

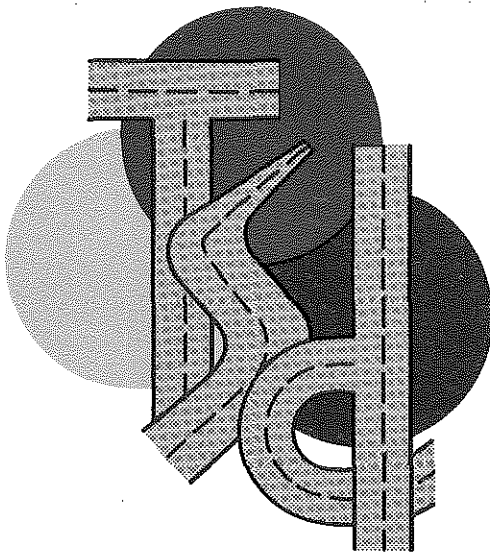
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MICHIGAN TRUNKLINE ACCIDENT FACTS,
AN EVALUATION OF THE STATES
1970 ACCIDENT EXPERIENCE
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STATE OF MICHIGAN**

Prepared By The

Traffic Research and Development Section
Traffic and Safety Division
Bureau of Operations
Michigan Department of State Highways

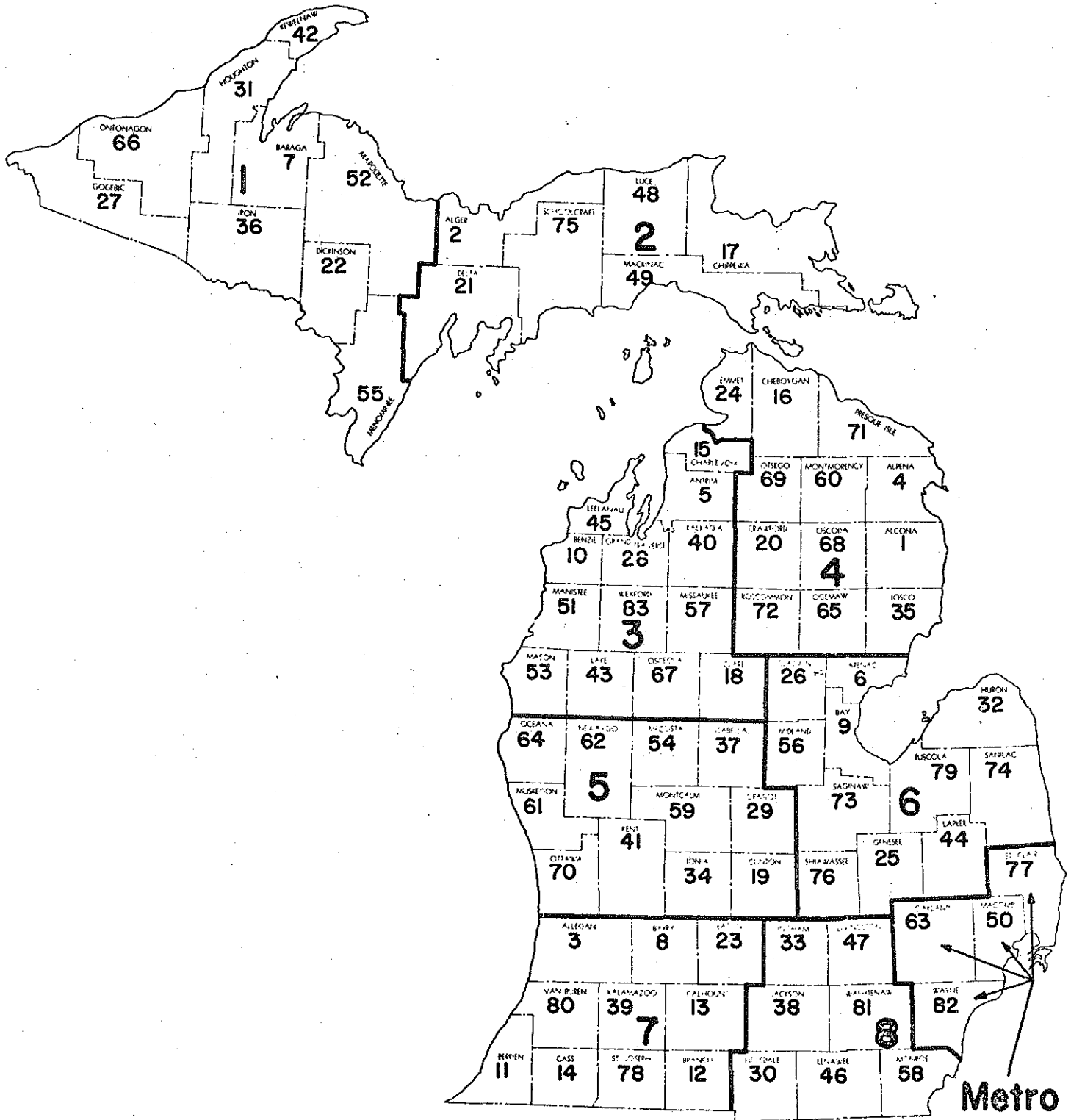
in cooperation with

The U.S. Department of Transportation
Federal Highway Administration

"The opinions, findings and conclusions expressed in this publication are those of the authors and not necessarily those of the State or U.S. Department of Transportation, Federal Highway Administration".

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

DISTRICT AND COUNTY NUMBERS



FOREWORD

Accident statistics have become an important source of information for the Highway Department's engineers and planners. During each year hundreds of accident studies are performed by the Accident Analysis Unit for the Department. The purpose of this report is to preserve the knowledge gained from these studies for future use.

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ACKNOWLEDGMENTS

The author desires to acknowledge with appreciation the use of the accident reports and computer tapes supplied by the Michigan Department of State Police.

ABSTRACT

This report considers the annual accident experience during a five-year period on the trunkline system, and the 1970 experience for Highway Districts, Roadway Types, Fixed Objects Hit, and Critical Locations. A second portion of the study concerns administration, the processing of accident reports, and a listing of computer studies and collision diagrams completed by the Accident Analysis Unit during 1971.

TRUNKLINE ACCIDENT TREND 1966-1970

Michigan's trunkline accident experience has shown a 29 percent increase in the five-year period, 1966-1970. In 1966 82,908 accidents occurred on the trunkline system, which was 27.4 percent of the states total accident experience. By 1970 the trunkline system accident experience had increased to 106,986 or 34.1 percent of the states total accident experience.

Michigan Trunkline Accident Trend Data

Table 1

<u>Year</u>	<u>T.L. Detroit</u>	<u>T.L. Outstate</u>	<u>T.L. Total</u>	<u>All Accs. Statewide</u>	<u>Estimated Annual Veh. Mi.-Travel</u> (Millions)	<u>Motor Vehicle Registrations</u>
1966	15,463	67,445	82,908	302,880	43940.1	4,133,199
1967	15,486	69,796	85,292	299,004	45053.6	4,161,573
1968	15,560	85,097	100,657	305,495	48047.4	4,327,885
1969	16,004	92,182	108,186	331,223	50904.9	4,560,097
1970	14,516	92,469	106,986	313,715	53148.1	4,683,919

Data Compiled from State Police Facts
Books and From Highway Department
(Accident Analysis Unit) Printouts

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DISTRICT ACCIDENT EXPERIENCE

(PROGRAM 10006)

Accident rates have been used by Traffic Engineers for many years to evaluate the safety of the trunkline system. The accident rate is the ratio of the accidents generated by a road segment versus the travel on the same road segment, and is expressed as the number of accidents per 100 million vehicle miles of travel. The accident rate is a valuable tool since it allows the engineer to compare the safety of road segments of different length and different traffic volumes.

As a practical tool, the accident rates can be determined for all trunklines in a District and the total accident rate for the District can be determined as shown in TABLE 2 on page 4.

The State Trunkline System's rate of 369.8 is much lower than the statewide road system's rate of 590.3. The lesser rate is due in part to the modern Interstate Highway network, which is a part of the Trunkline System.

A SUMMARY OF THE DISTRICT'S 1970 TRUNKLINE ACCIDENT EXPERIENCE

TABLE 2

PROGRAM 10006

<u>District</u>	<u>Fatal Accidents</u>	<u>Total Accidents</u>	<u>F. A. Rate</u> ⁽²⁾	<u>Total</u> ⁽³⁾ <u>A. R.</u>
1	31	3,031	4.7	462.3
2	30	1,885	6.1	388.0
3	41	3,947	4.3	414.2
4	37	3,007	4.1	336.3
5	108	11,676	3.5	384.9
6	118	12,728	3.6	391.5
7	100	11,854	3.4	413.5
8	109	15,648	2.7	396.4
Metro	235	28,693 ⁽¹⁾	2.6	321.8
Trunkline System	809	92,469 ⁽¹⁾	3.2	369.8
Statewide System	1,863	313,715	3.5	590.3

(1) Excluding the City of Detroit's Property Damage
and Personal Injury Accidents

(2) Fatal Accident Rate = Fatal Accidents per 100 Million
Vehicle Miles (This is not the same as "death rate")

(3) Total Accident Rate = Accidents per 100 Million Vehicle
Miles

TRUNKLINE ACCIDENT RATE EXPERIENCE

CLASSIFIED BY ROADWAY AND DISTRICT

Michigan's Freeway System with its median-divided, controlled access features provide for greater safety, as shown in Table 3. A summary of this information is as follows:

Range of Accident Rates

Rural Trunkline System

1. Two Lane, Free Access	284.3 - 373.8
2. Four Lane, Divided	
a) Controlled Access	135.1 - 180.3
b) Free Access	136.7 - 474.2
3. Four Lane, Nondivided	
a) Free Access	404.3 - 927.3

