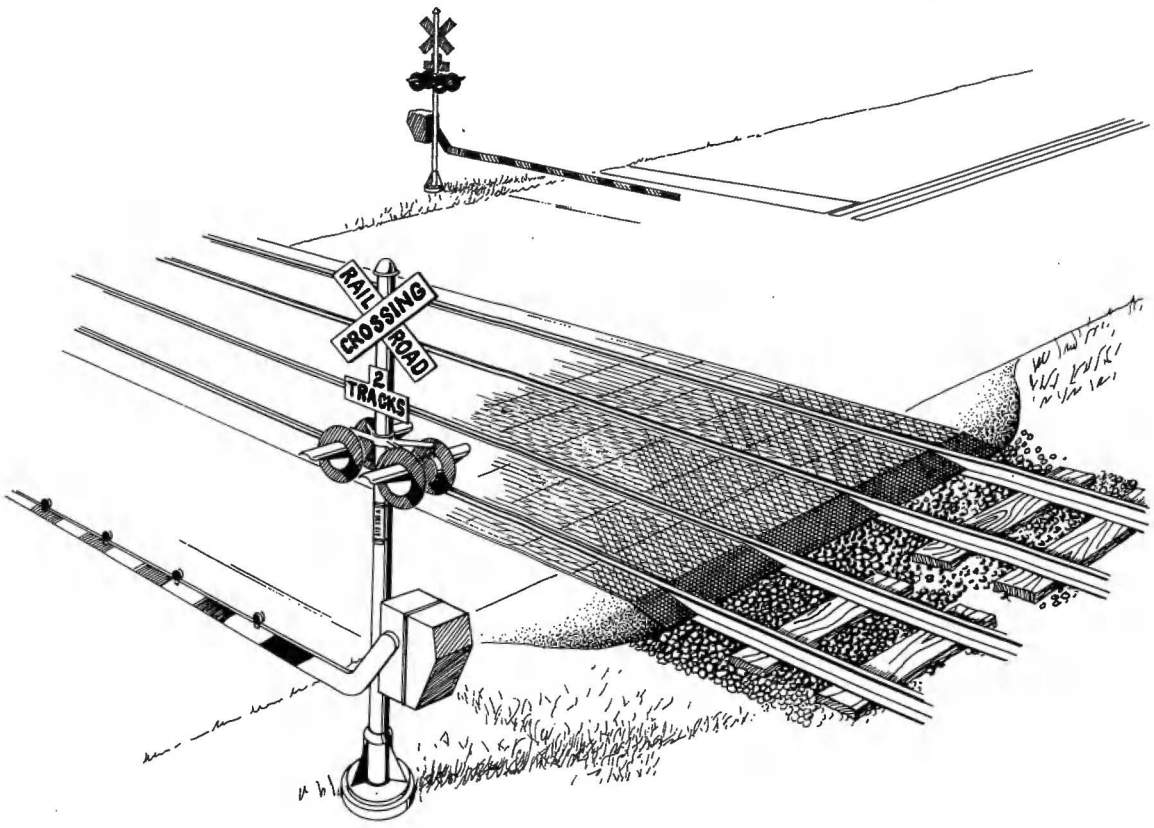
RAIL-HIGHWAY CROSSING ACCIDENT/INCIDENT AND INVENTORY BULLETIN

No. 2 Calendar Year 1979



U.S. DEPARTMENT OF TRANSPORTATION
Federal Railroad Administration
Office of Safety

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INTRODUCTION

This is the second annual report combining rail-highway crossing accident/incident statistics with the National Rail-Highway Crossing Inventory. Accident/Incident data has been obtained from the Federal Railroad Administration's Railroad Accident/ Incident Reporting System (RAIRS). The RAIRS contains the accident/incident reports filed with the FRA Office of Safety by all railroads, in accordance with 49 CFR 225. The National Rail-Highway Crossing Inventory contains information on the characteristics of all rail-highway crossings in the United States.

Railroads file accident/incident reports with the FRA in accordance with the Federal Railroad Safety Act of 1970 (PL 91-458) and the Accident Reports Act (45 USC 38-43). These reports allow the FRA to carry out the intent of Congress by maintaining a record of accidents and casualties incurred in the movement of freight and passengers by rail. The National Rail-Highway Crossing Inventory was also developed in response to the Railroad Safety Act and the Federal Highway Safety Acts of 1970 and 1973. These Acts required the Secretary of Transportation to take action to improve rail-highway crossing safety.

Due to major revisions in reporting requirements effective January 1, 1975, direct comparison of data collected after that date with information from prior years is not possible. The effect of these changes was to substantially increase the number of reported rail-highway accidents/incidents. Casualty reporting has also been increased, to a lesser extent, by the changes. Appendix A explains the changes, and current reporting requirements.

Complete statistics on all railroad related accidents/incidents are available in the Accident/Incident Bulletin, also published annually by the FRA Office of Safety.

Section 1.0 of this bulletin contains accident/incident statistics for 1979. The data was obtained from the rail-highway crossing accident/incident file and the railroad casualty file.

Section 2.0 combines information from the rail-highway grade crossing accident/incident file with data in the National Rail-Highway Crossing Inventory to develop relationships between certain grade crossing characteristics and accident frequencies.

Section 3.0 presents physical and operational statistics for all public at grade rail-highway crossings in the United States, as described by the National Inventory in June, 1980. More detailed information is available in the DOT publication "Summary Statistics of the National Railroad-Highway Crossing Inventory for Public at Grade Crossings" (Accession Number PB 293070/AS, September 1978), obtainable from the National Technical Information Service, Springfield, VA 22161.

The tables and figures in Sections 1, 2, and 3 of this bulletin, and in Appendix C, present data for public rail-highway crossings only. The six tables in Appendix D show information for private crossings. Tables 1, 3, 9, 13, and D-3, and Figures 1 and 3, pertain to public crossing accidents/incidents involving all highway users. All other tables show only those accidents/incidents in which motor vehicles were involved. Summary data for all accidents and incidents at all crossings, public and private, is shown in the following table:

SUMMARY OF ALL RAIL-HIGHWAY CROSSING ACCIDENTS/INCIDENTS, 1979

Type of Crossing	Total			Motor Vehicles			Non-Motor Vehicles		
	Accidents	Killed	Injured	Accidents	Killed	Injured	Accidents	Killed	Injured
Public	11,552	834	4,172	11,108	727	4,019	444	107	153
Private	957	49	206	901	46	192	56	3	14
Total	12,509	883	4,378	12,009	773	4,211	500	110	167

KEYWORD INDEX

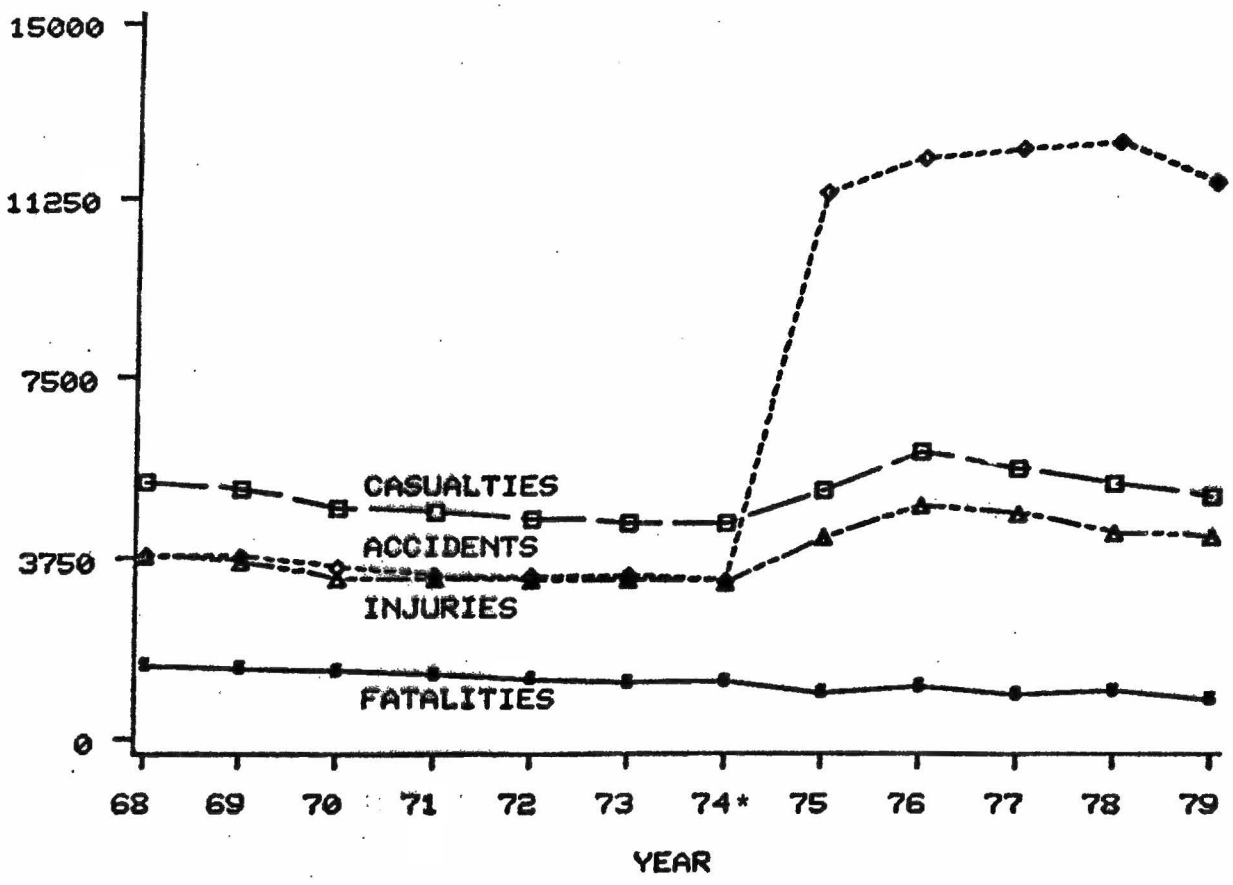
1.0 RAIL-HIGHWAY CROSSING ACCIDENTS/INCIDENTS

1.1 NATIONAL, STATE, AND RAILROAD DATA

TABLE 1. SUMMARY OF ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS, 1968-1979

YEAR	NUMBER OF ACCIDENTS	TOTAL KILLED	TOTAL INJURED	TOTAL CASUALTIES	CASUALTIES PER ACCIDENT
1968	3,816	1,546	3,774	5,320	1.39
1969	3,774	1,490	3,669	5,159	1.37
1970	3,559	1,440	3,336	4,776	1.34
1971	3,392	1,356	3,332	4,688	1.38
1972	3,379	1,260	3,285	4,545	1.35
1973	3,379	1,185	3,283	4,468	1.32
1974	3,268	1,220	3,249	4,469	1.37
1975*	11,354	978	4,168	5,146	0.45
1976	12,114	1,114	4,831	5,945	0.49
1977	12,299	944	4,649	5,593	0.45
1978	12,435	1,021	4,256	5,277	0.42
1979	11,552	834	4,172	5,006	0.43

FIGURE 1. SUMMARY OF ACCIDENTS/INCIDENTS AND CASUALTIES, 1968 - 1979



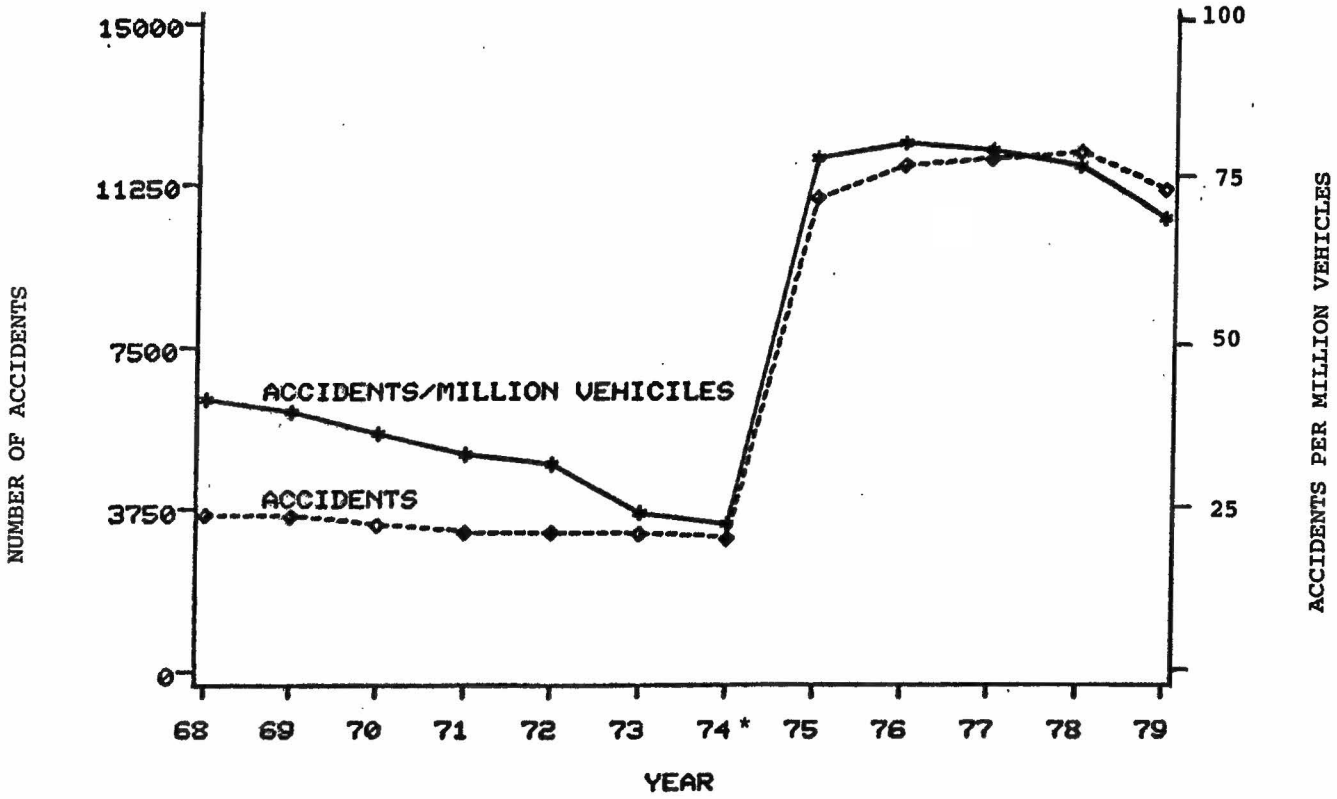
* DATA AFTER 1974 IS NOT DIRECTLY COMPARABLE WITH PREVIOUS DATA, DUE TO CHANGES IN REPORTING REQUIREMENTS.

TABLE 2. SUMMARY OF ACCIDENTS/INCIDENTS AND ACCIDENT RATES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES, 1968-1979

YEAR	ACCIDENTS	MOTOR VEHICLES REGISTERED (000)*	ACCIDENTS PER MILLION VEHICLES
1968	3,603	85,799	41.99
1969	3,572	88,815	40.22
1970	3,377	92,124	36.66
1971	3,224	96,097	33.55
1972	3,222	100,595	32.03
1973	3,174	129,511	24.51
1974	3,079	135,720	22.69
1975*	10,925	137,918	79.21
1976	11,700	143,538	81.51
1977	11,849	147,718	80.21
1978	11,999	153,636	78.12
1979	11,108	159,396	69.69

* Figures for 1968-1978 supplied by the Federal Highway Administration. 1979 figure is an estimate, and is not used in other tables.

FIGURE 2. SUMMARY OF ACCIDENTS/INCIDENTS AND ACCIDENT RATES INVOLVING MOTOR VEHICLES AT GRADE CROSSINGS, 1968 - 1979



*DATA AFTER 1974 IS NOT DIRECTLY COMPARABLE WITH PRIOR YEARS, DUE TO CHANGES IN REPORTING REQUIREMENTS

TABLE 3. SUMMARY OF ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS BY STATE, 1979

STATE	TOTAL ACC/INC	TOTAL KILLED NO.	TOTAL KILLED %	TOTAL INJURED NO.	TOTAL INJURED %	TOTAL CASUALTIES NO.	TOTAL CASUALTIES %
ALABAMA	334	26	3.12	101	2.42	127	2.54
ALASKA	15	0	0.0	0	0.0	0	0.0
ARIZONA	63	3	0.36	11	0.26	14	0.28
ARKANSAS	245	28	3.36	122	2.92	150	3.00
CALIFORNIA	587	51	6.12	175	4.19	226	4.51
COLORADO	157	10	1.20	55	1.32	65	1.30
CONNECTICUT	16	1	0.12	2	0.05	3	0.06
DELAWARE	16	1	0.12	2	0.05	3	0.06
DIST. COLUMBIA	0	0	0.0	0	0.0	0	0.0
FLORIDA	342	33	3.96	128	3.07	161	3.22
GEORGIA	382	34	4.08	136	3.26	170	3.40
HAWAII	0	0	0.0	0	0.0	0	0.0
IDAHO	96	8	0.96	50	1.20	58	1.16
ILLINOIS	798	78	9.35	298	7.14	376	7.51
INDIANA	736	53	6.35	257	6.16	310	6.19
IOWA	307	14	1.68	83	1.99	97	1.94
KANSAS	262	25	3.00	140	3.36	165	3.30
KENTUCKY	200	6	0.72	54	1.29	60	1.20
LOUISIANA	431	17	2.04	207	4.96	224	4.47
MAINE	20	1	0.12	0	0.0	1	0.02
MARYLAND	55	4	0.48	21	0.50	25	0.50
MASSACHUSETTS	42	1	0.12	8	0.19	9	0.18
MICHIGAN	452	37	4.44	195	4.67	232	4.63
MINNESOTA	321	32	3.84	91	2.18	123	2.46
MISSISSIPPI	274	15	1.80	122	2.92	137	2.74
MISSOURI	273	18	2.16	131	3.14	149	2.98
MONTANA	63	3	0.36	11	0.26	14	0.28
NEBRASKA	189	29	3.48	57	1.37	86	1.72
NEVADA	22	1	0.12	3	0.07	4	0.08
NEW HAMPSHIRE	11	5	0.60	0	0.0	5	0.10
NEW JERSEY	82	5	0.60	28	0.67	33	0.66
NEW MEXICO	31	7	0.84	16	0.38	23	0.46
NEW YORK	145	11	1.32	41	0.98	52	1.04
NORTH CAROLINA	297	19	2.28	127	3.04	146	2.92
NORTH DAKOTA	77	4	0.48	24	0.58	28	0.56
OHIO	823	61	7.31	297	7.12	358	7.15
OKLAHOMA	315	25	3.00	134	3.21	159	3.18
OREGON	166	4	0.48	38	0.91	42	0.84
PENNSYLVANIA	257	7	0.84	75	1.80	82	1.64
RHODE ISLAND	0	0	0.0	0	0.0	0	0.0
SOUTH CAROLINA	212	9	1.08	51	1.22	60	1.20
SOUTH DAKOTA	61	1	0.12	10	0.24	11	0.22
TENNESSEE	252	23	2.76	93	2.23	116	2.32
TEXAS	1138	63	7.55	464	11.12	527	10.53
UTAH	64	6	0.72	30	0.72	36	0.72
VERMONT	10	1	0.12	2	0.05	3	0.06
VIRGINIA	149	9	1.08	47	1.13	56	1.12
WASHINGTON	190	19	2.28	47	1.13	66	1.32
WEST VIRGINIA	127	6	0.72	34	0.81	40	0.80
WISCONSIN	415	16	1.92	148	3.55	164	3.28
WYOMING	32	4	0.48	6	0.14	10	0.20
TOTAL	11552	834	100.00	4172	100.00	5006	100.00

TABLE 4. ACCIDENTS/INCIDENTS AND CASUALTY RATES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY STATE, 1979

STATE	TOTAL ACC/INC	TOTAL KILLED	TOTAL INJURED	TOTAL CASUALTIES	VEH. REG. (000)[1]	ACC/CAS PER 10,000 REGISTRATION ACC	KILLED	INJURED
ALABAMA	325	26	98	124	2842	1.14	0.09	0.34
ALASKA	15	0	0	0	274	0.55	0.0	0.0
ARIZONA	59	0	10	10	1734	0.34	0.0	0.06
ARKANSAS	236	26	119	145	1489	1.58	0.17	0.80
CALIFORNIA	557	39	157	196	16239	0.34	0.02	0.10
COLORADO	150	9	54	63	2652	0.57	0.03	0.20
CONNECTICUT	14	0	2	2	2253	0.06	0.0	0.01
DELAWARE	16	1	2	3	394	0.41	0.03	0.05
DIST. COLUMBIA	0	0	0	0	243	0.0	0.0	0.0
FLORIDA	328	31	123	154	7068	0.46	0.04	0.17
GEORGIA	368	33	131	164	3757	0.98	0.09	0.35
HAWAII	0	0	0	0	540	0.0	0.0	0.0
IDAHO	95	8	50	58	809	1.17	0.10	0.62
ILLINOIS	752	59	285	344	7340	1.02	0.08	0.39
INDIANA	709	49	247	296	3892	1.82	0.13	0.63
IOWA	293	14	82	96	2502	1.17	0.06	0.33
KANSAS	250	24	133	157	2019	1.24	0.12	0.66
KENTUCKY	199	5	53	58	2604	0.76	0.02	0.20
LOUISIANA	423	17	203	220	2637	1.60	0.06	0.77
MAINE	19	1	0	1	743	0.26	0.01	0.0
MARYLAND	53	4	21	25	2766	0.19	0.01	0.08
MASSACHUSETTS	40	0	7	7	3719	0.11	0.0	0.02
MICHIGAN	444	36	192	228	6487	0.68	0.06	0.30
MINNESOTA	307	30	90	120	2820	1.09	0.11	0.32
MISSISSIPPI	268	15	119	134	1602	1.67	0.09	0.74
MISSOURI	258	14	125	139	3245	0.80	0.04	0.39
MONTANA	62	2	11	13	880	0.70	0.02	0.12
NEBRASKA	173	21	55	76	1271	1.36	0.17	0.43
NEVADA	20	1	3	4	610	0.33	0.02	0.05
NEW HAMPSHIRE	10	5	0	5	691	0.14	0.07	0.0
NEW JERSEY	78	4	25	29	4644	0.17	0.01	0.05
NEW MEXICO	27	7	15	22	1031	0.26	0.07	0.15
NEW YORK	129	3	39	42	8011	0.16	0.0	0.05
NORTH CAROLINA	286	18	123	141	4393	0.65	0.04	0.28
NORTH DAKOTA	74	3	22	25	626	1.18	0.05	0.35
OHIO	794	54	288	342	8151	0.97	0.07	0.35
OKLAHOMA	297	23	126	149	2550	1.16	0.09	0.49
OREGON	159	2	37	39	1995	0.80	0.01	0.19
PENNSYLVANIA	252	6	73	79	6894	0.37	0.01	0.11
RHODE ISLAND	0	0	0	0	679	0.0	0.0	0.0
SOUTH CAROLINA	204	7	50	57	1959	1.04	0.04	0.26
SOUTH DAKOTA	59	0	10	10	608	0.97	0.0	0.16
TENNESSEE	244	21	91	112	2994	0.81	0.07	0.30
TEXAS	1113	56	452	508	10370	1.07	0.05	0.44
UTAH	61	6	27	33	1014	0.60	0.06	0.27
VERMONT	9	1	1	2	379	0.24	0.03	0.03
VIRGINIA	143	7	43	50	3511	0.41	0.02	0.12
WASHINGTON	181	15	47	62	3066	0.59	0.05	0.15
WEST VIRGINIA	124	5	31	36	1219	1.02	0.04	0.25
WISCONSIN	401	15	142	157	2971	1.35	0.05	0.48
WYOMING	30	4	5	9	424	0.71	0.09	0.12
TOTAL	11108	727	4019	4746	153636	0.72	0.05	0.26

[1](1978) FIGURES SUPPLIED BY FEDERAL HIGHWAY ADMINISTRATION. VEH REG = VEHICLES REGISTERED

TABLE 5. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY STATE AND TYPE OF MOTOR VEHICLE, 1979

TYPE OF MOTOR VEHICLE

STATE	**AUTOMOBILE****			******TRUCK******			TRUCK *****TRAILER*****			*******BUS*******			SCHOOL *******BUS*******			***MOTORCYCLE****		
	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
ALABAMA	218	17	67	66	5	22	38	3	8	0	0	0	1	0	0	2	1	1
ALASKA	13	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
ARIZONA	42	0	9	16	0	1	1	0	0	0	0	0	0	0	0	0	0	0
ARKANSAS	136	14	65	71	10	43	29	2	11	0	0	0	0	0	0	0	0	0
CALIFORNIA	396	28	118	100	7	26	51	2	7	0	0	0	0	0	0	10	2	6
COLORADO	93	6	40	44	1	11	13	2	3	0	0	0	0	0	0	0	0	0
CONNECTICUT	12	0	1	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0
DELAWARE	10	0	1	3	0	0	2	0	1	0	0	0	0	0	0	1	1	0
DIST. COLUMBIA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FLORIDA	225	20	85	66	4	27	32	3	8	0	0	0	0	0	0	5	4	3
GEORGIA	251	23	77	70	6	33	44	2	21	1	0	0	0	0	0	2	2	0
HAWAII	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IDAHO	53	5	30	35	2	16	6	1	3	0	0	0	0	0	0	1	0	1
ILLINOIS	562	48	211	134	5	49	48	2	11	0	0	0	3	3	13	5	1	1
INDIANA	519	38	174	148	10	64	38	1	8	2	0	0	0	0	0	2	0	1
IOWA	193	10	54	69	2	22	21	1	2	3	0	0	1	0	1	6	1	3
KANSAS	173	20	99	62	3	29	13	0	4	0	0	0	0	0	0	2	1	1
KENTUCKY	131	3	38	60	2	13	8	0	2	0	0	0	0	0	0	0	0	0
LOUISIANA	297	11	135	90	4	51	31	1	12	2	0	2	1	0	2	2	1	1
MAINE	10	1	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MARYLAND	30	1	13	10	2	4	13	1	4	0	0	0	0	0	0	0	0	0
MASSACHUSETTS	33	0	4	6	0	3	1	0	0	0	0	0	0	0	0	0	0	0
MICHIGAN	329	27	142	98	5	40	14	4	10	1	0	0	2	0	0	0	0	0
MINNESOTA	210	19	74	77	9	15	18	1	0	0	0	0	1	0	1	1	1	0
MISSISSIPPI	196	11	87	58	3	27	12	1	3	0	0	0	0	0	0	2	0	2
MISSOURI	182	12	88	61	2	34	13	0	2	0	0	0	1	0	1	1	0	0
MONTANA	30	0	7	24	1	3	7	0	1	0	0	0	0	0	0	1	1	0
NEBRASKA	103	15	37	47	5	17	22	1	0	0	0	0	0	0	0	1	0	1
NEVADA	11	1	2	7	0	1	2	0	0	0	0	0	0	0	0	0	0	0
NEW HAMPSHIRE	6	0	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0
NEW JERSEY	56	4	17	12	0	4	8	0	1	2	0	3	0	0	0	0	0	0
NEW MEXICO	18	3	9	7	4	3	2	0	3	0	0	0	0	0	0	0	0	0
NEW YORK	92	1	29	33	0	9	2	0	0	0	0	0	1	0	1	1	2	0
NORTH CAROLINA	201	15	82	57	3	28	25	0	12	1	0	0	1	0	0	1	0	1
NORTH DAKOTA	46	2	10	25	1	11	3	0	1	0	0	0	0	0	0	0	0	0
OHIO	599	39	216	135	14	53	55	1	16	0	0	0	0	0	0	5	0	3
OKLAHOMA	203	16	89	74	7	32	16	0	4	1	0	0	1	0	0	2	0	1
OREGON	94	1	21	46	0	13	17	0	3	0	0	0	0	0	0	2	1	0
PENNSYLVANIA	184	4	53	55	2	18	13	0	2	0	0	0	0	0	0	0	0	0
RHODE ISLAND	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH CAROLINA	153	5	35	37	1	14	14	1	1	0	0	0	0	0	0	0	0	0
SOUTH DAKOTA	38	0	7	18	0	2	2	0	1	0	0	0	0	0	0	1	0	0
TENNESSEE	178	16	74	47	4	15	18	1	1	0	0	0	0	0	0	1	0	1
TEXAS	736	38	299	267	14	108	103	4	36	3	0	1	1	0	5	3	0	3
UTAH	37	3	16	15	1	7	6	1	4	0	0	0	0	0	0	3	1	0
VERMONT	6	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
VIRGINIA	95	5	27	35	2	14	12	0	2	0	0	0	0	0	0	1	0	0
WASHINGTON	116	8	32	44	1	12	19	4	1	0	0	0	0	0	0	2	2	2
WEST VIRGINIA	80	3	20	33	2	8	10	0	2	0	0	0	0	0	0	1	0	1
WISCONSIN	287	10	108	85	3	28	20	1	2	0	0	0	2	0	1	7	1	3
WYOMING	15	0	1	14	3	4	1	1	0	0	0	0	0	0	0	0	0	0
TOTAL	7698	504	2804	2476	155	934	827	42	214	16	0	6	16	3	25	75	23	36

KLD = KILLED
INJ = INJURED

TABLE 6. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY STATE AND TYPE OF TRAIN, 1979

	TYPE OF TRAIN											
	*****FREIGHT*****			****PASSENGER****			YARD/ ****SWITCHING****			1 ******OTHER******		
STATE	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
ALABAMA	232	22	81	9	2	2	52	0	7	32	2	8
ALASKA	7	0	0	1	0	0	5	0	0	2	0	0
ARIZONA	34	0	4	2	0	1	19	0	5	4	0	0
ARKANSAS	191	24	108	3	1	1	22	0	4	20	1	6
CALIFORNIA	368	25	114	18	5	3	103	6	20	68	3	20
COLORADO	112	8	45	1	0	0	25	0	7	12	1	2
CONNECTICUT	5	0	0	8	0	2	0	0	0	1	0	0
DELAWARE	11	1	2	0	0	0	3	0	0	2	0	0
DIST. COLUMBIA	0	0	0	0	0	0	0	0	0	0	0	0
FLORIDA	237	23	99	25	5	8	44	0	13	22	3	3
GEORGIA	259	29	109	5	1	1	72	0	10	32	3	11
HAWAII	0	0	0	0	0	0	0	0	0	0	0	0
IDAHO	73	7	38	0	0	0	13	0	6	9	1	6
ILLINOIS	473	45	184	94	11	26	100	1	33	85	2	42
INDIANA	553	40	208	35	5	14	60	0	14	61	4	11
IOWA	194	13	64	2	0	1	66	1	7	31	0	10
KANSAS	194	21	110	6	2	3	29	0	13	21	1	7
KENTUCKY	141	2	42	7	2	0	24	1	4	27	0	7
LOUISIANA	295	7	144	8	6	4	77	3	31	43	1	24
MAINE	15	1	0	0	0	0	2	0	0	2	0	0
MARYLAND	31	4	16	2	0	0	13	0	2	7	0	3
MASSACHUSETTS	20	0	2	13	0	3	1	0	0	6	0	2
MICHIGAN	307	27	143	18	7	6	68	1	15	51	1	28
MINNESOTA	213	27	64	6	2	4	55	0	14	33	1	8
MISSISSIPPI	183	15	92	4	0	1	49	0	13	32	0	13
MISSOURI	193	13	91	2	0	1	33	0	21	30	1	12
MONTANA	44	1	11	3	0	0	11	0	0	4	1	0
NEBRASKA	133	21	43	3	0	1	9	0	4	28	0	7
NEVADA	10	0	1	0	0	0	6	0	0	4	1	2
NEW HAMPSHIRE	9	0	0	1	5	0	0	0	0	0	0	0
NEW JERSEY	44	1	12	24	3	13	7	0	0	3	0	0
NEW MEXICO	20	4	12	3	3	2	2	0	0	2	0	1
NEW YORK	84	3	27	20	0	7	12	0	0	13	0	5
NORTH CAROLINA	223	12	101	11	5	5	23	0	7	29	1	10
NORTH DAKOTA	60	3	16	1	0	0	9	0	4	4	0	2
OHIO	618	48	243	12	2	5	73	3	10	91	1	30
OKLAHOMA	219	19	101	5	3	4	50	0	17	23	1	4
OREGON	98	2	29	2	0	0	39	0	4	20	0	4
PENNSYLVANIA	167	4	56	33	2	3	27	0	3	25	0	11
RHODE ISLAND	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH CAROLINA	159	6	47	9	0	1	24	1	1	12	0	1
SOUTH DAKOTA	48	0	10	0	0	0	8	0	0	3	0	0
TENNESSEE	166	19	59	0	0	0	58	2	26	20	0	6
TEXAS	681	41	298	12	2	7	252	7	68	168	6	79
UTAH	53	5	26	1	1	0	1	0	0	6	0	1
VERMONT	6	0	1	1	0	0	1	1	0	1	0	0
VIRGINIA	88	5	25	4	0	4	30	0	6	21	2	8
WASHINGTON	117	12	33	6	2	2	40	0	7	18	1	5
WEST VIRGINIA	89	4	25	0	0	0	15	0	4	20	1	2
WISCONSIN	268	11	123	6	2	0	87	0	7	40	2	12
WYOMING	23	4	5	0	0	0	7	0	0	0	0	0
TOTAL	7768	579	3064	426	79	135	1726	27	407	1188	42	413

KLD = KILLED
INJ = INJURED

[1]INCLUDES MIXED TRAINS, WORK TRAINS, AND LIGHT LOCOMOTIVES.

