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Michigan Department of

STATE HIGHWAYS AND TRANSPORTATION

BENTON HARBOR-ST. JOSEPH

TRANSPORTATION STUDY

STUDY OF FUTURE YEAR (2000)
VEHICLE TRIPS

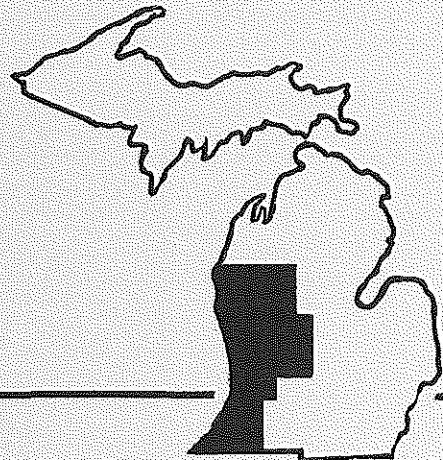
APRIL, 1975

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TRANSPORTATION PLANNING



MICHIGAN DEPARTMENT
OF
STATE HIGHWAYS AND TRANSPORTATION

In Cooperation With:

U.S. Department of Transportation
Federal Highway Administration

BENTON HARBOR-ST. JOSEPH

TRANSPORTATION STUDY

STUDY OF FUTURE YEAR (2000)
VEHICLE TRIPS

APRIL, 1975

Sam F. Cryderman, Deputy Director
Bureau of Transportation Planning

Keith E. Bushnell, Administrator
Multi-Regional Planning Division

West Region Section

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JOHN P. WOODFORD, DIRECTOR

April 8, 1975

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

Dear Mr. Cryderman:

This report presents the "Study of Future Year (2000) Vehicle Trips" for the Benton Harbor-St. Joseph Twin Cities Area. It is designed to aid state and local planners, engineers and administrators in the evaluation of the projections of the socio-economic data and growth of the area.

Phillip Lamb, West Region Section Analyst has contributed to this phase of the study under the supervision of Mr. Ralph Merrill, Manager, West Region Section.

Sincerely,

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

Keith E. Bushnell, Administrator
Multi-Regional Planning Division



ZONE 23, BENTON HARBOR; COMMERCIAL,
INDUSTRIAL, PUBLIC and SEMI-PUBLIC 33

ZONE 36, BENTON TOWNSHIP;
RESIDENTIAL 34

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1972 CORDON STATIONS 36

1972 ZONE MAP 37

2000 CORDON STATION 38

2000 ZONE MAP 39

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FUTURE YEAR TRIPS

The growth in trips from the time of the 1972 transportation study until the year 2000 is due primarily to the projected socio-economic growth of the area. The following table compares the data for the two periods of time:

	<u>1972</u>	<u>2000</u>	<u>Percent Change</u>
Dwelling Units	26,939	30,775	14.2
Population	85,704	95,376	11.3
Resident Labor Force	39,574	45,977	16.2
Service Employment	14,521	18,760	29.2
Trade and Retail Employment	6,024	9,525	58.1
Manufacturing Employment	17,845	21,565	20.8
Other Employment	2,107	2,760	31.0
Total Employment	40,497	52,605	29.9

BENTON HARBOR-ST. JOSEPH O-D
TRIP MOVEMENTS
ALL VEHICLES

1972

	<u>TRIPS</u>	<u>PERCENT</u>
Station - Station	24,034	8.2
Station to Internal Zone	51,864	17.6
Intra-Zone	18,562	6.3
Internal Zone to Internal Zone	<u>199,602</u>	<u>67.9</u>
Total	294,062	100.0

2000

	<u>TRIPS</u>	<u>PERCENT</u>
Station - Station	88,374	16.7
Station to Internal Zone	144,238	27.2
Intra-Zone	20,923	3.9
Internal Zone to Internal Zone	<u>276,911</u>	<u>52.2</u>
Total	530,446	100.0

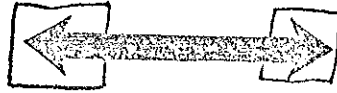
	<u>2000-1972 Net Change</u>	<u>Percent Increase</u>
Station - Station	+ 64,340	+ 267.7
Station to Internal Zone	+ 92,374	+ 178.1
Intra-Zone	+ 2,361	+ 12.7
Internal Zone to Internal Zone	<u>+ 77,309</u>	<u>+ 38.7</u>
Total	+236,384	+ 80.4

BENTON HARBOR-ST. JOSEPH TWIN CITIES AREA

TRIP MOVEMENTS ALL VEHICLES
1972 AVERAGE WEEKDAY

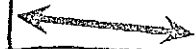
TOTAL = 294,062 TRIPS

INTERNAL ZONE TO INTERNAL ZONE =
199,602 TRIPS - 67.9%

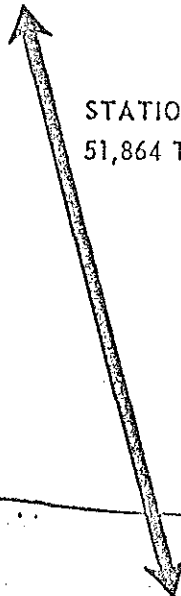


STATION-STATION = 24,034 TRIPS - 8.2%

INTRA-ZONE =
18,562 TRIPS -
6.3%



STATION TO INTERNAL ZONE =
51,864 TRIPS - 17.6%



BENTON HARBOR-ST. JOSEPH TWIN CITIES AREA
TRIP MOVEMENTS ALL VEHICLES

2000 AVERAGE WEEKDAY

TOTAL = 530,446 TRIPS

INTERNAL ZONE TO INTERNAL ZONE =
276,911 TRIPS - 52.2%

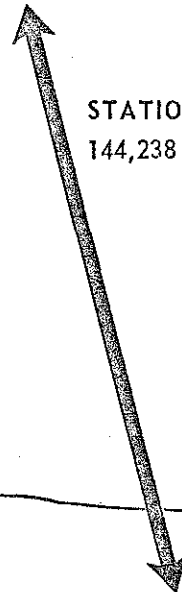


STATION-STATION = 88,374 TRIPS - 16.7%

INTRA-ZONE =
20,923 TRIPS -
3.9%



STATION TO INTERNAL ZONE =
144,238 TRIPS - 27.2%



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INTERNAL ZONES - VOLUMES GREATER THAN 10,000 TOTAL TRIP ENDS

The number of trips are directly related to the socio-economic data. When the socio-economic and land use activity increases, the demand for transportation services will also increase. The number of internal zones with more than 10,000 total vehicle trip ends increased from 10 zones in 1972 to 22 zones in 2000.