Urban Trunkline System

1. Two Lane, Free Access	676.4 - 1038.4
2. Four Lane, Divided	
a) Controlled Access	122.2 - 287.3
b) Free Access	639.1 - 1375.9
3. Four Lane, Nondivided	
a) Free Access	463.6 - 1722.5

1970

COMPARISON OF AVERAGE ACCIDENT RATES
ON MICHIGAN TRUNKLINE SYSTEM
BY ROADWAY TYPE BY DISTRICT

TABLE 3

Roadway Type: Non-divided - Free Access

Highway Area Type

<u>Dis-</u> <u>trict</u>	<u>Urban</u>				<u>Rural</u>			
	<u>2</u> <u>lanes</u>	<u>3</u> <u>lanes</u>	<u>4</u> <u>lanes</u>	<u>6+</u> <u>lanes</u>	<u>2</u> <u>lanes</u>	<u>3</u> <u>lanes</u>	<u>4</u> <u>lanes</u>	<u>6+</u> <u>lanes</u>
1	751.3	-	1044.8	-	312.8	-	404.3	-
2	1038.4	-	1489.8	-	312.6	-	-	-
3	745.0	1340.4	1722.5	-	323.2	-	799.0	-
4	753.8	545.7	1592.1	-	372.6	-	743.1	-
5	801.8	1680.3	1003.1	-	324.7	-	517.9	-
6	689.4	584.9	921.2	-	284.3	251.9	498.7	928.6
7	999.8	973.1	1305.2	-	373.7	-	748.2	-
8	781.5	-	1066.4	479.3	373.8	-	927.3	-
(1) Metro	787.9	700.5	916.6	633.0	354.0	-	610.5	-
(2) Metro	676.4	-	463.6	78.0	350.0	-	544.9	722.9

(1) Oakland, Macomb, St. Clair Counties

(2) Wayne County, Excluding City of Detroit

TABLE 3 (Cont.)

Roadway Type: Divided - Free Access

Highway Area Type

<u>District</u>	<u>Urban</u>			<u>Rural</u>	
	<u>4 lanes</u>	<u>5 lanes</u>	<u>6+ lanes</u>	<u>4 lanes</u>	<u>6+ lanes</u>
1	942.6	-	-	420.7	-
2	665.4	-	-	474.2	-
3	1375.9	-	-	242.6	-
4	1275.4	-	-	136.7	-
5	702.4	-	882.6	262.2	-
6	661.9	557.0	500.8	309.7	-
7	936.3	-	1689.7	356.7	-
8	639.1	842.3	1113.1	458.9	477.1
Metro (1)	666.4	-	696.9	427.6	677.4
Metro (2)	673.5	-	385.7	426.7	551.1

Roadway Type: Divided - Controlled Access

Highway Area Type

<u>District</u>	<u>Urban</u>			<u>Rural</u>		
	<u>4 lanes</u>	<u>5 lanes</u>	<u>6+ lanes</u>	<u>4 lanes</u>	<u>5 lanes</u>	<u>6+ lanes</u>
1	-	-	-	-	-	-
2	122.2	-	-	169.2	-	-
3	-	-	-	180.3	-	-
4	216.8	-	-	135.5	-	-
5	282.2	-	307.3	163.0	-	-
6	210.6	-	-	165.2	-	-
7	287.3	-	-	145.6	-	118.5
8	216.8	-	-	150.5	-	272.5
Metro (1)	155.0	251.4	180.6	135.1	480.4	144.2
Metro (2)	249.4	-	51.1	124.3	-	172.8

RAN-OFF-ROADWAY, FIXED OBJECT ACCIDENT TABLES

14,099 or 15.3 percent of the 1970 trunkline accident experience involved single vehicle, ran-off-road collisions with fixed objects. The fixed objects may be ranked as hazards by comparing their accident experience. Collisions with guardrails were most numerous (3,636), followed by traffic signs (2,336), ditches or embankments (2,186), utility poles (1,811), trees (993), mailboxes (620), fences (524), abutments or piers (273), etc.

Table 4, Percentage Type to Total, indicates that some fixed objects are much more hazardous than others. As an example, traffic signs produce proportionately fewer fatal and injury accidents than abutments or piers which, although fewer in number, produce a proportionately large percentage of injury and fatal accidents.

Approximately one quarter of the ran-off-road, fixed object accidents (3,575) occurred on curved portions of the trunkline. One half of these collisions (7,327) occurred during hours of darkness. One half (7,074) occurred under adverse road conditions.

MICHIGAN TRUNKLINE RAN-OFF-ROADWAY/FIXED OBJECT ACCIDENT TABLES

1970

STATEWIDE TOTALS

TABLE 4

	<u>Total Acc.</u>	<u>Fatal Acc.</u>	<u>No. Killed</u>	<u>Inj. Acc.</u>	<u>No. Inj.</u>
Ditch, Embank.,					
Stream	2,186	33	34	976	1,499
Culvert	139	4	4	76	109
Guardrail	3,636	68	80	1,260	1,900
Tree	993	31	36	560	772
Sign	2,336	11	11	549	866
Bridge Rail	195	8	9	89	123
Building	251	3	3	108	171
Utility Pole	1,811	21	23	909	1,311
Mailbox	620	5	6	166	245
Railroad Signal	63	0	0	24	36
Fence	524	3	3	184	247
Abut-Pier	273	23	26	131	205
Island-Curb	356	8	10	136	172
Misc.	716	3	3	223	332
TOTALS	14,099	221	248	5,391	7,988

Percentage (Type to Total)

	<u>% of Total Acc.</u>	<u>% of Fatal Acc.</u>	<u>% of Killed</u>	<u>% of Inj. Acc.</u>	<u>% of Injured</u>
Ditch, Embank.,					
Stream	15.5	14.9	13.7	18.1	18.8
Culvert	1.0	1.8	1.6	1.4	1.4
Guardrail	25.8	30.8	32.3	23.4	23.8
Tree	7.0	14.0	14.5	10.4	9.7
Sign	16.6	5.0	4.4	10.2	10.8
Bridge Rail	1.4	3.6	3.6	1.7	1.4
Building	1.8	1.4	1.2	2.0	2.1
Utility Pole	12.8	9.5	9.4	16.9	16.4
Mailbox	4.4	2.2	2.4	3.1	3.1
Railroad Signal	0.4	0.0	0.0	0.4	0.4
Fence	3.7	1.4	1.2	3.4	3.1
Abut-Pier	1.9	10.4	10.5	2.4	2.6
Island-Curb	2.5	3.6	4.0	2.5	2.2
Misc.	5.2	1.4	1.2	4.1	4.2
TOTALS	100.0	100.0	100.0	100.0	100.0

NOTE: TABLE EXCLUDES DETROIT PROPERTY DAMAGE AND INJURY ACCIDENTS.

MICHIGAN TRUNKLINE RAN-OFF-ROADWAY/FIXED OBJECT ACCIDENT TABLES

TABLE 4 (Cont.)

	<u>On Curve</u>	<u>During Darkness</u>	<u>Adverse Cond.</u>
Ditch, Embank.,			
Stream	537	1,045	1,116
Culvert	24	71	65
Guardrail	1,235	1,814	2,073
Tree	210	543	510
Sign	598	1,284	1,154
Bridge Rail	47	91	112
Building	35	135	89
Utility Pole	347	1,053	872
Mailbox	114	325	294
Railroad Signal	16	25	27
Fence	110	272	222
Abut-Pier	58	147	127
Island-Curb	103	185	136
Misc.	<u>141</u>	<u>337</u>	<u>277</u>
TOTALS	3,575	7,327	7,074

NOTE: TABLE EXCLUDES DETROIT PROPERTY DAMAGE AND INJURY ACCIDENTS.

CRITICAL ACCIDENT LOCATIONS

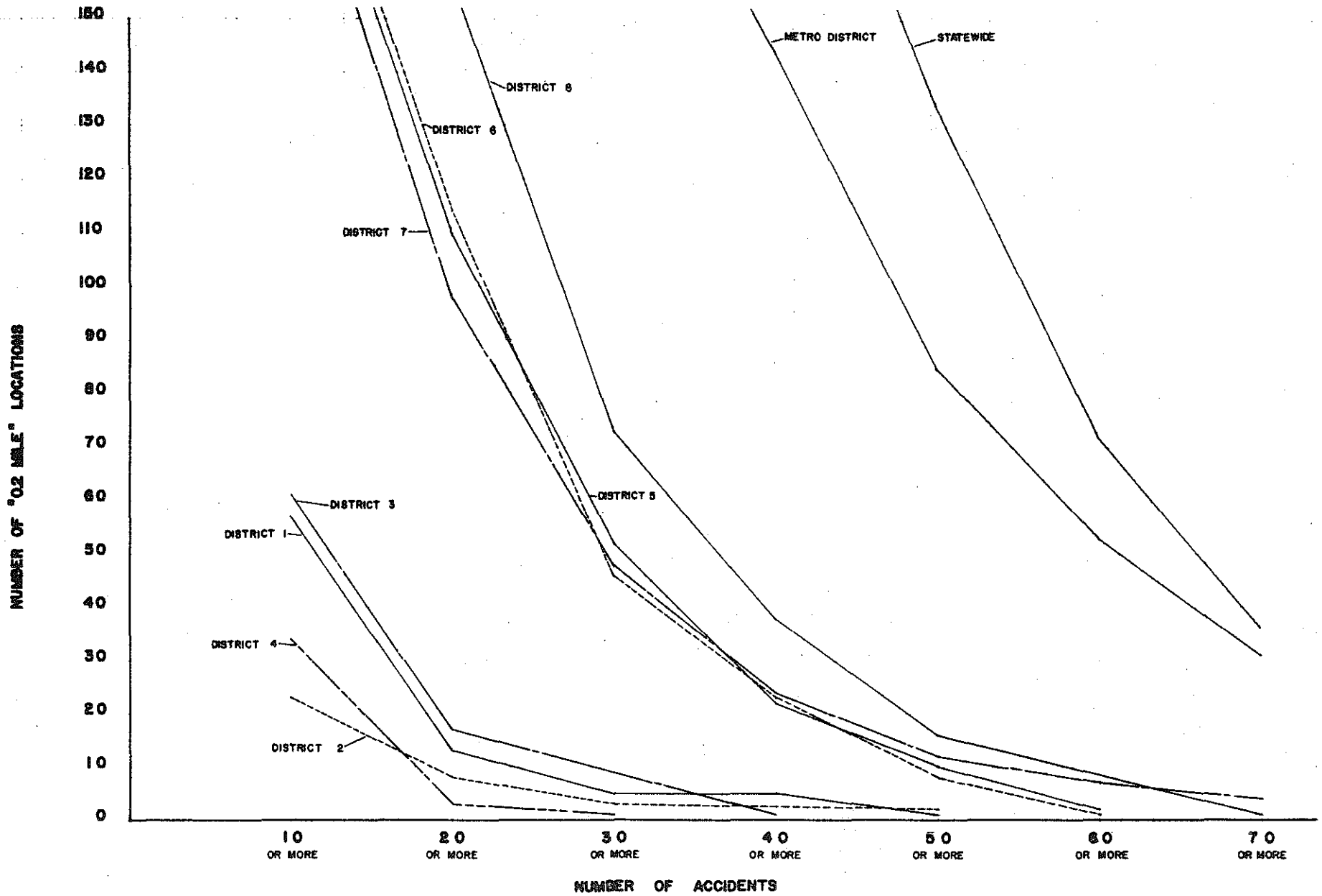
The criticality chart graphly illustrates the number of critical accident spot locations in each district. Locations were considered critical if their accident experience exceeded an established minimum number of accidents. The number for each district is as follows: Districts 1-4, 10; Districts 5-8, 20; Metropolitan District, 30.