TABLE 7. ACCIDENTS/INCIDENTS AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY RAILROAD AND HIGHEST WARNING DEVICE, 1979

RAILROAD	GATES	CANTI-LEVERED FLASHING LIGHTS	STANDARD FLASHING LIGHTS	HWY. SIG. WIGWAGS BELLS	HIGHEST WARNING DEVICE[4] SPECIAL[1]	CROSS-BUCKS	STOP SIGNS	OTHER SIGNS	NO SIGNS OR SIGNALS	TOTAL
CLASS I RAILROAD										
ALABAMA GREAT SOUTHERN RAILROAD	5	7	15	4	2	19	0	0	4	56
AMTRAK[2]	60	11	55	5	1	76	1	1	0	210
ATCHISON, TOPEKA & SANTA FE	112	74	142	24	4	256	1	0	3	616
BALTIMORE & OHIO RAILWAY	17	25	91	1	13	173	11	0	5	336
BESSEMER & LAKE ERIE RAILROAD	1	0	0	0	0	3	0	0	0	4
BOSTON & MAINE CORPORATION	14	0	9	1	3	5	0	0	0	32
BURLINGTON NORTHERN	67	29	144	35	8	393	7	0	11	694
CENTRAL OF GEORGIA RAILROAD	3	1	8	9	8	40	0	0	4	73
CHESAPEAKE & OHIO RAILWAY	26	28	84	2	6	159	13	1	7	326
CHICAGO & NORTH WESTERN	67	8	136	45	20	188	3	2	15	484
CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC	32	11	89	22	13	138	0	3	2	310
CHICAGO, ROCK ISLAND & PACIFIC	25	14	42	14	7	80	4	1	3	190
CINN., NEW ORLEANS & TEXAS PACIFIC	7	0	6	1	0	8	0	0	0	22
CLINCHFIELD RAILROAD	0	0	2	1	1	6	0	0	0	10
COLORADO & SOUTHERN RAILWAY	0	0	8	10	1	13	0	0	0	32
CONSOLIDATED RAIL CORPORATION	209	47	445	14	45	417	8	14	15	1214
THE ESTATES[3]	0	0	0	0	0	0	0	0	0	0
DELAWARE & HUDSON RAILWAY	3	0	3	0	0	2	0	0	0	8
DENVER & RIO GRANDE WESTERN	4	1	18	0	0	28	0	0	0	51
DETROIT, TOLEDO & IRONTON	0	1	12	0	0	14	2	1	6	36
DULUTH, MISSABE & IRON RANGE	0	0	2	0	0	7	0	0	0	9
ELGIN, JOLIET & EASTERN	4	0	8	0	0	9	0	0	0	21
FLORIDA EAST COAST RAILWAY	40	3	5	0	3	5	0	0	0	56
FORT WORTH & DENVER RAILWAY	3	9	14	5	0	25	0	0	1	57
GRAND TRUNK WESTERN	26	9	20	1	1	44	0	0	0	101
ILLINOIS CENTRAL GULF RAILROAD	32	40	119	19	26	294	7	4	10	551
KANSAS CITY SOUTHERN RAILWAY	0	7	26	3	2	26	0	0	0	64
LONG ISLAND RAIL ROAD	14	0	1	0	3	0	0	0	0	18
LOUISIANA & ARKANSAS RAILWAY COMPANY	1	24	20	0	1	27	0	0	0	73
LOUISVILLE & NASHVILLE	34	4	134	42	14	194	10	2	12	446
MISSOURI-KANSAS-TEXAS RAILROAD	2	24	47	4	6	91	0	0	2	176
MISSOURI PACIFIC RAILROAD	50	30	271	4	12	354	3	2	16	742
NORFOLK & WESTERN RAILWAY	74	36	163	16	5	275	3	3	5	580
PITTSBURGH & LAKE ERIE RAILROAD	3	0	0	0	0	3	0	0	0	6
ST. LOUIS-SAN FRANCISCO RAILWAY	21	24	77	3	14	176	4	6	2	327
ST. LOUIS SOUTHWESTERN RAILWAY	2	4	29	9	7	45	2	0	4	102
SEABOARD COAST LINE RAILROAD	48	30	135	10	16	451	2	2	2	696
SOO LINE	8	15	78	9	2	77	1	0	2	192
SOUTHERN PACIFIC TRANSPORTATION COMPANY	156	22	142	108	29	240	16	0	10	723
SOUTHERN RAILWAY	40	26	126	26	28	239	0	1	22	508
UNION PACIFIC RAILROAD	41	10	71	14	10	211	7	0	7	371
WESTERN MARYLAND RAILWAY	0	2	5	0	0	12	0	0	1	20
WESTERN PACIFIC	13	2	15	10	1	36	0	0	1	78

TABLE 7. (CONT.)

RAILROAD	GATES	HIGHEST WARNING DEVICE[4] CANTI-LEVERED FLASHING LIGHTS	STANDARD FLASHING LIGHTS	HWY. SIG. WIGWAGS BELLS	SPECIAL[1]	CROSS-BUCKS	STOP SIGNS	OTHER SIGNS	NO SIGNS OR SIGNALS	TOTAL
RECAPITULATION										
TOTAL CLASS I - RAILROADS	1207	568	2762	466	311	4783	104	42	172	10415
CLASS II & III RAILROADS	63	30	210	36	42	281	10	7	14	693
TOTAL	1270	598	2972	502	353	5064	114	49	186	11108

[1] SPECIAL WARNING DEVICE NOT TRAIN ACTIVATED, E.G. CROSSING FLAGGED BY TRAIN CREW.
[2] AMTRAK AND AUTOTRAIN ACCIDENTS HAVE BEEN EXCLUDED IN ALL OTHER TABLES. THESE ACCIDENTS ARE REPORTED BY AMTRAK AND AUTOTRAIN AND BY THE OPERATING CARRIER. IN THIS TABLE THEY ARE INCLUDED IN THE DETAIL LINES BUT EXCLUDED IN THE RECAPITULATION.
[3] CROSSINGS ON LINES NOT MERGED INTO CONSOLIDATED RAIL CORPORATION OR NOT YET IDENTIFIED AS BELONGING TO CONSOLIDATED RAIL CORPORATION.
[4] SEE APPENDIX A FOR DEFINITION OF HIGHEST WARNING DEVICE

TABLE 8. ACCIDENTS/INCIDENTS AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY STATE AND HIGHEST WARNING DEVICE, 1979

STATE	HIGHEST WARNING DEVICE[2]								
	GATES	FLASHING LIGHTS	HWY SIGS. WIGWAGS BELLS	SPECIAL[1]	CROSS-BUCKS	STOP SIGNS	OTHER SIGNS	NO SIGNS OR SIGNALS	TOTAL
ALABAMA	16	92	29	19	156	5	1	7	325
ALASKA	1	2	1	1	7	0	3	0	15
ARIZONA	11	28	3	3	11	1	0	2	59
ARKANSAS	13	60	7	9	137	1	2	7	236
CALIFORNIA	172	124	84	17	144	10	0	6	557
COLORADO	7	48	16	2	76	0	0	1	150
CONNECTICUT	3	8	0	2	1	0	0	0	14
DELAWARE	1	7	0	1	7	0	0	0	16
DIST. COLUMBIA	0	0	0	0	0	0	0	0	0
FLORIDA	69	94	10	10	140	2	2	1	328
GEORGIA	26	88	26	17	202	1	0	8	368
HAWAII	0	0	0	0	0	0	0	0	0
IDAHO	4	22	4	4	58	1	0	2	95
ILLINOIS	214	278	21	11	213	1	4	10	752
INDIANA	132	247	11	14	286	10	4	5	709
IOWA	19	72	25	5	160	4	1	7	293
KANSAS	28	56	7	0	157	1	1	0	250
KENTUCKY	16	83	9	2	77	1	1	10	199
LOUISIANA	12	185	10	8	197	2	2	7	423
MAINE	2	7	0	1	8	0	0	1	19
MARYLAND	5	11	2	5	27	0	0	3	53
MASSACHUSETTS	16	18	2	2	2	0	0	0	40
MICHIGAN	54	192	3	3	175	11	2	4	444
MINNESOTA	13	79	13	11	187	2	0	2	307
MISSISSIPPI	9	55	18	20	141	14	2	9	268
MISSOURI	19	95	12	3	122	0	4	3	258
MONTANA	4	21	1	1	33	1	0	1	62
NEBRASKA	22	47	5	1	97	0	0	1	173
NEVADA	3	5	3	3	5	1	0	0	20
NEW HAMPSHIRE	0	3	0	2	5	0	0	0	10
NEW JERSEY	20	32	1	8	17	0	0	0	78
NEW MEXICO	7	8	0	0	12	0	0	0	27
NEW YORK	35	42	5	10	33	0	2	2	129
NORTH CAROLINA	18	58	1	14	187	0	2	6	286
NORTH DAKOTA	4	20	3	0	47	0	0	0	74
OHIO	69	276	3	19	405	11	4	7	794
OKLAHOMA	16	97	8	8	165	1	0	2	297
OREGON	12	17	21	4	90	11	0	4	159
PENNSYLVANIA	25	102	1	13	95	3	8	5	252
RHODE ISLAND	0	0	0	0	0	0	0	0	0
SOUTH CAROLINA	7	35	1	13	145	0	0	3	204
SOUTH DAKOTA	0	13	1	1	44	0	0	0	59
TENNESSEE	22	60	19	15	113	3	1	11	244
TEXAS	77	467	51	41	447	8	2	20	1113
UTAH	5	18	0	1	37	0	0	0	61
VERMONT	0	3	1	1	4	0	0	0	9
VIRGINIA	20	42	9	6	61	0	1	4	143
WASHINGTON	9	49	9	5	96	1	0	12	181
WEST VIRGINIA	5	43	1	1	61	3	0	10	124
WISCONSIN	25	151	43	15	162	2	0	3	401
WYOMING	3	10	2	1	12	2	0	0	30
TOTAL	1270	3570	502	353	5064	114	49	186	11108

[1]SPECIAL WARNING DEVICE NOT TRAIN ACTIVATED, E.G. CROSSING FLAGGED BY TRAIN CREW.
[2]SEE APPENDIX A FOR DEFINITION OF HIGHEST WARNING DEVICE.

1.2 HIGHWAY USER AND VEHICLE DATA

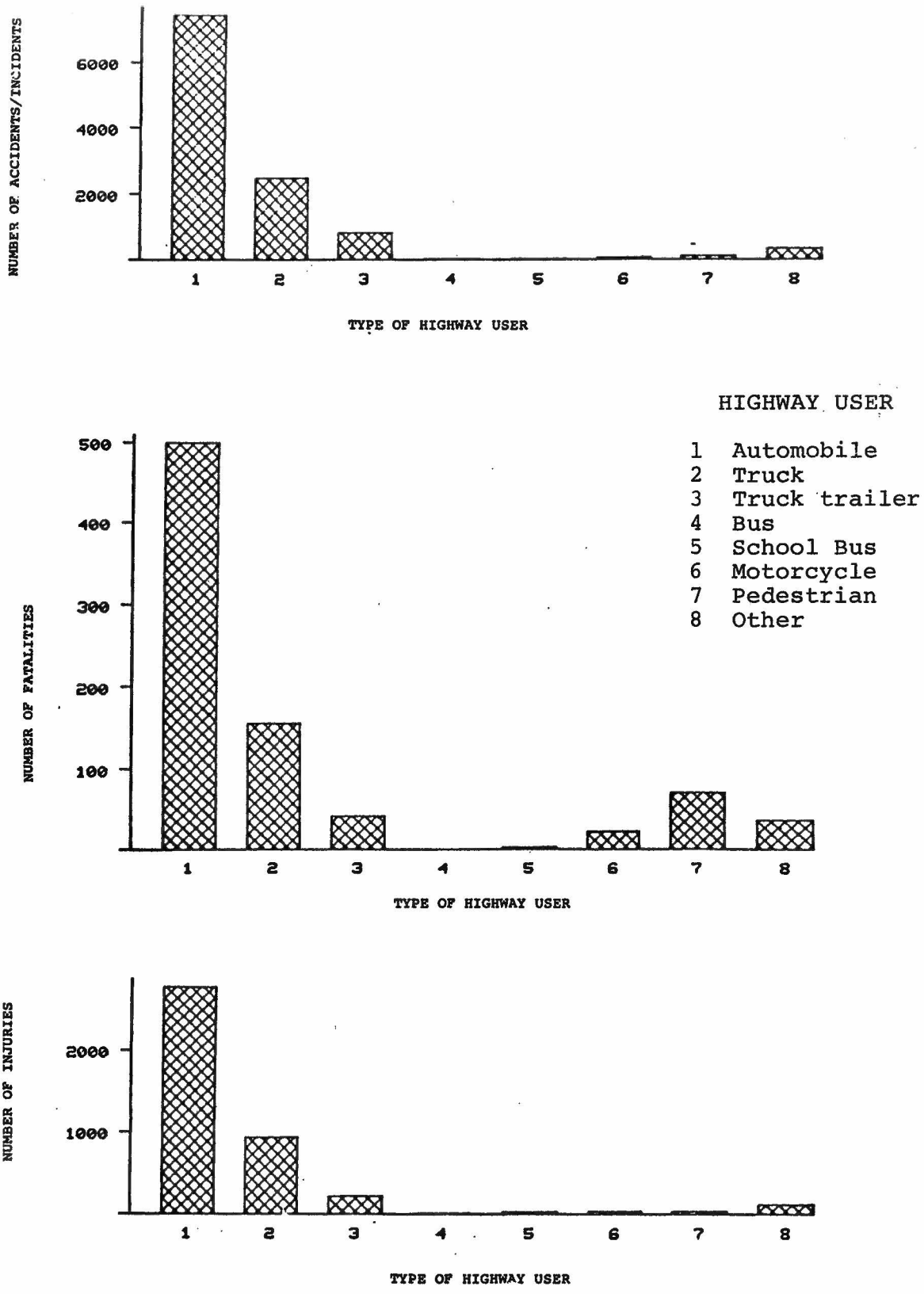


FIGURE 3. ACCIDENTS/INCIDENTS AT GRADE CROSSINGS BY TYPE OF HIGHWAY USER, 1979

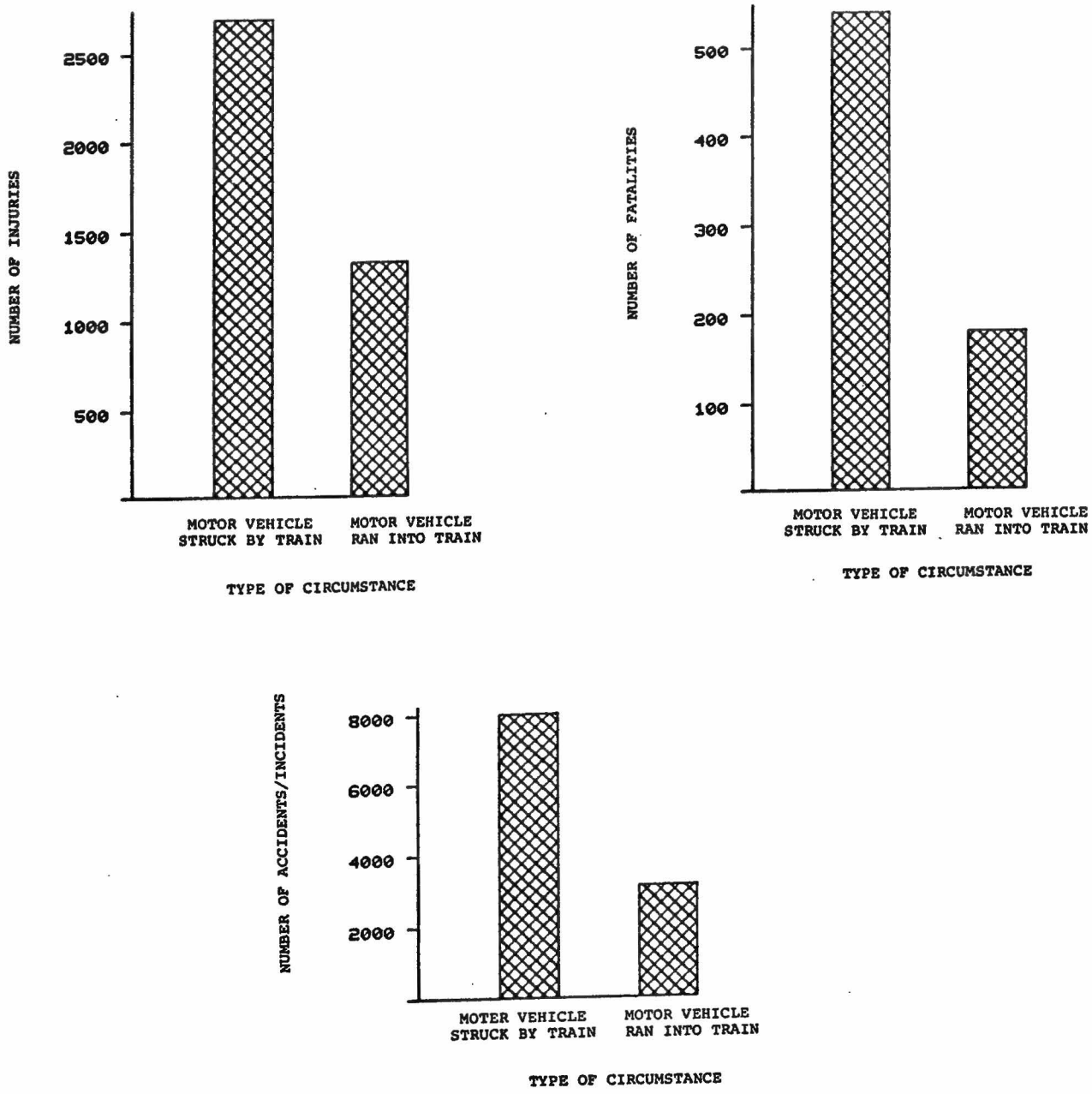


FIGURE 4. ACCIDENTS/INCIDENTS AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY CIRCURMSTANCE, 1979

TABLE 9. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS BY TYPE OF HIGHWAY USER, 1979

TRAINS STRIKING OR BEING STRUCK BY:	**ACC/INC*** NO.	%	***KILLED*** NO.	%	**INJURED*** NO.	%
AUTOMOBILE	7698	66.64	504	60.43	2804	67.21
TRUCK	2476	21.43	155	18.59	934	22.39
TRUCK TRAILER	827	7.16	42	5.04	214	5.13
BUS	16	0.14	0	0.0	6	0.14
SCHOOL BUS	16	0.14	3	0.36	25	0.60
MOTORCYCLE	75	0.65	23	2.76	36	0.86
PEDESTRIAN	108	0.93	71	8.51	37	0.89
OTHER	336	2.91	36	4.32	116	2.78
TOTAL	11552	100.00	834	100.00	4172	100.00

TABLE 10. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY CIRCUMSTANCE, 1979

CIRCUMSTANCE	**ACC/INC*** NO.	%	***KILLED*** NO.	%	**INJURED*** NO.	%
MOTOR VEHICLE STRUCK BY TRAIN	7999	72.01	547	75.24	2697	67.11
MOTOR VEHICLE RAN INTO TRAIN	3109	27.99	180	24.76	1322	32.89
TOTAL	11108	100.00	727	100.00	4019	100.00

TABLE 11. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY TYPE OF VEHICLE, NUMBER OF OCCUPANTS, CASUALTY RATES, DAMAGE RATES, AND ACCIDENT RATES, 1979

TYPE OF VEHICLE	NUMBER OF ACC/INC	AVERAGE OCCUPANTS PER ACC/INC	VEHICLE OCCUPANTS KILLED PER ACC/INC	AVERAGE HIGHWAY OCCUPANTS INJURED PER ACC/INC	PROPERTY DAMAGE PER ACC/INC($)	VEHICLES REG (000)[1]	ACCIDENTS PER MILLION VEHICLES
AUTOMOBILE	7698	1.48	0.07	0.41	1405.96	116575	66.03
MOTOR TRUCKS	3303	1.26	0.06	0.38	4025.90	31702	104.19
MOTORBUSES	32	4.81	0.10	1.00	3185.71	500	64.00
MOTORCYCLE	75	1.33	0.33	0.52	933.81	4839	15.44
TOTAL	11108	1.42	0.07	0.40	2196.87	153636	72.30

[1](1978) FIGURES SUPPLIED BY FEDERAL HIGHWAY ADMINISTRATION.

REG = REGISTERED

TABLE 12. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY TYPE OF VEHICLE, CIRCUMSTANCE, AND VISIBILITY, 1979

	VISIBILITY											
	******DAWN*******			*******DAY*******			******DUSK*******			******DARK*******		
TYPE OF VEHICLE	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
S T R U C K B Y T R A I N												
AUTOMOBILE	134	9	38	3047	233	1048	217	12	75	2164	138	701
TRUCK	55	8	22	1140	86	412	50	5	14	465	23	180
TRUCK TRAILER	16	3	5	546	20	137	20	3	9	99	0	20
BUS	1	0	0	4	0	0	1	0	0	6	0	6
SCHOOL BUS	0	0	0	12	3	23	0	0	0	2	0	2
MOTORCYCLE	0	0	0	14	3	3	0	0	0	6	1	2
TOTAL	206	20	65	4763	345	1623	288	20	98	2742	162	911
R A N I N T O T R A I N												
AUTOMOBILE	44	1	19	759	28	311	66	1	22	1267	82	590
TRUCK	27	0	15	376	15	137	17	0	12	346	18	142
TRUCK TRAILER	2	1	1	112	11	34	2	0	2	30	4	6
BUS	0	0	0	1	0	0	0	0	0	3	0	0
SCHOOL BUS	0	0	0	1	0	0	0	0	0	1	0	0
MOTORCYCLE	0	0	0	26	10	12	2	1	2	27	8	17
TOTAL	73	2	35	1275	64	494	87	2	38	1674	112	755
G R A N D T O T A L												
AUTOMOBILE	178	10	57	3806	261	1359	283	13	97	3431	220	1291
TRUCK	82	8	37	1516	101	549	67	5	26	811	41	322
TRUCK TRAILER	18	4	6	658	31	171	22	3	11	129	4	26
BUS	1	0	0	5	0	0	1	0	0	9	0	6
SCHOOL BUS	0	0	0	13	3	23	0	0	0	3	0	2
MOTORCYCLE	0	0	0	40	13	15	2	1	2	33	9	19
TOTAL	279	22	100	6038	409	2117	375	22	136	4416	274	1666

KLD = KILLED
INJ = INJURED

TABLE 13. CASUALTIES AT GRADE CROSSINGS BY TYPE OF PERSON INVOLVED, TYPE OF HIGHWAY USER, AND CIRCUMSTANCE, 1979

TYPE OF HIGHWAY USER	TYPE OF PERSON ****EOD*** KLD	INJ	***ENOD*** KLD	INJ	***PSGR*** KLD	INJ	***NONT*** KLD	INJ	***TRES*** KLD	INJ	***CONT*** KLD	INJ	**TOTAL*** KLD	INJ	TOTAL ACCI-DENTS
STRUCK BY TRAIN															
AUTOMOBILE	0	18	0	0	0	0	356	1730	36	114	0	0	392	1862	5562
TRUCK	1	38	0	0	0	0	117	573	4	17	0	0	122	628	1710
TRUCK TRAILER	6	61	0	0	0	0	19	106	1	4	0	0	26	171	681
BUS	0	0	0	0	0	0	0	6	0	0	0	0	0	6	12
SCHOOL BUS	0	2	0	0	0	0	3	22	0	1	0	0	3	25	14
MOTORCYCLE	0	0	0	0	0	0	4	4	0	1	0	0	4	5	20
PEDESTRIAN	0	0	0	0	0	0	34	17	29	10	0	0	63	27	89
OTHER	0	7	0	0	0	0	22	75	6	4	0	0	28	86	273
TOTAL	7	126	0	0	0	0	555	2533	76	151	0	0	638	2810	8361
RAN INTO TRAIN															
AUTOMOBILE	0	13	0	0	0	2	103	882	9	45	0	0	112	942	2136
TRUCK	0	13	0	0	0	0	32	285	1	8	0	0	33	306	766
TRUCK TRAILER	0	7	0	0	0	0	15	36	1	0	0	0	16	43	146
BUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
SCHOOL BUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
MOTORCYCLE	0	0	0	0	0	0	19	31	0	0	0	0	19	31	55
PEDESTRIAN	0	0	0	0	0	0	3	5	5	5	0	0	8	10	19
OTHER	0	1	0	0	0	0	8	25	0	4	0	0	8	30	63
TOTAL	0	34	0	0	0	2	180	1264	16	62	0	0	196	1362	3191
GRAND TOTAL															
AUTOMOBILE	0	31	0	0	0	2	459	2612	45	159	0	0	504	2804	7698
TRUCK	1	51	0	0	0	0	149	858	5	25	0	0	155	934	2476
TRUCK TRAILER	6	68	0	0	0	0	34	142	2	4	0	0	42	214	827
BUS	0	0	0	0	0	0	0	6	0	0	0	0	0	6	16
SCHOOL BUS	0	2	0	0	0	0	3	22	0	1	0	0	3	25	16
MOTORCYCLE	0	0	0	0	0	0	23	35	0	1	0	0	23	36	75
PEDESTRIAN	0	0	0	0	0	0	37	22	34	15	0	0	71	37	108
OTHER	0	8	0	0	0	0	30	100	6	8	0	0	36	116	336
TOTAL	7	160	0	0	0	2	735	3797	92	213	0	0	834	4172	11552

EOD = RR EMPLOYEE ON DUTY
ENOD = RR EMPLOYEE NOT ON DUTY
PSGR = PASSENGERS ON TRAIN
NONT = NON TRESSPASSERS
TRES = TRESSPASSERS
CONT = CONTRACTOR EMPLOYEES
KLD = KILLED
INJ = INJURED

TABLE 14. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY SPEED OF VEHICLE, CIRCUMSTANCE, AND VISIBILITY, 1979

CIRCUMSTANCE AND VEHICLE SPEED (MPH)	VISIBILITY ******TOTAL******			******DAWN*******			*******DAY*******			******DUSK*******			******DARK*******		
	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
STRUCK BY TRAIN															
STANDING	2763	84	484	73	1	8	1607	56	329	87	1	13	996	26	134
1-9	1520	92	456	39	7	14	973	59	280	65	6	22	443	20	140
10-19	1325	105	598	36	2	19	796	75	348	46	0	20	447	28	211
20-29	835	74	410	17	2	9	493	49	250	32	4	14	293	19	137
30-39	417	50	234	13	6	6	236	29	132	18	1	9	150	14	87
40-49	168	34	128	2	0	3	106	25	80	8	1	6	52	8	39
50-59	74	36	40	1	0	0	44	18	20	3	3	6	26	15	14
60 AND OVER	20	6	14	1	0	0	10	2	7	0	0	0	9	4	7
UNKNOWN	877	66	333	24	2	6	498	32	177	29	4	8	326	28	142
TOTAL	7999	547	2697	206	20	65	4763	345	1623	288	20	98	2742	162	911
RAN INTO TRAIN															
STANDING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-9	589	4	98	17	0	5	270	2	29	20	0	6	282	2	58
10-19	590	19	203	15	0	6	272	6	95	19	0	12	284	13	90
20-29	464	19	197	3	0	1	193	11	77	15	0	7	253	8	112
30-39	364	13	219	13	1	4	154	8	92	7	0	2	190	4	121
40-49	235	25	181	7	1	11	86	11	69	5	1	3	137	12	98
50-59	124	20	91	2	0	1	51	8	42	1	0	0	70	12	48
60 AND OVER	37	25	33	0	0	0	8	2	6	2	0	4	27	23	23
UNKNOWN	706	55	300	16	0	7	241	16	84	18	1	4	431	38	205
TOTAL	3109	180	1322	73	2	35	1275	64	494	87	2	38	1674	112	755
GRAND TOTAL															
STANDING	2763	84	484	73	1	8	1607	56	329	87	1	13	996	26	134
1-9	2109	96	554	56	7	19	1243	61	309	85	6	28	725	22	198
10-19	1915	124	801	51	2	25	1068	81	443	65	0	32	731	41	301
20-29	1299	93	607	20	2	10	686	60	327	47	4	21	546	27	249
30-39	781	63	453	26	7	10	390	37	224	25	1	11	340	18	208
40-49	403	59	309	9	1	14	192	36	149	13	2	9	189	20	137
50-59	198	56	131	3	0	1	95	26	62	4	3	6	96	27	62
60 AND OVER	57	31	47	1	0	0	18	4	13	2	0	4	36	27	30
UNKNOWN	1583	121	633	40	2	13	739	48	261	47	5	12	757	66	347
TOTAL	11108	727	4019	279	22	100	6038	409	2117	375	22	136	4416	274	1666