Not all zones increased in the number of vehicle trip ends. Of the 10 zones in 1972 that produced more than 10,000 vehicle trip ends, there was only one zone (zone 6) that produced less than 10,000 vehicle trip ends for 2000. This zone is located in the City of St. Joseph.

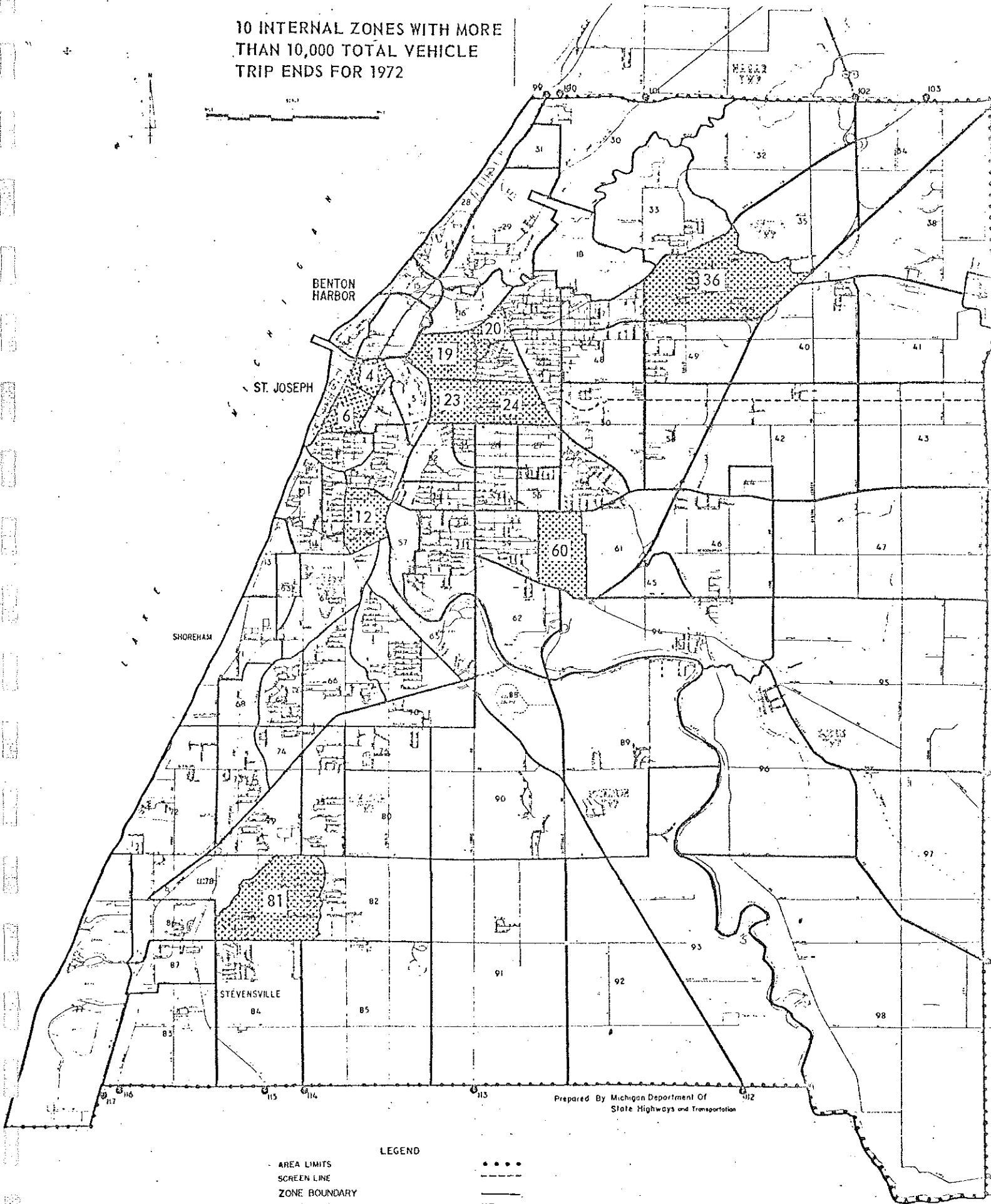
There were 13 zones (zones 61, 17, 62, 2, 64, 21, 27, 14, 22, 73, 58, 29, 26) that produced less than 10,000 vehicle trip ends in 1972 but more than 10,000 vehicle trip ends in 2000.

BENTON HARBOR-ST. JOSEPH O-D
 VOLUME GREATER THAN 10,000
 TOTAL TRIP ENDS

<u>1972</u>			<u>2000</u>		
<u>RANK</u>	<u>ZONE</u>	<u>TOTAL TRIP ENDS</u>	<u>RANK</u>	<u>ZONE</u>	<u>TOTAL TRIP ENDS</u>
1	60	27,380	1	61	69,660
2	19	23,396	2	19	48,148
3	4	20,410	3	60	38,918
4	12	13,488	4	4	33,824
5	6	13,030	5	20	19,272
6	24	13,014	6	12	17,810
7	20	12,648	7	81	15,397
8	81	11,006	8	24	13,366
9	23	10,634	9	23	12,334
10	36	10,558	10	36	12,248
			11	17	12,240
			12	62	12,100
			13	2	11,622
			14	64	11,602
			15	21	11,270
			16	27	11,120
			17	14	10,996
			18	22	10,964
			19	73	10,612
			20	58	10,304
			21	29	10,264
			22	26	10,192