The number of critical accident locations in each district is as follows:

District	Critical Locations
1	57
2	23
3	61
4	34
5	110
6	113
7	98
8	153
Metro	<u>253</u>
Total	902

1970 CRITICALITY CHART

(0.2 MILE ROAD SEGMENTS WITH 10 OR MORE ACCIDENTS)



RAIL-HIGHWAY GRADE CROSSINGS

During 1970, 71 motor vehicle-train collisions occurred at 636 grade crossings on the trunkline system. Ten persons were killed in seven fatal accidents. A Railroad Hazard Index was developed to evaluate the safety of individual grade crossings. The Hazard Index was the product of the highway traffic (average daily traffic), rail traffic (trains per day) and a protection coefficient, which varied with the type of protection. The protection coefficient (P.C.) was developed from the formula:

$$P.C. = \frac{1}{N} \sum_{i=1}^N \left(\frac{Acc_i}{ADT_i \times T.V._i} \right)$$

N = Number of crossings per protection type

ADT_i = Average daily traffic for crossing i

Acc_i = 5 year accident sum for crossing i

T.V._i = Train traffic per day for crossing i

The protection coefficient developed were as follows:

	P.C.
1. Reflectorized crossbuck signs	1.00
2. Side of street flashing light signals	0.78
3. Side of street flashing light signals cantilever arms	0.78
4. Side of street flashing light signals ½ roadway gates	0.35
5. SOS flashing light signals cantilever arms and half roadway gates	0.35

With the development of the Hazard Index, each crossing on the trunkline system is to be reviewed on an annual basis to determine the adequacy of its crossing protection.

1970 Rail - Highway Grade Crossing Data

For the Michigan Trunkline System

	<u>P.D.</u> <u>Acc.</u>	<u>Inj.</u> <u>Acc.</u>	<u>Injs.</u>	<u>Fat.</u> <u>Acc.</u>	<u>Fatal-</u> <u>ities</u>	<u>Total</u> <u>Acc.</u>
Collision with Train	41	23	36	7	10	*71
Crossing Indicated#	190	117	197	8	11	*315
100' Radius of Track	706	305	495	9	14	*1023

*Excludes City of Detroit P.D. and Injury Accident Data

#So Indicated by State Police Coding Staff

Accident Analysis Unit

Traffic and Safety Division

Michigan Department of State Highways

12-21-71 PNM

ACCIDENT REPORT FLOW CHART

I. Report Initiation

1. Officer completes report in field
2. Local agency sends copies to State Police
3. State Police processes report following Process A.

II. Process A

1. Reports sorted into SP, Sheriff or City PD.
2. Locators place location data on the reports
3. Case Supervisor checks SP reports for clarity and accuracy
4. Coders transfer data to mark-sense code forms
5. Code checkers review coded data for accuracy
6. Driver data cards are verityped also producing a paper tape (for Dept. of State) and punched card for miracode input
7. Reports are microfilmed on the Kodak Miracode equipment
8. Reports are sorted for trunkline and selected counties
9. Trunkline reports are sent to Dept. of State Highways. Reports are also returned to a few counties. The remainder of the reports are destroyed.

III. Process B

1. Accident Analysis Unit (Hwy. Dept.) reviews all trunkline reports for: damage to Hwy. property; railroad crossing accidents; Interstate fatals; accidents involving Hwy. Dept. vehicles; all trunkline fatals; wrong-way accidents; flammable-carrier accidents; over-width trailer accidents; accidents denoting engineering or maintenance attention; and special reports requested by Management, Finance Division or by Hwy. Attorney General Section.
 - 1a. Copies are made and distributed to pertinent parties.
2. Reports are filed by control section number

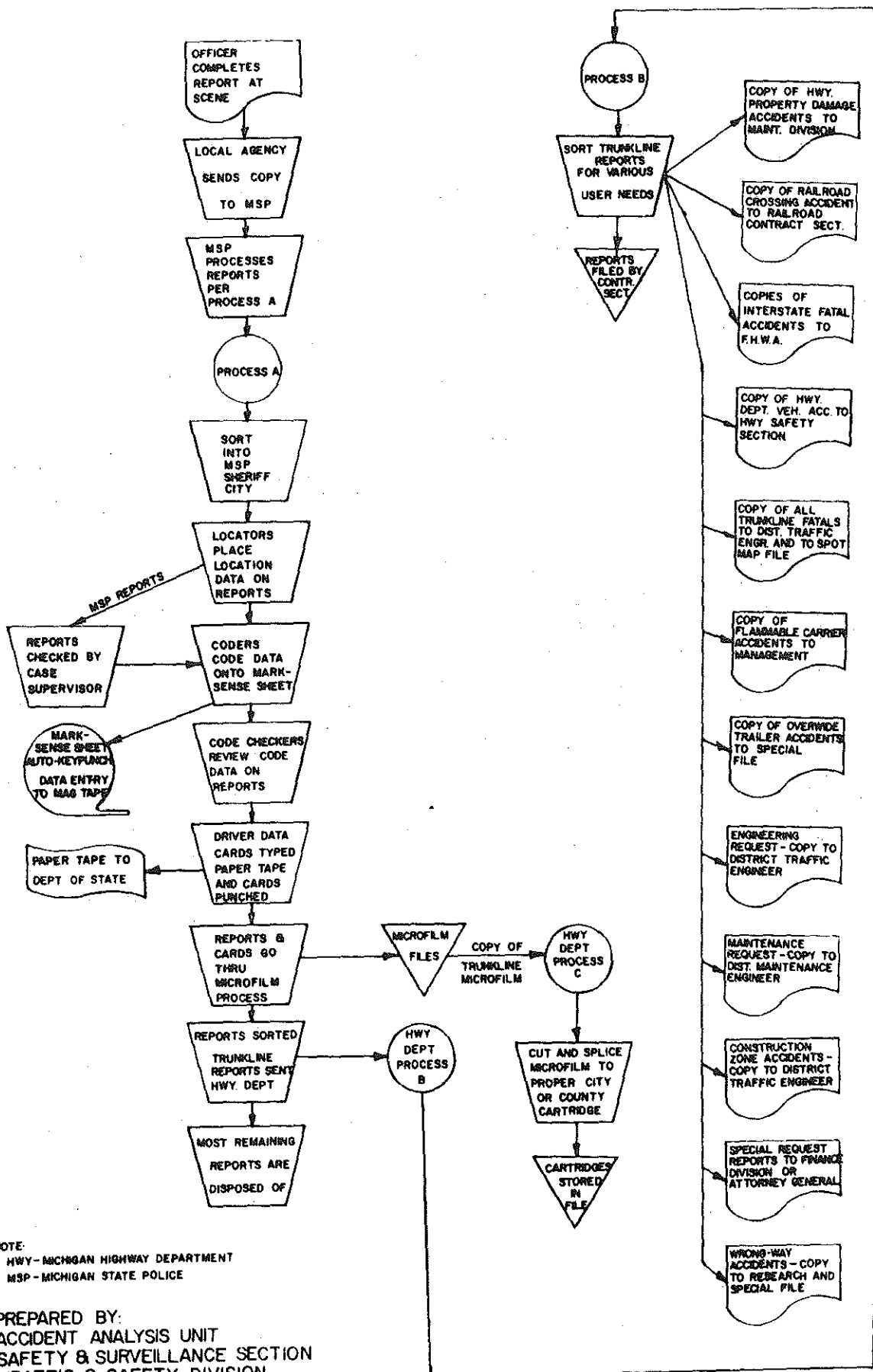
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state highways
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IV. Process C (Microfilm Handling)

- 1.A. Microfilm reels received from State Police are cut into various county or city segments
- B. Film segments are spliced into the proper city or county microfilm cartridge
2. Film cartridges are filed by county or city within county

Accident Analysis Unit
Safety & Surveillance Section
Traffic & Safety Division
Michigan Dept. of State Highways
10-1-71 PNM