KLD = KILLED
INJ = INJURED

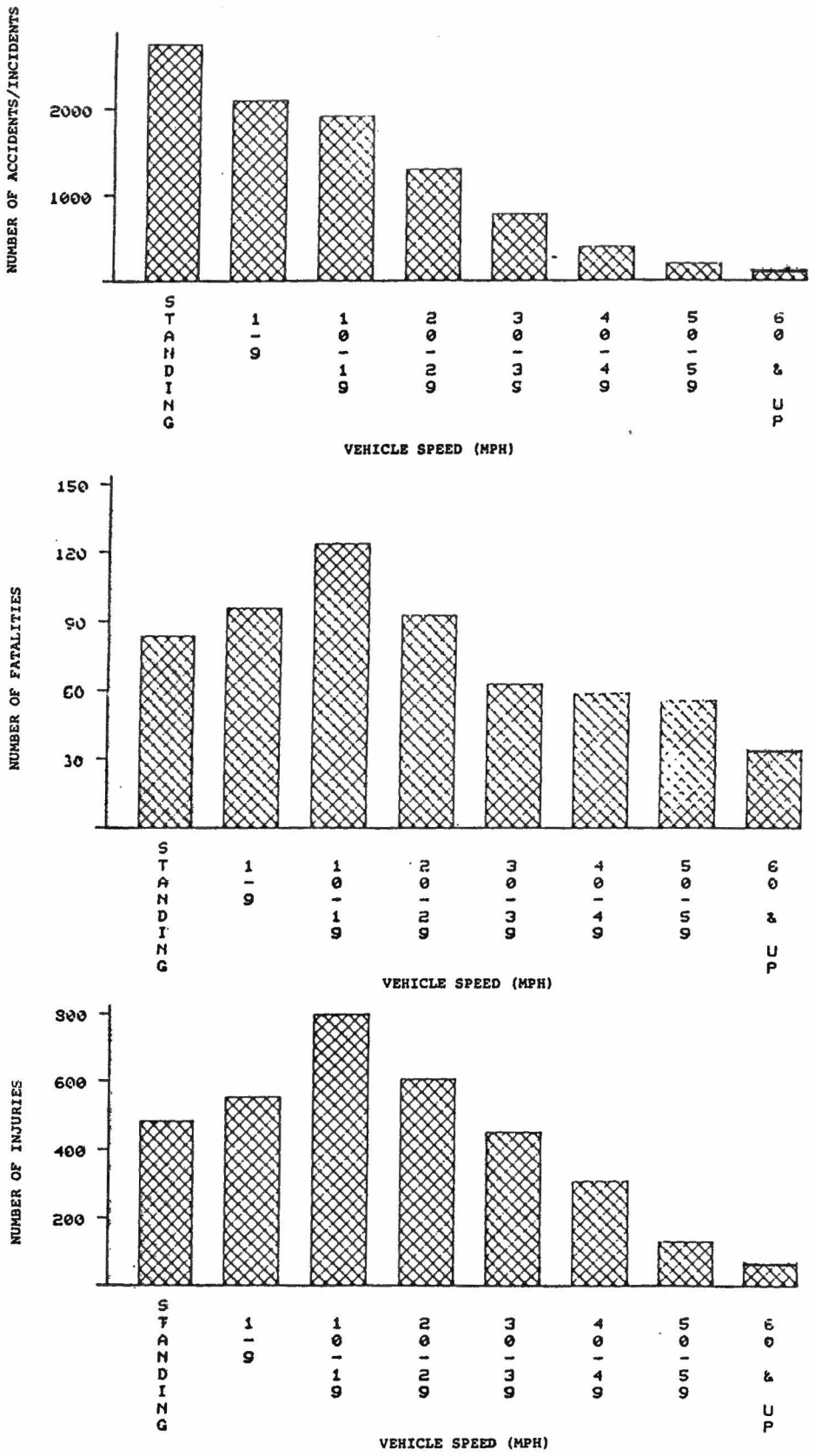


FIGURE 5. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY VEHICLE SPEED, 1979

TABLE 15. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY POSITION AND TYPE OF VEHICLE, 1979

TYPE OF VEHICLE	POSITION OF HIGHWAY VEHICLE								
	STALLED ON ****CROSSING*****			STOPPED ON ****CROSSING*****			MOVING OVER ****CROSSING*****		
	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
AUTOMOBILE	966	26	119	1124	39	265	5608	439	2420
TRUCK	237	7	26	272	9	53	1967	139	855
TRUCK TRAILER	38	0	5	111	2	15	678	40	194
BUS	2	0	0	1	0	0	13	0	6
SCHOOL BUS	2	0	0	2	0	1	12	3	24
MOTORCYCLE	0	0	0	8	1	0	67	22	36
TOTAL	1245	33	150	1518	51	334	8345	643	3535

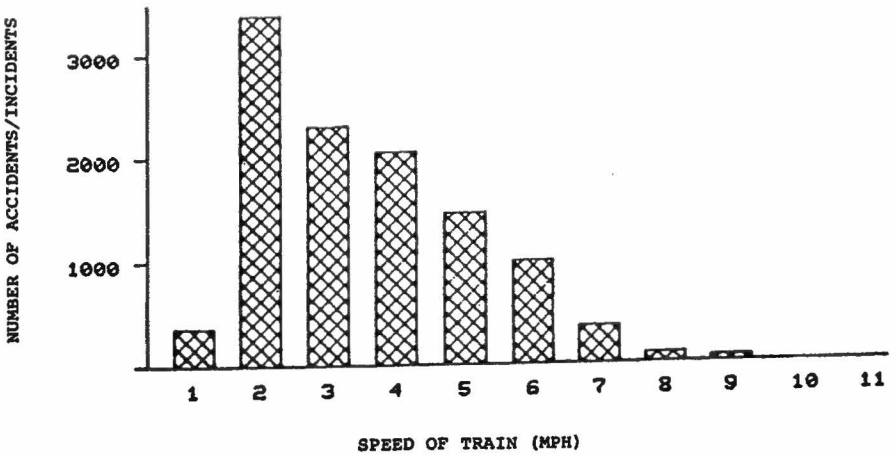
KLD = KILLED
INJ = INJURED

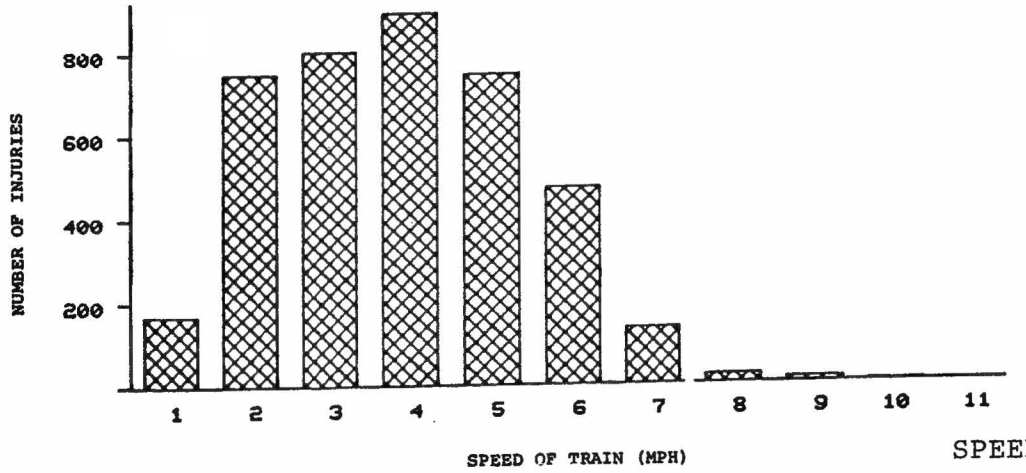
1.3 TRAIN AND TRACK DATA

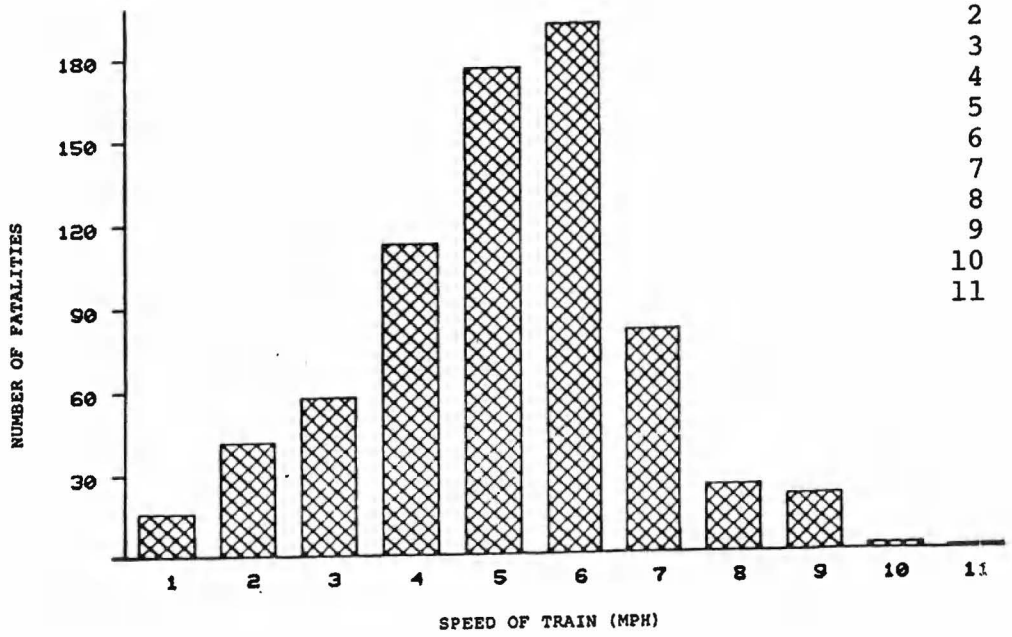
TABLE 16. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY SPEED OF TRAIN, CIRCUMSTANCE, AND VISIBILITY, 1979

CIRCUMSTANCE AND TRAIN SPEED (MPH)	VISIBILITY ******TOTAL****** ACC/INC	KLD	INJ	******DAWN******* ACC/INC	KLD	INJ	*******DAY******* ACC/INC	KLD	INJ	******DUSK******* ACC/INC	KLD	INJ	******DARK******* ACC/INC	KLD	INJ
STRUCK BY TRAIN															
STANDING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-9	2355	16	376	59	0	6	1364	9	151	81	2	17	851	5	202
10-19	1632	27	526	38	3	12	979	15	304	63	0	26	552	9	184
20-29	1581	92	696	29	1	18	954	56	415	57	3	25	541	32	238
30-39	1167	138	591	44	4	17	706	93	403	39	3	10	378	38	161
40-49	811	160	365	21	8	6	492	108	244	31	6	13	267	38	102
50-59	302	71	109	9	2	2	191	45	86	11	4	7	91	20	14
60-69	78	20	19	4	2	1	34	8	11	5	1	0	35	9	7
70-79	46	19	10	1	0	3	25	8	5	1	1	0	19	10	2
80-89	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0
90 AND OVER	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0
UNKNOWN	25	2	5	1	0	0	17	2	4	0	0	0	7	0	1
TOTAL	7999	547	2697	206	20	65	4763	345	1623	288	20	98	2742	162	911
RAN INTO TRAIN															
STANDING	326	14	156	7	0	3	40	1	9	6	1	3	273	12	141
1-9	1107	26	373	39	1	18	373	3	85	32	1	18	663	21	251
10-19	671	31	278	9	1	4	297	7	113	15	0	6	350	23	155
20-29	461	21	215	7	0	1	256	10	117	17	0	6	181	11	91
30-39	290	38	156	4	0	3	166	20	97	12	0	2	108	18	54
40-49	174	32	107	5	0	3	101	13	59	4	0	2	64	19	43
50-59	49	10	24	0	0	0	28	6	11	0	0	0	21	4	13
60-69	9	5	2	0	0	0	4	3	0	1	0	1	4	2	1
70-79	5	2	2	0	0	0	2	0	0	0	0	0	3	2	2
80-89	1	1	2	0	0	0	1	1	2	0	0	0	0	0	0
90 AND OVER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNKNOWN	16	0	7	2	0	3	7	0	1	0	0	0	7	0	3
TOTAL	3109	180	1322	73	2	35	1275	64	494	87	2	38	1674	112	755
GRAND TOTAL															
STANDING	326	14	156	7	0	3	40	1	9	6	1	3	273	12	141
1-9	3462	42	749	98	1	24	1737	12	236	113	3	35	1514	26	454
10-19	2303	58	804	47	4	16	1276	22	417	78	0	32	902	32	339
20-29	2042	113	911	36	1	19	1210	66	532	74	3	31	722	43	329
30-39	1457	176	747	48	4	20	872	113	500	51	3	12	486	56	215
40-49	985	192	472	26	8	9	593	121	303	35	6	15	331	57	145
50-59	351	81	133	9	2	2	219	51	97	11	4	7	112	24	27
60-69	87	25	21	4	2	1	38	11	11	6	1	1	39	11	8
70-79	51	21	12	1	0	3	27	8	5	1	1	0	22	12	4
80-89	2	2	2	0	0	0	2	2	2	0	0	0	0	0	0
90 AND OVER	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0
UNKNOWN	41	2	12	3	0	3	24	2	5	0	0	0	14	0	4
TOTAL	11108	727	4019	279	22	100	6038	409	2117	375	22	136	4416	274	1666

KLD = KILLED
INJ = INJURED







SPEED OF TRAIN (MPH)

1	Standing
2	1 - 9
3	10 - 19
4	20 - 29
5	30 - 39
6	40 - 49
7	50 - 59
8	60 - 69
9	70 - 79
10	80 - 89
11	90 and over

FIGURE 6. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY SPEED OF TRAIN, 1979

TABLE 17. ACCIDENTS/INCIDENTS AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY RAILROAD EQUIPMENT INVOLVED, PART OF TRAIN STRUCK, CIRCUMSTANCE, AND VISIBILITY, 1979

RAILROAD EQUIPMENT INVOLVED	***CIRCUMSTANCE*** CONSIST STRUCK VEHICLE ACC/INC	VEHICLE STRUCK CONSIST ACC/INC	*******PART OF TRAIN STRUCK****** LOCO(S)[1]	----QUARTER---- 1	2	3	4	UNKNOWN	******VISIBILITY****** DAWN	DAY	DUSK	DARK
TRAIN (UNITS PULLING)	6576	2243	1505	202	158	104	173	101	225	4951	308	3335
TRAIN (UNITS PUSHING)	595	264	43	105	65	20	25	6	18	407	27	407
TRAIN (STANDING)	0	283	67	43	47	56	55	15	5	25	6	247
CARS (MOVING)	131	47	0	0	2	0	45	0	1	152	7	18
CARS (STANDING)	0	14	0	3	1	2	8	0	1	6	0	7
LIGHT LOCOS[1] (MOVING)	695	227	218	0	0	0	0	9	28	485	27	382
LIGHT LOCOS[1] (STANDING)	0	29	29	0	0	0	0	0	1	9	0	19
OTHER	2	2	0	0	0	0	2	0	0	3	0	1
TOTAL	7999	3109	1862	353	273	182	308	131	279	6038	375	4416

[1]LOCOMOTIVES

TABLE 18. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY TRAIN SPEED AND TYPE OF TRAIN, 1979

TRAIN SPEED (MPH)	******TOTAL****** ACC/INC	KLD	INJ	*****FREIGHT***** ACC/INC	KLD	INJ	****PASSENGER**** ACC/INC	KLD	INJ	YARD/ ****SWITCHING**** ACC/INC	KLD	INJ	******OTHER[1]****** ACC/INC	KLD	INJ
STANDING	326	14	156	200	8	116	1	0	0	91	5	31	34	1	9
1-9	3462	42	749	1520	26	330	36	2	18	1297	12	270	609	2	131
10-19	2303	58	804	1695	38	599	63	3	12	272	8	84	273	9	109
20-29	2042	113	911	1762	94	785	80	10	26	54	1	18	146	8	82
30-39	1457	176	747	1326	163	672	59	3	21	7	1	1	65	9	53
40-49	985	192	472	896	169	431	51	14	20	1	0	0	37	9	21
50-59	351	81	133	292	63	116	49	15	12	1	0	0	9	3	5
60-69	87	25	21	44	14	8	41	11	13	0	0	0	2	0	0
70-79	51	21	12	8	3	2	42	18	10	0	0	0	1	0	0
80-89	2	2	2	0	0	0	2	2	2	0	0	0	0	0	0
90 AND OVER	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0
UNKNOWN	41	2	12	25	1	5	1	0	1	3	0	3	12	1	3
TOTAL	11108	727	4019	7768	579	3064	426	79	135	1726	27	407	1188	42	413

KLD = KILLED
INJ = INJURED

[1]INCLUDES MIXED TRAINS, WORK TRAINS, AND LIGHT LOCOMOTIVES.

TABLE 19. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY NUMBER OF CARS IN TRAIN AND TYPE OF TRAIN, 1979

NUMBER OF CARS IN TRAIN	******TOTAL******			*****FREIGHT*****			****PASSENGER****			YARD/ ****SWITCHING****			******OTHER[1]******		
	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
LOCOMOTIVES ONLY	1143	46	353	122	6	46	77	12	14	158	2	44	786	26	249
1-9	2919	137	917	1442	74	540	244	42	80	933	11	185	300	10	112
10-19	1329	73	482	847	45	347	96	24	36	346	3	85	40	1	14
20-29	739	33	328	587	30	263	2	1	0	136	1	56	14	1	9
30-39	583	55	222	513	49	203	1	0	0	55	5	17	14	1	2
40-49	582	40	200	535	38	186	3	0	3	37	1	7	7	1	4
50-59	574	55	233	546	52	227	0	0	0	22	3	5	6	0	1
60-69	545	41	219	534	40	214	0	0	0	6	1	0	5	0	5
70-79	578	62	230	563	62	217	1	0	2	7	0	2	7	0	9
80-89	503	50	194	498	50	193	1	0	0	3	0	0	1	0	1
90-99	502	34	202	490	34	196	0	0	0	10	0	4	2	0	2
100-109	442	38	162	433	36	157	1	0	0	6	0	1	2	2	4
110-119	288	30	110	283	30	110	0	0	0	3	0	0	2	0	0
120-129	181	16	62	178	16	61	0	0	0	3	0	1	0	0	0
130-139	66	7	34	64	7	33	0	0	0	1	0	0	1	0	1
140-149	57	1	34	57	1	34	0	0	0	0	0	0	0	0	0
150 AND OVER	77	9	37	76	9	37	0	0	0	0	0	0	1	0	0
UNKNOWN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	11108	727	4019	7768	579	3064	426	79	135	1726	27	407	1188	42	413

KLD = KILLED
INJ = INJURED

[1]INCLUDES MIXED TRAINS, WORK TRAINS, AND LIGHT LOCOMOTIVES.

TABLE 20. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY NUMBER OF CARS IN TRAIN, CIRCUMSTANCE, AND VISIBILITY, 1979

NUMBER OF CARS IN TRAIN	VISIBILITY ******TOTAL******			******DAWN*******			*******DAY*******			******DUSK*******			******DARK*******		
	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
STRUCK BY TRAIN															
LOCOMOTIVES ONLY	841	36	249	24	0	5	483	23	128	26	0	11	308	13	105
1-9	2073	112	626	38	7	11	1380	76	412	87	5	20	568	24	183
10-19	960	60	312	25	6	13	598	36	195	38	5	19	299	13	85
20-29	529	25	213	10	1	5	321	17	126	16	1	9	182	6	73
30-39	440	44	170	9	0	0	255	31	91	10	0	2	166	13	77
40-49	421	31	124	10	0	1	233	22	67	14	0	6	164	9	50
50-59	415	36	169	8	1	1	236	20	103	15	0	5	156	15	60
60-69	396	31	134	16	1	4	225	16	80	9	0	1	146	14	49
70-79	428	51	158	17	1	4	236	32	97	13	1	7	162	17	50
80-89	366	37	131	13	0	2	204	22	82	15	3	10	134	12	37
90-99	353	27	136	13	1	6	176	15	75	14	1	2	150	10	53
100-109	299	23	96	10	0	5	164	17	53	7	3	0	118	3	38
110-119	209	20	75	9	2	7	102	13	41	9	0	2	89	5	25
120-129	125	3	35	2	0	1	70	1	25	5	0	1	48	2	8
130-139	47	6	25	1	0	0	27	2	15	6	1	2	13	3	8
140-149	43	1	23	0	0	0	25	0	17	2	0	0	16	1	6
150 AND OVER	54	4	21	1	0	0	28	2	16	2	0	1	23	2	4
UNKNOWN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	7999	547	2697	206	20	65	4763	345	1623	288	20	98	2742	162	911
RAN INTO TRAIN															
LOCOMOTIVES ONLY	302	10	104	11	0	8	118	2	35	5	0	6	168	8	55
1-9	846	25	291	29	0	13	426	15	140	25	1	11	366	9	127
10-19	369	13	170	10	1	2	139	7	82	12	0	4	208	5	82
20-29	210	8	115	5	0	2	81	2	47	10	0	3	114	6	63
30-39	143	11	52	0	0	0	58	5	16	5	0	2	80	6	34
40-49	161	9	76	2	1	0	67	4	28	5	0	3	87	4	45
50-59	159	19	64	2	0	0	58	7	16	3	0	2	96	12	46
60-69	149	10	85	2	0	1	63	6	36	4	0	1	80	4	47
70-79	150	11	72	2	0	3	73	4	31	6	0	0	69	7	38
80-89	137	13	63	1	0	1	56	1	20	1	0	0	79	12	42
90-99	149	7	66	2	0	2	55	4	12	2	0	1	90	3	51
100-109	143	15	66	5	0	2	33	2	10	5	0	3	100	13	51
110-119	79	10	35	0	0	0	22	0	10	2	0	1	55	10	24
120-129	56	13	27	2	0	1	11	3	3	2	1	1	41	9	22
130-139	19	1	9	0	0	0	5	1	4	0	0	0	14	0	5
140-149	14	0	11	0	0	0	3	0	2	0	0	0	11	0	9
150 AND OVER	23	5	16	0	0	0	7	1	2	0	0	0	16	4	14
UNKNOWN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3109	180	1322	73	2	35	1275	64	494	87	2	38	1674	112	755

KLD = KILLED
INJ = INJURED

TABLE 20. (CONT.)

G R A N D T O T A L

LOCOMOTIVES ONLY	1143	46	353	35	0	13	601	25	163	31	0	17	476	21	160
1-9	2919	137	917	67	7	24	1806	91	552	112	6	31	934	33	310
10-19	1329	73	482	35	7	15	737	43	277	50	5	23	507	18	167
20-29	739	33	328	15	1	7	402	19	173	26	1	12	296	12	136
30-39	583	55	222	9	0	0	313	36	107	15	0	4	246	19	111
40-49	582	40	200	12	1	1	300	26	95	19	0	9	251	13	95
50-59	574	55	233	10	1	1	294	27	119	18	0	7	252	27	106
60-69	545	41	219	18	1	5	288	22	116	13	0	2	226	18	96
70-79	578	62	230	19	1	7	309	36	128	19	1	7	231	24	88
80-89	503	50	194	14	0	3	260	23	102	16	3	10	213	24	79
90-99	502	34	202	15	1	8	231	19	87	16	1	3	240	13	104
100-109	442	38	162	15	0	7	197	19	63	12	3	3	218	16	89
110-119	288	30	110	9	2	7	124	13	51	11	0	3	144	15	49
120-129	181	16	62	4	0	2	81	4	28	7	1	2	89	11	30
130-139	66	7	34	1	0	0	32	3	19	6	1	2	27	3	13
140-149	57	1	34	0	0	0	28	0	19	2	0	0	27	1	15
150 AND OVER	77	9	37	1	0	0	35	3	18	2	0	1	39	6	18
UNKNOWN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	11108	727	4019	279	22	100	6038	409	2117	375	22	136	4416	274	1666

KLD = KILLED
INJ = INJURED

TABLE 21. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY TRACK TYPE AND TRACK CLASS, 1979

TRACK CLASS	TRACK TYPE: MAIN			YARD			SIDING			INDUSTRY			UNKNOWN			TOTAL		
	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
1	1331	29	331	696	13	145	105	2	21	343	6	82	5	0	4	2480	50	583
2	2262	70	828	139	3	51	47	1	11	80	1	23	5	1	2	2533	76	915
3	2968	238	1279	32	0	12	19	0	3	13	0	3	3	0	1	3035	238	1298
4	2526	307	1033	21	0	7	17	0	2	17	0	3	3	0	1	2584	307	1046
5	259	48	110	0	0	0	0	0	0	0	0	0	6	0	0	265	48	110
6	8	0	3	0	0	0	0	0	0	0	0	0	1	0	0	9	0	3
UNKNOWN	97	6	33	56	0	16	15	0	1	32	1	11	2	1	3	202	8	64
TOTAL	9451	698	3617	944	16	231	203	3	38	485	8	122	25	2	11	11108	727	4019

KLD = KILLED
INJ = INJURED

1.4 WARNING DEVICE DATA

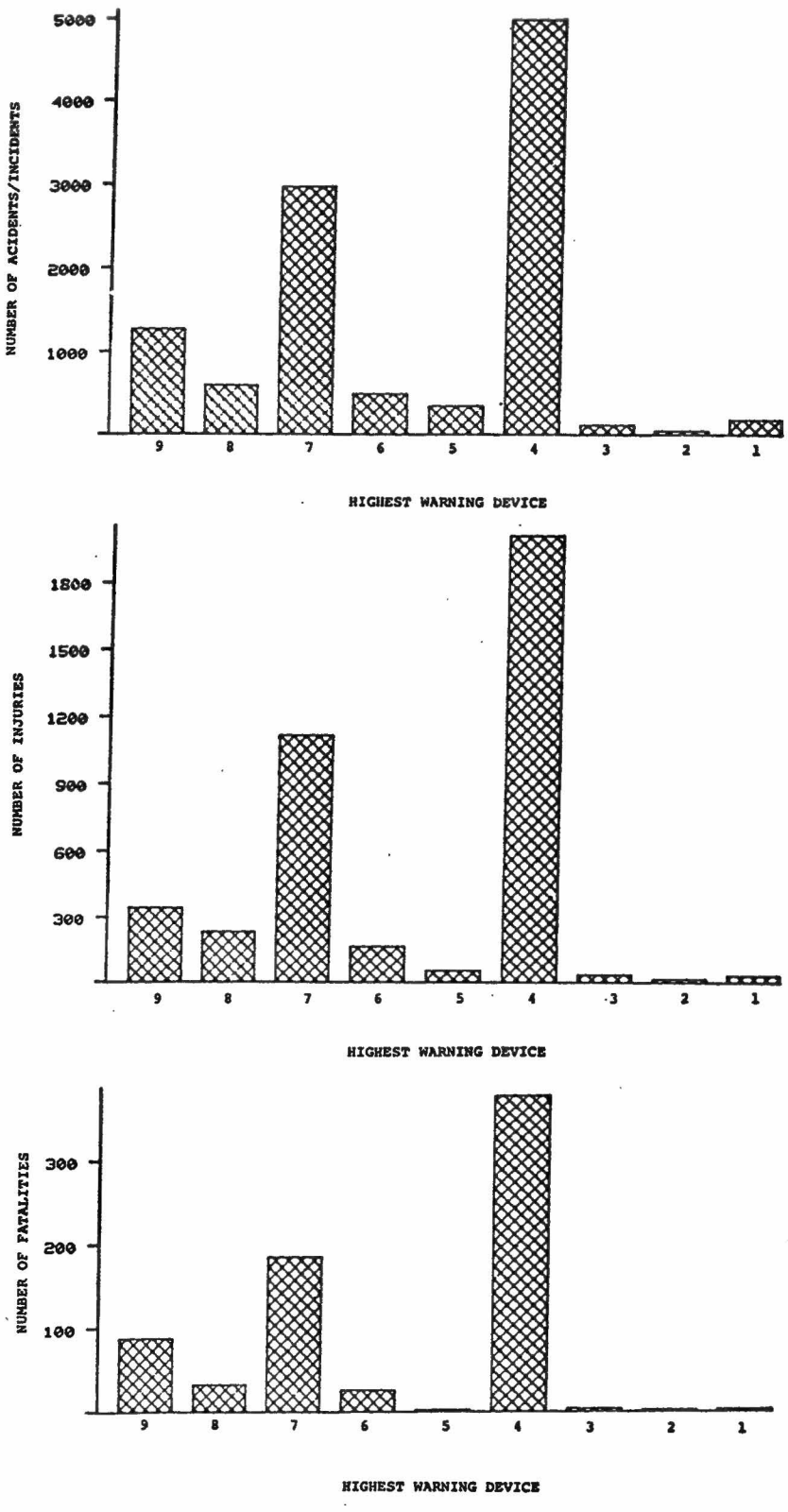
TABLE 22. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY HIGHEST WARNING DEVICE AND MOTORIST ACTION, 1979

HIGHEST WARNING DEVICE[1]	****TOTAL****			DROVE AROUND OR **THRU GATE**			STOPPED AND THEN **PROCEEDED**			DID NOT ****STOP****			****OTHER****			***UNKNOWN***		
	A/I	KLD	INJ	A/I	KLD	INJ	A/I	KLD	INJ	A/I	KLD	INJ	A/I	KLD	INJ	A/I	KLD	INJ
GATES	1270	88	346	596	68	241	50	2	11	182	10	50	360	6	35	82	2	9
CANTILEVERED FLASHING LIGHTS	598	33	234	0	0	0	37	1	9	392	29	193	147	2	27	22	1	5
STANDARD FLASHING LIGHTS	2972	185	1118	0	0	0	243	14	79	1919	146	872	698	21	131	112	4	36
HIGHWAY SIGNALS WIGWAGS OR BELLS	502	26	167	0	0	0	34	1	5	307	20	129	110	4	15	51	1	18
SPECIAL WARNING DEVICES	353	3	55	0	0	0	44	1	4	217	2	40	62	0	9	30	0	2
CROSSBUCKS	5064	383	2021	0	0	0	209	15	64	3349	299	1600	1225	48	254	281	21	103
STOP SIGNS	114	4	35	0	0	0	9	2	2	61	2	24	29	0	7	15	0	2
OTHER SIGNS	49	2	14	0	0	0	3	0	2	26	1	8	19	1	4	1	0	0
NO SIGNS OR SIGNALS	186	3	29	0	0	0	9	0	2	95	3	24	67	0	2	15	0	1
TOTAL	11108	727	4019	596	68	241	638	36	178	6548	512	2940	2717	82	484	609	29	176

A/I = ACCIDENTS/INCIDENTS

KLD = KILLED
INJ = INJURED

[1]SEE APPENDIX A FOR DEFINITION OF HIGHEST WARNING DEVICE.



HIGHEST WARNING DEVICE[1]

9 Gates
8 Cantilevered flashing lights
7 Standard flashing lights
6 Highway signals, wigwags, or bells
5 Special warning devices
4 Crossbucks
3 Stop signs
2 Other signs
1 No signs or signals

[1] See Appendix A for definition of "highest warning device".

FIGURE 7. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY HIGHEST WARNING DEVICE, 1979

TABLE 23. ACCIDENTS/INCIDENTS AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY TYPE AND OPERATIONAL STATUS OF WARNING DEVICE, CIRCUMSTANCE, AND VISIBILITY, 1979

HIGHEST WARNING DEVICE[1]	*DEVICES OPERATING* YES	NO	NOT REPORTED	**********CIRCUMSTANCE********** ----STRUCK BY TRAIN----- DAWN	DAY	DUSK	DARK	-----RAN INTO TRAIN----- DAWN	DAY	DUSK	DARK
GATES	1229	15	26	38	443	26	530	1	70	8	154
FLASHING LIGHTS	3468	46	56	51	1507	91	827	26	485	26	557
HIGHWAY SIGNALS WIGWAGS OR BELLS	433	12	57	6	192	8	125	3	72	1	95
SPECIAL WARNING DEVICES	0	0	353	5	112	6	107	5	23	5	90
CROSSBUCKS	0	0	5064	101	2319	148	1079	32	595	46	744
STOP SIGNS	0	0	114	3	55	3	26	1	10	1	15
OTHER SIGNS	0	0	49	0	25	1	11	1	7	0	4
NO SIGNS OR SIGNALS	0	0	186	2	110	5	37	4	13	0	15
TOTAL	5130	73	5905	206	4763	288	2742	73	1275	87	1674

[1]SEE APPENDIX A FOR DEFINITION OF HIGHEST WARNING DEVICE.