BENTON HARBOR—ST. JOSEPH TWIN CITIES AREA

10 INTERNAL ZONES WITH MORE THAN 10,000 TOTAL VEHICLE TRIP ENDS FOR 1972



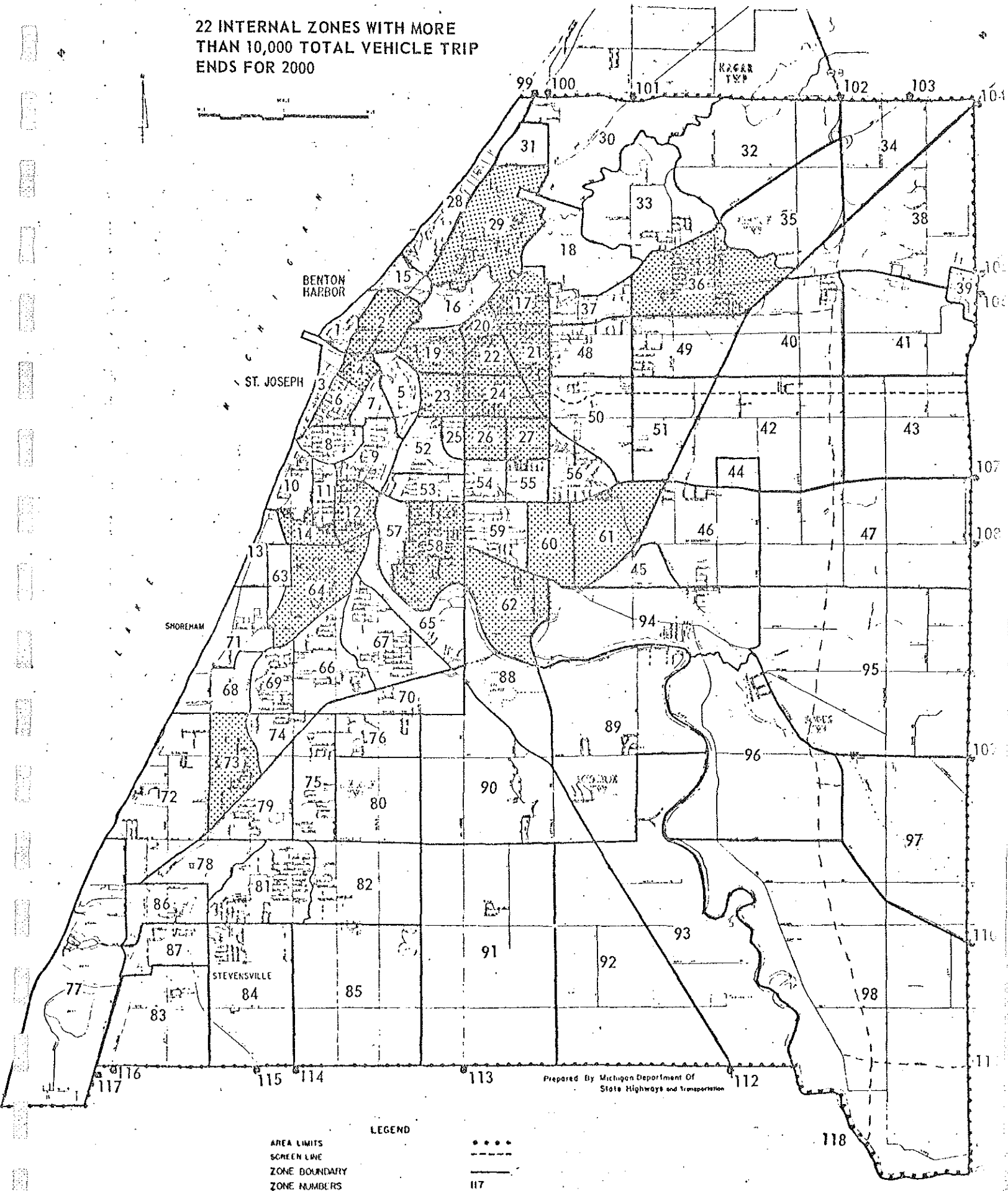
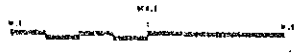
Prepared By Michigan Department Of State Highways and Transportation

LEGEND

- AREA LIMITS
- SCREEN LINE
- ZONE BOUNDARY
- ZONE NUMBERS

BENTON HARBOR—ST. JOSEPH TWIN CITIES AREA

22 INTERNAL ZONES WITH MORE THAN 10,000 TOTAL VEHICLE TRIP ENDS FOR 2000



Prepared By Michigan Department Of State Highways and Transportation

LEGEND

- AREA LIMITS
- SCREEN LINE
- ZONE BOUNDARY
- ZONE NUMBERS



118

BENTON HARBOR-ST. JOSEPH O-D
1972-2000 TRIP MOVEMENTS
ALL VEHICLES

Total trip ends, numerical change and percentage change from 1972 to 2000 were calculated for each of the 118 zones of the study area.

External station 111 was changed from Hipps Road in 1972 to M-62 Relocated for 2000. External station 118 was added for year 2000 because US-31 is being relocated.

Of all the internal zones, zone 61 has the largest percentage (+2,931 percent) increase and the largest numerical (+67,362 trip ends) increase of trip ends. Zone 44 has the largest percentage (-44 percent) decrease of trip ends. Zone 10 has the largest numerical (-2,923 trip ends) decrease of trip ends.

BENTON HARBOR-ST. JOSEPH
TWIN CITIES AREA
TRIP MOVEMENTS
ALL VEHICLES

ZONE #	1972	2000	2000-1972 CHANGE	% CHANGE	ZONE #	1972	2000	2000-1972 CHANGE	% CHANGE
1	2,012	2,644	632	31	48	3,994	4,542	548	14
2	9,794	11,622	1,828	19	49	1,578	2,052	474	30
3	4,082	3,714	- 368	- 9	50	6,016	8,502	2,486	41
4	20,410	33,824	1,314	66	51	2,492	3,682	1,190	48
5	592	5,940	5,348	903	52	3,504	5,409	1,905	54
6	13,030	9,200	- 3,830	- 29	53	3,684	4,332	648	18
7	4,014	4,460	446	11	54	4,006	4,350	344	9
8	6,062	7,875	1,813	30	55	3,598	5,880	2,282	63
9	7,794	6,890	- 904	- 12	56	6,988	8,079	1,091	16
10	8,958	6,035	- 2,923	- 33	57	1,034	1,280	246	24
11	6,870	8,824	1,954	28	58	9,748	10,304	556	6
12	13,488	17,810	4,322	32	59	7,916	6,172	- 1,744	- 22
13	4,602	6,808	2,204	48	60	27,380	38,918	11,538	42
14	6,166	10,996	4,830	78	61	2,298	69,660	67,362	2,931
15	382	1,701	1,319	345	62	5,430	12,100	6,670	123
16	3,594	4,958	1,364	38	63	1,828	4,176	2,348	128
17	8,114	12,240	4,126	51	64	6,806	11,602	4,796	70
18	1,810	1,608	- 202	- 11	65	986	1,528	542	55
19	23,396	48,148	24,752	106	66	4,584	5,188	604	13
20	12,648	19,272	6,624	52	67	8,346	7,873	- 473	- 6
21	9,220	11,270	2,050	22	68	1,508	2,116	608	40
22	8,276	10,964	2,688	32	69	5,100	3,954	- 1,146	- 22
23	10,634	12,334	1,700	16	70	1,090	1,913	823	76
24	13,014	13,366	352	3	71	5,154	5,052	- 102	- 2
25	1,804	3,033	1,229	68	72	5,664	8,486	2,822	50
26	6,552	10,192	3,640	56	73	7,630	10,612	2,982	39
27	9,752	11,120	1,368	14	74	1,456	2,120	664	46
28	1,238	2,342	1,104	89	75	4,860	5,720	860	18
29	6,606	10,264	3,658	55	76	2,728	3,579	851	31
30	1,654	4,288	2,634	159	77	1,006	1,582	576	57
31	1,370	4,918	3,548	259	78	2,688	4,094	1,406	52
32	262	1,142	880	336	79	2,814	5,698	2,884	102
33	4,132	7,475	3,343	81	80	1,056	2,392	1,336	127
34	1,134	1,606	472	42	81	11,006	15,397	4,391	40
35	494	1,484	990	200	82	2,940	4,868	1,928	66
36	10,558	12,248	1,690	16	83	1,228	2,732	1,504	122
37	6,708	8,862	2,154	32	84	4,910	8,760	3,850	78
38	990	1,758	768	78	85	6,018	6,784	766	13
39	2,086	2,574	488	23	86	3,660	4,223	563	15
40	1,492	2,048	556	37	87	6,590	9,186	2,596	39
41	734	1,138	404	55	88	3,880	5,814	1,934	50
42	2,398	2,692	294	12	89	2,700	5,410	2,710	100
43	674	2,286	1,616	239	90	4,232	3,740	- 492	- 12
44	3,948	2,214	- 1,734	- 44	91	3,278	3,118	- 160	- 5
45	2,534	3,464	930	37	92	3,480	2,011	- 1,469	- 42
46	2,482	5,244	2,762	111	93	726	1,948	1,222	168
47	988	2,248	1,260	128	94	2,414	5,562	3,148	130