ACCIDENT REPORT FLOW CHART



NOTE:
 HWY - MICHIGAN HIGHWAY DEPARTMENT
 MSP - MICHIGAN STATE POLICE

PREPARED BY:
 ACCIDENT ANALYSIS UNIT
 SAFETY & SURVEILLANCE SECTION
 TRAFFIC & SAFETY DIVISION

LISTING OF COMPUTER PRINTOUTS PREPARED BY ACCIDENT ANALYSIS UNIT

1967 - March 1972

	1967	1968	1969	1970	1971	1972
1. Fixed Object/Ran off Road	Nov.		April			
2. Railroad Crossing 68, 69, 70, 71	Nov.		April		Nov.	March
3. Deer Accidents	Nov.		April	April	May	March
4. Mileage Logs			May			
5. Critical			June	April		
6. Head-on Left Turn						
7. Intersection Accidents				Aug.		
8. Interchange Accidents, I-94				Aug.		
9. General Accident Printout			Aug.	Aug.		
10. General Accident Program Test of 1967 Accident Master for Skid				Aug.		
11. Fatal Accident Printout			July			
12. Key Punched Cards for Signal Inventory Mileage			Sept.			
13. Traffic Signal Inventory with Mileage			Oct.			
14. Fence Accidents 66, 67, 68			Nov.			
15. Train Accidents 68, 71			Nov.			March
16. Statewide Critical Accidents 68, 69, 70			Dec.	April		March
17. Critical Accident, I-94			Dec.			
18. Cross Median Accidents 70				Jan.		Feb.
19. Tree Accidents 65, 66, 67, 68 69				Jan.		
20. Critical Accident Rate Locations 16049				April		
21. Frosty Bridge Accidents 68, 70, 71				Jan.		
				March		Jan. March
22. Wet Surface Accidents 64, 65, 66, 67, 68 Clinton, Eaton, Ingham, Jackson Counties				March		
23. Critical Locations 67 Monroe County				March		
24. Exit Ramp and Loop Accidents				March		
25. Total Accidents 69				April		
26. Detroit Accidents 69				April		
27. Severity 69				April		
28. Construction Zone Accidents 69, 71				April		March
29. TA-1				April		March

1967 1968 1969 1970 1971 1972

- 30. Objects on Road 69
- 31. Flammable Carrier Accidents 69
- 32. Signal Inventory 69
- 33. Critical Location Accidents
- 34. Exit Ramps Loop Accidents 69
- 35. Guardrail 69, 70
- 36. Symbol Sign Study Interchange Accidents, 68, 69
- 37. Pedestrian Accidents (Rural and Urban
68, 69, 70) 24020
- 38. Wrong-way Accidents (67, 68, 69, 70) 24020
- 39. Before and After 24020
- 40. Out-of State Drivers 24020
- 41. Thru-Guardrail 24020
- 42. Off-Guardrail 24020
- 43. Accident Version of Signal Inventory 16064
- 44. Created Midblock Accidents 17180/24991
- 45. Created Curve Accidents 17180/24992
- 46. Critical Midblock Accident Areas Statewide 24028
- 47. 1970 "Too Slow"
- 48. 1970 Farm Equipment
- 49. 1970 Critical Curve Areas
- 50. 1970 Wet Pavement Accidents
- 51. 1970 Slippery When Wet
- 52. School Bus Accidents 1971
- 53. Pedestrian Accidents at Signalized Location
- 54. 67, 68, 69, 70 Parclo Int. Accidents
- 55. 67, 68, 69, 70 Diamond Int. Accidents
- 56. 1970 Interstate Light/Dark Accidents
- 57. 1970 Trunkline Light/Dark Accidents
- 58. 1969 and 1970 Trunkline Fatals
- 59. 1971 Flammable Hauler Accidents
- 60. 1971 Statewide Accident Severity
- 61. 1971 Mailbox
- 62. 1969 Fatal Accidents

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LISTING OF COLLISION DIAGRAMS COMPLETED
DURING 1971
BY ACCIDENT ANALYSIS UNIT

1971 Collision Diagrams Prepared for District

Location of Collision Diagram	County	One	Period
		No. of Accs.	
1 US-2 from First St. East to Cayuga St., city of Iron River	Iron	12	1970
2 US-2 from First St. East to Cayuga St., city of Iron River	Iron	8	1969
3 M-95 at US-41, M-28, Humboldt Twp.	Marquette	8	1968
4 M-95 at US-41, M-28, Humboldt Twp.	Marquette	5	1969
5 M-95 at US-41, M-28, Humboldt Twp.	Marquette	5	1970
6 US-41, M-28 from Champion St. to Front St., city of Marquette	Marquette	12	1970
7 US-41 at Euclid St., city of Ishpeming	Marquette	4	1970
8 US-2 (Cloverland) at Lake, city of Ironwood	Gogebic	16	1970
9 US-2 (Cloverland) at Lake, city of Ironwood	Gogebic	16	1969
10 US-41 from Upland to East, city of Houghton	Houghton	13	1970
11 US-41 from Lake to Franklin, city of Houghton	Houghton	17	1970
12 US-41 from Lake to Franklin, city of Houghton	Houghton	11	1969
13 US-41 (10th Ave.) at 10th St., city of Menominee	Menominee	23	1970
14 US-41 (Quincy) from Montezuma to Tezcucu, city of Hancock	Houghton	49	1969
15 US-41 (Quincy) from Montezuma to Tezcucu, city of Hancock	Houghton	39	1970
16 US-41 BR from DSS&A RR to N. Seventh St., city of Marquette	Marquette	51	1969
17 US-41 BR from DSS&A RR to N. Seventh St., city of Marquette	Marquette	57	1970
18 US-2 BR (Aurora) at Lawrence St., city of Ironwood	Gogebic	4	1970
19 US-41, M-28 at BR-41 (S. Front), city of Marquette	Marquette	11	1971 (1-1 - 8-1)

1971 Collision Diagrams Prepared for District

Location of Collision Diagram	County	Two	
		No. of Accs.	Period
1 I-75 BS from I-75 to 14th Ave., city of Sault Ste. Marie	Chippewa	23	1967
2 I-75 BS from I-75 to 14th Ave., city of Sault Ste. Marie	Chippewa	34	1968
3 I-75 BS from I-75 to 14th Ave., city of Sault Ste. Marie	Chippewa	33	1969
4 BS-75 (Ashmun) from the Power Canal to Portage Ave., city of Sault Ste. Marie	Chippewa	71	6-1-68 - 5-31-69
5 BS-75 (Ashmun) from the Power Canal to Portage Ave., city of Sault Ste. Marie	Chippewa	63	6-1-69 - 5-31-70
6 BS-75 (Ashmun) from the Power Canal to Portage Ave., city of Sault Ste. Marie	Chippewa	32	6-1-70 - 10-21-70
7 M-28 from E. Limits. of Munising to Cemetery Rd., Munising Twp.	Alger	15	1970
8 US-2 at River St., city of Manistique	Schoolcraft	17	1970
9 US-2, US-41, M-35 from S. Jct. M-35 in Escanaba to N. Jct. M-35 in Gladstone	Delta	241	1970
10 M-28 at Waiska River Bridge, Superior Twp.	Chippewa	6	1966 - 1970
11 US-2, US-41, M-35 at Delta Ave., city of Gladstone	Delta	6	1970

1971 Collision Diagrams Prepared for District Three

Location of Collision Diagram	County	No. of Accs.	Period
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1	M-22 (Lake St) from Carlson to Benzie River, cities of Elberta and Frankfort	Benzie	14	1968 & 1969
2	US-31, M-37, M-72 (Grandview Pkwy) from Union to Cass, Traverse City	Gd. Traverse	22	1968
3	US-31, M-72 (Front) from E of M-37 to Miliken Dr., Traverse City	Gd. Traverse	14	1969
4	US-31, M-72 (Front) from E of M-37 to Miliken Dr., Traverse City	Gd. Traverse	16	1968
5	M-37 (Michigan) from 7th to 8th, city of Baldwin	Lake	10	1969
6	M-37 (Michigan) from 7th to 8th, city of Baldwin	Lake	17	1970
7	US-131 (Mitchell) from Cobbs to Stimson, city of Cadillac	Wexford	17	1969
8	US-131 (Mitchell) from Cobbs to Stimson, city of Cadillac	Wexford	23	1970
9	US-131 (Mitchell) from North St. to Clam River, city of Cadillac	Wexford	25	1969
10	US-131 (Mitchell) from North St. to Clam River, city of Cadillac	Wexford	24	1970
11	M-72, M-22 (Grand View Pkwy) at US-31, M-37 (Division city of Traverse City	Gd. Traverse	19	1970
12	M-115 at N. Blvd., city of Cadillac	Wexford	8	1969 & 1970
13	US-31, M-22, M-37, M-72 (Grandview Pkwy) @ US-31, M-37 (Division), city of Traverse City	Gd. Traverse	25	1970
14	US-27 at US-27 BR (Old 27 Clare Ave) & Colonville Rd., Grant Twp.	Clare	20	1970
15	US-131 (Mitchell) @ M-55 (Granite) - Paulster, city of Cadillac	Wexford	9	1970
16	US-10 from Jackson Rd (Ludington city lmts) East to US-31 W. Jct., Pere Marquette Twp.	Mason	54	1970
17	US-131 (Mitchell) @ M-55 (Granite) & Paulster Sts, city of Cadillac	Wexford	12	1969

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1971 Collision Diagrams Prepared for District

