVILLE.
336	MONTCALM	BLOOMER, BUSHNELL, CRYSTAL, EVERGREEN.
337	MONTCALM	DAY, FERRIS, HOME, RICHLAND.
338	MONTCALM	EUREKA, FAIRPLAIN, MONTCALM, SIDNEY.
339	MONTCALM	MAPLE VALLEY, PIERSON, REYNOLDS, WINFIELD.
340	MONTCALM	BELVIDERE, CATO, DOUGLASS, PINE.
341	MONTMORENCY	ALBERT, AVERY, BRILEY, HILLMAN, LOUD, MONTMORENCY, RUST, VIENNA.
342	MUSKEGON	MUSKEGON(CITY).
343	MUSKEGON	LAKETON.
344	MUSKEGON	MUSKEGON.
345	MUSKEGON	NORTON SHORES.
346	MUSKEGON	BLUE LAKE, HOLTON.
347	MUSKEGON	CASNOVIA, MOORLAND.
348	MUSKEGON	CEDAR CREEK, DALTON.
349	MUSKEGON	EGELSTON.
350	MUSKEGON	FRUITLAND, MONTAGUE, WHITE RIVER, WHITEHALL.
351	MUSKEGON	FRUITPORT, RAVENNA, SULLIVAN.
352	NEWAGO	FREMONT(CITY).
353	NEWAGO	BARTON, BEAVER, DENVER, HOME, LILLEY, MERRILL, MONROE, NORWICH, TROY.
354	NEWAGO	BIG PRAIRIE, EVERETT, GOODWELL, LINCOLN, SHERMAN, WILCOX.
355	NEWAGO	BRIDGETON, DAYTON, SHERIDAN.
356	NEWAGO	BROOKS, CROTON, GARFIELD.
357	NEWAGO	ASHLAND, ENSLEY, GRANT.
358	OAKLAND	PONTIAC(CITY).
359	OAKLAND	SOUTHFIELD.
360	OAKLAND	ROYAL OAK TWP, AND THE FOLLOWING CITIES) BERKLEY, CLAWSON, FERNDALE, HAZEL PARK, HUNTINGTON WOODS, MADISON HEIGHTS, OAK PARK, PLEASANT RIDGE.
361	OAKLAND	BLOOMFIELD.
362	OAKLAND	FARMINGTON.
363	OAKLAND	LYON.
364	OAKLAND	COMMERCE.
365	OAKLAND	HIGHLAND, MILFORD, WHITE LAKE.
366	OAKLAND	WEST BLOOMFIELD.
367	OAKLAND	TROY(CITY).
368	OAKLAND	AVON.
369	OAKLAND	PONTIAC.