BENTON HARBOR-ST. JOSEPH
TWIN CITIES AREA
TRIP MOVEMENTS
ALL VEHICLES
(cont'd.)

ZONE #	1972	2000	2000-1972 CHANGE	% CHANGE
95	1,668	2,868	1,200	72
96	2,430	4,045	1,615	66
97	1,238	1,870	632	51
98	1,272	1,480	208	16
99	5,728	15,090	9,362	163
100	1,702	3,652	1,950	115
101	1,688	3,174	1,486	88
102	10,230	35,318	25,088	245
103	3,458	6,724	3,266	94
104	20,578	58,026	37,448	182
105	1,314	4,256	2,942	224
106	2,302	4,368	2,066	90
107	4,408	9,010	4,602	104
108	394	5,866	5,472	1,389
109	1,066	3,749	2,683	252
110	3,648	7,662	4,014	110
111	370	8,064	7,694	2,079
112	7,718	8,454	736	10
113	1,080	2,529	1,449	134
114	3,066	6,042	2,976	97
115	1,758	3,842	2,084	119
116	6,648	11,842	5,194	78
117	22,776	70,430	47,654	209
118		52,888		
TOTAL	588,124	1,060,892	472,768	80

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2000 THROUGH, TERMINAL, INTERNAL TRAFFIC

The following three types of traffic are studied in this report:

1. Through: Through traffic interchange between major routes.
2. Terminal: Traffic between major routes and principal internal zones of attraction.
3. Internal: Traffic between principal internal zones and other internal zones of importance.

The internal zones are numbered 1-98. The external stations are zones 99-118.

The six trunkline stations account for 74.7 percent of the total external trips for 2000. These six stations will be the only stations used for the study of through and terminal traffic.

External Station or Zone	Route
99	US-33 North
102	US-31, I-196 North
104	I-94 North
111	M-62 Relocated
117	I-94 South
118	US-31 Relocated

The following internal zones are the top ten producers of trip ends for 2000 and are used for the study of internal traffic:

Rank	Zone	1972 Total Vehicle Trip Ends
1	61	69,660
2	19	48,148
3	60	38,918
4	4	33,824
5	20	19,272
6	12	17,810
7	81	15,397
8	24	13,366
9	23	12,334
10	36	12,248

2000

THROUGH AND TERMINAL

TRAFFIC

CORDON STATIONS

2000

<u>ZONE NUMBER</u>	<u>ROUTE</u>	<u>DESCRIPTION</u>
99	US-33 North	0.2 Mi. S. of Zoschke Rd.
100	Paw Paw	0.2 Mi. S. of Zoschke Rd.
101	Riverside Rd.	0.2 Mi. S. of Zoschke Rd.
102	US-31, I-196 North	N. of Red Arrow Highway
103	Red Arrow Highway	0.2 Mi. N.E. of Kerlikowski Rd.
104	I-94 North	0.3 Mi. N.E. of Roslin Rd.
105	North Branch Rd.	0.3 Mi. N.E. of Territorial Rd.
106	Territorial Rd.	0.5 Mi. E. of Highland Rd.
107	Napier Ave.	0.2 Mi. E. of Tubbs Rd.
108	Meadow Brook	E. of Tubbs Rd.
109	Naomi Rd.	E. of Shangha
110	Pipestone Rd.	E. of Lett
111	M-62 Relocated	E. of Hillandale Rd.
112	Ex. US-31, US-33 South	S. of Rocky Weed Rd.
113	Hollywood Rd.	S. of Rocky Weed Rd.
114	Cleveland Avenue	S. of Rocky Weed Rd.
115	Stevensville-Baroda Rd.	S.E. of Demmorrow (Holden) Rd.
116	Red Arrow Highway	S. of Defay Rd.
117	I-94 South	1.7 Mi. S. of Grand Mere Rd.
118	US-31 Relocated	S. of River Rd. @ St. Joseph River

CORDON STATIONS

2000

<u>ZONE NUMBER</u>	<u>TOTAL TRAFFIC</u>	<u>TERMINAL</u>	<u>PERCENT TERMINAL</u>	<u>THROUGH</u>	<u>PERCENT THROUGH</u>
99	15,090	14,056	93.1	1,034	6.9
100	3,652	2,850	78.0	802	22.0
101	3,174	2,983	94.0	191	6.0
102	35,318	8,415	23.8	26,903	76.2
103	6,724	5,977	88.9	747	11.1
104	58,026	10,352	17.8	47,674	82.2
105	4,256	3,629	85.3	627	14.7
106	4,368	3,693	84.5	675	15.5
107	9,010	7,799	86.6	1,211	13.4
108	5,866	5,327	90.8	539	9.2
109	3,749	3,145	83.9	604	16.1
110	7,662	6,785	88.6	877	11.4
111	8,064	6,551	81.2	1,513	18.8
112	8,454	6,151	72.8	2,303	27.2
113	2,529	1,802	71.3	727	28.7
114	6,042	5,220	86.4	822	13.6
115	3,842	3,035	79.0	807	21.0
116	11,842	8,701	73.5	3,141	26.5
117	70,430	13,453	19.1	56,977	80.9
118	52,888	24,314	46.0	28,574	54.0
TOTAL	320,986	144,238		176,748*	
TRIPS	232,614	144,238	62.0	88,374	38.0

*A through vehicle is counted twice. It is counted at both its entering and departing stations.