Location of Collision Diagram	County	Four	Period
		No. of Accs.	
1 I-75 at M-93, Grayling Twp.	Crawford	3	1968
2 US-23 (Chisholm) @ M-32 (Washington), city of Alpena	Alpena	16	1970
3 US-23 (Chisholm) from 7th St. to 11th St., city of Alpena	Alpena	32	1969
4 US-23 (Chisholm) from 7th St. to 11th St., city of Alpena	Alpena	34	1970
5 US-23 (State) from Dwight to Michigan, village of Oscoda	Iosco	14	1969
6 US-23 (State) from Dwight to Michigan, village of Oscoda	Iosco	23	1970
7 M-55, M-76 (Houghton) from 6th St. to 3rd St. city of W. Branch	Ogemaw	21	1970
8 M-55 @ Old US-27 (Co Rd 270), Roscommon & Lake Twps.	Roscommon	5	1969
9 M-55 @ Old US-27 (Co Rd 270), Roscommon & Lake Twps.	Roscommon	16	1970
10 US-23 at M-68, city of Rogers City	Presque Isle	4	1970
11 US-23 BR at M-68, city of Rogers City	Presque Isle	12	1970
12 M-32 (W. Main) from Otsego to Center, city of Gaylord	Otsego	30	1970
13 US-23 from Bare Pt. Rd. to Ripley Blvd., Alpena Twp.	Alpena	38	1970
14 US-23 from Ottawa St. to Mill St., village of Oscoda	Iosco	49	1970
15 US-23 from Ottawa St. to Mill St., village of Oscoda	Iosco	19	1968
16 US-23 from Old M-171 Right Turn Channel to Old M-171 (Skeel Rd) Oscoda Twp.	Iosco	14	1970
17 US-23 (Chisholm St.) from M-32 (Washington) & 1st St to 3rd St., city of Alpena	Alpena	27	1970
18 M-33, M-72 from Jct. M-72 n'ly to Co Rd 606, city of Mio	Oscoda	14	1970
19 M-33, M-72 from Jct. M-72 n'ly to Co Rd 606, city of Mio	Oscoda	21	1968
20 I-75 at M-32, city of Gaylord	Otsego	10	1968
21 I-75 at M-32, city of Gaylord	Otsego	6	1969
22 I-75 at M-32, city of Gaylord	Otsego	10	1970
23 I-75 at M-93 (Hardwick-Pines), Grayling Twp.	Crawford	3	1969
24 I-75 at M-93 (Hardwick-Pines), Grayling Twp.	Crawford	6	1970

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1971 Collision Diagrams Prepared for District

Five

Location of Collision Diagram	County	No. of Accs.	Period
1 US-27 (Whittemore) @ M-21 (State), city of St. Johns	Clinton	37	1969
2 M-20 (Maple) from US-131 (State) to Warren St., city of Big Rapids	Mecosta	38	1969
3 M-37 from Washington St. North to River St., city of Newaygo	Newaygo	9	1969
4 M-46 at US-27 BR (Alger), Pine River Twp.	Gratiot	17	1969
5 BL-96 (Gd. River) from I-96 e'ly to Waverly Rd., Watertown Twp.	Clinton	43	1969
6 BL-96 (Gd. River) from I-96 e'ly to Waverly Rd., Watertown Twp.	Clinton	37	1970
7 M-44 (Northland) @ Cannonsburg-W. River, Plainsfield Twp.	Kent	19	1970
8 US-31 BR (Muskegon) @ Terrace, city of Muskegon	Muskegon	16	1970
9 US-131 @ Burton St., city of Grand Rapids	Kent	49	1970
10 US-31 BR (Muskegon) from Pine to Spring, city of Muskegon	Muskegon	24	1970
11 BL-96 (Gd. River) from I-96 E'ly to Waverly Rd., Watertown Twp.	Clinton	43	1968
12 M-11 (Wilson) at I-196, city of Grandville	Kent	12	1968
13 M-11 (Wilson) at I-196, city of Grandville	Kent	18	1970
14 US-27 from 0.3 mi S. of Stoll Rd. to 0.45 mi N of Clark Road DeWitt Twp.	Clinton	42	1970
15 M-120 (Holton) from US-31 N'ely to Ryerson Rd., Dalton Twp.	Muskegon	55	1969
16 M-120 (Holton) from US-31 N'ely to Ryerson Rd., Dalton Twp.	Muskegon	60	1970
17 M-120 (Holton) from US-31 N'ely. to Ryerson Rd., Dalton Twp.	Muskegon	64	1968
18 M-37, M-44 (E. Belt Line) @ M-11 (28th St.) S.B. to W.B. Ramp, city of Grand Rapids	Kent	9	3-18-69 - 3-17-70
		10	3-18-70 - 3-17-71
19 I-96 Ent & Exit ramps E.B. @ Plainfield Ave, city of Gd. Rapids	Kent	15	3-18-69 - 3-17-70
		22	3-18-70 - 3-17-71
20 US-31 (By-pass) @ 16th St., city of Holland	Ottawa	22	1970
21 M-20 (High) from Washington to College (University), city of Mt. Pleasant	Isabella	13	1969
22 M-20 (High) from Washington to College (University), city of Mt. Pleasant	Isabella	26	1970
23 M-45 (Lake Mich) at Covell Ave., city of Grand Rapids	Kent	10	1969
24 M-45 (Lake Mich) at Covell Ave., city of Grand Rapids	Kent	17	1970
25 M-66 (Dexter) from Wells to High, city of Ionia	Ionia	53	1969
26 M-66 (Dexter) from Wells to High, city of Ionia	Ionia	44	1970
27 M-46 (Apple) from Sophia to Williams St., city of Muskegon	Muskegon	41	1970
28 M-45 (Lake Mich. Drive) @ Kinney Ave., city of Walker	Kent	18	1970

1971 Collision Diagrams Prepared for District Five

Location of Collision Diagram	County	No. of Accs.	Period
29 M-66 (Dexter) from Wells to High, city of Ionia	Ionia	40	6-5-70 - 6-4-71
30 US-27 BR (Superior) from Prospect to Pine, city of Alma	Gratiot	58	1970
31 M-46 (Apple Ave) @ Creston, Home & US-31, city of Muskegon	Muskegon	71	1970
32 M-11 (Wilson) @ M-45 (Lake Mich.), city of Walker	Kent	21	1970
33 M-11 (Wilson) @ M-45 (Lake Mich.), city of Walker	Kent	11	1-1- to 6-22-1970
34 US-31 BR (Whitehall Rd.) @ Fruitvale Road, Montague Twp.	Muskegon	6	1970
35 M-11 (28th St) @ Michael-Dehoop, city of Wyoming	Kent	29	1970
36 M-11 (28th St) @ Michael-Dehoop, city of Wyoming	Kent	32	1969
37 M-45 (Lake Mich. Dr) from M-11 (Wilson) to Kinney Ave, city of Walker	Kent	52	1970
38 M-11 (28th St.) @ Patterson Ave., city of Kentwood	Kent	7	1970
39 US-27 BR (Mission) through the city of Mt. Pleasant	Isabella	235	1970
40 M-37 (Broadmoor) @ E. Paris Ave & 44th St., city of Kentwood	Kent	15	1970
41 M-37 (Alpine) @ I-96 and 3 Mile Road, city of Walker	Kent	27	1970
42 US-27 at Clark Road, DeWitt Twp.	Clinton	13	1970
43 M-78 at Marsh Road, Bath Twp.	Clinton	9	1970
44 US-27 at M-21, city of St. Johns	Clinton	40	1970
45 US-27 at M-21, city of St. Johns	Clinton	22	Jan - Aug 7, 1971
46 US-31 BR, M-21 (8th St) @ Lincoln Ave, city of Holland	Ottawa	12	1970
47 US-31 BR, M-21 (8th St) @ Lincoln Ave, city of Holland	Ottawa	7	Jan - Aug 1971

1971 Collision Diagrams Prepared for District

Location of Collision Diagram		Six	Period
		No. of Accs.	
		County	
1	M-47 (Midland) @ M-46, M-47 (Gratiot), Saginaw Twp.	Saginaw	15 1969
2	I-75 US-10, US-23 at M-121 (Bristol), city of Flint	Genesee	65 1968
3	I-75, US-10, US-23 at M-21 (Corunna Rd.)	Genesee	52 1968
4	I-75, US-10, US-23 @ Dixie Hwy, Bridge Port Twp.	Saginaw	21 1968
5	BL-75, M-25, M-15 (McKinley) from Water St. to Washington Ave., city of Bay City	Bay	27 1970
6	M-13 (Euclid) @ N. Union St., Bangor Twp.	Bay	29 1-1 to 11-30-70
7	US-10 BR, M-20 (Indian) from M-20 (Jerome) to Rodd, city of Midland	Midland	29 1-1 to 11-23-70
8	US-10 BR, M-20 (Buttles) from M-20 (Jerome) to Rodd, city of Midland	Midland	22 1-1 to 11-26-70
9	I-75, M-76 at M-61	Arenac	4 1970
10	I-75, M-76 at M-61	Arenac	3 1969
11	I-75, US-10, US-23 @ M-121 (Bristol), Flint Twp.	Genesee	52 1970
12	I-75, US-23, US-10 from BL-75, US-10, M-25, M-15 to M-13 Connector, Monitor Twp.	Bay	65 1969
13	I-75, US-23, US-10 from BL-75, US-10, M-25, M-15 to M-13 Connector, Monitor Twp.	Bay	81 1970
14	M-46 (Gratiot) at Wheeler, city of Saginaw	Saginaw	22 1970
15	M-15 (State) at M-21 (Flint), city of Davison	Genesee	19 1970
16	M-46, BL-75 from Saginaw E. lmts to I-75 Ent-Exit ramps	Saginaw	64 1969
17	M-46, BL-75 from Saginaw E. lmts to I-75 Ent-Exit ramps	Saginaw	69 1970
18	I-75, US-10, US-23 @ M-78, Flint Twp.	Genesee	96 1970
19	BL-75, M-13, M-84 (Salzburg) @ M-13 (Euclid), Bay City	Bay	20 1970
20	M-25 (Center) @ Johnston, Pendelton, M-15 (Trumbell), Bay City	Bay	27 1970
21	M-47, M-81 (State) @ N. Center Road, Saginaw Twp.	Saginaw	42 1969
22	M-81, M-47 (State) at North Center Road, Saginaw Twp.	Saginaw	43 1970
23	M-81 (State) at Linda, Wilson & Hemmeter, Saginaw Twp.	Saginaw	36 1970
24	M-13 (Euclid) from 500' South of Jane St. to 500' North of NYC RR, Bay City	Bay	73 1970
25	M-46 (Williams) @ Michigan, Hamilton & Niagara, city of Saginaw	Saginaw	41 1969
26	M-21 (Corunna Rd) from 500' West of Dye to 500' East of Linden, Flint Twp.	Genesee	33 1969

1971 Collision Diagrams Prepared for District

Six

Location of Collision Diagram

County

No. of Accs.