370 OAKLAND	WATERFORD.
371 OAKLAND	HOLLY, ROSE.
372 OAKLAND	GROVELAND, SPRINGFIELD.
373 OAKLAND	BRANDON, INDEPENDENCE.
374 OAKLAND	OAKLAND, ORION.
375 OAKLAND	ADDISON, OXFORD.
376 OCEANA	BENONA, CLAYBANKS, SHELBY.
377 OCEANA	COLFAX, CRYSTAL, ELBRIDGE, HART, LEAVITT, WEARE.
378 OCEANA	FERRY, GRANT, GREENWOOD, NEWFIELD, OTTO.
379 OCEANA	GOLDEN, PENTWATER.
380 OGEMAW	EDWARDS, HORTON, OGEMAW, WEST BRANCH.
381 OGEMAW	CUMMING, FOSTER, GOUDAR, HILL, KLACKING, ROSE.
382 OGEMAW	CHURCHILL, LOGAN, MILLS, RICHLAND.
383 ONTONAGON	ONTONAGON.
384 ONTONAGON	BOHEMIA, GREENLAND, ROCKLAND.
385 ONTONAGON	HAIGHT, INTERIOR, MCMILLAN, STANNARD.
386 ONTONAGON	BERGLAND, CARP LAKE, MATCHWOOD.
387 OSCEOLA	HERSEY, RICHMOND.
388 OSCEOLA	EVART, ORIENT, OSCEOLA, SYLVAN.
389 OSCEOLA	HARTWICK, HIGHLAND, MARION, MIDDLE BRANCH.
390 OSCEOLA	BURDELL, CEDAR, LERDY, LINCOLN, ROSE LAKE, SHERMAN.
391 OSCODA	BIG CREEK, CLINTON, COMINS, ELMER, GREENWOOD, MENTOR.
392 OTSEGO	GAYLORD(CITY).
393 OTSEGO	BAGLEY, CHARLTON, CHESTER, HAYES, OTSEGO LAKE.
394 OTSEGO	CORWITH, DOVER, ELMIRA, LIVINGSTON.
395 OTTAWA	HOLLAND(CITY).
396 OTTAWA	CHESTER, TALLMADGE, WRIGHT.
397 OTTAWA	CROCKERY, POLKTON.
398 OTTAWA	GEORGETOWN, JAMESTOWN.
399 OTTAWA	SPRING LAKE.
400 OTTAWA	GRAND HAVEN, OLIVE, PORT SHELDON, ROBINSON.
401 OTTAWA	ALLENDALE, BLENDON
402 OTTAWA	HOLLAND, PARK.
403 OTTAWA	ZEELAND.
404 PRESQUE ISLE	BELKNAP, BISMARCK, METZ, MOLTKE, ROGERS.
405 PRESQUE ISLE	ALLIS, BEARINGER, CASE, NORTH ALLIS, OCQUEOC.
406 PRESQUE ISLE	KRAKOW, POSEN, PRESQUE ISLE, PULAWSKI.
407 ROSCOMMON	DENTON, GERRISH, LAKE, LYON, MARKEY, ROSCOMMON.
408 ROSCOMMON	AU SABLE, BACKUS, HIGGINS, NESTER, RICHLAND.
409 SAGINAW	SAGINAW(CITY).
410 SAGINAW	TITTABAWASSEE.
411 SAGINAW	CARROLLTON, KOCHVILLE, SAGINAW.
412 SAGINAW	BUENA VISTA, ZILWAUKEE.
413 SAGINAW	THOMAS.
414 SAGINAW	FRANKENMUTH.
415 SAGINAW	BRIDGEPORT.
416 SAGINAW	JAMES, ST. CHARLES, SWAN CREEK.
417 SAGINAW	FREMONT, JONESFIELD, LAKEFIELD, RICHLAND.
418 SAGINAW	BRADY, BRANT, CHAPIN, MARION.
419 SAGINAW	BLUMFIELD.
420 SAGINAW	CHESANING, MAPLE GROVE.
421 SAGINAW	ALBEE, SPAULDING.
422 SAGINAW	BIRCH RUN, TAYMOUTH.
423 SANILAC	BUEL, ELK, LEXINGTON.