TABLE 24. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES DURING DUSK AND DARK HOURS BY ILLUMINATION OF CROSSING AND CIRCUMSTANCE, 1979

CROSSING ILLUMINATION	*******TOTAL******* ACC/INC	KLD	INJ	CIRCUMSTANCE **STRUCK BY TRAIN** ACC/INC	KLD	INJ	***RAN INTO TRAIN** ACC/INC	KLD	INJ
LIGHTED	1709	90	622	1070	63	360	639	27	262
NOT LIGHTED	2036	146	807	1248	78	423	788	68	384
NOT REPORTED	1046	60	373	712	41	226	334	19	147
TOTAL	4791	296	1802	3030	182	1009	1761	114	793

KLD = KILLED
INJ = INJURED

TABLE 25. ACCIDENTS/INCIDENTS AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY LOCATION AND TYPE OF WARNING DEVICE, CIRCUMSTANCE, AND VISIBILITY, 1979

LOCATION AND TYPE OF WARNING DEVICE AND CIRCUMSTANCE	VISIBILITY														
	******TOTAL******			******DAWN*******			*******DAY********			******DUSK*******			******DARK*******		
	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
S T R U C K B Y T R A I N															
AUTOMATIC, [1] BOTH SIDES	3661	236	1187	94	3	22	2040	136	641	119	8	29	1408	89	495
AUTOMATIC, SIDE OF APPROACH	147	7	46	0	0	0	81	3	22	6	0	2	60	4	22
AUTOMATIC, OPPOSITE SIDE	26	2	11	1	0	0	17	0	8	0	0	0	8	2	3
AUTOMATIC, SIDE NOT REPORTED	10	0	5	0	0	0	4	0	2	0	0	0	6	0	3
MANUAL, [1] BOTH SIDES	165	1	22	5	0	0	75	1	9	4	0	1	81	0	12
MANUAL, SIDE OF APPROACH	46	0	3	0	0	0	25	0	0	1	0	0	20	0	3
MANUAL, OPPOSITE SIDE	13	0	2	0	0	0	9	0	2	0	0	0	4	0	0
MANUAL, SIDE NOT REPORTED	6	0	0	0	0	0	3	0	0	1	0	0	2	0	0
OTHER, [1] BOTH SIDES	3288	253	1211	95	16	38	2066	174	775	132	9	55	995	54	343
OTHER, SIDE OF APPROACH	303	25	117	7	1	4	206	15	89	9	0	4	81	9	20
OTHER, OPPOSITE SIDE	157	20	66	1	0	1	112	13	52	11	3	7	33	4	6
OTHER, SIDE NOT REPORTED	23	0	5	1	0	0	15	0	4	0	0	0	7	0	1
NO SIGNS OR SIGNALS	154	3	22	2	0	0	110	3	19	5	0	0	37	0	3
TOTAL	7999	547	2697	206	20	65	4763	345	1623	288	20	98	2742	162	911
R A N I N T O T R A I N															
AUTOMATIC, BOTH SIDES	1412	82	585	27	0	9	597	34	233	33	1	12	755	47	331
AUTOMATIC, SIDE OF APPROACH	67	5	23	3	0	1	24	2	9	1	0	0	39	3	13
AUTOMATIC, OPPOSITE SIDE	12	0	6	0	0	0	4	0	3	1	0	1	7	0	2
AUTOMATIC, SIDE NOT REPORTED	7	0	2	0	0	0	2	0	0	0	0	0	5	0	2
MANUAL, BOTH SIDES	81	2	20	3	0	0	13	0	3	4	0	2	61	2	15
MANUAL, SIDE OF APPROACH	30	0	3	1	0	0	6	0	0	1	0	0	22	0	3
MANUAL, OPPOSITE SIDE	5	0	5	1	0	5	2	0	0	0	0	0	2	0	0
MANUAL, SIDE NOT REPORTED	7	0	0	0	0	0	2	0	0	0	0	0	5	0	0
OTHER, BOTH SIDES	1305	83	604	28	2	17	557	28	224	39	1	19	681	52	344
OTHER, SIDE OF APPROACH	101	8	49	4	0	2	27	0	14	4	0	1	66	8	32
OTHER, OPPOSITE SIDE	41	0	12	2	0	0	23	0	4	4	0	3	12	0	5
OTHER, SIDE NOT REPORTED	9	0	6	0	0	0	5	0	2	0	0	0	4	0	4
NO SIGNS OR SIGNALS	32	0	7	4	0	1	13	0	2	0	0	0	15	0	4
TOTAL	3109	180	1322	73	2	35	1275	64	494	87	2	38	1674	112	755

TABLE 25. (CONT.)

GRAND TOTAL

AUTOMATIC, BOTH SIDES	5073	318	1772	121	3	31	2637	170	874	152	9	41	2163	136	826
AUTOMATIC, SIDE OF APPROACH	214	12	69	3	0	1	105	5	31	7	0	2	99	7	35
AUTOMATIC, OPPOSITE SIDE	38	2	17	1	0	0	21	0	11	1	0	1	15	2	5
AUTOMATIC, SIDE NOT REPORTED	17	0	7	0	0	0	6	0	2	0	0	0	11	0	5
MANUAL, BOTH SIDES	246	3	42	8	0	0	88	1	12	8	0	3	142	2	27
MANUAL, SIDE OF APPROACH	76	0	6	1	0	0	31	0	0	2	0	0	42	0	6
MANUAL, OPPOSITE SIDE	18	0	7	1	0	5	11	0	2	0	0	0	6	0	0
MANUAL, SIDE NOT REPORTED	13	0	0	0	0	0	5	0	0	1	0	0	7	0	0
OTHER, BOTH SIDES	4593	336	1815	123	18	55	2623	202	999	171	10	74	1676	106	687
OTHER, SIDE OF APPROACH	404	33	166	11	1	6	233	15	103	13	0	5	147	17	52
OTHER, OPPOSITE SIDE	198	20	78	3	0	1	135	13	56	15	3	10	45	4	11
OTHER, SIDE NOT REPORTED	32	0	11	1	0	0	20	0	6	0	0	0	11	0	5
NO SIGNS OR SIGNALS	186	3	29	6	0	1	123	3	21	5	0	0	52	0	7
TOTAL	11108	727	4019	279	22	100	6038	409	2117	375	22	136	4416	274	1666

[1]AUTOMATIC DEVICES INCLUDE GATES, FLASHING LIGHTS, HIGHWAY SIGNALS, WIGWAGS, AND BELLS WHICH ARE TRAIN ACTIVATED.
MANUAL DEVICES INCLUDE "WATCHMAN" AND "FLAGGED BY CREW."
OTHER DEVICES INCLUDE CROSSBUCKS, STOP SIGNS, ETC.

KLD = KILLED
INJ = INJURED

1.5 TIME, DAY, AND WEATHER DATA

TABLE 26. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY VISIBILITY AND CIRCUMSTANCE, 1979

	CIRCUMSTANCE								
	*******TOTAL*******			**STRUCK BY TRAIN**			***RAN INTO TRAIN**		
VISIBILITY	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
DAWN	279	22	100	206	20	65	73	2	35
DAY	6038	409	2117	4763	345	1623	1275	64	494
DUSK	375	22	136	288	20	98	87	2	38
DARK	4416	274	1666	2742	162	911	1674	112	755
TOTAL	11108	727	4019	7999	547	2697	3109	180	1322

KLD = KILLED
INJ = INJURED

TABLE 27. ACCIDENTS/INCIDENTS AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY TEMPERATURE, CIRCUMSTANCE, AND VISIBILITY, 1979

		CIRCUMSTANCE							
TEMPERATURE DEGREES F		***STRUCK BY TRAIN****				****RAN INTO TRAIN****			
	ACC/INC	DAWN	DAY	DUSK	DARK	DAWN	DAY	DUSK	DARK
OVER 100	6	0	5	0	0	0	1	0	0
80 TO 100	1495	8	997	26	127	1	255	16	65
60 TO 79	3472	56	1603	96	777	29	404	24	483
40 TO 59	2961	78	1048	95	927	17	247	23	526
20 TO 39	2135	44	722	54	657	15	218	13	412
0 TO 19	871	15	339	16	212	8	127	10	144
- 20 TO -1	161	5	47	1	41	2	23	1	41
UNDER -20	7	0	2	0	1	1	0	0	3
UNKNOWN	0	0	0	0	0	0	0	0	0
TOTAL	11108	206	4763	288	2742	73	1275	87	1674

TABLE 28. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY TIME OF DAY AND CIRCUMSTANCE, 1979

HOUR	CIRCUMSTANCE								
	*******TOTAL*******			**STRUCK BY TRAIN**			***RAN INTO TRAIN**		
	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
MIDNIGHT TO 12:59 AM	430	42	154	260	21	77	170	21	77
1 TO 1:59 AM	390	25	162	190	10	72	200	15	90
2 TO 2:59 AM	370	22	129	211	9	58	159	13	71
3 TO 3:59 AM	237	20	103	130	12	42	107	8	61
4 TO 4:59 AM	161	11	64	84	2	21	77	9	43
5 TO 5:59 AM	191	11	59	116	6	29	75	5	30
6 TO 6:59 AM	347	24	121	257	21	82	90	3	39
7 TO 7:59 AM	435	28	149	350	25	121	85	3	28
8 TO 8:59 AM	469	21	142	365	19	107	104	2	35
9 TO 9:59 AM	504	29	188	383	25	132	121	4	56
10 TO 10:59 AM	506	32	173	389	26	136	117	6	37
11 TO 11:59 AM	561	35	213	453	31	176	108	4	37
NOON TO 12:59 PM	484	28	173	369	24	136	115	4	37
1 TO 1:59 PM	541	50	213	424	39	168	117	11	45
2 TO 2:59 PM	571	50	189	444	43	141	127	7	48
3 TO 3:59 PM	618	37	173	485	31	127	133	6	46
4 TO 4:59 PM	695	36	261	556	32	205	139	4	56
5 TO 5:59 PM	623	48	188	502	40	134	121	8	54
6 TO 6:59 PM	565	43	179	417	35	129	148	8	50
7 TO 7:59 PM	525	30	214	369	23	148	156	7	66
8 TO 8:59 PM	442	23	171	320	20	118	122	3	53
9 TO 9:59 PM	492	24	203	336	19	142	156	5	61
10 TO 10:59 PM	529	39	225	335	25	112	194	14	113
11 TO 11:59 PM	422	19	173	254	9	84	168	10	89
TOTAL	11108	727	4019	7999	547	2697	3109	180	1322

KLD = KILLED
INJ = INJURED

TABLE 29. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY DAY OF WEEK AND CIRCUMSTANCE, 1979

	CIRCUMSTANCE								
	*******TOTAL*******			**STRUCK BY TRAIN**			***RAN INTO TRAIN**		
DAY	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
SUNDAY	987	118	449	685	93	278	302	25	171
MONDAY	1605	93	555	1196	72	405	409	21	150
TUESDAY	1587	86	516	1165	75	359	422	11	157
WEDNESDAY	1646	89	549	1186	67	350	460	22	199
THURSDAY	1738	91	647	1256	69	441	482	22	206
FRIDAY	2003	107	651	1428	79	434	575	28	217
SATURDAY	1542	143	652	1083	92	430	459	51	222
TOTAL	11108	727	4019	7999	547	2697	3109	180	1322

KLD = KILLED
INJ = INJURED

TABLE 30. ACCIDENTS/INCIDENTS AND CASUALTIES AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY MONTH AND CIRCUMSTANCE, 1979

	CIRCUMSTANCE								
	*******TOTAL*******			**STRUCK BY TRAIN**			***RAN INTO TRAIN**		
MONTH	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
JANUARY	1430	65	476	992	53	324	438	12	152
FEBRUARY	1120	55	386	788	42	266	332	13	120
MARCH	905	49	296	655	34	200	250	15	96
APRIL	774	61	297	584	43	197	190	18	100
MAY	771	59	276	573	48	196	198	11	80
JUNE	720	50	260	512	31	154	208	19	106
JULY	727	49	295	536	32	208	191	17	87
AUGUST	829	59	279	614	50	173	215	9	106
SEPTEMBER	777	57	293	557	45	190	220	12	103
OCTOBER	943	68	345	680	51	240	263	17	105
NOVEMBER	1047	73	386	760	62	257	287	11	129
DECEMBER	1065	82	430	748	56	292	317	26	138
TOTAL	11108	727	4019	7999	547	2697	3109	180	1322

KLD = KILLED
INJ = INJURED

TABLE 31. ACCIDENTS/INCIDENTS AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY WEATHER CONDITIONS, CIRCUMSTANCE, AND VISIBILITY, 1979

WEATHER	TOTAL ACC/INC	CIRCUMSTANCE ***STRUCK BY TRAIN**** DAWN	DAY	DUSK	DARK	****RAN INTO TRAIN**** DAWN	DAY	DUSK	DARK
CLEAR	7021	122	3255	158	1632	41	831	48	934
CLOUDY	2481	48	1044	89	638	21	227	19	395
RAIN	938	15	300	26	289	5	127	13	163
FOG	246	13	34	3	72	5	24	2	93
SLEET	26	0	5	1	5	0	6	0	9
SNOW	386	8	123	9	103	1	59	5	78
NOT REPORTED	10	0	2	2	3	0	1	0	2
TOTAL	11108	206	4763	288	2742	73	1275	87	1674

1.6 MOTORIST ACTION DATA

TABLE 32. ACCIDENTS/INCIDENTS AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY MOTORIST ACTION (OBSTRUCTION OF VIEW), CIRCUMSTANCE, AND VISIBILITY, 1979

OBSTRUCTION OF VIEW	CIRCUMSTANCE											
	********TOTAL*********				***STRUCK BY TRAIN****				****RAN INTO TRAIN****			
	DAWN	DAY	DUSK	DARK	DAWN	DAY	DUSK	DARK	DAWN	DAY	DUSK	DARK
PERMANENT STRUCTURE	10	223	12	126	7	181	10	87	3	42	2	39
STANDING RR EQUIPMENT	1	54	3	30	1	43	3	21	0	11	0	9
PASSING TRAIN	0	23	1	9	0	19	1	7	0	4	0	2
TOPOGRAPHY	0	64	4	16	0	49	2	12	0	15	2	4
VEGETATION	3	194	12	30	3	144	8	20	0	50	4	10
HIGHWAY VEHICLE	1	19	0	10	1	17	0	4	0	2	0	6
OTHER	3	73	2	43	2	48	2	19	1	25	0	24
NOT OBSTRUCTED	261	5384	341	4146	192	4258	262	2568	69	1126	79	1578
UNKNOWN	0	4	0	6	0	4	0	4	0	0	0	2
TOTAL	279	6038	375	4416	206	4763	288	2742	73	1275	87	1674

TABLE 33. ACCIDENTS/INCIDENTS AT GRADE CROSSINGS INVOLVING MOTOR VEHICLES BY MOTORIST ACTION (STRUCK BY SECOND TRAIN OR PASSED STANDING HIGHWAY VEHICLE) AND TYPE OF VEHICLE, 1979

TYPE OF VEHICLE	**********MOTORIST ACTION**********					
	STRUCK BY SECOND TRAIN			PASSED STANDING VEHCILE		
	YES	NO	UNKNOWN	YES	NO	UNKNOWN
AUTOMOBILE	160	7361	177	231	6711	756
TRUCK	45	2375	56	62	2213	201
TRUCK TRAILER	14	801	12	20	739	68
BUS	0	14	2	2	10	4
SCHOOL BUS	3	13	0	1	14	1
MOTORCYCLE	0	75	0	3	60	12
TOTAL	222	10639	247	319	9747	1042

2.0 RAIL-HIGHWAY CROSSING ACCIDENT RATES

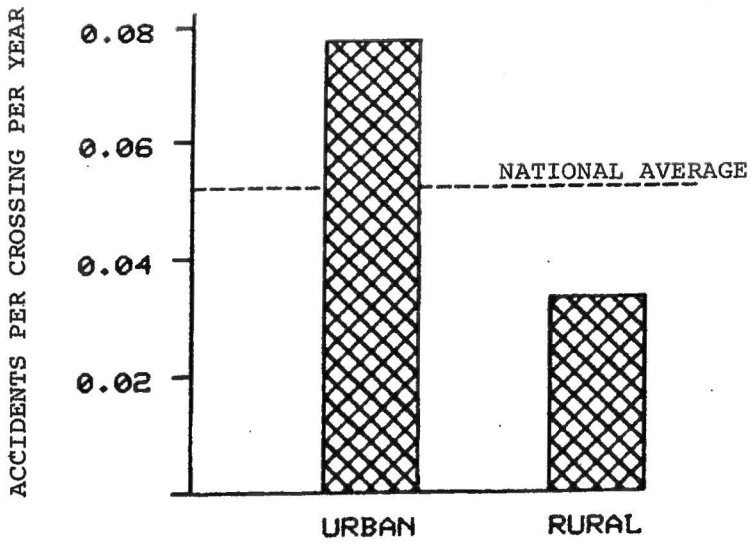


FIGURE 8. CROSSING ACCIDENT RATE
BY LOCATION (URBAN/RURAL), 1979

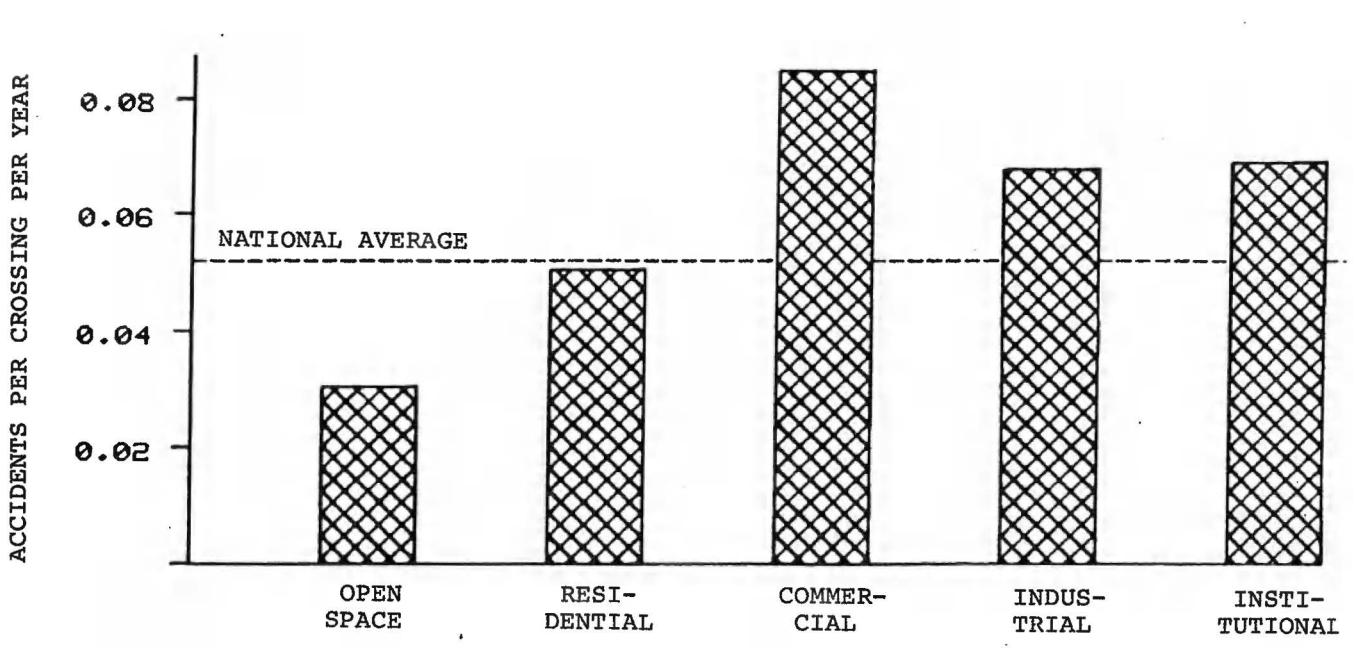


FIGURE 9. CROSSING ACCIDENT RATE BY TYPE
OF DEVELOPMENT, 1979

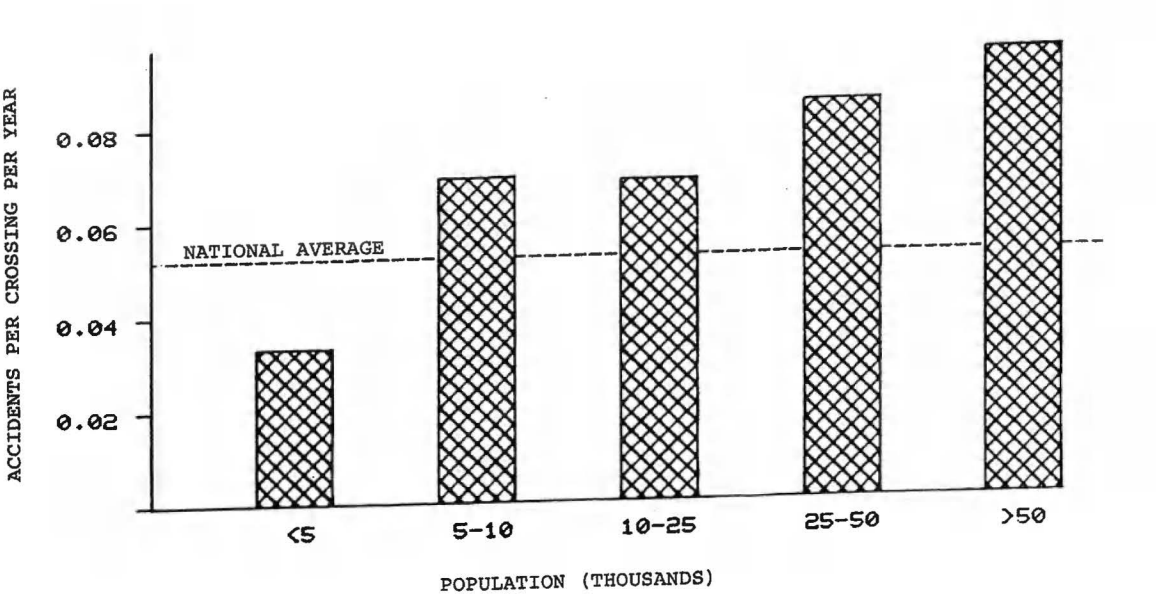


FIGURE 10. CROSSING ACCIDENT RATE BY POPULATION, 1979

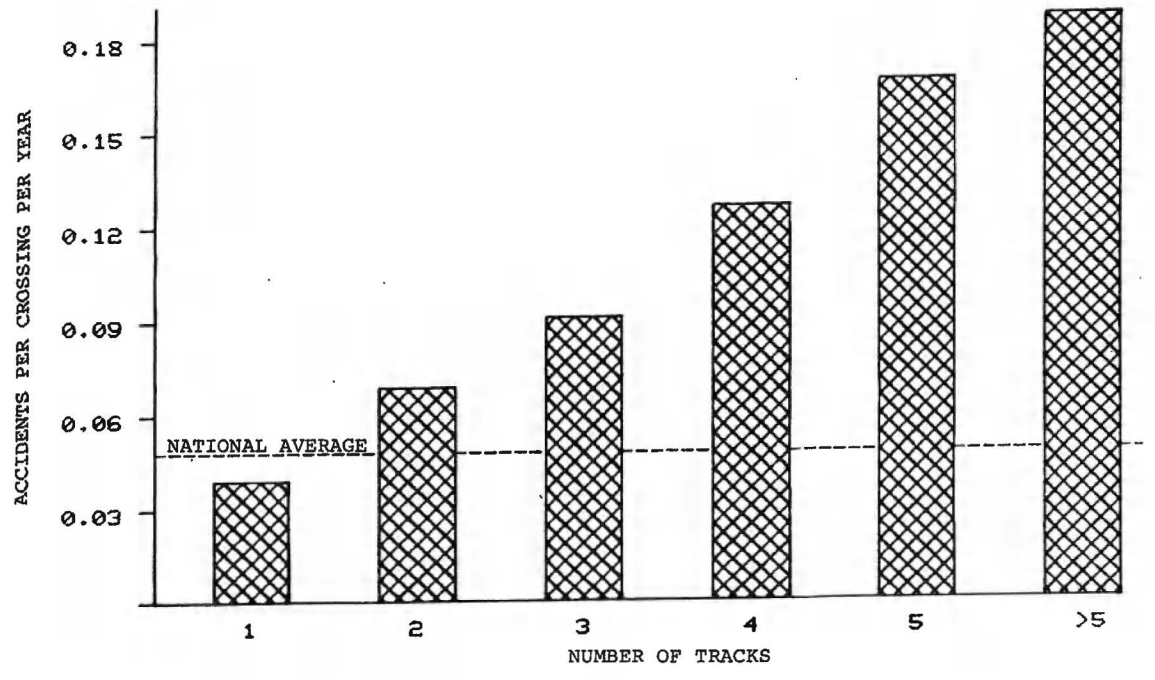


FIGURE 11. CROSSING ACCIDENT RATE BY NUMBER OF TRACKS, 1979

HIGHWAY SYSTEM TYPE

1 Interstate, rural
2 Interstate, urban
3 Other federal aid (FA) primary, rural
4 Other FA primary, urban
5 FA secondary rural, state jurisdiction
6 FA secondary urban, state jurisdiction
7 FA secondary rural, local jurisdiction
8 FA secondary urban, local jurisdiction
9 Other state highways, rural (non - FA)
10 Other state highways, urban, (non - FA)
11 Local rural roads (non - FA)
12 Local urban roads (non-FA)
13 Federal-aid urban