2000 THROUGH TRAFFIC INTERCHANGE BETWEEN STATE TRUNKLINES

There were a total of 74,385 through trips interchanging between the six trunkline stations. The largest through trip interchange for the study area is between I-94 South (Station 117) and I-94 North (Station 104) of 38,766 vehicle trips. The next largest through trip interchange is between I-94 South (Station 117) and US-31, I-196 North (Station 102) of 14,632 vehicle trips.

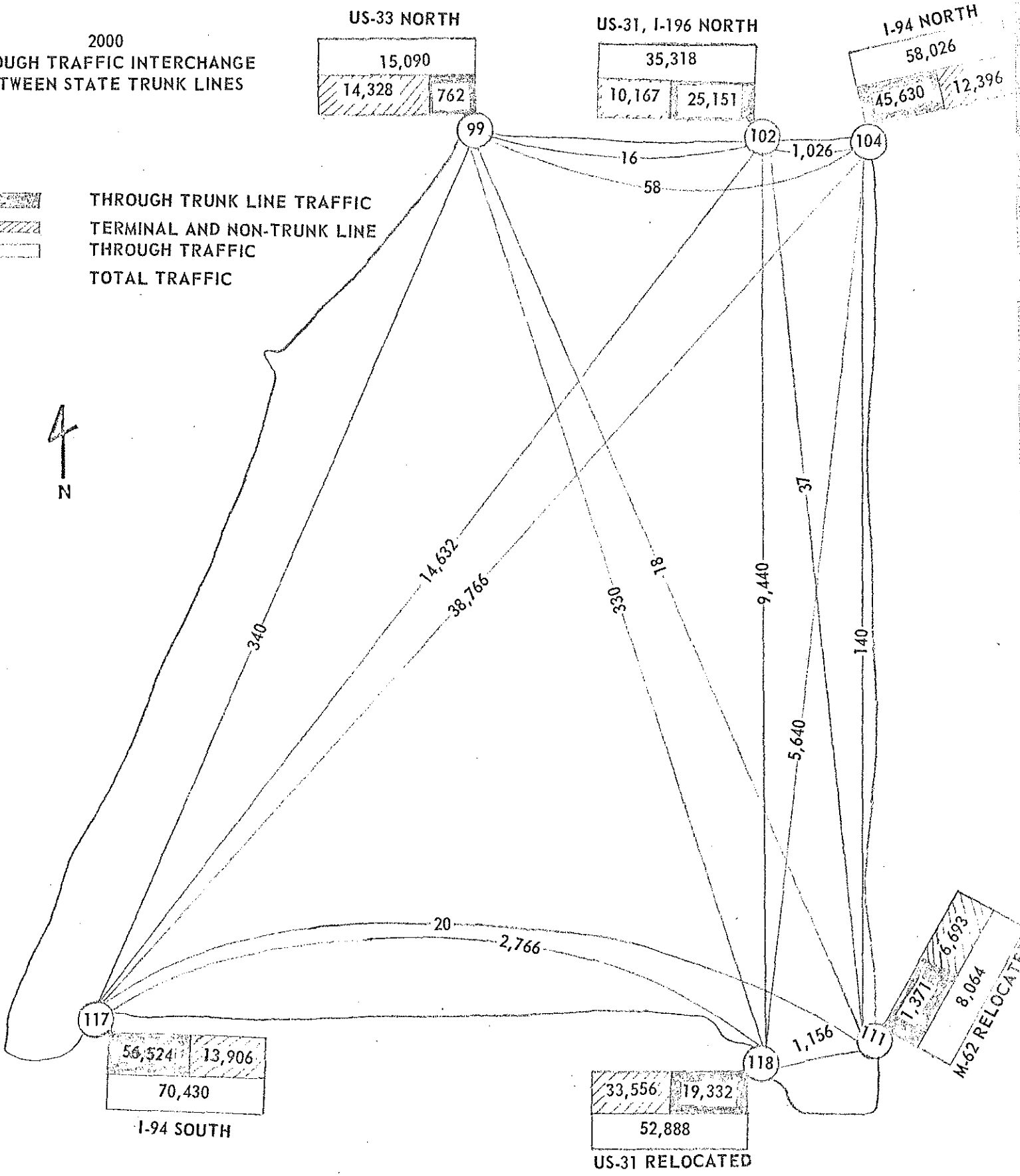
The six trunkline stations accounted for 74.7 percent of the total external trips, 63.1 percent of the total terminal trips and 84.2 percent of the total through trips.

BENTON HARBOR-ST. JOSEPH TWIN CITIES AREA TRANSPORTATION STUDY

2000

THROUGH TRAFFIC INTERCHANGE
BETWEEN STATE TRUNK LINES

THROUGH TRUNK LINE TRAFFIC
TERMINAL AND NON-TRUNK LINE
THROUGH TRAFFIC
TOTAL TRAFFIC



MICHIGAN DEPARTMENT
OF STATE HIGHWAYS
AND TRANSPORTATION

2000 TERMINAL TRAFFIC--STATION 99, US-33 NORTH

Station 99 (US-33 North) accounted for 15,090 total trips of which 93.1 percent (14,056 vehicles) were terminal trips. The following 12 zones accounted for 7,177 trips or 51.5 percent of the total terminal trips for this station.

<u>ZONE</u>	<u>TRIPS</u>
2	912
4	1,408
6	320
16	366
17	298
19	1,336
20	494
23	318
24	252
29	521
31	508
61	444
<hr/>	<hr/>
12 Zones	7,177 Trips

2000 TERMINAL TRAFFIC--STATION 102, US-31, I-196 NORTH

Station 102 (US-31, I-196 North) accounted for 35,318 total trips of which 23.8 percent (8,415 vehicles) were terminal trips. The following zone accounted for 4,824 trips or 57.3 percent of the total terminal trips for this station.