424	SANILAC	BRIDGEHAMPTON, CUSTER, FORESTER.
425	SANILAC	FLYNN, FREMONT, MAPLE VALLEY, SPEAKER, WORTH.
426	SANILAC	ARGYLE, AUSTIN, EVERGREEN, GREENLEAF, LAMOTTE, MOORE.
427	SANILAC	DELAWARE, MARION, MINDEN, WHEATLAND.
428	SANILAC	ELMER, MARLETTE.
429	SANILAC	SANILAC, WASHINGTON, WATERTOWN.
430	SCHOOLCRAFT	MANISTIQUE(CITY).
431	SCHOOLCRAFT	HIAWATHA, INWOOD, THOMPSON.
432	SCHOOLCRAFT	DOYLE, GERMFASK, MANISTIQUE, MUELLER, SENEY.
433	SHIAWASSEE	DWOSSO(CITY).
434	SHIAWASSEE	BENNINGTON, SCIOTA.
435	SHIAWASSEE	BURNS, VERNON.
436	SHIAWASSEE	CALEDONIA.
437	SHIAWASSEE	FAIRFIELD, MIDDLEBURY, DWOSSO.
438	SHIAWASSEE	HAZELTON, VENICE.
439	SHIAWASSEE	NEW HAVEN, RUSH.
440	SHIAWASSEE	ANTRIM, SHIAWASSEE.
441	SHIAWASSEE	PERRY, WOODHULL.
442	ST CLAIR	FORT GRATIOT, PORT HURON.
443	ST CLAIR	CASCO, CHINA, EAST CHINA, IRA.
444	ST CLAIR	CLAY, COTTRELLVILLE.
445	ST CLAIR	KIMBALL.
446	ST CLAIR	COLUMBUS, ST CLAIR.
447	ST CLAIR	BURTCHVILLE, CLYDE, GRANT.
448	ST CLAIR	BROCKWAY, GREENWOOD.
449	ST CLAIR	BERLIN, EMMETT, RILEY.
450	ST CLAIR	KENOCKEE, WALES.
451	ST CLAIR	LYNN, MUSSEY.
452	ST JOSEPH	STURGIS.
453	ST JOSEPH	COLON, NOTTAWA.
454	ST JOSEPH	CONSTANTINE, FLORENCE, SHERMAN.
455	ST JOSEPH	FABIUS, FLOWERFIELD, LOCKPORT, PARK.
456	ST JOSEPH	LEONIDAS, MENDON.
457	ST JOSEPH	MOTTVILLE, WHITE PIGEON.
458	ST JOSEPH	BURR OAK, FAWN RIVER.
459	ST JOSEPH	THREE RIVERS(CITY).
460	TUSCOLA	CARO.
461	TUSCOLA	ALMER, ELLINGTON, NOVESTA.
462	TUSCOLA	ARBELA, MILLINGTON.
463	TUSCOLA	INDIANFIELDS, JUNIATA.
464	TUSCOLA	DAYTON, KINGSTON, KOYLTON, WELLS.
465	TUSCOLA	DENMARK, TUSCOLA.
466	TUSCOLA	ELKLAND, ELMWOOD.
467	TUSCOLA	FAIRGROVE, GILFORD.
468	TUSCOLA	FREMONT, VASSAR, WATERTOWN.
469	TUSCOLA	VASSAR(CITY).
470	TUSCOLA	AKRON, COLUMBIA, WISNER.
471	VAN BUREN	SOUTH HAVEN(CITY).
472	VAN BUREN	ANTWERP, DECATUR, PORTER.
473	VAN BUREN	ARLINGTON, HARTFORD, LAWRENCE.
474	VAN BUREN	BANGOR, COLUMBIA, GENEVA.
475	VAN BUREN	BLOOMINGDALE, PINE GROVE.
476	VAN BUREN	COVERT, SOUTH HAVEN.
477	VAN BUREN	HAMILTON, KEELER.
478	VAN BUREN	ALMENA, PAW PAW, WAVERLY.
479	WASHTENAW	ANN ARBOR(CITY).
480	WASHTENAW	ANN ARBOR.
481	WASHTENAW	PITTSFIELD.

482	WASHTENAW	SCIO, WEBSTER.
483	WASHTENAW	YPSILANTI(CITY).
484	WASHTENAW	YPSILANTI.
485	WASHTENAW	SUPERIOR.
486	WASHTENAW	AUGUSTA, YORK.
487	WASHTENAW	LODI, SALINE.
488	WASHTENAW	BRIDGEWATER, FREEDOM, SHARON.
489	WASHTENAW	MANCHESTER.
490	WASHTENAW	LIMA, SYLVAN.
491	WASHTENAW	DEXTER, LYNDON.
492	WASHTENAW	NORTHFIELD, SALEM.
493	WAYNE	DETROIT(PART 1 OF 3), EAST OF LIVERNOIS, WEST OF JOHN R, SOUTH AND WEST OF EAST GRAND BLVD.
494	WAYNE	DEARBORN(CITY).
495	WAYNE	DETROIT(PART 2 OF 3), WEST OF LIVERNOIS, NORTH OF TIREMAN.
496	WAYNE	DETROIT (PART 3 OF 3), EAST OF JOHN R, EAST OF OAKLAND, NORTH AND EAST OF EAST GRAND BLVD.
497	WAYNE	ALLEN PARK(CITY), ECORSE(CITY), LINCOLN PARK(CITY), MELVINDALE(CITY), RIVER ROUGE(CITY), SOUTHGATE(CITY), WYANDOTTE(CITY).
498	WAYNE	TAYLOR(CITY).
499	WAYNE	BROWNSTOWN, GROSSE ISLE, HURON.
500	WAYNE	ROMULUS, SUMPTER, VAN BUREN.
501	WAYNE	CANTON.
502	WAYNE	NORTHVILLE, PLYMOUTH.
503	WAYNE	GROSSE PTE(CITY), GROSSE PTE FARMS(CITY), GROSSE PTE PARK(CITY), GROSSE PTE SHORES(CITY) GROSSE PTE WOODS(CITY), HARPER WOODS(CITY).