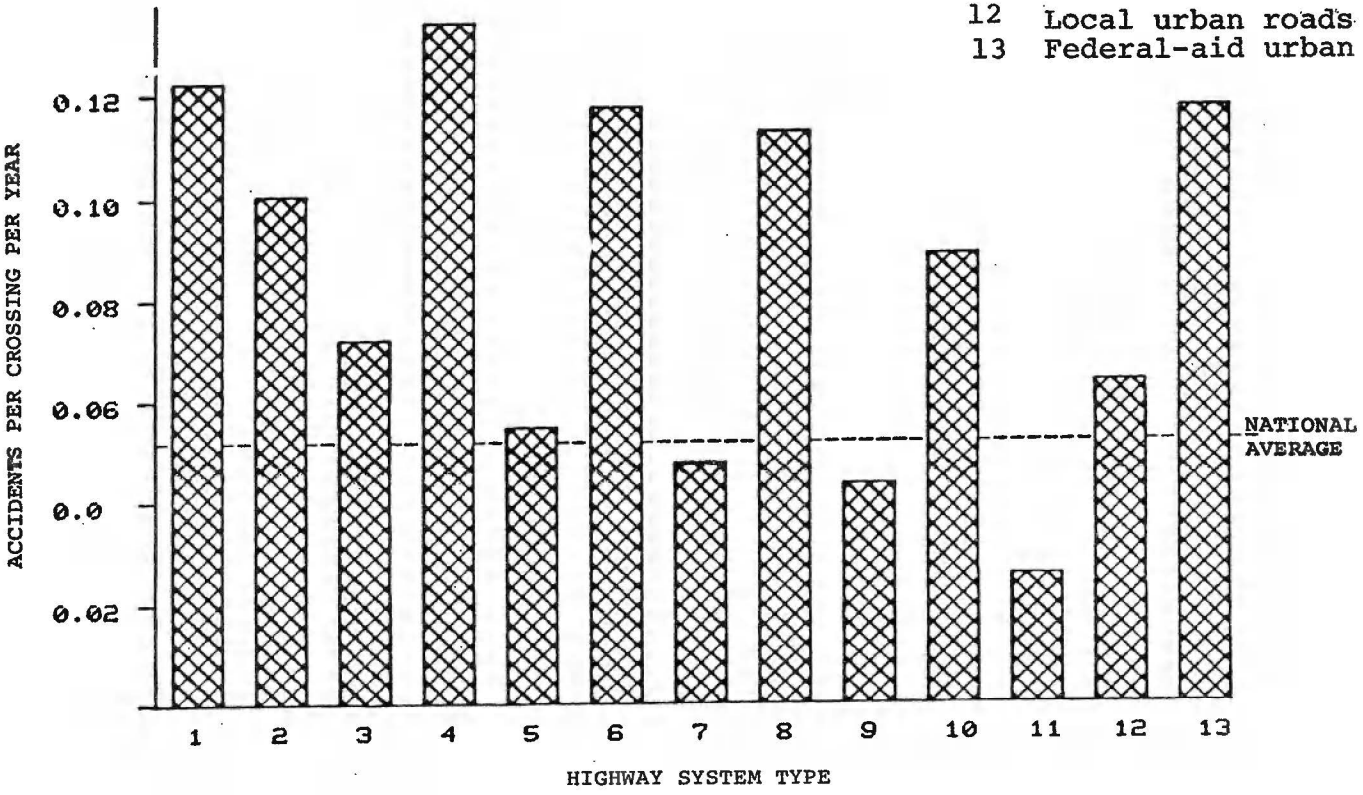


FIGURE 12. CROSSING ACCIDENT RATE BY HIGHWAY SYSTEM, 1979

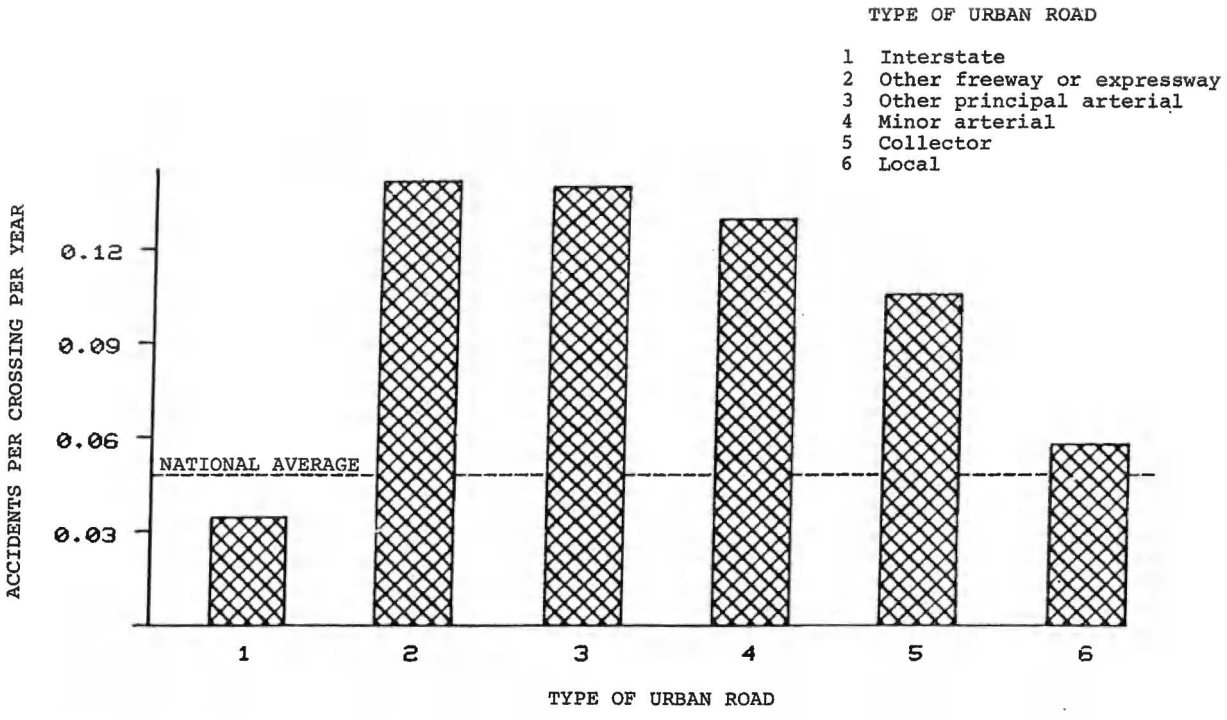


FIGURE 13. CROSSING ACCIDENT RATE BY TYPE OF URBAN ROAD, 1979

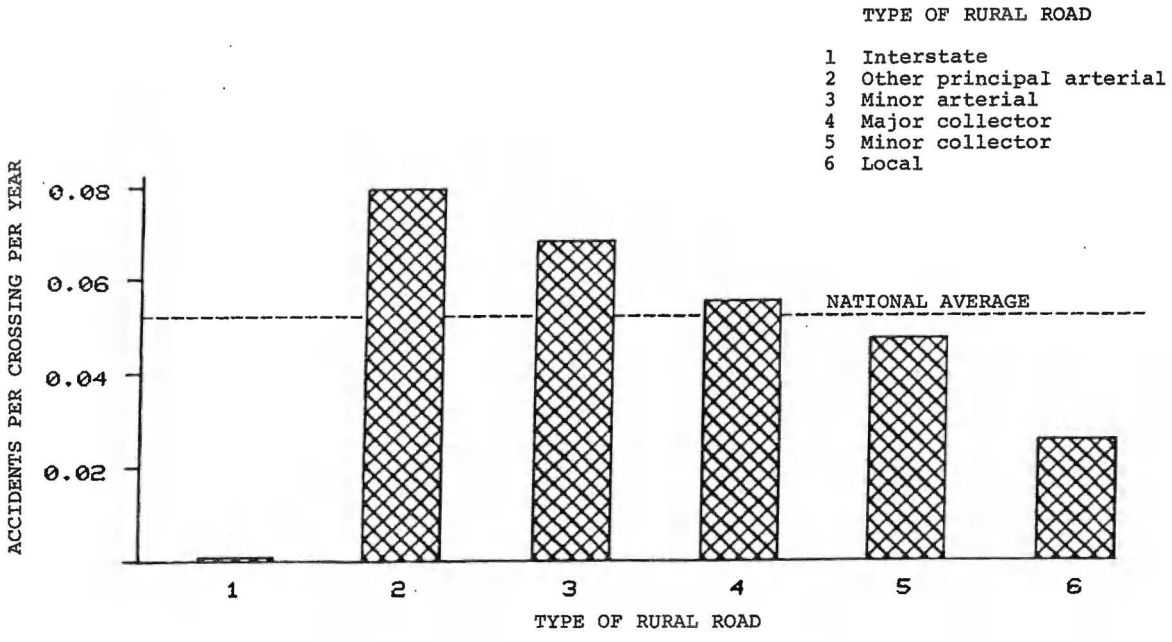


FIGURE 14. CROSSING ACCIDENT RATE BY TYPE OF RURAL ROAD, 1979

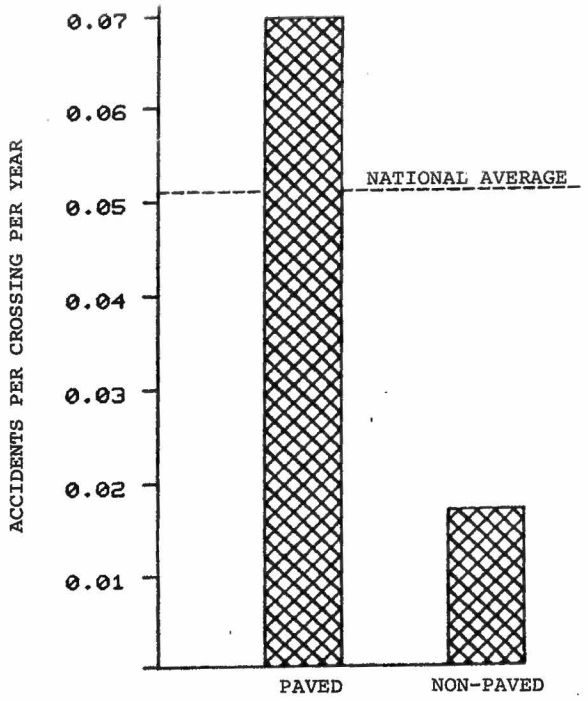


FIGURE 15. CROSSING ACCIDENT RATE BY PAVED OR NON-PAVED ROAD SURFACE, 1979

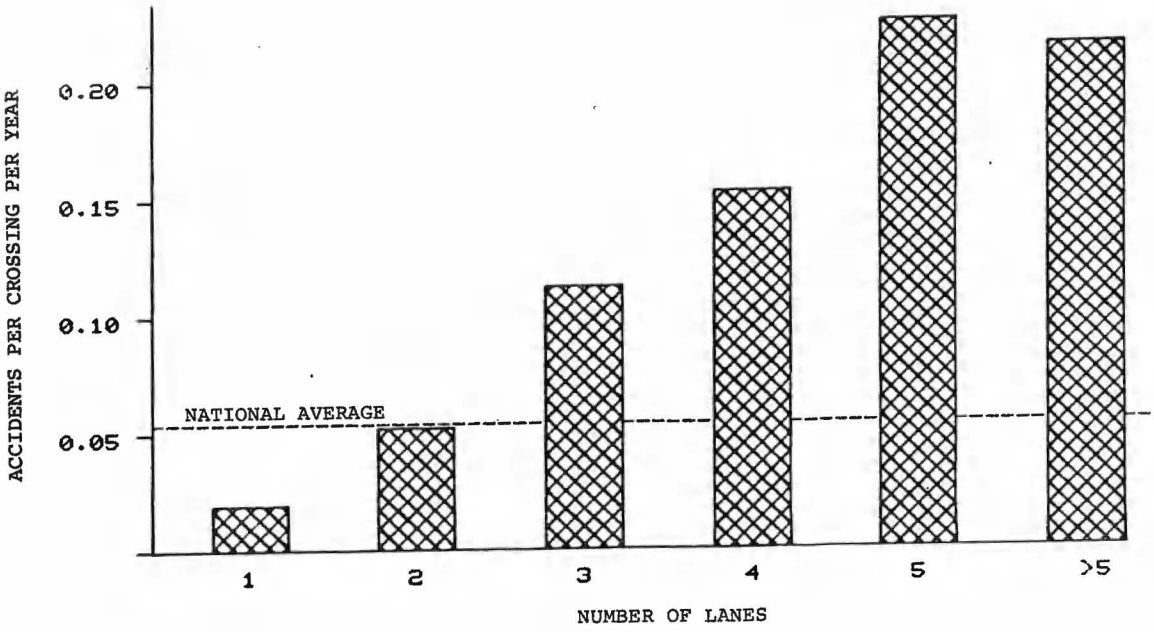


FIGURE 16. CROSSING ACCIDENT RATE BY NUMBER OF TRAFFIC LANES, 1979

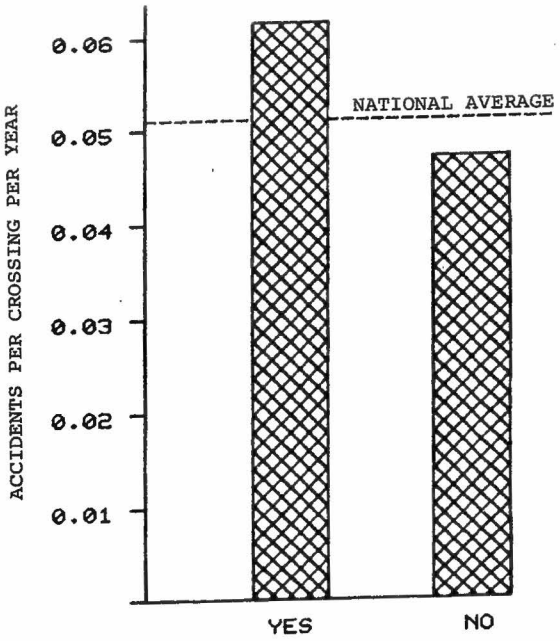


FIGURE 17. CROSSING ACCIDENT RATE BY NEARBY INTERSECTING HIGHWAY, 1979

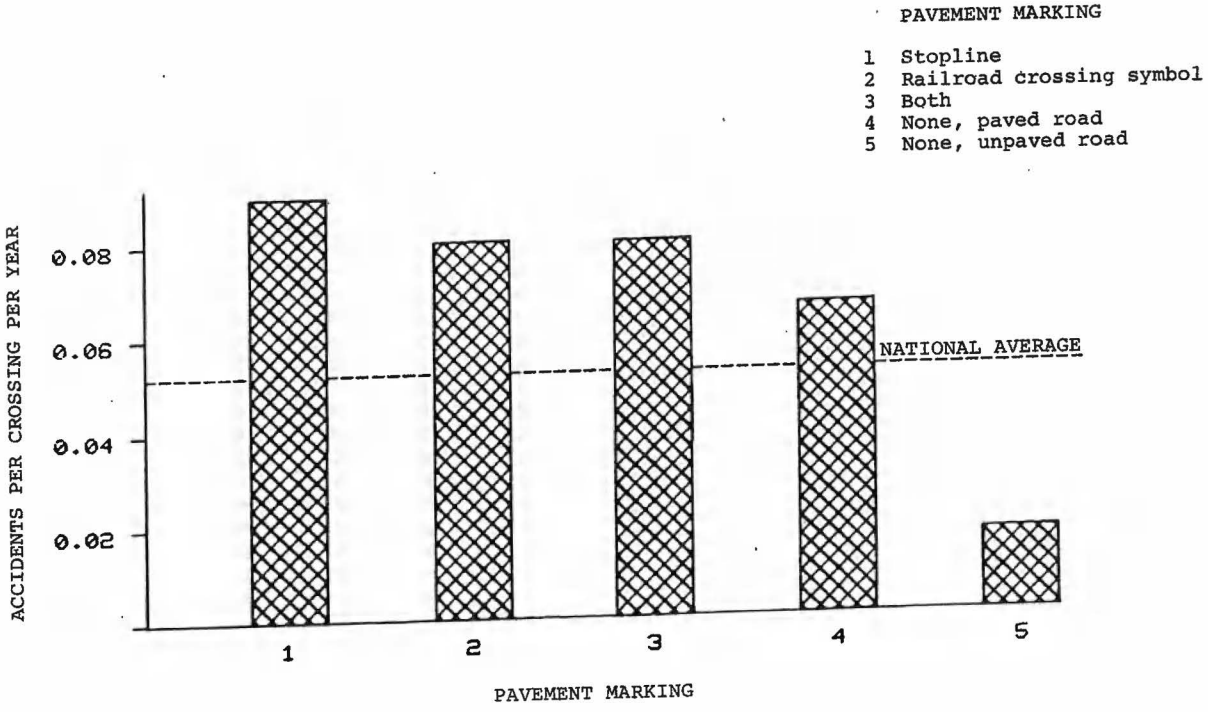


FIGURE 18. CROSSING ACCIDENT RATE BY PAVEMENT MARKINGS, 1979

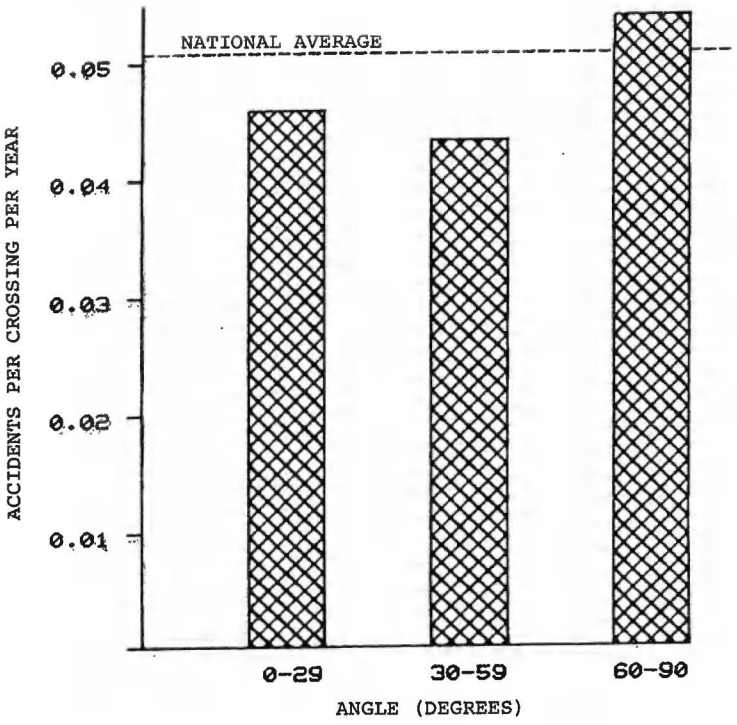


FIGURE 19. CROSSING ACCIDENT RATE BY SMALLEST CROSSING ANGLE, 1979

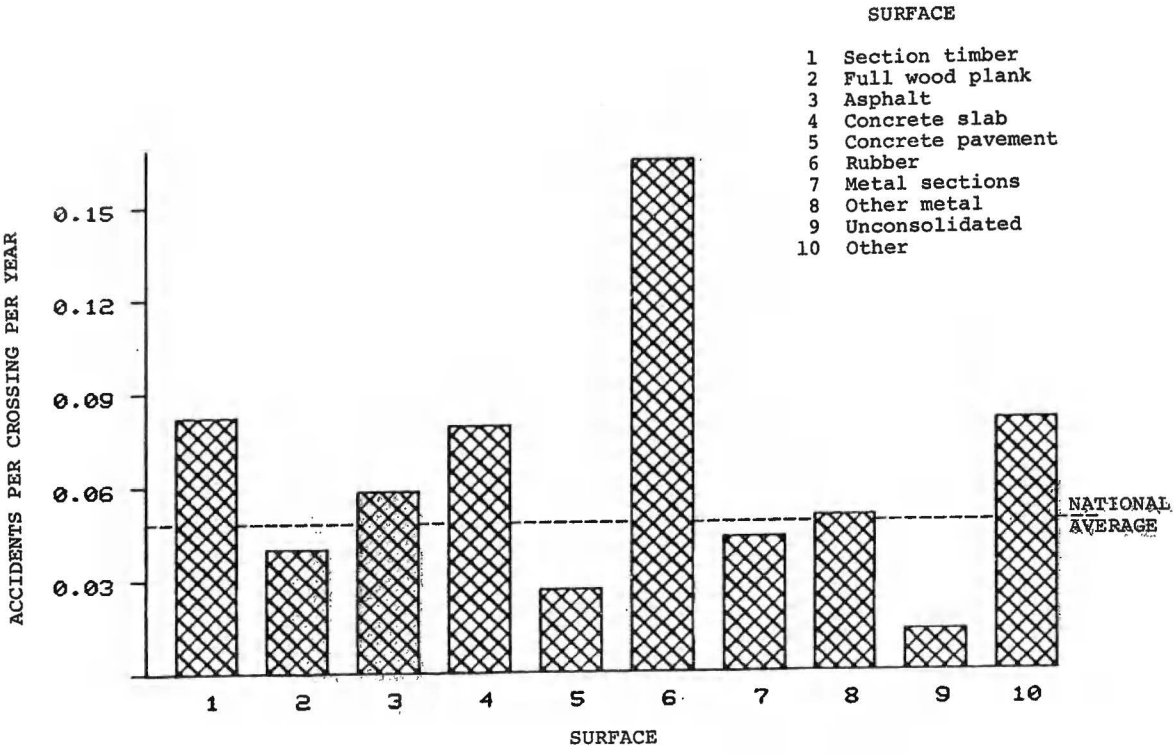


FIGURE 20. CROSSING ACCIDENT BY CROSSING SURFACE, 1979

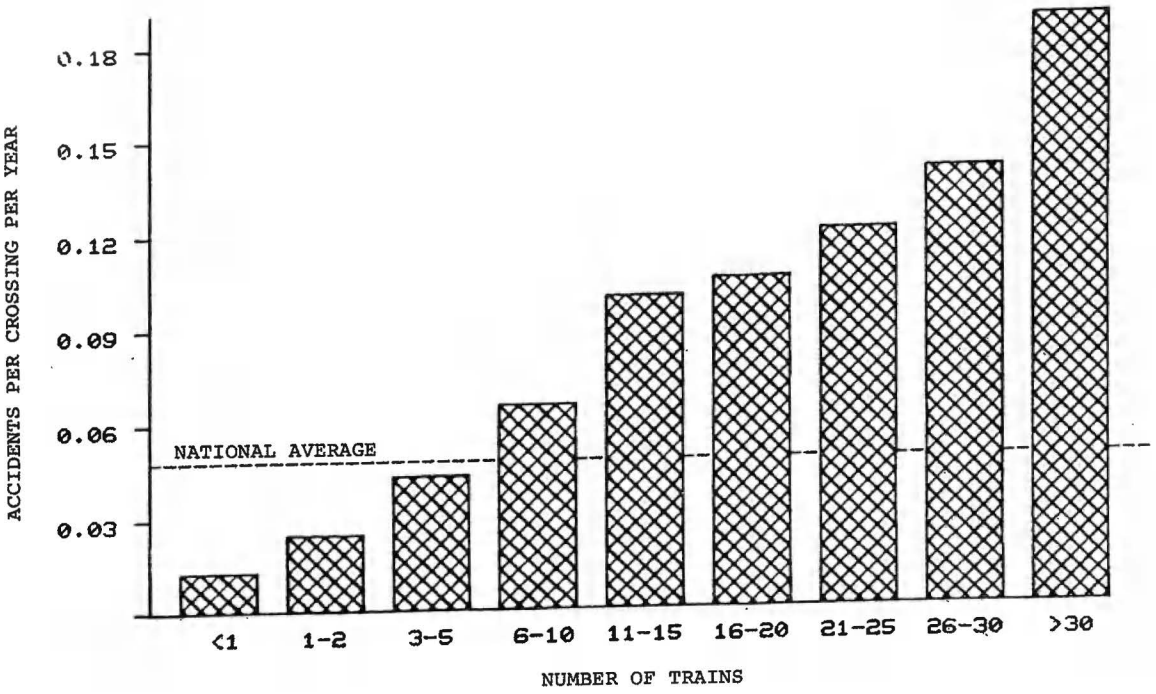


FIGURE 21. CROSSING ACCIENT RATE BY NUMBER OF TRAINS PER DAY 1979

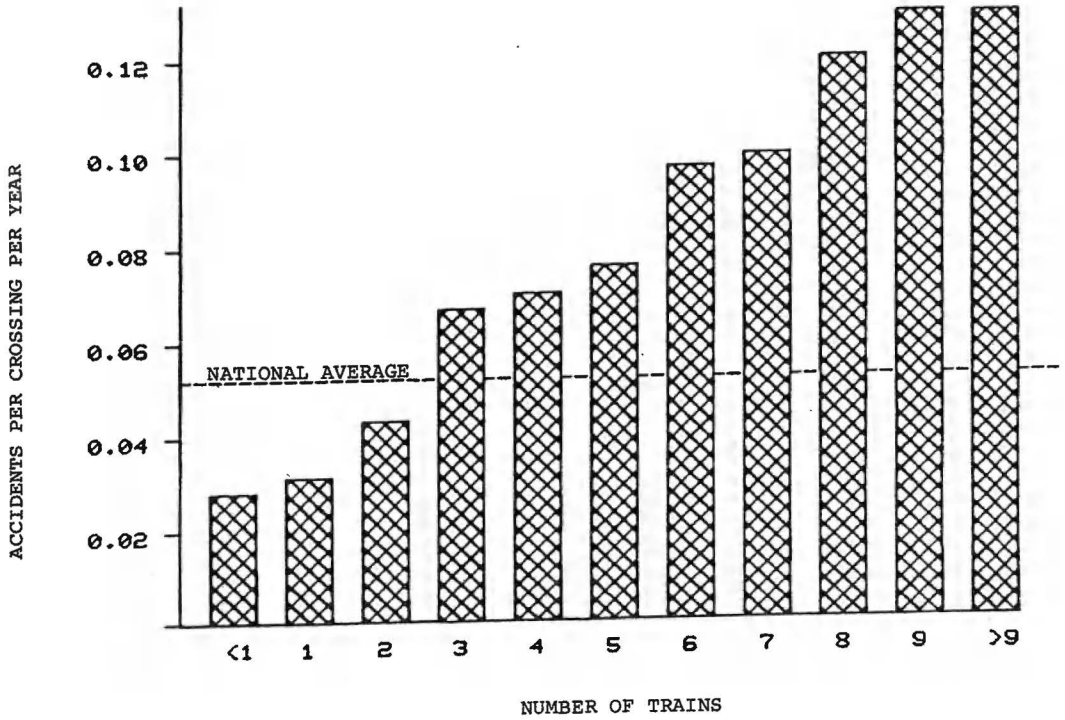


FIGURE 22. CROSSING ACCIDENT RATE BY NUMBER OF THROUGH TRAINS DURING DAYLIGHT HOURS (6am - 6pm), 1979

FIGURE 23. CROSSING ACCIDENT RATE BY MAXIMUM TIMETABLE SPEED, 1979

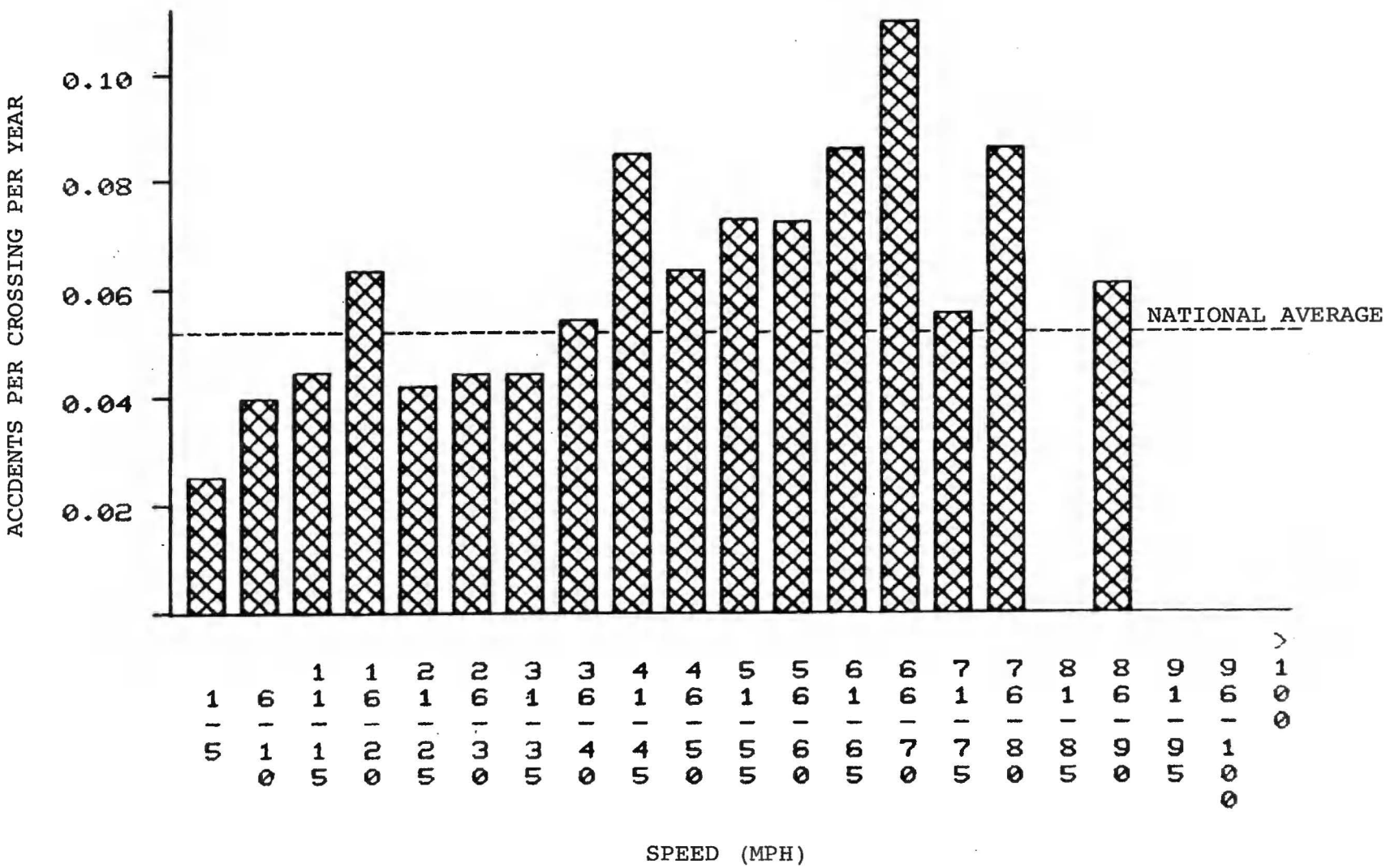
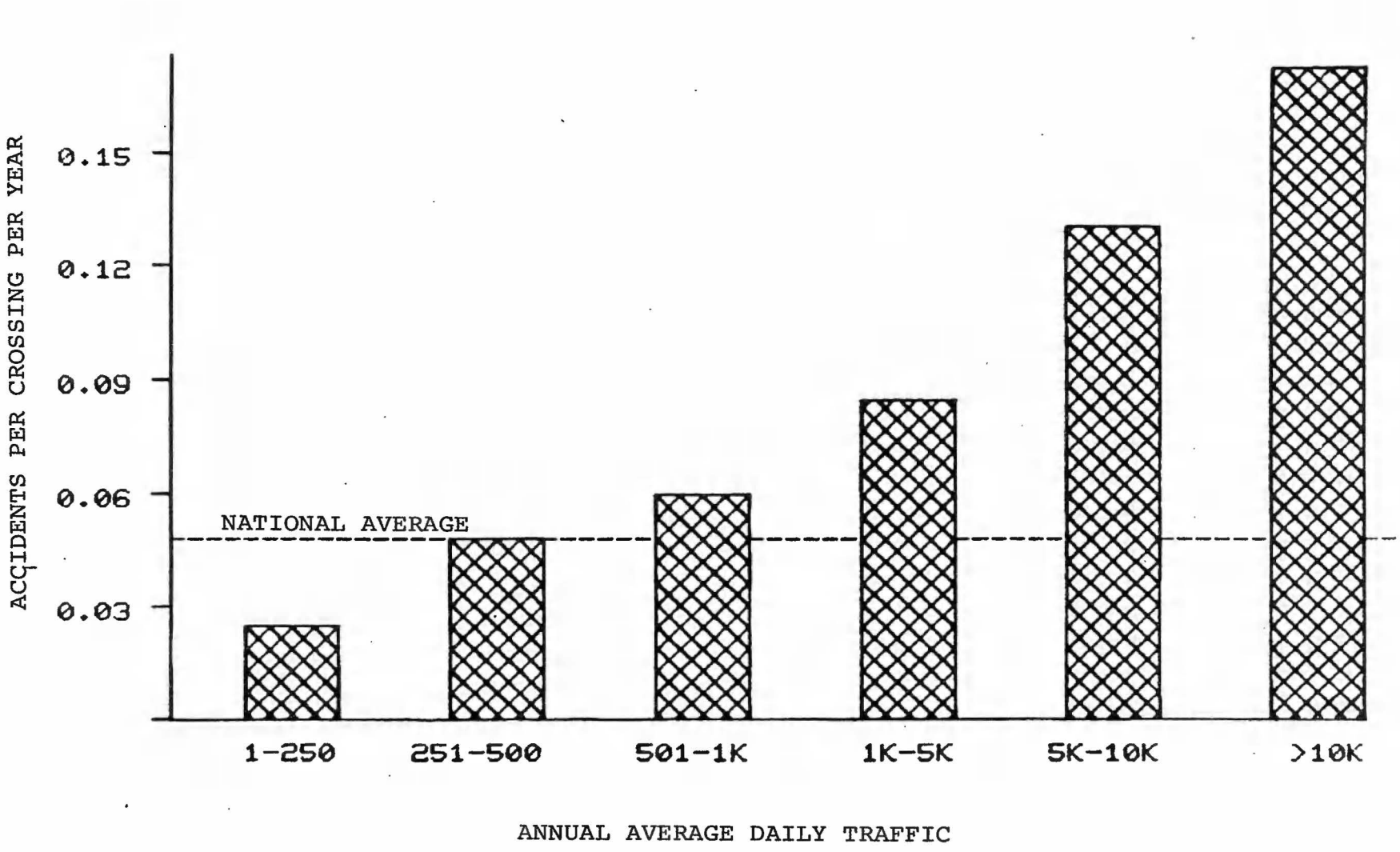


FIGURE 24. CROSSING ACCIDENT RATE BY ANNUAL AVERAGE DAILY TRAFFIC, 1979



K=Thousands

FIGURE 25. CROSSING ACCIDENT RATE BY TRUCKS AS PERCENT OF ANNUAL AVERAGE DAILY TRAFFIC, 1979

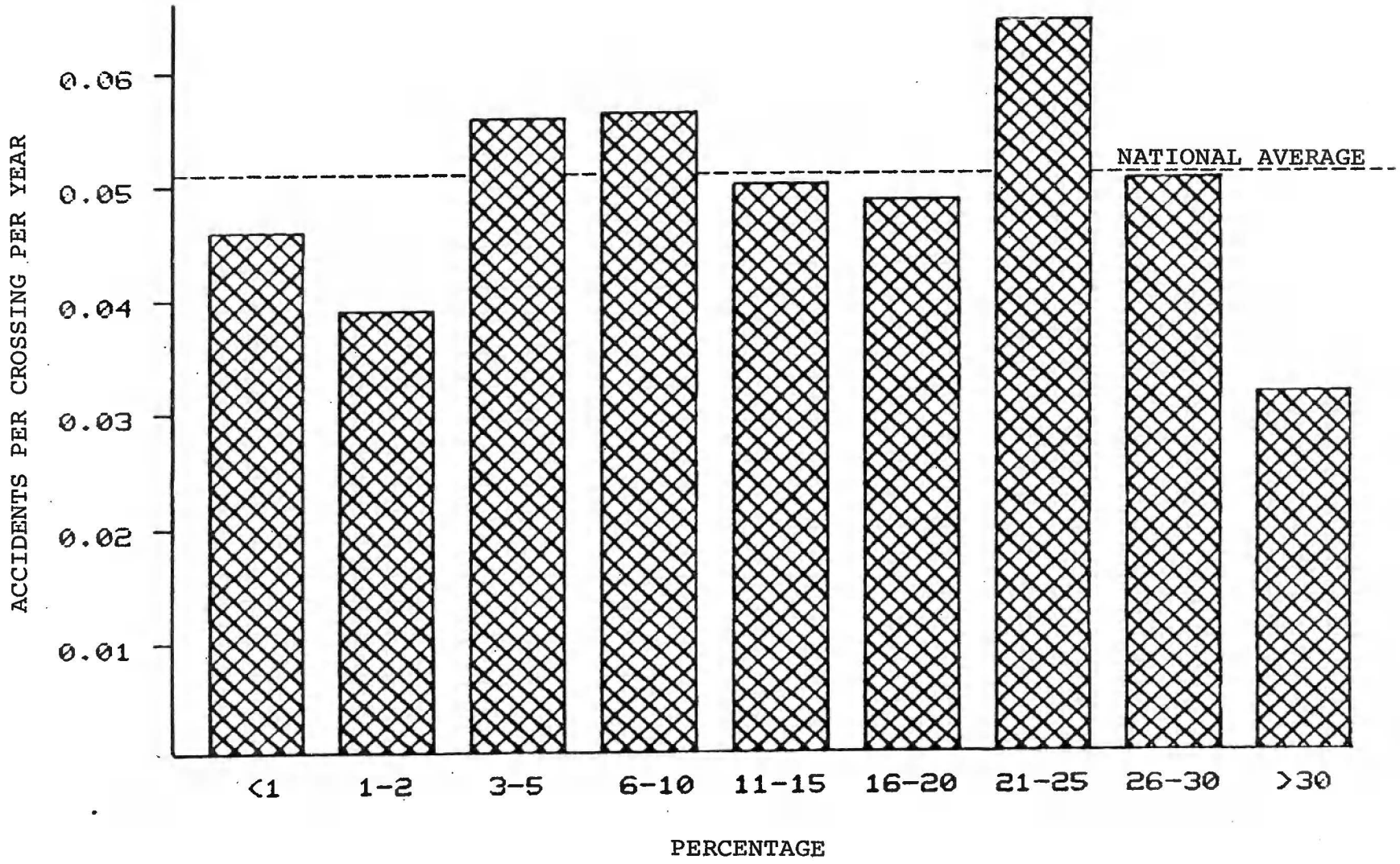
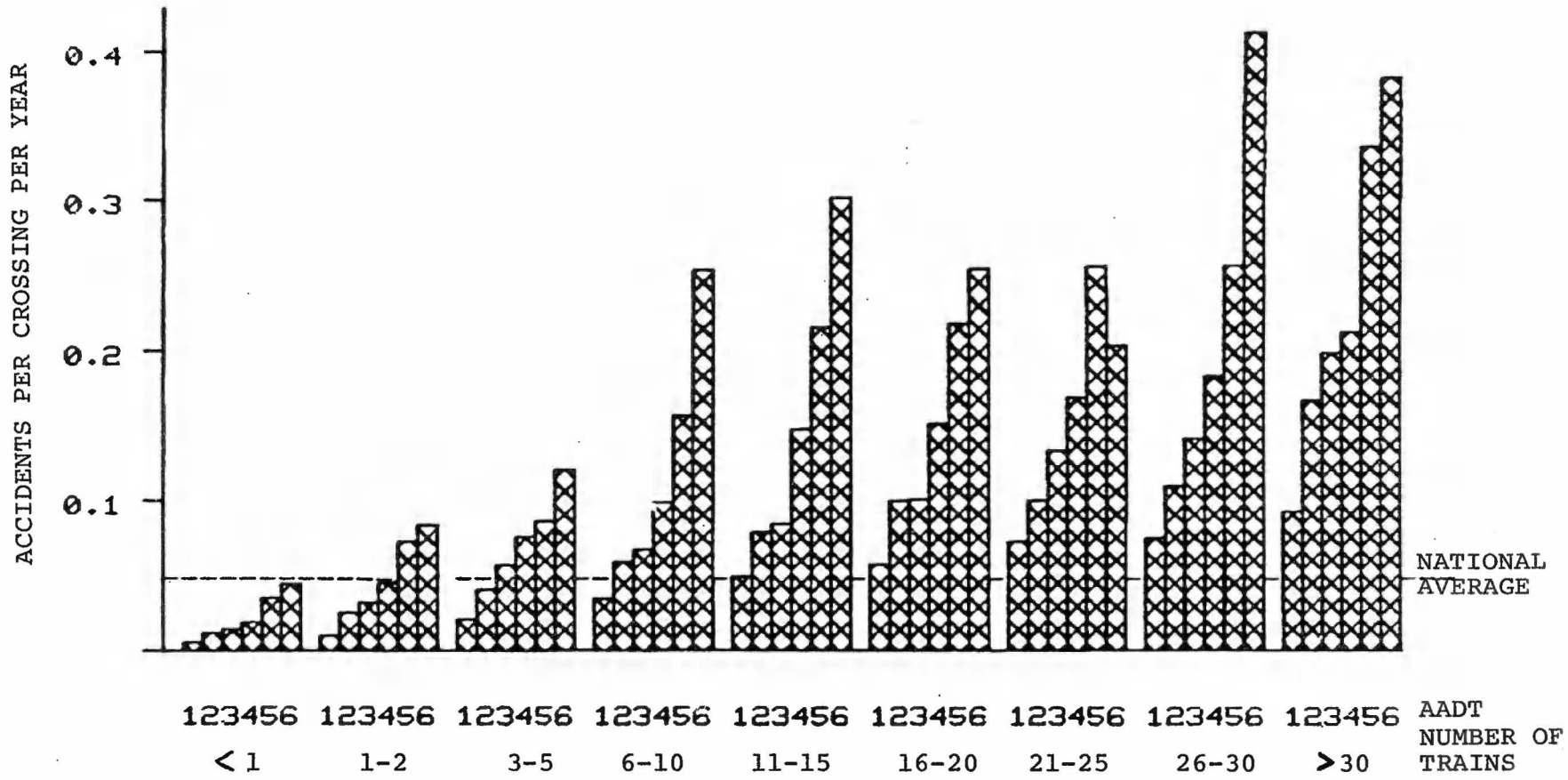