Period

	Location of Collision Diagram	County	No. of Accs.	Period
27	M-21 (Corunna Rd) from 500' West of Dye to 500' East of Linden, Flint Twp.	Genesee	24	1970
28	M-81 (State) @ Linden, Wilson & Hemmeter, Saginaw Twp.	Saginaw	44	1969
29	M-46 (Williams) @ Michigan, Hamilton & Niagara, city of Saginaw	Saginaw	34	1970
30	M-46, M-47 (Gratiot) @ Miller Rd., Thomas Twp.	Saginaw	9	1969
31	M-46, M-47 (Gratiot) @ Miller Rd., Thomas Twp.	Saginaw	17	1970
32	M-46 (Williams & Stephens) from Niagra Westerly to Michigan city of Saginaw	Saginaw	61	1970
33	M-81 (State Rd) from N. Center Rd to Hemmeter, Saginaw Twp.	Saginaw	108	1970
34	M-46 (Gratiot) at River Road, Thomas Twp.	Saginaw	26	1970
35	US-10 at Waldo Road, Midland Twp.	Midland	3	1968
36	US-10 at Waldo Road, Midland Twp.	Midland	7	1970
37	BL-75, M-25 (McKinley) from Adams to Madison, Bay City	Bay	10	1970
38	BL-75, M-25 (7th) from Adams to Madison, Bay City	Bay	16	1970
39	M-46 (Holland) at the Steering Gear Plant & Towerline Rd., Buena Vista Twp.	Saginaw	11	1970
40	M-54 (Saginaw St.) at Hill Road, Grand Blanc Twp.	Genesee	32	1970
41	M-84 at M-81 (Davenport & State), city of Saginaw	Saginaw	29	1970
42	M-84 (Bay) at Delta Road, Frankenlust Twp.	Bay	8	1970
43	M-21 (Genesee) at Millville, city of Lapeer	Lapeer	11	1970
44	M-13 from M-21 to M-78, Clayton Twp.	Genesee	22	Jan '70 - 9-'71
45	M-46 (Gratiot) at Center Rd., Saginaw Twp.	Saginaw	45	1970

1971 Collision Diagrams Prepared for District

Location of Collision Diagram	County	Seven No. of Accs.	Period
1 US-31, 33 (S. 11th) @ US-12 (Pulaski Hwy), Niles Twp.	Berrien	30	1969
2 BL-69 (Division) from Pearl to US-12 (Chicago) city of Coldwater	Branch	34	1969
3 M-66 at "B" Ave North, Battle Creek Twp.	Calhoun	5	1969
4 I-96 from the Gd. River to X-over E of Creyts Rd, Windsor Twp.	Eaton	28	68,69 & 9 Mo. of 1970
5 I-96 from the Gd. River to X-over E of Creyts Rd, Windsor Twp.	Eaton	9	1970 (9 Months)
6 I-96 from the Gd. River to X-over E of Creyts Rd, Windsor Twp.	Eaton	12	1969
7 I-94 at I-94 BL (Lakeshore), Lincoln Twp.	Berrien	6	1969
8 I-94 @ I-94 BL (Lakeshore), Lincoln Twp.	Berrien	10	1-1 - 12-1-'70
9 US-31, US-33 @ US-12, Niles Twp.	Berrien	23	1970
10 BL-94 (Skyline-Dickman) at Dickman	Calhoun	7	1967
11 BL-94 (Skyline-Dickman) @ Dickman	Calhoun	7	1970
12 BL-94 (Skyline-Dickman) @ Dickman	Calhoun	10	1966
13 BL-94 (Skyline-Dickman) @ Dickman	Calhoun	16	1969
14 M-43 (Michigan) @ M-96 (Kings Hwy), city of Kalamazoo	Kalamazoo	20	1970
15 BL-94 (Stadium) @ Howard-Vande Giessen, city of Kalamazoo	Kalamazoo	29	1970
16 BL-94 (Skyline-Dickman) at Dickman	Calhoun	11	1968
17 US-31, M-139 from US-33 n'ly to St. Joseph Rr. Royalton Twp.	Berrien	29	1970
18 M-40, M-62 (Front) @ M-62 (Division), city of Dowagiac	Cass	25	1969
19 M-40, M-62 (Front) @ M-62 (Division), city of Dowagiac	Cass	28	1-1 to 11-29-70
20 BL-94 (Main) @ Riverview Dr, city of Benton Harbor	Berrien	24	1-1 to 11-23-70
21 BL-94 (W. Main) @ Riverview, city of Benton Harbor	Berrien	43	1969
22 BL-94 (Main) @ Paw Paw, city of Benton Harbor	Berrien	16	1969
23 BL-94 (Main) @ Paw Paw, city of Benton Harbor	Berrien	17	1-1 to 11-26-70
24 US-33 (Niles) @ Washington Ave., St. Joseph Twp.	Berrien	12	1969
25 US-33 (Niles) @ Washington Ave., St. Joseph Twp.	Berrien	18	1-1 to 11-31-70
26 US-27, M-78 @ Don's Truck Stop, Windsor Twp.	Eaton	11	1970
27 BL-69 (Marshall) @ US-12 (Chicago), city of Coldwater	Branch	38	1970
28 M-40 (State-Lincoln) @ 32nd & Lincoln, city of Holland	Allegan	14	1969
29 M-40 (State-Lincoln) @ 32nd & Lincoln, city of Holland	Allegan	20	1970
30 M-43 (W. Main) @ Nichols Rd (reloc) - Solon St. & Old Nichols Road, Kalamazoo Twp.	Kalamazoo	15	1969

1971 Collision Diagrams Prepared for District Seven

Location of Collision Diagram	County	No. of Accs.	Period
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31	M-43 (W. Main) @ Nichols Rd (reloc) - Solon St. & Old Nichols Road, Kalamazoo Twp.	Kalamazoo	32	1970
32	M-43 (Saginaw Hwy) from M-100 (Clinton) to W. city limits of Lansing	Eaton	508	1970
33	BL-94 (Mich.) @ BL-94 (Elm), city of Battle Creek	Calhoun	13	1970
34	BL-94 (Mich.) @ BL-94 (Elm), city of Battle Creek	Calhoun	16	1969
35	M-43 (W. Main) @ US-131, Oshtemo Twp.	Kalamazoo	5	1969
36	M-43 (W. Main) @ US-131, Oshtemo Twp.	Kalamazoo	6	1970
37	M-37, M-43 (Green) @ M-43 (Broadway), city of Hastings	Barry	5	1970
38	M-139 from .8 Mi N of Nickerson Rd to .1 Mi S of Napier Ave. Benton Twp.	Berrien	31	1970
39	US-33 (Niles) from Myrtle Ave. to Kingsley Ave., city of St. Joseph	Berrien	28	1970
40	US-33 @ Blossomland Bridge, city of St. Joseph	Berrien	27	1970
41	M-66 (Division) @ Main, Michigan, South & State, city of Battle Creek	Calhoun	28	1970
42	US-12, BL-69 (Chicago St.) from Monroe St. to approx 400' East of BL-69 (Division St.), city of Coldwater	Branch	61	1970
43	M-66 at Union, city of Battle Creek	Calhoun	25	1970
44	M-37, M-89, M-96 (Mich.) @ M-37 (Bedford), city of Battle Creek	Calhoun	27	1970
45	I-94 BL (Stadium Dr.) at 12th St., city of Kalamazoo	Kalamazoo	21	1970
46	I-94 BL (Stadium Dr) at 12th St., city of Kalamazoo	Kalamazoo	11	1969
47	US-131 BR, M-60 (Mich) @ US-131 BR, M-86 (Main), city of Three Rivers	St. Joseph	13	1969
48	US-131 BR, M-60 (Mich) @ US-131 BR, M-86 (Main), city of Three Rivers	St. Joseph	21	1970
49	M-40 (Kalamazoo St.) @ Michigan & Oak St. vil. of Paw Paw	Van Buren	19	1969
50	M-40 (Kalamazoo St.) @ Michigan & Oak St. vil. of Paw Paw	Van Buren	26	1970
51	M-43 (Broadway) @ Court & State, city of Hastings	Barry	21	1970
52	M-89, M-37 (Michigan) from Avery Ave. to M-37 (Bedford), city of Battle Creek	Calhoun	60	1970

1971 Collision Diagrams Prepared for District

Location of Collision Diagram		County	Seven No. of Accs.	Period
53	US-31, US-33 from Sunset Dr. to College Ave, St. Joseph Twp.	Berrien	18	1-1-70 - 7-22-71
54	M-66 (Centerville St) from Fawn River Rd. to Congress St., city of Strugis	St. Joseph	29	1970
55	M-66 (Nottawa St) from West St. to Lafayette St., city of Sturgis	St. Joseph	20	1970
56	US-12 (Chicago Rd) through the city of Strugis	St. Joseph	187	1970
57	US-12 (Chicago Rd) through the city of Strugis	St. Joseph	150	1968
58	I-94 at 40th St. & Michigan Ave., Charleston Twp.	Kalamazoo	16	1970
59	I-94 @ BL-94 (Columbia), Battle Creek Twp.	Calhoun	16	1968
60	I-94 at BL-94 (Columbia), Battle Creek Twp.	Calhoun	15	1970
61	M-66 (Centerville) from Fawn River to Congress St., city of Sturgis	St. Joseph	16	1968
62	M-66 (Nottawa) from West St. to Lafayette St., city of Sturgis	St. Joseph	15	1968
63	M-40 (State-Lincoln) @ Lincoln & 32nd St., city of Holland	Allegan	8	Jan - Aug 1971