<u>ZONE</u>	<u>TRIPS</u>
<u>61</u>	<u>4,824</u>
1 Zone	4,824 Trips

2000 TERMINAL TRAFFIC--STATION 104, I-94 NORTH

Station 104 (I-94 North) accounted for 58,026 total trips of which 17.8 percent (10,352 vehicles) were terminal trips. The following five zones accounted for 5,296 trips or 51.2 percent of the total terminal trips for this station.

<u>ZONE</u>	<u>TRIPS</u>
17	308
19	1,096
20	412
60	452
<u>61</u>	<u>3,028</u>
5 Zones	5,296 Trips

2000 TERMINAL TRAFFIC--STATION 111, M-62 RELOCATED

Station 111 (M-62 Relocated) accounted for 8,064 total trips of which 81.2 percent (6,551 vehicles) were terminal trips. The following six zones accounted for 3,400 trips or 51.9 percent of the total terminal trips for this station.

<u>ZONE</u>	<u>TRIPS</u>
19	338
20	236
45	202
60	682
61	1,756
94	184
6 Zones	3,400 Trips

2000 TERMINAL TRAFFIC--STATION 117, I-94 SOUTH

Station 117 (I-94 South) accounted for 70,430 total trips of which 19.1 percent (13,453 vehicles) were terminal trips. The following two zones accounted for 7,258 trips or 54.0 percent of the total terminal trips for this station.

<u>ZONE</u>	<u>TRIPS</u>
60	1,146
<u>61</u>	<u>6,112</u>
2 Zones	7,258 Trips

2000 TERMINAL TRAFFIC--STATION 118, US-31 RELOCATED

Station 118 (US-31 Relocated) accounted for 52,888 total trips of which 46.0 percent (24,314 vehicles) were terminal trips. The following zone accounted for 12,480 trips or 51.3 percent of the total terminal trips for this station.

<u>ZONE</u>	<u>TRIPS</u>
<u>61</u>	<u>12,480</u>
1 Zone	12,480 Trips

2000

INTERNAL TRAFFIC

2000 INTERNAL TRAFFIC--ZONE 61, BENTON TOWNSHIP;COMMERCIAL

Out of 21,627 internal trips with one terminal in zone 61; 15 zones accounted for 11,001 trips or 50.9 percent. There were 46,651 external trips and 1,382 intra-zonal trip ends for a total of 69,660 trip ends or the largest producer of trips of all internal zones.

<u>ZONE</u>	<u>TRIPS</u>
4	413
12	394
19	883
20	388
36	438
56	732
58	455
60	2,430
62	652
64	863
67	378
72	772
81	1,046
89	769
94	388
<hr/>	<hr/>
15 Zones	11,001 Trips

2000 INTERNAL TRAFFIC--ZONE 19, BENTON HARBOR; CBD

Out of 31,954 internal trips with one terminal in zone 19; 16 zones accounted for 16,558 trips or 51.8 percent. There were 8,290 external trips and 7,904 intra-zonal trip ends for a total of 48,148 trip ends or the second largest producer of trips of all the internal zones.

<u>ZONE</u>	<u>TRIPS</u>
4	2,348
6	694
8	657
12	762
17	815
20	1,504
21	791
22	1,158
23	948
24	1,318
26	988
27	706
29	852
36	796
60	1,338
<u>61</u>	<u>883</u>
16 Zones	16,558 Trips

2000 INTERNAL TRAFFIC--ZONE 60, BENTON TOWNSHIP; COMMERCIAL

Out of 24,544 internal trips with one terminal in zone 60; ten zones accounted for 12,559 trips or 51.2 percent. There were 10,260 external trips and 4,114 intra-zonal trip ends for a total of 38,918 trip ends or the third largest producer of trips of all the internal zones.

<u>ZONE</u>	<u>TRIPS</u>
4	734
12	579
19	1,338
20	512
26	478
56	582
58	684
60	4,114
61	2,430
62	1,108
10 Zones	12,559 Trips

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2000 INTERNAL TRAFFIC--ZONE 4, ST. JOSEPH; CBD

Out of 26,612 internal trips with one terminal in zone 4; 19 zones accounted for 13,672 trips or 51.4 percent. There were 4,792 external trips and 2,420 intrazonal trip ends for a total of 33,824 trip ends or the fourth largest producer of trips of all the internal zones.

<u>ZONE</u>	<u>TRIPS</u>
6	1,092
8	860
9	739
10	482
11	512
12	810
14	472
17	512
19	2,348
20	638
22	592
24	694
26	492
29	626
36	448
58	588
60	734
64	542
81	492
19 Zones	13,673 Trips

2000 INTERNAL TRAFFIC--ZONE 20, BENTON HARBOR; CBD

Out of 15,052 internal trips with one terminal in zone 20; 12 zones accounted for 7,683 trips or 51.0 percent. There were 3,338 external trips and 882 intra-zonal trip ends for a total of 19,272 trip ends or the fifth largest producer of trips of all the internal zones.

<u>ZONE</u>	<u>TRIPS</u>
4	638
17	576
19	1,504
21	549
22	870
24	774
26	394
29	612
36	458
37	408
60	512
<u>61</u>	<u>388</u>
12 Zones	7,683 Trips

2000 INTERNAL TRAFFIC--ZONE 12, ST. JOSEPH; RESIDENTIAL,
COMMERCIAL, PUBLIC AND SEMI-PUBLIC

Out of 14,244 internal trips with one terminal in zone 12; 16 zones accounted for 7,193 trips or 50.5 percent. There were 2,368 external trips and 1,198 intra-zonal trip ends for a total of 17,810 trip ends or the sixth largest producer of trips of all the internal zones.

<u>ZONE</u>	<u>TRIPS</u>
4	810
6	268
8	384
9	433
10	264
11	522
14	642
19	762
58	512
60	579
61	394
62	240
64	506
66	236
67	334
<u>81</u>	<u>307</u>
16 Zones	7,193 Trips

2000 INTERNAL TRAFFIC--ZONE 81, LINCOLN TOWNSHIP; RESIDENTIAL

Out of 12,620 internal trips with one terminal in zone 81; 11 zones accounted for 6,304 trips or 50.0 percent. There were 1,493 external trips and 1,284 intra-zonal trip ends for a total of 15,397 trip ends or the seventh largest producer of trips of all the internal zones.

<u>ZONE</u>	<u>TRIPS</u>
4	492
19	397
60	454
61	1,046
73	410
75	336
79	419
82	308
84	1,070
85	638
87	734
11 Zones	6,304 Trips

2000 INTERNAL TRAFFIC--ZONE 24, BENTON HARBOR; RESIDENTIAL

Out of 11,686 internal trips with one terminal in zone 24; ten zones accounted for 5,990 trips or 51.3 percent. There were 866 external trips and 814 intra-zonal trip ends for a total of 13,366 trip ends or the eighth largest producer of trips of all the internal zones.