FIGURE 26. CROSSING ACCIDENT RATE BY NUMBER OF TRAINS PER DAY AND ANNUAL AVERAGE DAILY TRAFFIC

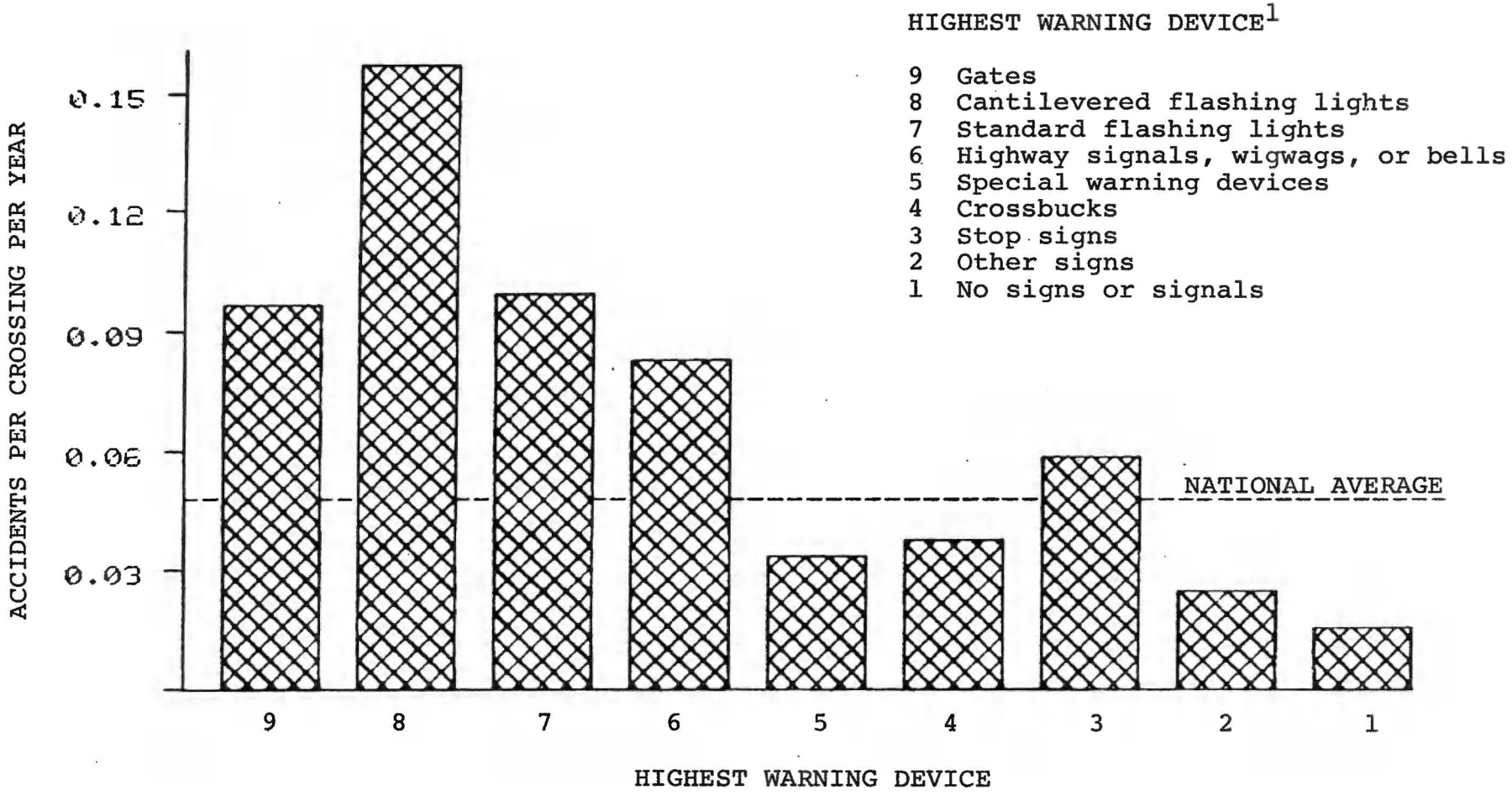


ANNUAL AVERAGE
DAILY TRAFFIC (AADT)

1	1-250
2	251-500
3	501-1K
4	1K-5K
5	5K-10K
6	> 10K

K=Thousands

FIGURE 27. CROSSING ACCIDENT RATE BY HIGHEST WARNING DEVICE, 1979



[1]See Appendix A for definition of "highest warning device".

3.0 RAIL-HIGHWAY CROSSING INVENTORY

3.1 PHYSICAL CHARACTERISTICS

3.1.1 LOCATION DATA

TABLE 34. TOTAL PUBLIC AND PRIVATE CROSSINGS BY STATE AND TYPE, 1979

STATE	PUBLIC AT GRADE	PUBLIC GRADE SEPARATION RR UNDER	PUBLIC GRADE SEPARATION RR OVER	PRIVATE	PEDESTRIAN	TOTAL
ALABAMA	4,775	501	191	2,579	33	8,079
ALASKA	225	9	1	74	0	309
ARIZONA	1,039	78	78	786	7	1,988
ARKANSAS	4,001	179	131	1,915	16	6,242
CALIFORNIA	9,031	903	548	5,673	240	16,395
COLORADO	2,384	189	106	1,617	12	4,308
CONNECTICUT	527	335	761	484	55	1,662
DELAWARE	263	42	53	170	6	534
DISTRICT OF COLUMBIA	70	30	38	16	13	167
FLORIDA	5,870	241	55	2,416	81	8,663
GEORGIA	6,932	579	256	3,121	42	10,930
HAWAII	6	0	0	0	0	6
IDAHO	2,185	96	71	1,862	8	4,222
ILLINOIS	13,581	1,012	2,014	7,973	423	25,003
INDIANA	10,107	553	653	4,186	121	15,620
IOWA	8,807	626	469	6,083	63	16,048
KANSAS	9,628	355	233	4,913	34	15,163
KENTUCKY	3,656	465	483	3,793	114	8,511
LOUISIANA	4,865	213	129	4,146	45	9,398
MAINE	1,115	124	81	1,070	15	2,405
MARYLAND	1,121	320	219	902	27	2,589
MASSACHUSETTS	1,225	814	449	601	103	3,192
MICHIGAN	8,311	350	430	3,711	104	12,906
MINNESOTA	7,765	544	451	5,129	85	13,974
MISSISSIPPI	3,594	236	116	2,767	21	6,734
MISSOURI	6,539	737	470	4,936	105	12,787
MONTANA	2,160	151	108	3,286	24	5,729
NEBRASKA	5,450	241	168	4,013	25	9,897
NEVADA	365	47	37	321	2	772
NEW HAMPSHIRE	713	170	74	561	23	1,541
NEW JERSEY	2,215	554	747	780	131	4,427
NEW MEXICO	840	67	80	617	4	1,608
NEW YORK	4,436	1,451	1,200	4,040	305	11,432
NORTH CAROLINA	5,518	525	301	4,409	77	10,830
NORTH DAKOTA	5,746	81	91	2,789	34	8,741
OHIO	9,966	1,258	1,234	6,022	113	18,593
OKLAHOMA	5,724	262	225	2,439	20	8,670
OREGON	2,900	288	177	3,360	103	6,828
PENNSYLVANIA	6,693	1,695	2,023	4,237	344	14,992
RHODE ISLAND	141	98	41	81	4	365
SOUTH CAROLINA	4,404	406	130	1,852	19	6,811
SOUTH DAKOTA	3,188	106	66	1,991	8	5,359
TENNESSEE	4,161	514	503	2,428	37	7,643
TEXAS	14,533	781	788	7,535	48	23,685
UTAH	1,371	121	54	906	6	2,458
VERMONT	591	76	86	797	51	1,601
VIRGINIA	2,785	645	480	3,867	68	7,845
WASHINGTON	4,297	417	392	4,467	116	9,689
WEST VIRGINIA	2 465	290	377	2,936	110	6,178
WISCONSIN	7,154	466	393	4,597	180	12,790
WYOMING	630	83	48	961	8	1,730
PUERTO RICO	55	0	0	2	0	57
TOTAL	216,123	20,324	17,809	140,217	3,633	398,106

TABLE 35. TOTAL PUBLIC AND PRIVATE CROSSINGS BY CLASS I RAILROAD AND TYPE, 1979

RAILROAD	PUBLIC AT GRADE	PUBLIC GRADE SEPARATION RR UNDER	PUBLIC GRADE SEPARATION RR OVER	PRIVATE	PEDESTRIAN	TOTAL
CLASS I RAILROAD						
ALABAMA GREAT SOUTHERN RAILROAD[1]	0	0	0	0	0	0
AMTRAK	126	348	348	85	49	956
ATCHISON, TOPEKA AND SANTA FE	11,698	653	638	7,164	85	20,238
BALTIMORE AND OHIO RAILROAD	5,351	825	702	3,672	133	10,683
BESSEMER AND LAKE ERIE RAILROAD	148	33	49	95	2	327
BOSTON AND MAINE CORPORATION	1,204	498	245	628	57	2,632
BURLINGTON NORTHERN	20,448	1,205	1,063	16,092	293	39,101
CENTRAL OF GEORGIA RAILROAD[1]	0	0	0	0	0	0
CHESAPEAKE AND OHIO RAILWAY	4,575	386	473	4,207	147	9,788
CHICAGO AND NORTHWESTERN	10,867	657	843	7,026	211	19,604
CHI., MILW., ST. PAUL & PACIFIC	8,856	635	588	6,373	133	16,585
CHICAGO, ROCK ISLAND & PACIFIC	6,736	492	446	3,918	28	11,620
CINN., N.O. & TEXAS PACIFIC[1]	0	0	0	0	0	0
CLINCHFIELD RAILROAD	143	53	66	233	4	499
COLORADO AND SOUTHERN RAILWAY	423	40	22	320	3	808
CONSOLIDATED RAIL CORPORATION	16,497	122	256	8,469	168	25,512
THE ESTATES[2]	8,433	4,538	4,484	4,745	544	22,744
DELAWARE AND HUDSON RAILROAD	525	99	107	680	28	1,439
DENVER AND RIO GRANDE WESTERN	1,111	126	67	626	4	1,934
DETROIT, TOLEDO AND IRONTON	530	23	43	477	6	1,079
DULUTH, MISSABE AND IRON RANGE	224	27	34	168	8	461
ELGIN, JOLIET AND EASTERN	249	32	28	102	0	411
FLORIDA EAST COAST RAILWAY	842	37	2	117	13	1,011
FORT WORTH AND DENVER RAILWAY	904	38	16	429	0	1,387
GRAND TRUNK WESTERN	1,432	96	149	661	20	2,358
ILLINOIS CENTRAL GULF RAILROAD	10,043	831	764	6,838	202	18,678
KANSAS CITY SOUTHERN RAILWAY	1,005	86	75	465	3	1,634
LONG ISLAND RAILROAD	313	294	102	82	88	879
LOUISIANA & ARKANSAS RAILWAY	720	57	33	563	4	1,377
LOUISVILLE AND NASHVILLE	7,900	773	575	4,925	199	14,372
MISSOURI-KANSAS-TEXAS RAILROAD	2,185	151	134	1,194	7	3,671
MISSOURI PACIFIC RAILROAD	12,412	662	498	7,912	112	21,596
NORFOLK AND WESTERN RAILWAY	7,717	756	1,007	5,975	115	15,570
PITTSBURG AND LAKE ERIE RAILROAD	112	46	27	105	18	308
ST. LOUIS-SAN FRANCISCO RAILWAY	5,395	295	232	2,759	42	8,723
ST. LOUIS SOUTHWESTERN RAILWAY	1,427	61	41	509	0	2,038
SEABOARD COAST LINE RAILROAD	11,856	858	290	5,632	133	18,769
SOO LINE	4,357	143	163	2,769	45	7,477
SOUTHERN PACIFIC TRANS. COMPANY	11,523	964	646	7,908	249	21,290
SOUTHERN RAILWAY	13,092	1,350	767	8,066	74	23,349
UNION PACIFIC RAILROAD	7,766	578	274	6,210	58	14,886
WESTERN MARYLAND RAILWAY	495	76	66	498	10	1,145
WESTERN PACIFIC	620	78	55	369	10	1,132
TOTAL CLASS I	200,260	19,022	16,418	129,066	3,305	368,071
TOTAL CLASS II & III	15,863	1,302	1,391	11,151	328	30,035
TOTAL	216,123	20,324	17,809	140,217	3,633	398,106

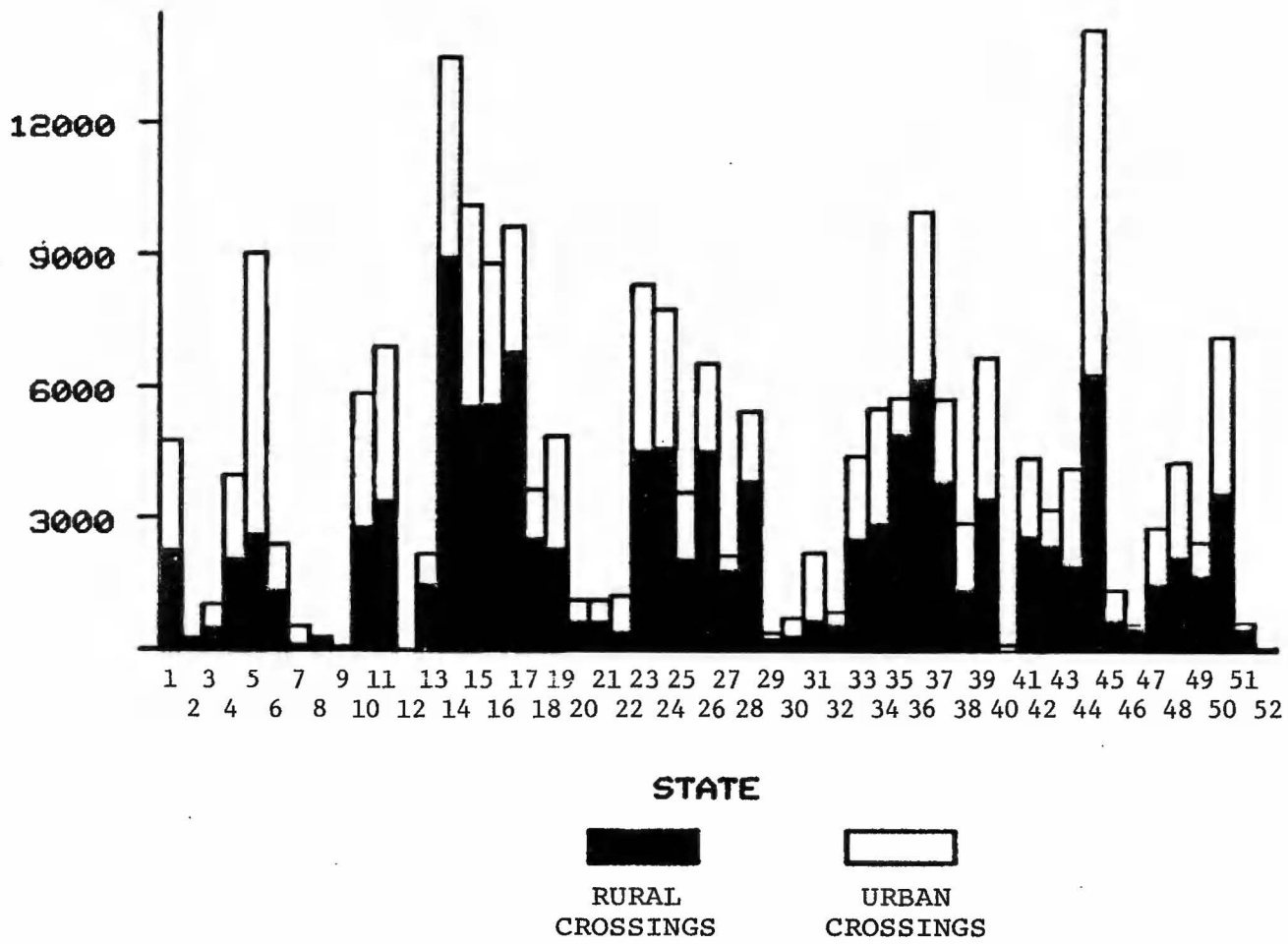
[1] CROSSINGS ON THESE LINES ARE INCLUDED UNDER SOUTHERN RAILWAY.

[2] CROSSINGS ON LINES NOT MERGED INTO CONSOLIDATED RAIL CORPORATION OR NOT YET IDENTIFIED AS BELONGING TO CONSOLIDATED RAIL CORPORATION.

TABLE 36. TOTAL CROSSINGS BY STATE AND LOCATION(URBAN/RURAL), 1979

	LOCATION		
STATE	URBAN	RURAL	TOTAL
ALABAMA	2514	2261	4775
ALASKA	88	137	225
ARIZONA	551	488	1039
ARKANSAS	1963	2038	4001
CALIFORNIA	6391	2640	9031
COLORADO	1071	1313	2384
CONNECTICUT	410	117	527
DELAWARE	87	176	263
DIST. COLUMBIA	70	0	70
FLORIDA	3080	2790	5870
GEORGIA	3551	3381	6932
HAWAII	4	2	6
IDAHO	725	1460	2185
ILLINOIS	4637	8944	13581
INDIANA	4552	5555	10107
IOWA	3201	5606	8807
KANSAS	2849	6779	9628
KENTUCKY	1149	2507	3656
LOUISIANA	2567	2298	4865
MAINE	492	623	1115
MARYLAND	496	625	1121
MASSACHUSETTS	863	362	1225
MICHIGAN	3785	4526	8311
MINNESOTA	3152	4613	7765
MISSISSIPPI	1557	2037	3594
MISSOURI	2017	4522	6539
MONTANA	358	1802	2160
NEBRASKA	1591	3859	5450
NEVADA	124	241	365
NEW HAMPSHIRE	411	302	713
NEW JERSEY	1575	640	2215
NEW MEXICO	308	532	840
NEW YORK	1907	2529	4436
NORTH CAROLINA	2650	2868	5518
NORTH DAKOTA	828	4918	5746
OHIO	3799	6167	9966
OKLAHOMA	1873	3851	5724
OREGON	1549	1351	2900
PENNSYLVANIA	3253	3440	6693
RHODE ISLAND	128	13	141
SOUTH CAROLINA	1797	2607	4404
SOUTH DAKOTA	787	2401	3188
TENNESSEE	2170	1991	4161
TEXAS	8240	6293	14533
UTAH	712	659	1371
VERMONT	123	468	591
VIRGINIA	1281	1504	2785
WASHINGTON	2168	2129	4297
WEST VIRGINIA	765	1700	2465
WISCONSIN	3568	3586	7154
WYOMING	161	469	630
PUERTO RICO	14	41	55
TOTAL	93962	122161	216123

FIGURE 28. CROSSINGS BY STATE AND LOCATION (URBAN/RURAL) 1979



1 Alabama
2 Alaska
3 Arizona
4 Arkansas
5 California
6 Colorado
7 Connecticut
8 Delaware
9 District of Columbia
10 Florida
11 Georgia
12 Hawaii
13 Idaho
14 Illinois
15 Indiana
16 Iowa
17 Kansas
18 Kentucky
19 Louisiana
20 Maine
21 Maryland
22 Massachusetts
23 Michigan
24 Minnesota
25 Mississippi
26 Missouri
27 Montana
28 Nebraska
29 Nevada
30 New Hampshire
31 New Jersey
32 New Mexico
33 New York
34 North Carolina
35 North Dakota
36 Ohio
37 Oklahoma
38 Oregon
39 Pennsylvania
40 Rhode Island
41 South Carolina
42 South Dakota
43 Tennessee
44 Texas
45 Utah
46 Vermont
47 Virginia
48 Washington
49 West Virginia
50 Wisconsin
51 Wyoming
52 Puerto Rico

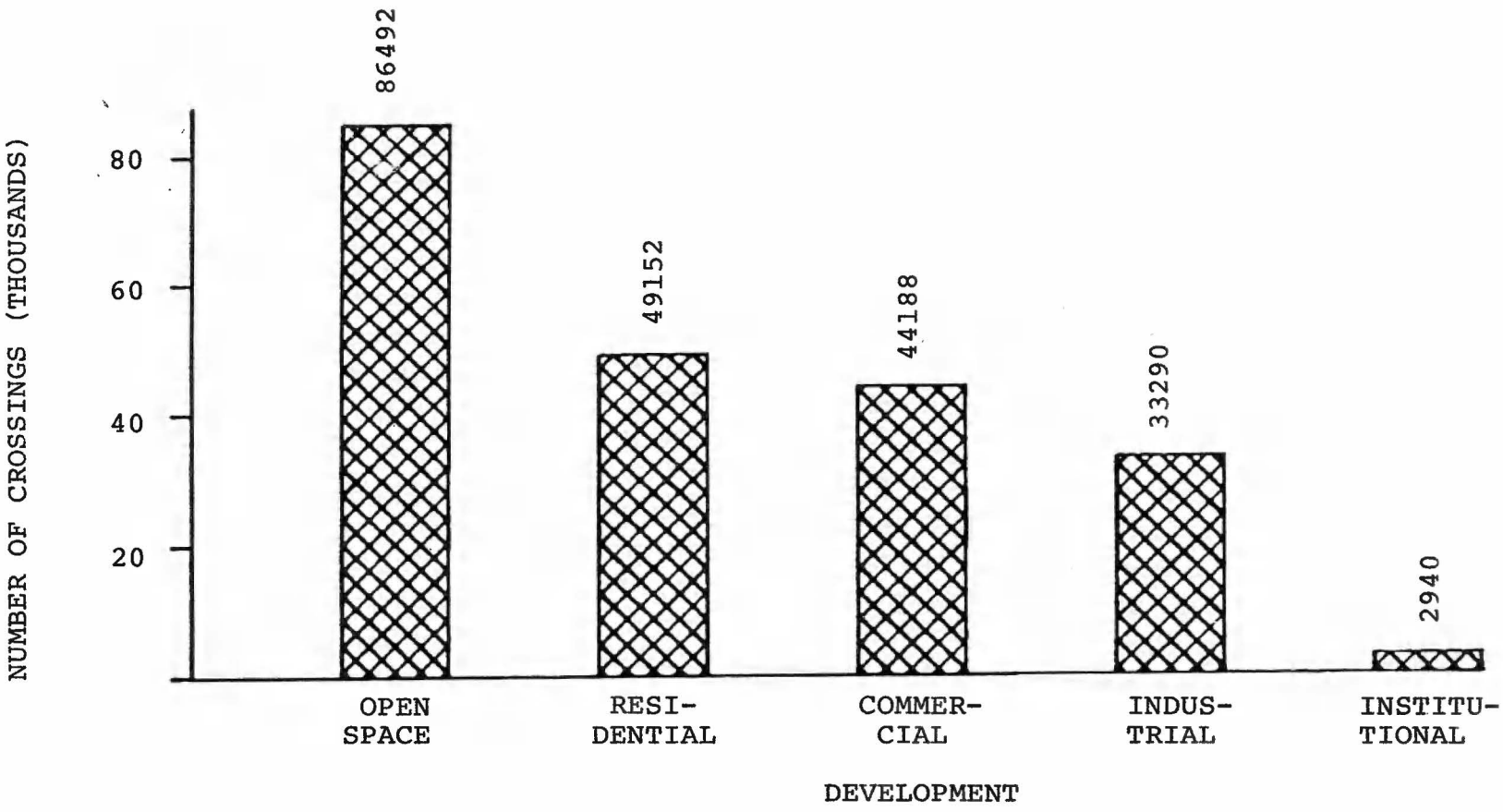


FIGURE 29. CROSSINGS BY TYPE OF DEVELOPMENT, 1979

3.1.2 TRACK DATA

TABLE 37. TOTAL CROSSINGS BY NUMBER OF MAIN AND OTHER TRACKS, 1979

NUMBER OF OTHER TRACKS	NUMBER OF MAIN TRACKS							
	0	1	2	3	4	5	OVER 5	TOTAL
0	367*	127564	10299	326	88	11	3	138658
1	23844	26603	2919	97	21	2	1	53487
2	5489	9198	1305	42	12	2	1	16049
3	1677	2760	450	23	7	0	0	4917
4	476	952	213	14	9	0	0	1664
5	173	369	113	7	1	0	0	663
OVER 5	191	368	112	2	8	4	0	685
TOTAL	32217	167814	15411	511	146	19	5	216123

*CROSSINGS FOR WHICH DATA WAS NOT REPORTED IN INVENTORY.

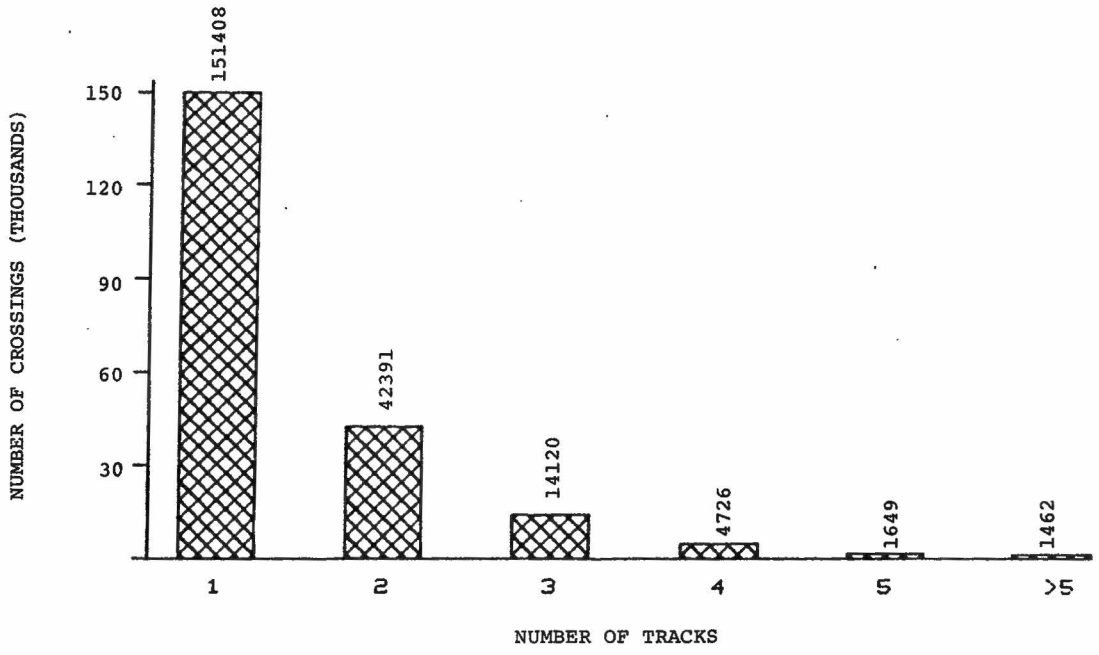


FIGURE 30. CROSSINGS BY NUMBER OF TRACKS (MAIN AND OTHER), 1979

TABLE 38. TOTAL CROSSINGS BY NUMBER OF TRACKS AND HIGHEST WARNING DEVICE, 1979

HIGHEST WARNING DEVICE[1]	NUMBER OF TRACKS 1	2	3	4	5	OVER 5	TOTAL
GATES	4928	5831	2487	1012	361	368	14987
FLASHING LIGHTS	21609	7755	3106	1126	423	359	34378
HWY. SIGNALS, WIGWAGS, BELLS	1830	767	321	118	53	25	3114
SPECIAL WARNING DEVICES	5296	1347	489	182	68	84	7466
CROSSBUCKS	103551	23442	6762	1978	643	515	136891
STOP SIGNS	2461	680	236	89	23	24	3513
OTHER SIGNS	768	173	40	18	13	8	1020
NO SIGNS OR SIGNALS	10965	2396	679	203	65	79	14387
TOTAL	151408	42391	14120	4726	1649	1462	215756

[1]SEE APPENDIX A FOR DEFINITION OF HIGHEST WARNING DEVICE.