1971 Collision Diagrams Prepared for District Eight

Location of Collision Diagram County No. of Accs. Period

	Location of Collision Diagram	County	No. of Accs.	Period
1	US-27 (Larch) from Liberty to Grand River Ave., city of Lansing	Ingham	31	1969
2	BL-96 (Gd. River) from Hollywood to Logan St. Access Rd., to NB	Ingham	28	1969
3	M-174 (DeWitt Rd) & N on M-174 to Diehm St, city of Lansing	Ingham	57	1969
	M-43 (Gd. River) from College St. to Evergreen, city of East Lansing	Ingham	57	1969
4	US-127 BR, M-50 (West) @ Ganson, city of Jackson	Jackson	17	1968
5	M-52 (Ann Arbor) from Auburn to M-52 (Riverside), city of Manchester	Washtenaw	10	1969
6	US-23 @ Carpenter Rd., York Twp.	Washtenaw	11	1969 & 1970
7	I-94 at Rawsonville Rd.	Washtenaw	31	1969
8	BL-96 from Gd. River to Liberty St., city of Lansing	Ingham	35	1-1 - 9-30-70
9	I-94 at Rawsonville Road, Ypsilanti Twp.	Washtenaw	24	1968
10	M-43 (Oakland) @ Logan St., city of Lansing	Ingham	21	1970
11	BL-94 (Michigan) @ Brown St., city of Jackson	Jackson	15	1970
12	BL-94, US-23 BR (Washtenaw) @ Huron Parkway, city of Ann Arbor	Washtenaw	40	1970
13	US-127, US-223 @ US-12, Woodstock Twp.	Lenawee	8	1970
14	I-94 from Jackson Rd. E 2.1 mi to 700' W of Scio Church Rd.	Washtenaw	40	1970
15	I-94 from Jackson Rd. E 2.1 mi to 700' W of Scio Church Rd.	Washtenaw	40	1968
16	M-52 (N. Adrian Hwy) @ M-50, Franklin Twp.	Lenawee	12	1970
17	M-17 (Washtenaw) at Ballard, city of Ypsilanti	Washtenaw	14	1970
18	BL-94 (Washington) @ Francis St., city of Jackson	Jackson	17	1970
19	BL-96 (North) @ Turner St., city of Lansing	Ingham	8	1970
20	M-43 (Saginaw) @ Clippert St., city of Lansing	Ingham	25	1970
21	US-127 at Main St., Vil. of Addison	Lenawee	6	1970
22	BL-94 (Washington) @ BL-94 (Glick Hwy), city of Jackson	Jackson	6	1967
23	BL-94 (Washington) @ BL-94 (Glick Hwy), city of Jackson	Jackson	20	1968
24	BL-94 (Washington) @ BL-94 (Glick Hwy), city of Jackson	Jackson	12	1969
25	BL-94 (Washington) @ BL-94 (Glick Hwy), city of Jackson	Jackson	12	1970
26	BL-94 (Washington) @ BL-94 (Glick Hwy), city of Jackson	Jackson	3	1-1 - 4-14-71
27	M-43 (Grand River) @ Bogue St., city of E. Lansing	Ingham	18	1969
28	M-52 from Duncan to Wolverine, city of Manchester	Washtenaw	8	1968, 1969, & 1970
29	M-43 (Gd. River) at Bogue Street, city of E. Lansing	Ingham	20	1970
30	M-99 (Logan St.) @ Miller Rd., city of Lansing	Ingham	12	1969
31	M-99 (Logan St.) @ Miller Rd., city of Lansing	Ingham	18	1970

1971 Collision Diagrams Prepared for District Eight

Location of Collision Diagram	County	No. of Accs.	Period
32 US-23 at M-14, Ann Arbor Twp.	Washtenaw	14	1970
33 M-43 (Saginaw) from E. of N. Capitol to the Grand River, city of Lansing	Ingham	42	1970
34 M-52, BR-223 (Main) @ M-34 (Beecher), city of Adrian	Lenawee	30	1969
35 M-52, BR-223 (Main) @ M-34 (Beecher), city of Adrian	Lenawee	52	1970
36 I-94 from Wiard Rd. to Hannan Rd., Ypsilanti, Van Buren, & Romulus Twp.	Washtenaw	294	1970
37 I-94 at Elm Rd. Interch., Blackman Twp.	Jackson	73	65,66,67,68, 70, & 71 (5-24)
38 I-94 @ Dettman Rd. Interch, Blackman Twp.	Jackson	40	1966 - 5-24-71
39 I-96 @ M-99, city of Lansing	Ingham	10	1968
40 I-96 @ M-99, city of Lansing	Ingham	17	1970
41 M-52 (Main) from Winter-Nelson Sts to Siena Heights Dr. city of Adrian	Lenawee	217	1969
42 M-52 (Main) from Winter-Nelson Sts to Siena Heights Dr. city of Adrian	Lenawee	218	1970
43 US-23 from I-94 to Plymouth-Ann Arbor Rd., Pittsfield & Ann Arbor Twps.	Washtenaw	89	1970
44 US-23, M-14 from US-23, M-14 W. Jct. to US-23, M-14 E. Jct., Ann Arbor Twp.	Washtenaw	41	1970
45 US-23 from Warren to Ann Arbor RR, Ann Arbor Twp.	Washtenaw	76	1970
46 US-23 from 8 Mi Rd. to I-96	Livingston	77	1970
47 BL-96 (North St.) @ Turner St., city of Lansing	Ingham	9	1970
48 M-43 (Grand River) @ Evergreen, city of East Lansing	Ingham	22	1970
49 US-223 (Adrian) through the city of Blissfield	Lenawee	47	1970
50 US-223 (Adrian) through the city of Blissfield	Lenawee	22	Jan - Oct 1971
51 US-223 (Adrian) through the city of Blissfield	Lenawee	33	1969
52 Spencer Rd from old US-23 to Culver-Buno Rds., Brighton Twp.	Livingston	25	1968 - Sept 71
53 M-14 (Jacks) from Highlake to 300' W of Maple, city of Ann Arbor	Washtenaw	17	1970
54 M-106 @ Doyle & Holmes Rd., Unadilla Twp.	Livingston	0	8-31-69/8-30-70
		2	9-1-70/8-31-71
55 BL-96 (Gd River) from M-155 (Mich.) E to E.C.L. of Howell	Livingston	70	1969
56 BL-96 (Gd River) from M-155 (Mich.) E to E.C.L. of Howell	Livingston	65	1970
57 M-59 (Highland) @ Oak Grove Rd., Howell Twp.	Livingston	12	1969
58 M-59 (Highland) @ Oak Grove Rd., Howell Twp.	Livingston	12	1970

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1971 Collision Diagrams Prepared for District Metro

Location of Collision Diagram County No. of Accs. Period

	Location of Collision Diagram	County	No. of Accs.	Period
1	M-39 (Southfield) from Dix-Toledo Hwy to Riopelle, city of Lincoln Park	Wayne	143	1969
2	M-59 (Wm P Rosso-Hall) from US-25 (Gratiot) to 1/4 Mi. E of I-94	Macomb	47	10-14-68 - 10-13-69
			48	10-15-69 - 10-14-70
3	US-10 (Telegraph) from Voorheis, Wenonah thru the Miracle Mile Shopping Center	Oakland	273	1969
4	I-94 @ Belleville Rd, Van Buren Twp.	Wayne	76	1969
5	I-94 @ Haggerty Rd, Van Buren Twp.	Wayne	31	1969
6	M-39 (Southfield) @ M-14 (Plymouth), city of Detroit	Wayne	52	1969
7	M-39 (Southfield) @ Rotunda Dr., city of Dearborn	Wayne	28	1969
8	M-39 (Southfield) @ Rotunda Dr., city of Dearborn	Wayne	33	1970
9	I-94 @ Nine Mile Rd., city of St. Clare Shores	Macomb	32	1969
10	I-94 @ Nine Mile Rd., city of St. Clare Shores	Macomb	25	1970
11	I-75 @ Nine Mile Rd., city of Hazel Park	Oakland	42	1969
12	I-75 @ Nine Mile Rd., city of Hazel Park	Oakland	32	1970
13	I-75 @ John R. St., city of Hazel Park	Oakland	37	1969
14	I-75 @ John R. St., city of Hazel Park	Oakland	38	1970
15	M-39 (Southfield) @ M-14 (Plymouth), city of Detroit	Wayne	55	1970
16	I-75 (Chrysler) @ Seven Mile Rd., city of Detroit	Wayne	14	1969
17	I-75 (Chrysler) at Seven Mile Rd., city of Detroit	Wayne	18	1970
18	M-59 from Airport Rd e'ly to US-10 (Telegraph), Waterford Twp.	Oakland	369	1969
19	I-94 @ Belleville Rd., Van Buren Twp.	Wayne	77	1968
20	I-94 @ Haggerty Rd., Van Buren Twp.	Wayne	43	1968
21	M-1 (Woodward) at M-102 (8 Mile Rd)	Wayne	36	1970
22	M-39 (Southfield) @ Rosedale St., city of Allen Park	Wayne	11	1970
23	M-39 (Southfield) @ Rosedale St., city of Allen Park	Wayne	15	1969
24	M-59 at Airport Rd, Waterford Twp.	Oakland	37	1968
25	M-59 at Airport Rd., Waterford Twp.	Oakland	27	1970
26	I-94 @ Greenfield, city of Dearborn	Wayne	23	1969
27	I-94 @ Greenfield, city of Dearborn	Wayne	21	1970
28	I-94 @ Greenfield, city of Dearborn	Wayne	27	1968
29	I-94 @ Greenfield, city of Dearborn	Wayne	15	1966
30	I-94 @ Greenfield, city of Dearborn	Wayne	20	1967