504	WAYNE	REDFORD.
505	WEXFORD	CADILLAC(CITY).
506	WEXFORD	BOON, CHERRY GROVE, CLAM LAKE, HARING, HENDERSON, SOUTH BRANCH, SELMA, SLAGLE.
507	WEXFORD	ANTIOCH, HANOVER, SPRINGVILLE, WEXFORD.
508	WEXFORD	CEDAR CREEK, COLFAX, GREENWOOD, LIBERTY.

ZONE	PROVINCE	MAJOR CITIES WITHIN ZONE
----	-----	-----
509	ONTARIO	LEAMINGTON, TILBURY, WINDSOR.
510	ONTARIO	SARNIA.
511	ONTARIO	FORT FRANCES, KENORA, SAULT STE. MARIE, SUDBURY, TIMMINS.
512	ONTARIO	CHATHAM, GODFRICH, HAMILTON, KITCHNER, LONDON, NIAGARA FALLS, WALLACEBURG.
513	ONTARIO	KINGSTON, OTTAWA, PEMBROKE, STURGEDN FALLS, TORONTO.

ZONE	STATE	COUNTY
----	-----	-----
514	WISCONSIN	IRON.
515	WISCONSIN	ASHLAND, BAYFIELD.
516	WISCONSIN	ONEIDA, VILAS.
517	WISCONSIN	FOREST.
518	WISCONSIN	FLORENCE.
519	WISCONSIN	MARINETTE.
520	WISCONSIN	BURNETT, DOUGLAS, SAWYER, WASHBURN.
521	WISCONSIN	BARRON, BUFFALO, CHIPPEWA, CLARK, DUNN, EAU CLAIRE, JACKSON, LANGLADE, LINCOLN, MARATHON, PEPIN, PIERCE, POLK, PORTAGE, PRICE, RUSK, ST CROIX, TAYLOR, TREMPLEAU, WOOD.
522	WISCONSIN	BROWN, CALUMET, DOOR, FOND DU LAC, KEWAUNEE, MANITOWOC,

523 WISCONSIN MENOMINEE, MONTO, OUTAGAMIE, SHAWANO, SHEBOYGAN, WAUPACA, WINNEBAGO.  
 524 WISCONSIN DANE, DODGE, JEFFERSON, KENOSHA, MILWAUKEE, OZAUKEE, RACINE, ROCK, WALWORTH, WASHINGTON, WAUKESHA.  
 525 ILLINOIS ADAMS, COLUMBIA, CRAWFORD, GRANT, GREEN, GREEN LAKE, IOWA, JUNEAU, LA CROSSE, LAFAYETTE, MARQUETTE, MONROE, RICHLAND, SAUK, VERNON, WAUSHARA.  
 526 ILLINOIS BOONE, COOK, DE KALB, DU PAGE, GRUNDY, KANE, KENDALL, LAKE, MCHENRY, WILL, WINNEBAGO.  
 527 ILLINOIS BUREAU, CARROLL, CHAMPAIGN, CHRISTIAN, COLES, DE WITT, DOUGLAS, EDGAR, FORD, FULTON, HENDERSON, HENRY, IROQUOIS, JO DAVIESS, KANKAKEE, KNOX, LA SALLE, LEE, LIVINGSTON, LOGAN, MACON, MARSHALL, MASON, MCLFAN, MENARD, MERCER, MOULTRIE, OGLE, PEORIA, PIATT, PUTNAM, ROCK ISLAND, SANGAMON, STARK, STEPHENSON, TAZEVELL, VERMILION, WARREN, WHITESIDE, WOODFORD.  
 528 INDIANA ADAMS, ALEXANDER, BOND, BROWN, CALHOUN, CASS, CLARK, CLAY, FAYETTE, FRANKLIN, GALLATIN, GREENE, HAMILTON, HANCOCK, CLINTON, CRAWFORD, CUMBERLAND, EDWARDS, EFFINGHAM, HARDIN, JACKSON, JASPER, JEFFERSON, JERSEY, JOHNSON, LAWRENCE, MACOUPIN, MADISON, MARION, MASSAC, MCDONOUGH, MONROE, MONTGOMERY, MORGAN, PERRY, PIKE, POPE, PULASKI, RANDOLPH, RICHLAND, SALINE, SCHUYLER, SCOTT, SHELBY, ST CLAIR, UNION, WABASH, WASHINGTON, WAYNE, WHITE, WILLIAMSON.  