<u>ZONE</u>	<u>TRIPS</u>
4	694
19	1,318
20	774
21	350
22	556
23	578
26	534
27	454
60	394
<u>61</u>	<u>338</u>
10 Zones	5,990 Trips

2000 INTERNAL TRAFFIC--ZONE 23, BENTON HARBOR; COMMERCIAL,
INDUSTRIAL, PUBLIC AND SEMI-PUBLIC

Out of 10,095 internal trips with one terminal in zone 23; 14 zones accounted for 5,171 trips or 51.2 percent. There were 1,879 external trips and 360 intra-zonal trip ends for a total of 12,334 trip ends or the ninth largest producer of trips of all the internal zones.

<u>ZONE</u>	<u>TRIPS</u>
4	410
19	948
20	276
21	244
22	344
24	578
26	554
27	292
29	192
52	208
58	272
60	374
61	242
<u>62</u>	<u>237</u>
14 Zones	5,171 Trips

2000 INTERNAL TRAFFIC--ZONE 36, BENTON TOWNSHIP; RESIDENTIAL

Out of 10,370 internal trips with one terminal in zone 36; 12 zones accounted for 5,248 trips or 50.6 percent. There were 1,238 external trips and 640 intra-zonal trip ends for a total of 12,248 trip ends or the tenth largest producer of trips of all the internal zones.

<u>ZONE</u>	<u>TRIPS</u>
4	448
17	406
19	796
20	458
21	338
29	220
33	800
37	512
48	196
50	196
60	440
<u>61</u>	<u>438</u>
12 Zones	5,248 Trips

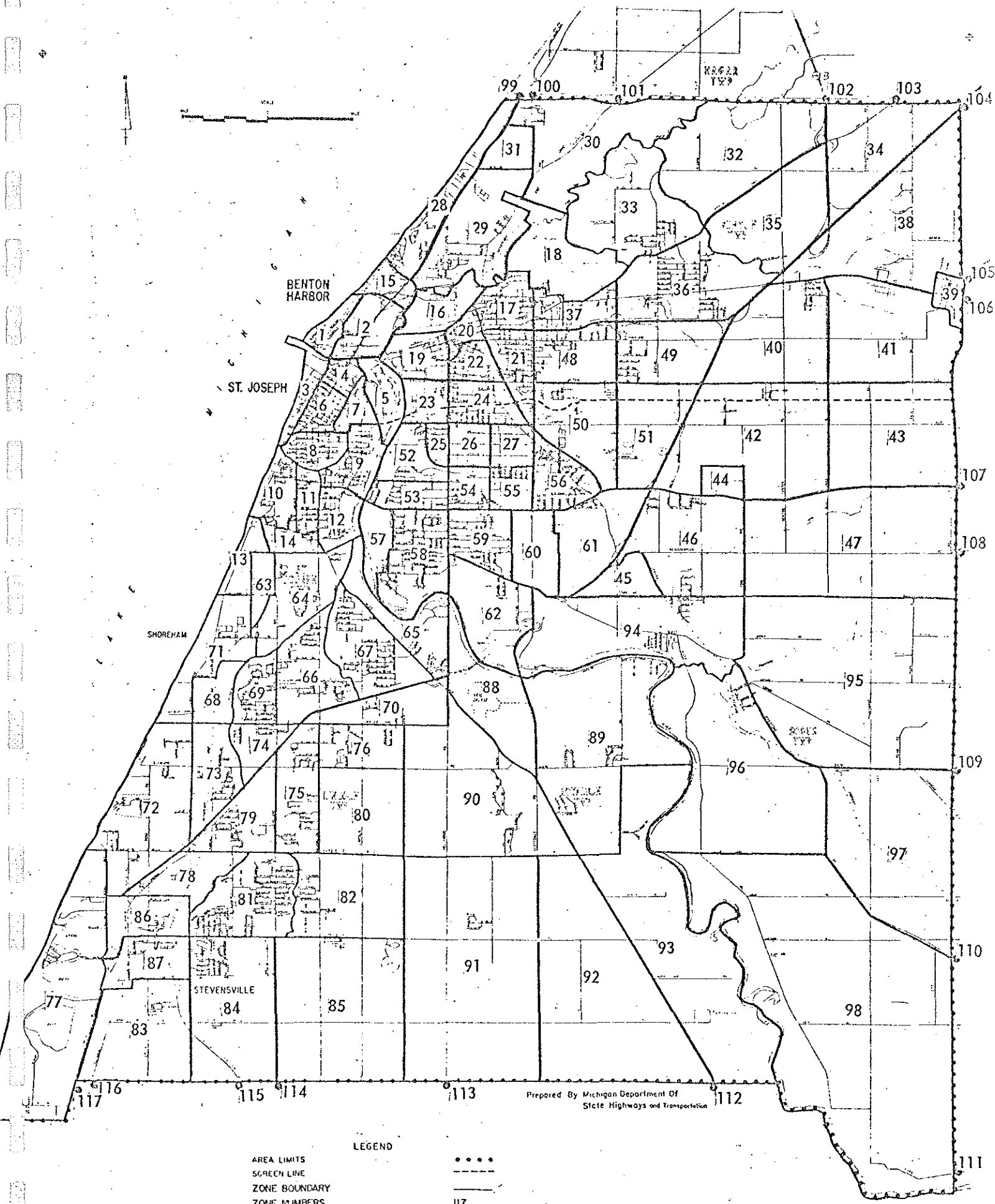
APPENDIX

CORDON STATIONS

1972

<u>ZONE NUMBER</u>	<u>ROUTE</u>	<u>DESCRIPTION</u>
99	US-33 North	0.2 Mi. S. of Zoschke Rd.
100	Paw Paw	0.2 Mi. S. of Zoschke Rd.
101	Riverside Rd.	0.2 Mi. S. of Zoschke Rd.
102	US-31, I-196 North	N. of Red Arrow Highway
103	Red Arrow Highway	0.2 Mi. N.E. of Kerlikowski Rd.
104	I-94 North	0.3 Mi. N.E. of Roslin Rd.
105	North Branch Rd.	0.3 Mi. N.E. of Territorial Rd.
106	Territorial Rd.	0.5 Mi. E. of Highland Rd.
107	Napier Ave.	0.2 Mi. E. of Tubbs Rd.
108	Meadow Brook	E. of Tubbs Rd.
109	Naomi Rd.	E. of Shangha
110	Pipestone Rd.	E. of Lett
111	Hipps Rd.	E. of Hillandale Rd.
112	US-31, US-33 South	S. of Rocky Weed Rd.
113	Hollywood Rd.	S. of Rocky Weed Rd.
114	Cleveland Avenue	S. of Rocky Weed Rd.
115	Stevensville-Baroda Rd.	S.E. of Demmorrow (Holden) Rd.
116	Red Arrow Highway	S. of Defay Rd.
117	I-94 South	1.7 Mi. S. of Grand Mere Rd.