TABLE 39. TOTAL CROSSINGS BY NUMBER OF TRACKS AND TRAFFIC LANES, 1979

NUMBER OF TRAFFIC LANES	NUMBER OF TRACKS 1	2	3	4	5	OVER 5	TOTAL
1	29906	5866	1189	312	83	86	37442
2	113560	33691	11809	3981	1406	1226	165673
3	733	292	118	41	12	14	1210
4	6347	2313	926	362	139	129	10216
5	302	86	28	14	4	1	435
OVER 5	500	123	43	13	4	6	689
TOTAL	151348	42371	14113	4723	1648	1462	215665

TABLE 40. TOTAL CROSSINGS BY NUMBER OF TRACKS AND STATE, 1979

STATE	NUMBER OF TRACKS 1	2	3	4	5	OVER 5	TOTAL
ALABAMA	3481	825	311	86	36	35	4774
ALASKA	182	34	6	1	1	1	225
ARIZONA	747	186	69	23	6	6	1037
ARKANSAS	2799	812	259	75	32	20	3997
CALIFORNIA	6253	1706	635	217	109	101	9021
COLORADO	1635	467	156	50	31	32	2371
CONNECTICUT	398	93	24	8	4	0	527
DELAWARE	213	32	10	4	4	0	263
DIST. COLUMBIA	54	12	4	0	0	0	70
FLORIDA	3939	1301	395	118	45	31	5829
GEORGIA	5107	1212	370	144	39	41	6913
HAWAII	6	0	0	0	0	0	6
IDAHO	1534	378	145	62	22	21	2162
ILLINOIS	8317	3540	1119	367	125	96	13564
INDIANA	6694	2408	626	236	83	51	10098
IOWA	6150	1607	648	227	76	76	8784
KANSAS	7041	1551	663	231	75	66	9627
KENTUCKY	2460	853	229	73	15	23	3653
LOUISIANA	3497	897	284	94	32	36	4840
MAINE	859	188	48	15	3	1	1114
MARYLAND	798	218	69	22	4	8	1119
MASSACHUSETTS	949	208	41	16	6	4	1224
MICHIGAN	5929	1618	471	165	62	61	8306
MINNESOTA	5545	1428	515	159	47	64	7758
MISSISSIPPI	2423	756	248	103	33	30	3593
MISSOURI	4414	1284	558	169	54	56	6535
MONTANA	1558	381	154	33	14	19	2159
NEBRASKA	3874	991	378	107	44	50	5444
NEVADA	240	85	23	6	3	4	361
NEW HAMPSHIRE	611	84	13	3	2	0	713
NEW JERSEY	1577	464	129	22	12	9	2213
NEW MEXICO	592	161	54	20	4	9	840
NEW YORK	3195	906	229	69	17	19	4435
NORTH CAROLINA	4010	1002	317	116	35	31	5511
NORTH DAKOTA	4618	735	251	60	21	4	5689
OHIO	5814	2766	861	340	114	64	9959
OKLAHOMA	4305	801	381	136	45	51	5719
OREGON	2117	502	200	54	13	11	2897
PENNSYLVANIA	4458	1532	430	160	46	45	6671
RHODE ISLAND	88	43	8	2	0	0	141
SOUTH CAROLINA	3322	758	227	52	26	15	4400
SOUTH DAKOTA	2586	386	140	44	18	12	3186
TENNESSEE	2847	889	273	86	30	35	4160
TEXAS	10391	2647	923	334	116	116	14527
UTAH	967	261	83	22	20	10	1363
VERMONT	478	78	25	4	1	5	591
VIRGINIA	1842	627	200	73	22	13	2777
WASHINGTON	3022	786	307	118	31	30	4294
WEST VIRGINIA	1753	508	157	30	6	10	2464
WISCONSIN	5226	1268	407	149	58	39	7147
WYOMING	440	114	47	21	7	1	630
PUERTO RICO	53	2	0	0	0	0	55
TOTAL	151408	42391	14120	4726	1649	1462	215756

3.1.3 HIGHWAY SYSTEM DATA

TABLE 41. TOTAL CROSSINGS BY HIGHWAY SYSTEM TYPE AND STATE, 1979

	HIGHWAY SYSTEM TYPE													
STATE	01	02	03	04	05	06	07	08	09	10	11	12	14	TOTAL
ALABAMA	1	3	92	353	87	20	316	21	1	3	1764	2099	15	4775
ALASKA	0	0	19	6	15	17	10	3	19	0	74	55	7	225
ARIZONA	2	6	20	24	11	2	57	30	3	3	393	373	113	1037
ARKANSAS	0	3	74	82	314	75	81	22	71	16	1498	1603	162	4001
CALIFORNIA	2	3	85	1073	99	60	307	263	18	3	2129	4164	825	9031
COLORADO	6	5	55	40	119	12	0	1	13	1	1120	821	167	2360
CONNECTICUT	0	0	7	19	17	17	4	1	10	14	79	294	62	524
DELAWARE	0	0	22	16	77	46	0	0	73	12	4	2	11	263
DIST. COLUMBIA	0	0	0	10	0	3	0	8	0	0	0	49	0	70
FLORIDA	1	2	91	88	489	221	99	17	86	80	2024	2553	80	5831
GEORGIA	2	1	129	265	188	181	328	173	11	20	2723	2831	80	6932
HAWAII	0	0	0	0	0	0	0	0	0	0	2	4	0	6
IDAHO	1	0	50	18	59	10	96	7	1	0	1253	628	62	2185
ILLINOIS	0	2	449	371	190	13	843	22	169	62	7293	2801	1366	13581
INDIANA	0	1	169	233	602	474	692	150	40	15	4052	3251	428	10107
IOWA	1	6	352	142	1	0	983	15	0	2	4268	2334	702	8806
KANSAS	0	0	303	92	117	1	1149	8	4	0	5205	2268	480	9627
KENTUCKY	0	0	80	55	326	31	11	2	395	32	1695	777	252	3656
LOUISIANA	1	1	63	109	386	111	6	1	229	121	1613	2203	21	4865
MAINE	1	0	53	55	79	21	5	1	209	60	276	332	23	1115
MARYLAND	0	0	48	26	57	1	43	5	41	6	436	213	245	1121
MASSACHUSETTS	1	1	14	107	8	4	34	79	0	0	305	363	309	1225
MICHIGAN	0	12	190	195	91	43	1144	20	0	0	3101	2631	884	8311
MINNESOTA	1	0	188	120	115	21	1041	124	1	5	3267	2800	82	7765
MISSISSIPPI	0	1	112	56	139	26	357	44	1	1	1428	1222	207	3594
MISSOURI	0	1	101	45	732	60	2	6	7	1	3680	1595	309	6539
MONTANA	4	1	67	27	0	0	181	4	0	0	1550	264	62	2160
NEBRASKA	1	0	208	56	153	1	453	10	1	0	3043	1241	283	5450
NEVADA	1	0	15	6	20	2	8	0	6	0	191	104	11	364
NEW HAMPSHIRE	0	1	49	27	45	1	0	0	42	17	165	244	121	712
NEW JERSEY	0	0	28	42	9	15	76	97	2	11	525	1196	214	2215
NEW MEXICO	0	0	13	19	65	13	3	0	29	11	422	222	43	840
NEW YORK	0	0	165	109	107	45	428	231	27	23	1802	1498	1	4436
NORTH CAROLINA	0	1	67	65	456	60	0	3	2281	508	64	1834	179	5518
NORTH DAKOTA	0	0	181	27	85	1	628	12	0	0	4024	685	103	5746
OHIO	1	16	212	217	651	214	708	437	28	8	4567	2798	109	9966
OKLAHOMA	0	0	123	73	179	0	311	1	7	0	3231	1501	298	5724
OREGON	0	0	66	101	56	11	213	15	1	0	1015	1099	323	2900
PENNSYLVANIA	2	3	233	223	441	138	1	0	792	155	1971	2308	426	6693
RHODE ISLAND	0	0	0	7	2	5	1	16	2	10	8	63	27	141
SOUTH CAROLINA	0	1	127	169	825	808	174	6	585	301	896	492	20	4404
SOUTH DAKOTA	0	0	126	22	63	3	309	3	5	3	1898	633	123	3188
TENNESSEE	0	0	64	116	77	35	227	41	0	0	1623	1975	3	4161
TEXAS	25	67	131	315	981	382	0	0	281	173	4875	7301	2	14533
UTAH	1	0	14	12	64	49	34	17	0	9	546	624	1	1371
VERMONT	0	0	55	7	27	8	35	9	8	3	343	96	0	591
VIRGINIA	0	0	56	55	404	22	1	36	1040	34	3	780	352	2783
WASHINGTON	2	0	56	35	118	29	374	122	6	1	1573	1751	230	4297
WEST VIRGINIA	0	0	119	34	554	32	30	1	651	48	346	647	3	2465
WISCONSIN	0	1	249	223	95	0	451	0	3	1	2788	2392	951	7154
WYOMING	1	2	24	8	54	5	1	0	1	0	388	133	13	630
PUERTO RICO	0	0	13	1	3	0	0	0	18	3	7	10	0	55
TOTAL	58	141	5227	5596	9852	3349	12255	2084	7218	1776	87546	70157	10790	216049

HIGHWAY SYSTEM CODES

CODE	SYSTEM	CODE	SYSTEM
01	INTERSTATE, RURAL, OPEN TO TRAFFIC	02	INTERSTATE, URBAN, OPEN TO TRAFFIC
03	OTHER FA[1] PRIMARY, RURAL	04	OTHER FA PRIMARY, URBAN
05	FA SECONDARY RURAL, STATE JURISDICTION	06	FA SECONDARY URBAN, STATE JURISDICTION
07	FA SECONDARY RURAL, LOCAL JURISDICTION	08	FA SECONDARY URBAN, LOCAL JURISDICTION
09	OTHER STATE HIGHWAYS, RURAL (NON-FA)	10	OTHER STATE HIGHWAYS, URBAN (NON-FA)
11	LOCAL RURAL ROADS (NON-FA)	12	LOCAL URBAN ROADS (NON-FA)
		14	FEDERAL-AID URBAN

[1]FEDERAL-AID

TABLE 42. TOTAL CROSSINGS BY HIGHWAY SYSTEM GROUP (ON-STATE/OFF-STATE) AND STATE, 1979

STATE	HIGHWAY SYSTEM GROUP ON-STATE	OFF-STATE	TOTAL
ALABAMA	324	4451	4775
ALASKA	100	125	225
ARIZONA	69	970	1039
ARKANSAS	628	3373	4001
CALIFORNIA	395	8636	9031
COLORADO	268	2088	2356
CONNECTICUT	94	432	526
DELAWARE	257	6	263
DIST. COLUMBIA	60	10	70
FLORIDA	1108	4716	5824
GEORGIA	801	6131	6932
HAWAII	0	6	6
IDAHO	154	2031	2185
ILLINOIS	1638	11943	13581
INDIANA	969	9138	10107
IOWA	533	8274	8807
KANSAS	535	9093	9628
KENTUCKY	1027	2629	3656
LOUISIANA	1040	3825	4865
MAINE	226	889	1115
MARYLAND	189	932	1121
MASSACHUSETTS	45	1180	1225
MICHIGAN	505	7806	8311
MINNESOTA	450	7315	7765
MISSISSIPPI	344	3250	3594
MISSOURI	943	5596	6539
MONTANA	338	1822	2160
NEBRASKA	422	5028	5450
NEVADA	67	298	365
NEW HAMPSHIRE	206	507	713
NEW JERSEY	207	2008	2215
NEW MEXICO	182	658	840
NEW YORK	462	3974	4436
NORTH CAROLINA	3593	1925	5518
NORTH DAKOTA	290	5456	5746
OHIO	1332	8634	9966
OKLAHOMA	437	5287	5724
OREGON	200	2700	2900
PENNSYLVANIA	2332	4361	6693
RHODE ISLAND	31	110	141
SOUTH CAROLINA	3015	1389	4404
SOUTH DAKOTA	223	2965	3188
TENNESSEE	274	3887	4161
TEXAS	2349	12184	14533
UTAH	146	1225	1371
VERMONT	160	431	591
VIRGINIA	1707	1076	2783
WASHINGTON	253	4044	4297
WEST VIRGINIA	1482	983	2465
WISCONSIN	627	6527	7154
WYOMING	100	530	630
PUERTO RICO	38	17	55
TOTAL	33175	182871	216046

TABLE 43. TOTAL CROSSINGS BY FUNCTIONAL CLASSIFICATION OF ROAD AT GRADE CROSSING, 1979

CL	XINGS	CL	XINGS	CL	XINGS	CL	XINGS	CL	XINGS
01	25	11	20	21	1	31	7	41	31
02	1611	12	97	22	106	32	68	42	318
03	5159	13	1442	23	1334	33	725	43	4429
04	13766	14	2428	24	2060	34	1107	44	7766
05	14621	15	2360	25	1943	35	1022	45	6098
06	101878	16	7714	26	7539	36	4327	46	26009

XINGS = CROSSINGS
CL = FUNCTIONAL CLASSIFICATION CODES

RURAL CODES		URBAN CODES POPULATION (THOUSANDS)			
		05-10	10-25	25-50	OVER 50
INTERSTATE	01	INTERSTATE	11	21	31	41
OTHER PRINCIPAL ARTERIAL	02	OTHER FREEWAY AND EXPRESSWAY	12	22	32	42
MINOR ARTERIAL	03	OTHER PRINCIPAL ARTERIAL	13	23	33	43
MAJOR COLLECTOR	04	MINOR ARTERIAL	14	24	34	44
MINOR COLLECTOR	05	COLLECTOR	15	25	35	45
LOCAL	06	LOCAL	16	26	36	46

TABLE 44. TOTAL CROSSINGS BY NUMBER OF TRAFFIC LANES AND STATE, 1979

STATE	NUMBER OF LANES (BOTH DIRECTIONS) 1	2	3	4	5	OVER 5	TOTAL
ALABAMA	979	3532	25	220	8	11	4775
ALASKA	29	187	1	7	1	0	225
ARIZONA	154	754	5	97	10	19	1039
ARKANSAS	1064	2870	13	53	0	1	4001
CALIFORNIA	510	6344	183	1601	164	229	9031
COLORADO	177	2025	19	139	5	6	2371
CONNECTICUT	34	463	5	24	0	0	526
DELAWARE	4	237	3	18	0	1	263
DIST. COLUMBIA	5	56	0	6	0	3	70
FLORIDA	333	4838	69	478	32	50	5800
GEORGIA	1406	5277	28	213	1	7	6932
HAWAII	0	6	0	0	0	0	6
IDAHO	631	1466	9	74	2	3	2185
ILLINOIS	2924	9863	50	713	11	20	13581
INDIANA	2061	7559	49	420	6	12	10107
IOWA	2157	6410	23	209	2	6	8807
KANSAS	2377	6941	7	300	0	3	9628
KENTUCKY	1142	2441	7	65	1	0	3656
LOUISIANA	688	3933	14	205	7	18	4865
MAINE	69	1028	4	14	0	0	1115
MARYLAND	165	866	10	74	1	5	1121
MASSACHUSETTS	48	1108	7	61	1	0	1225
MICHIGAN	658	6891	61	627	29	45	8311
MINNESOTA	1331	6136	17	279	2	0	7765
MISSISSIPPI	490	2982	8	107	2	5	3594
MISSOURI	1811	4572	8	141	2	5	6539
MONTANA	300	1828	4	27	1	0	2160
NEBRASKA	1348	3995	5	97	2	3	5450
NEVADA	140	193	1	25	0	1	360
NEW HAMPSHIRE	45	635	5	25	2	1	713
NEW JERSEY	135	1917	11	145	2	5	2215
NEW MEXICO	282	520	2	30	3	3	840
NEW YORK	431	3833	24	138	4	6	4436
NORTH CAROLINA	345	4914	37	201	11	10	5518
NORTH DAKOTA	1301	4405	1	38	0	0	5745
OHIO	1468	8068	73	330	14	13	9966
OKLAHOMA	1007	4425	7	277	6	2	5724
OREGON	347	2400	47	100	3	3	2900
PENNSYLVANIA	1042	5296	125	200	2	28	6693
RHODE ISLAND	6	114	0	21	0	0	141
SOUTH CAROLINA	761	3452	15	159	8	9	4404
SOUTH DAKOTA	903	2213	5	63	1	3	3188
TENNESSEE	770	3148	22	201	14	6	4161
TEXAS	2633	10535	72	1162	36	94	14532
UTAH	259	1016	0	85	1	10	1371
VERMONT	132	447	4	8	0	0	591
VIRGINIA	63	2574	23	108	6	9	2783
WASHINGTON	438	3394	73	350	27	15	4297
WEST VIRGINIA	1270	1174	10	10	0	1	2465
WISCONSIN	657	6199	17	260	3	18	7154
WYOMING	162	438	2	26	2	0	630
PUERTO RICO	2	53	0	0	0	0	55
TOTAL	37494	165971	1210	10231	435	689	216030

TABLE 45. TOTAL CROSSINGS BY NUMBER OF TRAFFIC LANES AND HIGHEST WARNING DEVICE, 1979

HIGHEST WARNING DEVICE[1]	NUMBER OF LANES (BOTH DIRECTIONS) 1	2	3	4	5	OVER 5	TOTAL
GATES	242	11806	239	2336	153	218	14994
FLASHING LIGHTS	801	28809	373	3983	174	260	34400
HWY. SIGNALS, WIGWAGS, BELLS	321	2428	37	255	28	47	3116
SPECIAL WARNING DEVICES	495	6070	129	703	19	37	7453
CROSSBUCKS	31140	103256	311	2266	47	96	137116
STOP SIGNS	561	2875	11	64	0	4	3515
OTHER SIGNS	231	772	7	20	0	2	1032
NO SIGNS OR SIGNALS	3703	9955	103	604	14	25	14404
TOTAL	37494	165971	1210	10231	435	689	216030

[1]SEE APPENDIX A FOR DEFINITION OF HIGHEST WARNING DEVICE.

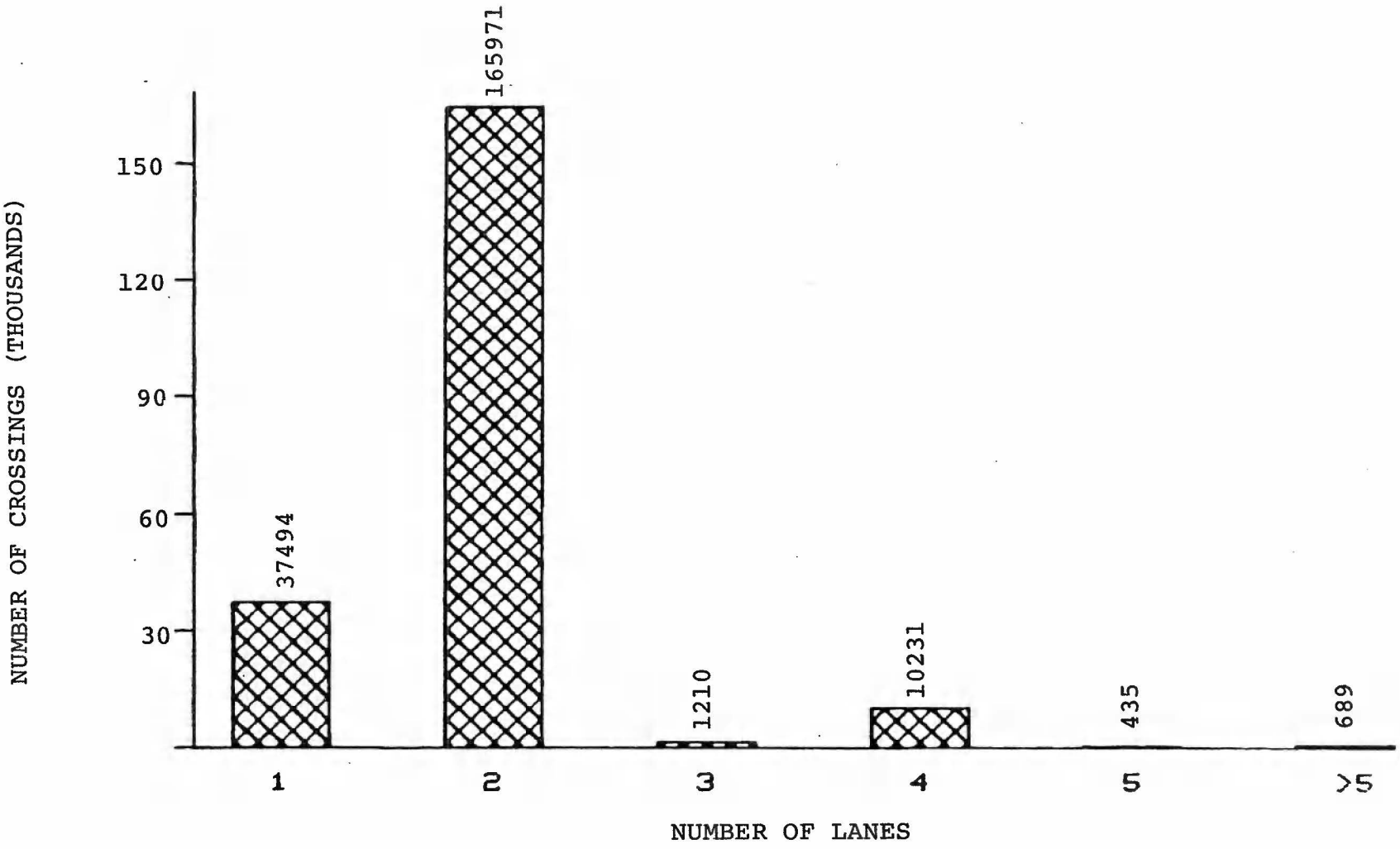


FIGURE 31. CROSSINGS BY NUMBER OF TRAFFIC LANES, 1979

3.1.4 WARNING DEVICE DATA

TABLE 46. TOTAL CROSSINGS BY HIGHEST WARNING DEVICE AND STATE, 1979

STATE	HIGHEST WARNING DEVICE[2]									
	GATES	CANTI-LEVERED FLASHING LIGHTS	STANDARD FLASHING LIGHTS	HWY.SIG. WIGWAGS BELLS	SPECIAL[1]	CROSS-BUCKS	STOP SIGNS	OTHER SIGNS	NO SIGNS OR SIGNALS	TOTAL
ALABAMA	132	63	531	20	56	3442	72	10	449	4775
ALASKA	1	3	41	0	18	146	2	1	13	225
ARIZONA	202	19	84	14	95	569	8	0	48	1039
ARKANSAS	134	52	383	30	111	2821	21	1	448	4001
CALIFORNIA	2541	250	1024	492	215	3996	89	21	403	9031
COLORADO	100	50	319	44	70	1641	22	2	136	2384
CONNECTICUT	48	8	162	8	93	75	10	2	121	527
DELAWARE	30	8	77	0	48	81	2	0	17	263
DIST. COLUMBIA	0	0	3	0	12	25	6	0	24	70
FLORIDA	1041	350	679	8	170	3155	38	102	327	5870
GEORGIA	401	71	536	24	162	5250	12	11	465	6932
HAWAII	0	0	0	0	0	6	0	0	0	6
IDAHO	45	75	135	15	21	1801	8	2	83	2185
ILLINOIS	1667	313	2632	216	303	7856	6	2	586	13581
INDIANA	678	284	2077	172	281	5830	90	14	681	10107
IOWA	343	148	968	176	84	6763	6	1	318	8807
KANSAS	298	149	658	106	259	7906	2	2	248	9628
KENTUCKY	202	58	620	39	133	2175	5	0	424	3656
LOUISIANA	161	173	541	18	75	2745	315	29	808	4865
MAINE	62	15	347	15	164	492	0	4	16	1115
MARYLAND	71	18	173	35	91	485	15	42	191	1121
MASSACHUSETTS	165	21	422	42	251	276	2	2	44	1225
MICHIGAN	567	394	1489	80	262	5237	19	39	224	8311
MINNESOTA	224	94	841	21	45	6223	48	2	267	7765
MISSISSIPPI	31	65	303	19	60	384	2357	25	350	3594
MISSOURI	218	165	922	147	150	4450	8	4	475	6539
MONTANA	77	29	186	10	23	1625	3	4	203	2160
NEBRASKA	261	67	464	62	16	4322	5	16	237	5450
NEVADA	56	9	45	3	5	205	0	7	35	365
NEW HAMPSHIRE	26	14	147	16	169	302	9	4	26	713
NEW JERSEY	358	23	614	32	415	644	6	3	120	2215
NEW MEXICO	122	18	90	10	11	565	0	5	19	840
NEW YORK	701	56	1212	104	520	1553	1	56	233	4436
NORTH CAROLINA	275	214	618	42	251	3571	18	23	506	5518
NORTH DAKOTA	137	31	203	2	0	4977	2	0	394	5746
OHIO	682	325	1981	97	115	6235	15	17	499	9966
OKLAHOMA	139	155	567	57	167	4445	4	9	181	5724
OREGON	302	27	143	77	115	1769	100	12	355	2900
PENNSYLVANIA	530	158	1204	109	794	2775	77	436	610	6693
RHODE ISLAND	9	0	25	19	33	28	5	2	20	141
SOUTH CAROLINA	144	100	263	5	372	3229	1	18	272	4404
SOUTH DAKOTA	1	45	151	5	0	2876	0	1	109	3188
TENNESSEE	129	75	482	19	301	2329	35	2	789	4161
TEXAS	730	1018	1735	143	106	9707	33	17	1044	14533
UTAH	50	51	170	13	122	812	5	50	98	1371
VERMONT	14	25	134	7	56	327	1	7	20	591
VIRGINIA	423	51	426	34	249	1330	1	6	265	2785
WASHINGTON	105	224	338	58	63	2954	20	10	525	4297
WEST VIRGINIA	76	58	265	20	50	1640	8	6	342	2465
WISCONSIN	269	153	1097	422	242	4680	1	3	287	7154
WYOMING	23	16	104	7	1	411	2	2	64	630
PUERTO RICO	4	0	1	2	48	0	0	0	0	55
TOTAL	15005	5788	28632	3116	7473	137141	3515	1034	14419	216123

[1] SPECIAL WARNING DEVICE NOT TRAIN ACTIVATED, E.G. CROSSING FLAGGED BY CREW.
[2] SEE APPENDIX A FOR DEFINITION OF HIGHEST WARNING DEVICE.

TABLE 47. TOTAL CROSSINGS BY HIGHEST WARNING DEVICE AND RAILROAD (CLASS I), 1979

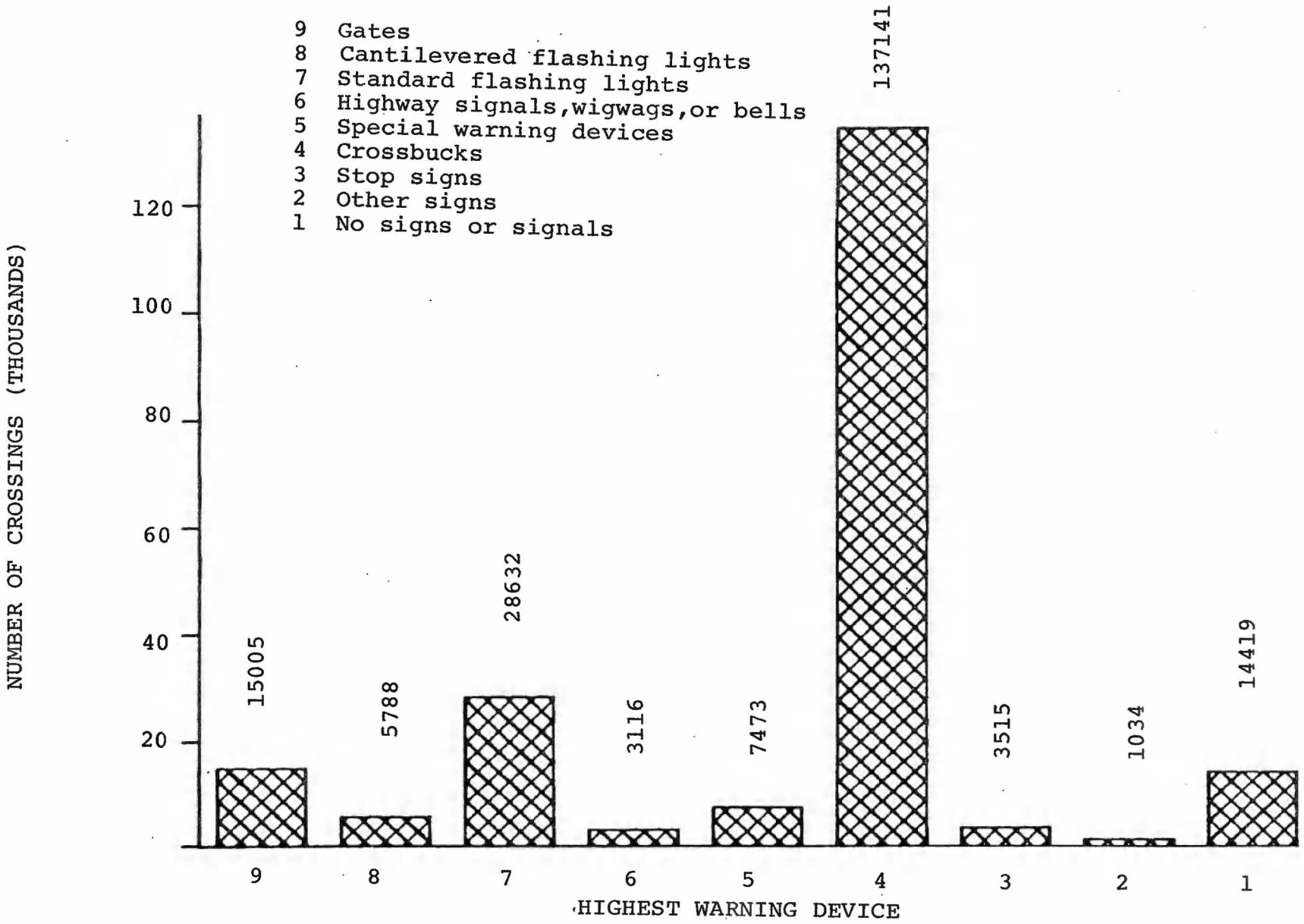
RAILROAD	GATES	CANTI-LEVERED FLASHING LIGHTS	STANDARD FLASHING LIGHTS	HWY. SIG. WIGWAGS BELLS	HIGHEST WARNING DEVICE[4] SPECIAL[1]	CROSS-BUCKS	STOP SIGNS	OTHER SIGNS	NO SIGNS OR SIGNALS	TOTAL
CLASS I RAILROAD										
ALABAMA GREAT SOUTHERN RAILROAD[2]	0	0	0	0	0	0	0	0	0	0
AMTRAK	67	1	23	0	5	23	1	2	4	126
ATCHISON, TOPEKA & SANTA FE	1282	427	1123	270	608	7884	8	11	85	11698
BALTIMORE & OHIO RAILWAY	246	221	948	44	117	3477	13	7	278	5351
BESSEMER & LAKE ERIE RAILROAD	22	1	24	0	4	93	0	0	4	148
BOSTON & MAINE CORPORATION	175	12	264	29	250	421	4	3	46	1204
BURLINGTON NORTHERN	875	333	1670	170	98	15737	133	22	1410	20448
CENTRAL OF GEORGIA RAILROAD[2]	0	0	0	0	0	0	0	0	0	0
CHESAPEAKE & OHIO RAILWAY	308	151	744	16	79	3009	6	2	260	4575
CHICAGO & NORTH WESTERN	454	197	1317	483	123	7846	7	6	434	10867
CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC	252	196	1016	159	238	6455	7	8	525	8856
CHICAGO, ROCK ISLAND & PACIFIC	428	136	700	55	12	5055	10	3	337	6736
CINN., NEW ORLEANS & TEXAS PACIFIC[2]	0	0	0	0	0	0	0	0	0	0
CLINCHFIELD RAILROAD	7	1	19	3	10	94	0	0	9	143
COLORADO & SOUTHERN RAILWAY	12	19	55	11	1	287	3	0	35	423
CONSOLIDATED RAIL CORPORATION	1702	412	4109	299	1065	7381	88	335	1106	16497
THE ESTATES[3]	329	171	1489	126	830	4296	77	175	940	8433
DELAWARE & HUDSON RAILWAY	154	5	144	8	21	152	0	21	20	525
DENVER & RIO GRANDE WESTERN	43	23	192	2	6	754	4	2	85	1111
DETROIT, TOLEDO & IRONTON	16	16	93	0	9	381	1	0	14	530
DULUTH, MISSABE & IRON RANGE	6	0	43	0	4	169	1	1	0	224
ELGIN, JOLIET & EASTERN	76	6	67	2	11	86	0	0	1	249
FLORIDA EAST COAST RAILWAY	414	27	121	0	5	263	0	0	12	842
FORT WORTH & DENVER RAILWAY	15	55	51	0	3	673	0	2	105	904
GRAND TRUNK WESTERN	265	65	312	11	100	671	2	0	6	1432
ILLINOIS CENTRAL GULF RAILROAD	417	199	1223	187	172	4910	2226	17	692	10043
KANSAS CITY SOUTHERN RAILWAY	15	35	128	11	0	694	2	2	118	1005
LONG ISLAND RAIL ROAD	272	0	29	0	0	11	0	0	1	313
LOUISIANA & ARKANSAS RAILWAY COMPANY	11	38	103	0	0	502	1	0	65	720
LOUISVILLE & NASHVILLE	375	151	1333	49	207	4823	66	10	886	7900
MISSOURI-KANSAS-TEXAS RAILROAD	60	112	255	54	2	1514	2	1	185	2185
MISSOURI PACIFIC RAILROAD	423	443	1547	61	133	8684	20	6	1095	12412
NORFOLK & WESTERN RAILWAY	582	198	1496	145	194	4718	19	6	359	7717
PITTSBURGH & LAKE ERIE RAILROAD	18	0	10	2	3	64	0	0	15	112
ST. LOUIS-SAN FRANCISCO RAILWAY	138	202	595	45	214	3873	90	3	235	5395
ST. LOUIS SOUTHWESTERN RAILWAY	57	50	190	0	2	1061	9	0	58	1427
SEABOARD COAST LINE RAILROAD	1057	489	1093	22	517	8081	35	11	551	11856
SOO LINE	94	58	498	27	1	3566	2	1	110	4357
SOUTHERN PACIFIC TRANSPORTATION COMPANY	2381	360	1103	457	31	6183	82	24	902	11523
SOUTHERN RAILWAY	578	265	1306	31	608	8519	35	37	1713	13092
UNION PACIFIC RAILROAD	404	221	641	89	174	5655	23	55	504	7766
WESTERN MARYLAND RAILWAY	25	14	120	11	28	252	2	17	26	495
WESTERN PACIFIC	175	23	69	15	0	283	10	1	44	620

TABLE 47. (CONT.)