 529 INDIANA LAKE, PORTER.  
 530 INDIANA LAPORTE, STARKE.  
 531 INDIANA MARSHALL, ST JOSEPH.  
 532 INDIANA ELKHART, KOSCIUSKO.  
 533 INDIANA ALLEN, DE KALB, LAGRANGE, NOBLE, STEUBEN, WHITLEY.  
 534 INDIANA ADAMS, BENTON, BLACKFORD, BOONE, CARROLL, CASS, CLINTON, DELAWARE, FOUNTAIN, FULTON, GRANT, HENRY, HOWARD, HUNTINGTON, JASPER, JAY, MADISON, MIAMI, MONTGOMERY, NEWTON, PULASKI, RANDOLPH, TIPPECANOE, TIPTON, WABASH, WARREN, WAYNE, WELLS, WHITE.  
 535 OHIO BARTHOLOMEW, BROWN, CLARK, CLAY, CRAWFORD, DAVIESS, DEARBORN, DECATUR, DUBOIS, FAYETTE, FLOYD, FRANKLIN, GIBSON, GREENE, HAMILTON, HANCOCK, HARRISON, HENDRICKS, JACKSON, JEFFERSON, JENNINGS, JOHNSON, KNOX, LAWRENCE, MARION, MARTIN, MONROE, MORGAN, OHIO, ORANGE, OWEN, PARKE, PERRY, PIKE, POSEY, PUTNAM, RIPLEY, RUSH, SCOTT, SHELBY, SPENCER, SULLIVAN, SWITZERLAND, UNION, VANDERBURGH, VERMILLION, VIGO, WARRICK, WASHINGTON.  
 536 OHIO DEFIANCE, WILLIAMS.  
 537 OHIO FULTON, HENRY.  
 538 OHIO LUCAS, WOOD.  
 539 OHIO ALLEN, AUGLAIZE, CRAWFORD, DARKE, ERIE, HANCOCK, HARDIN, HURON, LOGAN, MARION, MERCER, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, SHELBY, VAN WERT, WYANDOT.  
 540 OHIO ASHTABULA, BELMONT, CARROLL, COLUMBIANA, COSHOCTON, CUYAHOGA, DELAWARE, FAIRFIELD, FRANKLIN, GEauga, HAMILTON, HARRISON, JACKSON, JEFFERSON, LAKE, LORAIN, MAHONING, MEDINA, PORTAGE, STARK, SUMMIT, TRUMBULL, WARREN, WASHINGTON.  
 ADAMS, ASHLAND, ATHENS, BROWN, BUTLER, CHAMPAIGN, CLARK, CLERMONT, CLINTON, FAYETTE, GALLIA, GREENE, GUERNSEY, HIGHLAND, HOCKING, HOLMES, KNOX, LAWRENCE, LICKING, MADISON, MEIGS, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, PREBLE, RICHLAND, ROSS, SCIOTO, TUSCARAWAS, UNION, VINTON, WAYNE.

ZONE -----	STATE -----
541	NORTH CAROLINA, VIRGINIA, WEST VIRGINIA,
542	ALABAMA, FLORIDA, GEORGIA, KENTUCKY, SOUTH CAROLINA, TENNESSEE.
543	ARIZONA, ARKANSAS, KANSAS, LOUISIANA, MISSISSIPPI, MISSOURI, NEW MEXICO, OKLAHOMA, TEXAS.
544	CALIFORNIA, COLORADO, HAWAII, IDAHO, IOWA, NEBRASKA, NEVADA, OREGON, UTAH, WYOMING.
545	ALASKA, MINNESOTA, MONTANA, NORTH DAKOTA, SOUTH DAKOTA, WASHINGTON.
546	DISTRICT OF COLUMBIA, DELAWARE, MARYLAND, NEW JERSEY, PENNSYLVANIA.
547	CONNECTICUT, MAINE, MASSACHUSETTS, NEW HAMPSHIRE, NEW YORK, RHODE ISLAND, VERMONT.