BENTON HARBOR—ST. JOSEPH TWIN CITIES AREA—1972



LEGEND

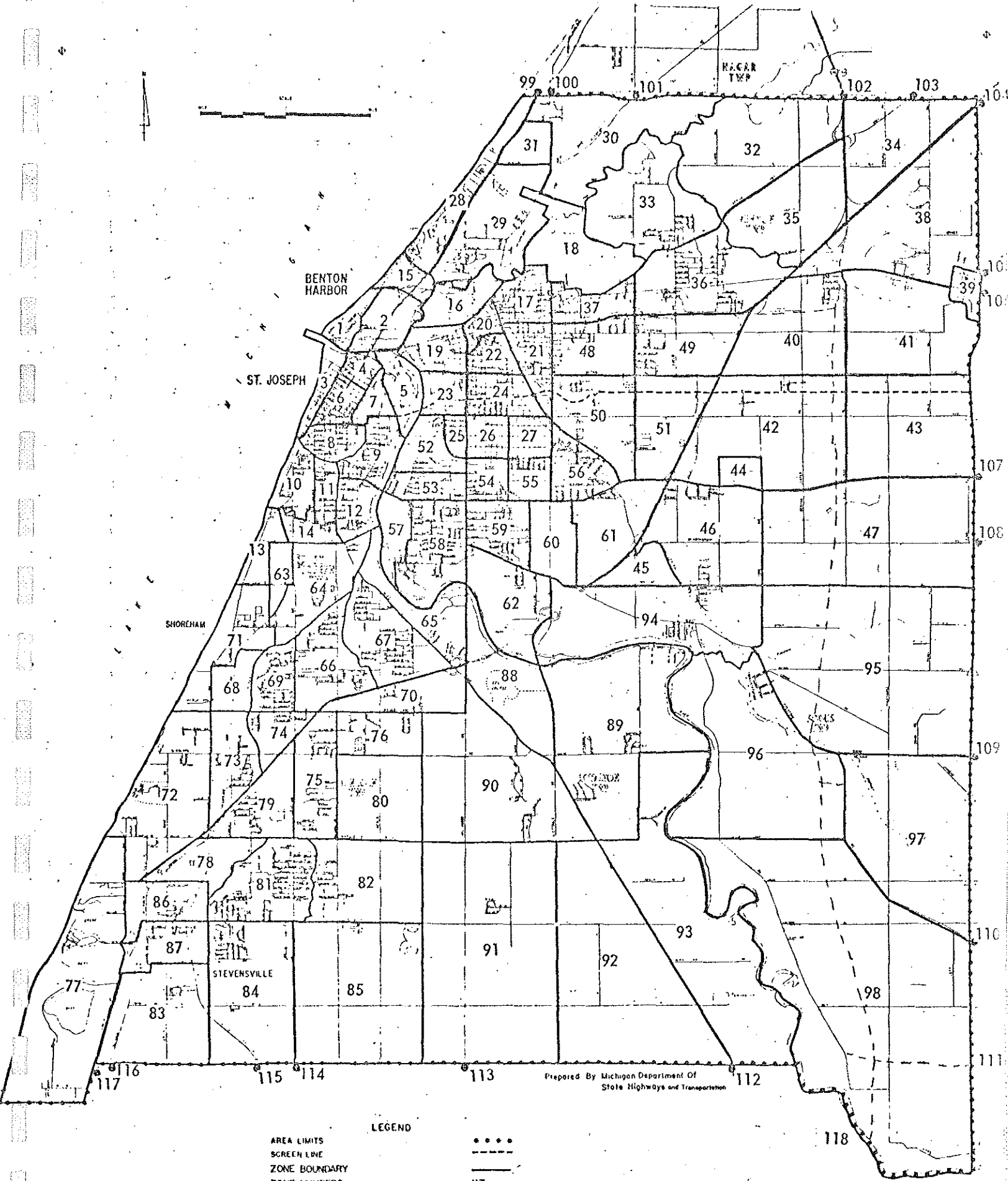
AREA LIMITS
 SCREEN LINE - - - - -
 ZONE BOUNDARY ————
 ZONE NUMBERS 117

CORDON STATIONS

2000

<u>ZONE NUMBER</u>	<u>ROUTE</u>	<u>DESCRIPTION</u>
99	US-33 North	0.2 Mi. S. of Zoschke Rd.
100	Paw Paw	0.2 Mi. S. of Zoschke Rd.
101	Riverside Rd.	0.2 Mi. S. of Zoschke Rd.
102	US-31, I-196 North	N. of Red Arrow Highway
103	Red Arrow Highway	0.2 Mi. N.E. of Kerlikowski Rd.
104	I-94 North	0.3 Mi. N.E. of Roslin Rd.
105	North Branch Rd.	0.3 Mi. N.E. of Territorial Rd.
106	Territorial Rd.	0.5 Mi. E. of Highland Rd.
107	Napier Ave.	0.2 Mi. E. of Tubbs Rd.
108	Meadow Brook	E. of Tubbs Rd.
109	Naomi Rd.	E. of Shangha
110	Pipestone Rd.	E. of Lett
111	M-62 Relocated	E. of Hillandale Rd.
112	Ex. US-31, US-33 South	S. of Rocky Weed Rd.
113	Hollywood Rd.	S. of Rocky Weed Rd.
114	Cleveland Avenue	S. of Rocky Weed Rd.
115	Stevensville-Baroda Rd.	S.E. of Demmorrow (Holden) Rd.
116	Red Arrow Highway	S. of Defay Rd.
117	I-94 South	1.7 Mi. S. of Grand Mere Rd.
118	US-31 Relocated	S. of River Rd. @ St. Joseph River

BENTON HARBOR—ST. JOSEPH TWIN CITIES AREA—2000



Prepared By Michigan Department Of
State Highways and Transportation

LEGEND

- AREA LIMITS
- SCREEN LINE
- ZONE BOUNDARY
- ZONE NUMBERS