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1971 Collision Diagrams Prepared for District

Location of Collision Diagram		County	Metro No. of Accs.	Period
31	M-24 at Drahner Rd., Oxford Twp.	Oakland	23	1969
32	M-24 at Drahner Rd., Oxford Twp.	Oakland	15	1970
33	I-94 at Middlebelt, Romulus Twp.	Wayne	31	1970
34	M-24 (Lapeer) at Clarkston Rd., Orion Twp.	Oakland	20	1970
35	US-10 (Hunter) at Maple Rd., city of Birmingham	Oakland	38	1970
36	US-10 (Woodward) at Long Lake Rd., city of Bloomfield Hills	Oakland	42	1970
37	US-10 (Telegraph) at Elizabeth Lake Rd., city of Pontiac	Oakland	42	1970
38	M-53 (Van Dyke) at 10 Mile Rd., city of Centerline	Macomb	36	1970
39	M-85 (Fort) at Van Horn Rd., city of Trenton	Wayne	16	1970
40	M-14 (Plymouth) at Middlebelt, city of Livonia	Wayne	122	1970
41	M-153 (Ford) at Canton Center Rd., Canton Twp.	Wayne	10	1969
42	M-153 (Ford) at Canton Center Rd., Canton Twp.	Wayne	13	1970
43	US-24 (Telegraph) at M-50 (Custer-Front), city of Monroe	Monroe	32	1969
44	US-24 (Telegraph) at M-50 (Custer-Front), city of Monroe	Monroe	46	1970
45	M-39 at I-94 (Interchange) city of Allen Park	Wayne	141	1970
46	US-12 (Mich.) from Hannan Rd. e'ly to C&O RR, city of Wayne	Wayne	86	1970
47	US-12 (Mich) from Hannan Rd. e'ly to C&O RR, city of Wayne	Wayne	113	1969
48	US-10 (Dixie) frm US-10 (Telegraph) NW to I-75 ent-exit Ramps	Oakland	437	1969
49	M-39 Service Dr. at Van Born, city of Allen Park	Wayne	40	1969
50	US-24 (Telegraph) @ Capitol, Redford Twp.	Wayne	12	1969
51	US-24 (Telegraph) @ Capitol, Redford Twp.	Wayne	14	1970
52	M-154 (Columbine) from N. Channel to La Croix, Harson's Island	St. Clair	13	1966 - 1970
53	M-85 (Fort) from DTRR to Stanley, city of Trenton	Wayne	43	1969
54	M-85 (Fort) from DTRR to Stanley, city of Trenton	Wayne	33	1970
55	M-85 (Fort) from Veterans Pkwy to 0.3 mi N of Ardmore, city of Trenton	Wayne	36	1969
56	M-85 (Fort) from Veterans Pkwy to 0.3 mi N of Ardmore, city of Trenton	Wayne	31	1970
57	M-97 (Grosbeck Hwy) @ 15 Mi Rd., Clinton Twp.	Macomb	49	1970
58	M-97 (Grosbeck Hwy) @ Metro Beach Pkwy, Clinton Twp.	Macomb	37	1969

1971 Collision Diagrams Prepared for District Metro

Location of Collision Diagram	County	No. of Accs.	Period
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59	M-97 (Grosbeck) @ Metro Beach Pkwy, Clinton Twp.	Macomb	45	1970
60	M-97 (Grosebeck) @ Cass Ave, city of Mt. Clemens	Macomb	28	1970
61	US-10 (Woodward) @ Lincoln & Worth, city of Birmingham	Oakland	29	1969
62	US-10 (Woodward) @ Chapin, city of Birmingham	Oakland	26	1969
63	US-25 (Gratiot) from 0.1 mi S of 11 mi. rd. n'ly to Allen St. City of Roseville	Macomb	81	1970
64	US-10 (Woodward) at Lincoln & Worth, city of Birmingham	Oakland	38	1970
65	US-10 (Woodward) at Chapin, city of Birmingham	Oakland	25	1970
66	M-24 (Park Blvd) @ Flint & Shadbolt, city of Lake Orion	Oakland	36	1970
67	US-25 (Gratiot) from Martin Rd to E. Victor St., city of Roseville	Macomb	87	1970
68	M-21 (Griswold) at 10th & 11, city of Port Huron	St. Clair	32	1969
69	M-21 (Oak) at 24th St., city of Port Huron	St. Clair	26	1969
70	M-21 (Oak) at 24th St., city of Port Huron	St. Clair	25	1970
71	US-25 (Gratiot) from Tranquil to Birmingham, city of Roseville	Macomb	72	1970
72	US-25 (Gratiot) from Howard to Iowa, city of Roseville	Macomb	12	1970
73	M-21 (Griswold) at 10th & 11th, city of Port Huron	St. Clair	35	1970
74	US-25 (Gratiot) from Beaconsfield to 300' N. of 13 Mile Rd. city of Roseville	Macomb	41	1970
75	US-10 BR (Cass) @ Sanderson, city of Pontiac	Oakland	30	1970
76	US-25 (Gratiot) @ Mulso Ave & Masonic Blvd., city of Roseville	Macomb	74	1970
77	US-25 (Gratiot) from Little Mack to 14 Mi. Rd., city of Roseville	Macomb	28	1970
78	US-25 (Gratiot) from Keene St. to Mickishine Ave., Clinton Twp.	Macomb	18	1970
79	US-25 (Gratiot) @ E&W Sharkey & 15 Mi. Rd., Clinton Twp.	Macomb	54	1970
80	US-25 (Gratiot) from 0.1 mi S. of 11 mi rd. to Allen St. X-over, city of Roseville	Macomb	34	1969
81	US-25 (Gratiot) from Howard to Iowa Ave., city of Roseville	Macomb	16	1969
82	M-59 (Hall) at Sterritt, city of Utica	Macomb	9	1970
83	M-59 (Hall) at Sterritt, city of Utica	Macomb	10	1969
84	M-39 (Southfield) at Dix-Toledo, city of Lincoln Park	Wayne	122	1970
85	M-29 (Green St.) @ Ashley St., city of New Baltimore	Macomb	5	1970
86	M-59 (Highland) at Milford Road, Highland Twp.	Oakland	19	1970
87	M-59 (Highland, Huron) from Crescent Lake Rd. to Voohries Rd. Waterford Twp.	Oakland	192	1970

1971 Collision Diagrams Prepared for District

Location of Collision Diagram

County

Metro

No. of Accs.

Period

	Location of Collision Diagram	County	Metro No. of Accs.	Period
88	M-29 (23 Mi. Rd.) @ Jefferson St., city of New Baltimore	Macomb	11	1970
89	M-59 (Huron) at Mill St., city of Pontiac	Oakland	8	1970
90	BL-75 (Perry) at Howard St., city of Pontiac	Oakland	16	1970
91	BL-96 (Grand River) at Halstead-Freedom, city of Farmington	Oakland	13	1970
92	M-24 @ Broadway & Atwater Sts., village of Lake Orion	Oakland	20	1970
93	I-75 at University Drive., Pontiac Twp.	Oakland	22	1970
94	I-94 at Shook Rd., Harrison Twp.	Macomb	23	1970
95	US-10 @ Northland Serv. Dr. Weave Area, city of Southfield	Oakland	7	1970
96	US-24 (Telegraph) from 10 Mi. to Swanson St., city of Southfield	Oakland	80	1970
97	US-10 (Dixie) at Frembles, Waterford Twp.	Oakland	17	1970
98	M-153 (Ford) @ Sheldon, Canton Twp.	Wayne	8	1970 & 71 (thru Sept.)
99	I-696 at Orchard Lake Rd., Farmington Twp.	Oakland	35	1971 (Jan - August)
100	I-696 at Orchard Lake Road, Farmington Twp.	Oakland	23	1970
101	US-10, US-24 (Telegraph) at 13 Mile Rd., cities of Bingham Farms & Franklin	Oakland	46	1970
37 102	BL-75 (Perry) @ Kennett, city of Pontiac	Oakland	17	1970
103	M-59 (Highland) @ Duck Lake Rd., Highland Twp.	Oakland	16	1970
104	M-59 (Highland) @ Duck Lake Rd., Highland Twp.	Oakland	7	Jan thru July 1971
105	US-10 (Telegraph) @ US-10 (Northwestern), city of Southfield	Oakland	32	1970
106	US-10 (Telegraph) @ US-10 (Northwestern), city of Southfield	Oakland	20	1971 (Jan thru Aug)
107	M-24 (Lapeer) at Drahner, Oxford Twp.	Oakland	10	1971 (Jan thru Aug)
108	US-25 (Gratiot) @ 12 Mi. Rd. & vic., city of Roseville	Macomb	42	1969

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SYNOPSIS

The study "Michigan Trunkline Accident Facts, An Evaluation of the States 1970 Accident Experience" gives an analysis of the traffic accident problems on the statewide trunkline road system with the exception of those arterials within the City of Detroit.

The greatest portion of the trunkline accident experience is occurring in the area south of Bay City in Districts 5-9. Eighty percent of the states critical accident locations occur within these districts.

Freeways which are referred to as four lane, divided, controlled access roadways in this report are by far the safest roadways available to the motorist. Two lane, free access roadways have the highest accident rates and offer less safety.