		HIGHEST WARNING DEVICE[4]								
	GATES	CANTI-LEVERED FLASHING LIGHTS	STANDARD FLASHING LIGHTS	HWY. SIG. WIGWAGS BELLS	SPECIAL[1]	CROSS-BUCKS	STOP SIGNS	OTHER SIGNS	NO SIGNS OR SIGNALS	TOTAL
RECAPITULATION										
TOTAL CLASS I	14230	5333	26263	2894	5885	128600	2989	791	13275	200260
CLASS II & III RAILROADS	775	455	2369	222	1588	8541	526	243	1144	15863
TOTAL	15005	5788	28632	3116	7473	137141	3515	1034	14419	216123

[1]SPECIAL WARNING DEVICE NOT TRAIN ACTIVATED, E.G. CROSSING FLAGGED BY CREW.
[2]CROSSINGS ON THESE LINES ARE INCLUDED UNDER SOUTHERN RAILWAY.
[3]CROSSINGS ON LINES NOT MERGED INTO CONSOLIDATED RAIL CORPORATION OR NOT YET IDENTIFIED AS BELONGING TO CONSOLIDATED RAIL CORPORATION.
[4]SEE APPENDIX A FOR DEFINITION OF HIGHEST WARNING DEVICE.

FIGURE 32. CROSSINGS BY HIGHEST WARNING DEVICE, 1979



[1]see Appendix A for definition of highest warning device.

TABLE 48. TOTAL CROSSINGS BY PAVEMENT MARKINGS[1] AND STATE, 1979

STATE	PAVEMENT MARKING STOP LINES	RR XING SYMBOL	BOTH	NONE PAVED	NONE UNPAVED	TOTAL
ALABAMA	38	104	124	3342	1167	4775
ALASKA	3	1	13	94	114	225
ARIZONA	51	12	190	469	317	1039
ARKANSAS	53	91	115	2049	1693	4001
CALIFORNIA	1104	229	5082	2243	373	9031
COLORADO	16	16	84	1278	989	2383
CONNECTICUT	14	3	90	414	6	527
DELAWARE	2	17	15	221	8	263
DIST. COLUMBIA	1	0	0	68	1	70
FLORIDA	331	118	1439	2851	1117	5856
GEORGIA	76	157	368	4148	2183	6932
HAWAII	2	0	0	4	0	6
IDAHO	37	8	132	1004	1004	2185
ILLINOIS	61	155	1245	6073	6047	13581
INDIANA	89	257	2042	5783	1936	10107
IOWA	78	110	605	3119	4895	8807
KANSAS	31	84	257	3078	6178	9628
KENTUCKY	68	363	546	1732	947	3656
LOUISIANA	7	34	199	3422	1203	4865
MAINE	10	15	95	834	161	1115
MARYLAND	47	24	95	876	79	1121
MASSACHUSETTS	50	23	57	1055	40	1225
MICHIGAN	84	141	630	5022	2434	8311
MINNESOTA	129	198	437	3002	3999	7765
MISSISSIPPI	15	22	14	2380	1163	3594
MISSOURI	89	152	581	2700	3017	6539
MONTANA	3	10	232	450	1465	2160
NEBRASKA	45	118	263	1429	3595	5450
NEVADA	9	2	57	134	163	365
NEW HAMPSHIRE	21	7	26	579	80	713
NEW JERSEY	50	85	86	1859	135	2215
NEW MEXICO	4	15	40	361	420	840
NEW YORK	131	248	294	3359	404	4436
NORTH CAROLINA	348	172	1053	3054	891	5518
NORTH DAKOTA	14	14	182	768	4768	5746
OHIO	741	792	4787	2768	878	9966
OKLAHOMA	19	19	46	2920	2720	5724
OREGON	152	322	464	1334	628	2900
PENNSYLVANIA	67	347	164	5336	779	6693
RHODE ISLAND	13	0	6	122	0	141
SOUTH CAROLINA	100	131	469	2878	826	4404
SOUTH DAKOTA	19	3	95	867	2204	3188
TENNESSEE	14	26	91	3058	972	4161
TEXAS	215	492	1246	8023	4557	14533
UTAH	13	16	105	868	369	1371
VERMONT	15	16	32	341	187	591
VIRGINIA	119	89	1172	1097	307	2784
WASHINGTON	163	33	581	2549	971	4297
WEST VIRGINIA	25	13	106	1498	823	2465
WISCONSIN	71	18	75	5767	1223	7154
WYOMING	16	4	43	165	402	630
PUERTO RICO	0	14	0	36	5	55
TOTAL	4873	5340	26170	108881	70843	216107

[1]THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES DOES NOT REQUIRE PAVEMENT MARKINGS AT ALL CROSSINGS.

TABLE 49. TOTAL CROSSINGS BY RAILROAD ADVANCE WARNING[1] AND STATE, 1979

STATE	RAILROAD ADVANCE WARNING YES	NO	TOTAL
ALABAMA	886	3889	4775
ALASKA	68	157	225
ARIZONA	469	570	1039
ARKANSAS	577	3424	4001
CALIFORNIA	7077	1954	9031
COLORADO	807	1563	2370
CONNECTICUT	232	294	526
DELAWARE	223	40	263
DIST. COLUMBIA	30	40	70
FLORIDA	2437	3406	5843
GEORGIA	1159	5773	6932
HAWAII	1	5	6
IDAHO	477	1708	2185
ILLINOIS	5798	7783	13581
INDIANA	6350	3757	10107
IOWA	4625	4182	8807
KANSAS	3507	6121	9628
KENTUCKY	761	2895	3656
LOUISIANA	1271	3594	4865
MAINE	889	226	1115
MARYLAND	429	692	1121
MASSACHUSETTS	886	339	1225
MICHIGAN	5406	2905	8311
MINNESOTA	3593	4172	7765
MISSISSIPPI	369	3225	3594
MISSOURI	1234	5305	6539
MONTANA	611	1549	2160
NEBRASKA	2144	3306	5450
NEVADA	110	255	365
NEW HAMPSHIRE	514	199	713
NEW JERSEY	781	1434	2215
NEW MEXICO	166	674	840
NEW YORK	3270	1166	4436
NORTH CAROLINA	4243	1275	5518
NORTH DAKOTA	928	4818	5746
OHIO	6177	3789	9966
OKLAHOMA	1010	4714	5724
OREGON	1801	1099	2900
PENNSYLVANIA	2435	4258	6693
RHODE ISLAND	20	121	141
SOUTH CAROLINA	2209	2195	4404
SOUTH DAKOTA	863	2325	3188
TENNESSEE	568	3593	4161
TEXAS	3267	11266	14533
UTAH	402	969	1371
VERMONT	262	329	591
VIRGINIA	1909	874	2783
WASHINGTON	2860	1437	4297
WEST VIRGINIA	506	1959	2465
WISCONSIN	3098	4056	7154
WYOMING	115	515	630
PUERTO RICO	32	23	55
TOTAL	89862	126217	216079

[1]THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES DOES NOT REQUIRE RAILROAD ADVANCE WARNING AT ALL CROSSINGS.

TABLE 50. TOTAL CROSSINGS MEETING THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MUTCD) STANDARD FOR CROSSBUCKS BY STATE[1], 1979

STATE	ACTIVE WARNING DEVICE[2]	MEETS STANDARD YES	NO	TOTAL
ALABAMA	746	3027	1002	4775
ALASKA	45	145	35	225
ARIZONA	319	493	227	1039
ARKANSAS	599	1621	1781	4001
CALIFORNIA	4307	2971	1753	9031
COLORADO	513	1357	514	2384
CONNECTICUT	226	137	164	527
DELEWARE	115	29	119	263
DIST. COLUMBIA	3	12	55	70
FLORIDA	2078	2839	953	5870
GEORGIA	1032	5031	869	6932
HAWAII	0	5	1	6
IDAHO	270	1734	181	2185
ILLINOIS	4828	6903	1850	13581
INDIANA	3211	4161	2735	10107
IOWA	1635	6458	714	8807
KANSAS	1211	5598	2819	9628
KENTUCKY	919	2025	712	3656
LOUISIANA	893	2321	1651	4865
MAINE	439	370	306	1115
MARYLAND	297	239	585	1121
MASSACHUSETTS	650	368	207	1225
MICHIGAN	2530	4262	1519	8311
MINNESOTA	1180	6137	448	7765
MISSISSIPPI	418	361	2815	3594
MISSOURI	1452	3186	1901	6539
MONTANTA	302	1353	505	2160
NEBRASKA	854	3787	809	5450
NEVADA	113	133	119	365
NEW HAMPSHIRE	203	347	163	713
NEW JERSEY	1027	545	643	2215
NEW MEXICO	240	547	53	840
NEW YORK	2073	1209	1154	4436
NORTH CAROLINA	1149	3326	1043	5518
NORTH DAKOTA	373	3399	1974	5746
OHIO	3085	4698	2183	9966
OKLAHOMA	918	2508	2298	5724
OREGON	549	1274	1077	2900
PENNSYLVANIA	2001	1967	2725	6693
RHODE ISLAND	53	8	80	141
SOUTH CAROLINA	512	3288	604	4404
SOUTH DAKOTA	202	2688	298	3188
TENNESSEE	705	2257	1199	4161
TEXAS	3626	6403	4504	14533
UTAH	284	782	305	1371
VERMONT	180	193	218	591
VIRGINIA	934	1116	735	2785
WASHINGTON	725	2388	1184	4297
WEST VIRGINIA	419	1199	847	2465
WISCONSIN	1941	4184	1029	7154
WYOMING	150	334	146	630
PUERTO RICO	7	18	30	55
TOTAL	52541	111741	51841	216123

[1]THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES STATES THAT TWO REFLECTORIZED CROSSBUCKS BE IN PLACE AT ALL CROSSINGS.

[2]FOR CROSSINGS WITH ACTIVE WARNING DEVICES A DETERMINATION HAS NOT BEEN MADE AS TO WHETHER THE CROSSBUCKS WHICH ARE PART OF THE DEVICE MEET THE MUTCD STANDARD.

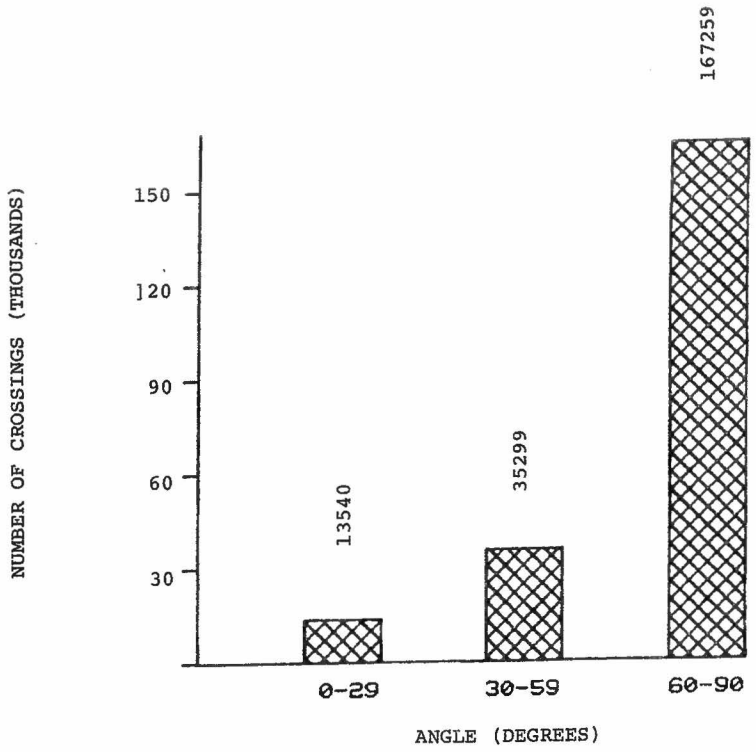


FIGURE 33. CROSSINGS BY SMALLEST CROSSING ANGLE, 1979

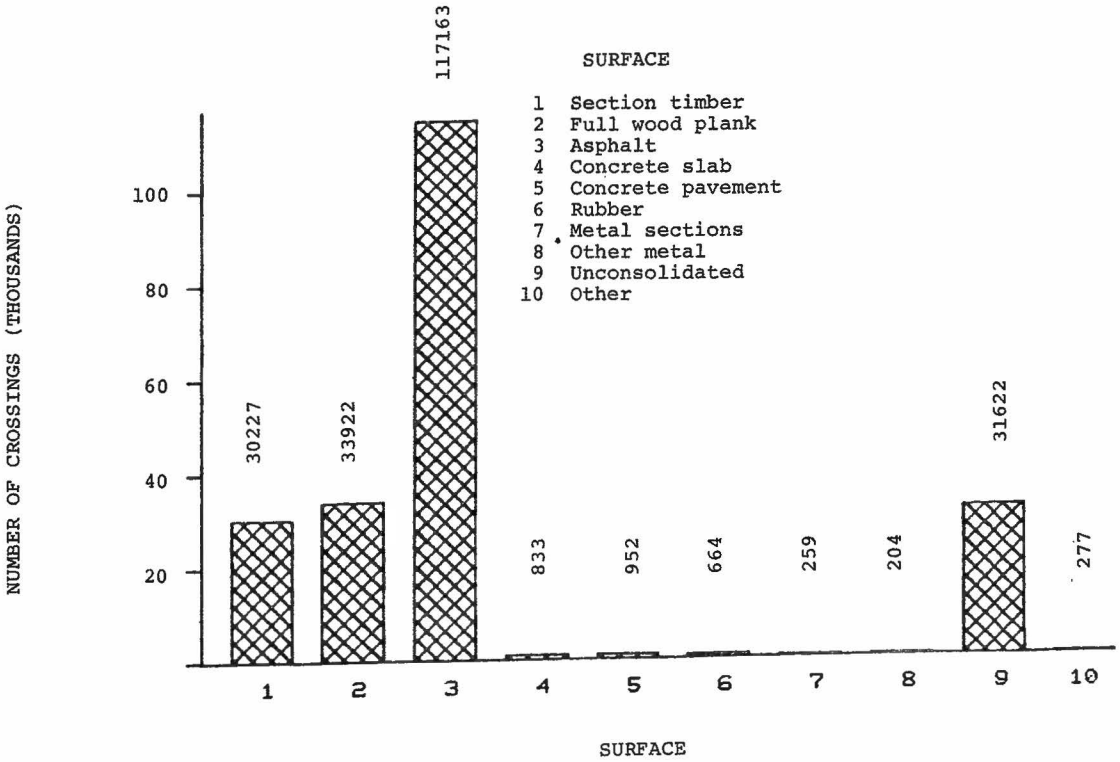


FIGURE 34. CROSSINGS BY CROSSING SURFACE, 1979

3.2 OPERATIONAL CHARACTERISTICS

3.2.1 TRAIN TRAFFIC DATA

TABLE 51. TOTAL CROSSINGS BY TOTAL NUMBER OF TRAINS PER DAY, 1979

TRAINS PER DAY	CROSSINGS	TRAINS PER DAY	CROSSINGS
01-05	100298	101-105	26
06-10	36308	106-110	60
11-15	12618	111-115	4
16-20	12887	116-120	11
21-25	5690	121-125	13
26-30	4701	126-130	3
31-35	2329	131-135	6
36-40	1728	136-140	12
41-45	525	141-145	8
46-50	1071	146-150	2
51-55	254	151-155	2
56-60	515	156-160	4
61-65	268	161-165	2
66-70	149	166-170	5
71-75	117	171-175	0
76-80	185	176-180	3
81-85	41	181-185	0
86-90	42	186-190	2
91-95	74	191-195	2
96-100	86	196-200	23
UNDER 1	36039	OVER 200	10

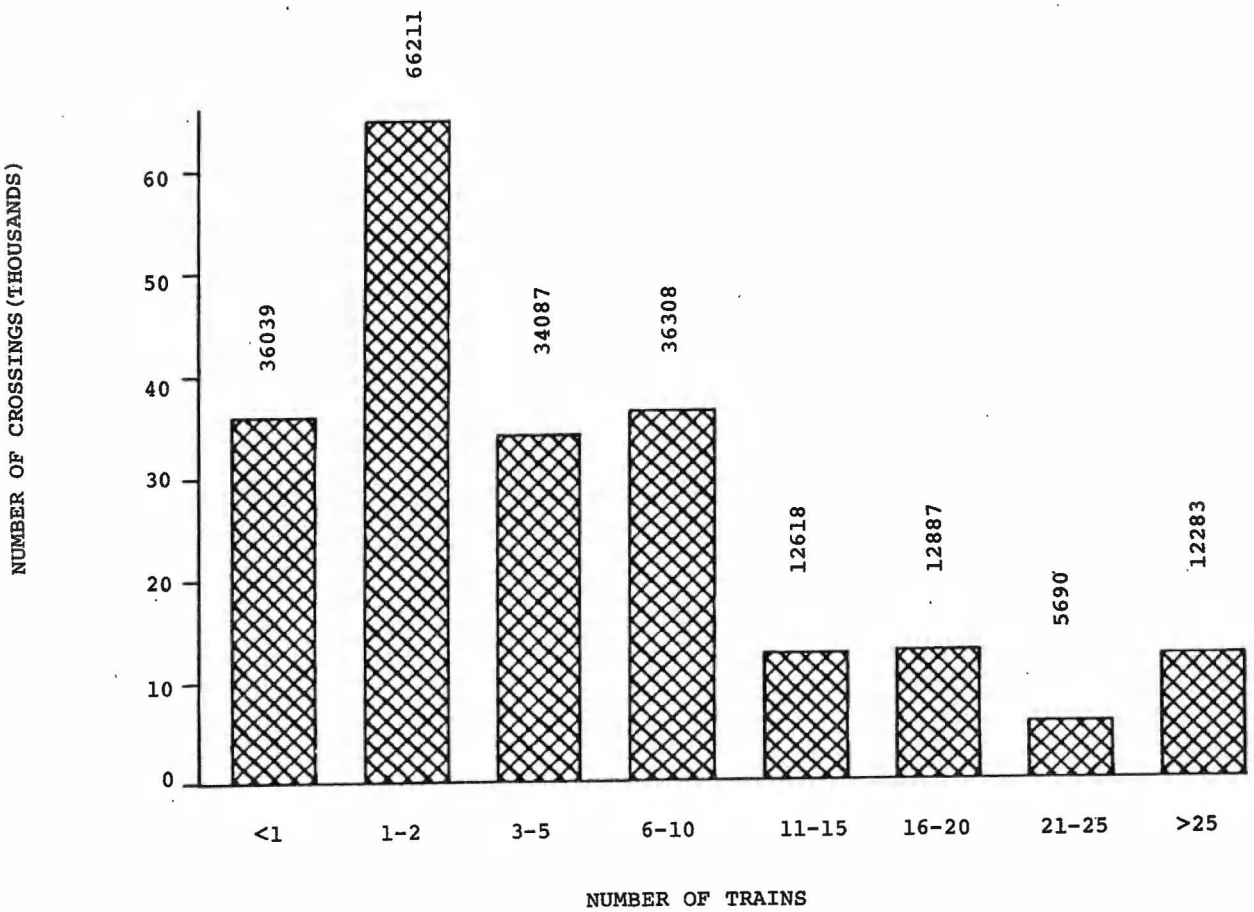
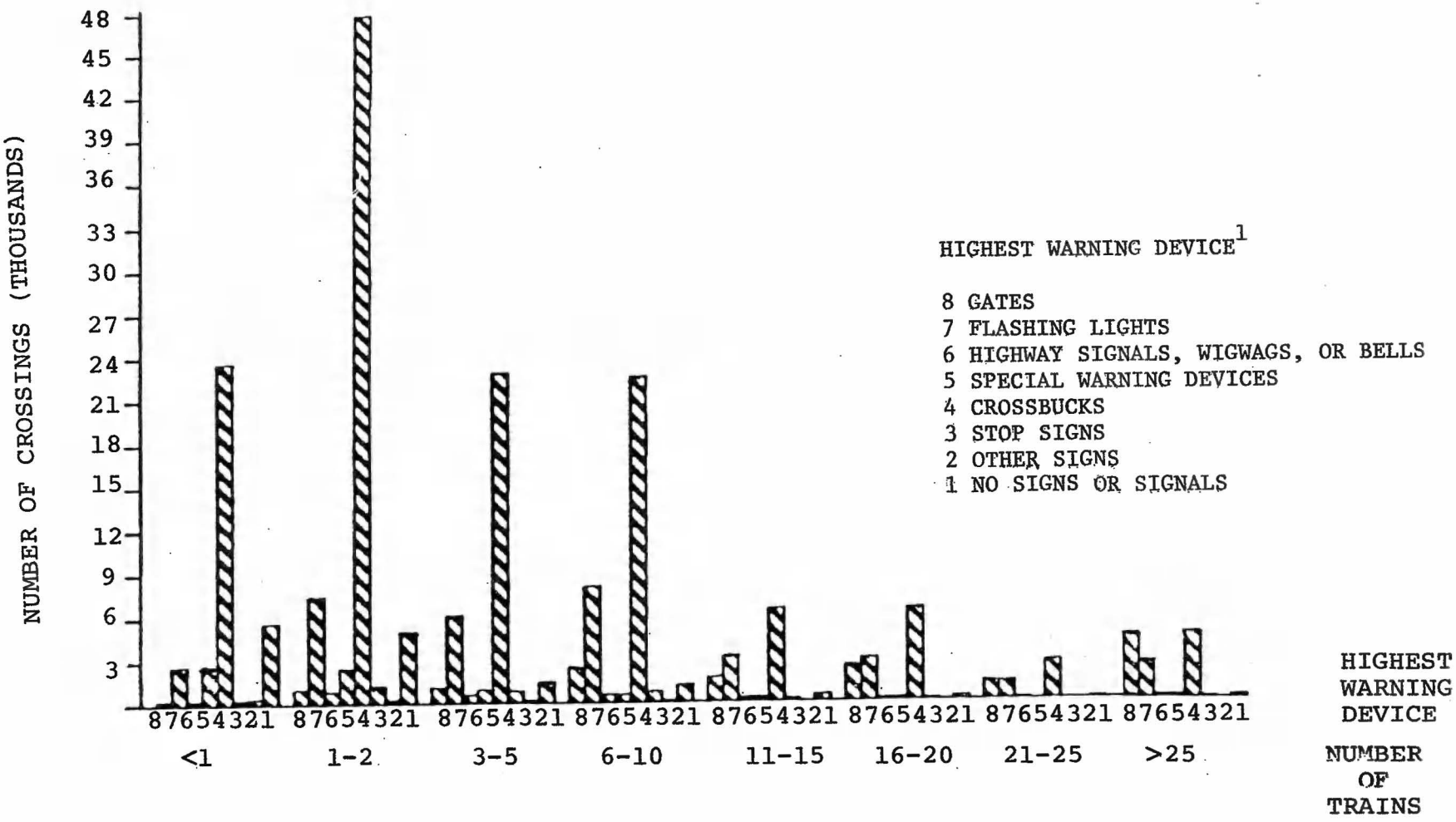


FIGURE 35. CROSSINGS BY TOTAL NUMBER OF TRAINS PER DAY, 1979

FIGURE 36. CROSSINGS BY NUMBER OF TRAINS PER DAY AND HIGHEST WARNING DEVICE, 1979



[1]see appendix A for definition of "highest warning device".

TABLE 52. TOTAL CROSSINGS BY NUMBER OF THRU TRAINS AND SWITCHING TRAINS PER DAY, 1979

NUMBER OF SWITCHING TRAINS	NUMBER OF THRU TRAINS								
	UNDER 1	1-2	3-5	6-10	11-15	16-20	21-25	OVER 25	TOTAL
UNDER 1	36039	36990	16053	16501	4560	6076	2389	4505	123113
1-2	27966	9976	7193	7258	2991	2716	1167	1944	61211
3-5	6570	1911	1934	2649	1133	814	512	1058	16581
6-10	3696	974	1135	1698	672	845	370	571	9961
11-15	769	135	190	314	129	130	90	157	1914
16-20	667	142	129	250	85	92	132	142	1639
21-25	163	32	19	175	16	17	39	55	516
OVER 25	413	95	76	174	115	121	30	164	1188
TOTAL	76283	50255	26729	29019	9701	10811	4729	8596	216123

TABLE 53. TOTAL CROSSINGS BY NUMBER OF DAY AND NIGHT TRAINS PER DAY, 1979

NUMBER OF DAY TRAINS	NUMBER OF NIGHT TRAINS								
	UNDER 1	1-2	3-5	6-10	11-15	16-20	21-25	OVER 25	TOTAL
UNDER 1	36039	9585	1084	250	17	4	2	1	46982
1-2	39671	34536	3608	515	25	44	0	0	78399
3-5	6538	13384	18389	1951	239	175	4	3	40683
6-10	2305	2753	7783	15358	1734	184	10	17	30144
11-15	208	275	647	3474	5585	713	55	27	10984
16-20	98	39	76	787	1333	2188	168	191	4880
21-25	15	12	10	104	354	268	577	127	1467
OVER 25	55	14	10	103	243	455	439	1265	2584
TOTAL	84929	60598	31607	22542	9530	4031	1255	1631	216123

TABLE 54. TOTAL CROSSINGS BY NUMBER OF TRAINS PER DAY AND HIGHEST WARNING DEVICE, 1979

HIGHEST WARNING DEVICE[1]	NUMBER OF TRAINS UNDER 1	1-2	3-5	6-10	11-15	16-20	21-25	OVER 25	TOTAL
GATES	284	1005	1131	2493	1802	2568	1357	4365	15005
FLASHING LIGHTS	2725	7439	6090	8067	3175	2957	1340	2627	34420
HWY. SIGNALS, WIGWAGS, BELLS	297	865	595	608	252	202	95	202	3116
SPECIAL WARNING DEVICES	2787	2550	922	579	242	199	41	153	7473
CROSSBUCKS	23607	47927	22824	22472	6507	6477	2710	4617	137141
STOP SIGNS	310	1174	858	705	184	137	45	102	3515
OTHER SIGNS	378	282	148	133	33	36	2	22	1034
NO SIGNS OR SIGNALS	5651	4969	1519	1251	423	311	100	195	14419
TOTAL	36039	66211	34087	36308	12618	12887	5690	12283	216123

[1]SEE APPENDIX A FOR DEFINITION OF HIGHEST WARNING DEVICE.

TABLE 55. TOTAL CROSSINGS BY NUMBER OF TRAINS PER DAY AND ANNUAL AVERAGE DAILY TRAFFIC, 1979

NUMBER OF TRAINS	ANNUAL AVERAGE DAILY TRAFFIC 1-250	251-500	501-1K	1K-5K	5K-10K	OVER 10K	TOTAL
UNDER 1	17980	4076	3750	6872	2079	1205	35962
1-2	37300	7146	6293	10652	2942	1786	66119
3-5	17951	3870	3488	6012	1668	1062	34051
6-10	19188	4178	3655	6263	1832	1134	36250
11-15	5969	1300	1340	2612	829	562	12612
16-20	6077	1459	1444	2585	786	500	12851
21-25	2644	689	660	1160	325	202	5680
OVER 25	4927	1263	1367	2938	1079	692	12266
TOTAL	112036	23981	21997	39094	11540	7143	215791

K = THOUSANDS

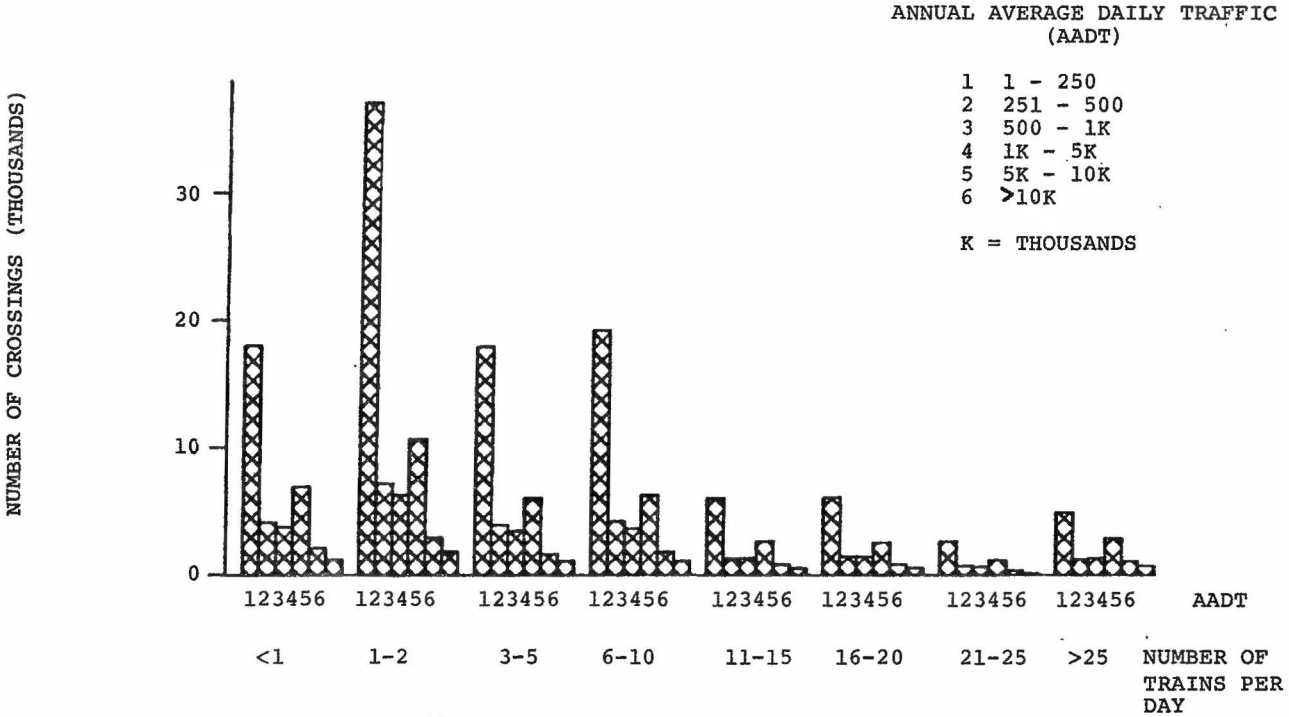


FIGURE 37. CROSSINGS BY NUMBER OF TRAINS PER DAY AND ANNUAL AVERAGE DAILY TRAFFIC, 1979

3.2.2 TRAIN SPEED DATA

TABLE 56. TOTAL CROSSINGS BY MAXIMUM TIMETABLE SPEED, 1979

MAXIMUM SPEED (MPH)	CROSSINGS	MAXIMUM SPEED (MPH)	CROSSINGS	MAXIMUM SPEED (MPH)	CROSSINGS
01-05	9849	36-40	20447	71-75	860
06-10	30736	41-45	5648	76-80	5192
11-15	16994	46-50	18209	81-85	11
16-20	17362	51-55	2715	86-90	849
21-25	24791	56-60	11926	91-95	0
26-30	28167	61-65	1205	96-100	4
31-35	16088	66-70	4574	OVER 100	6

TABLE 57. TOTAL CROSSINGS BY TYPICAL TRAIN SPEED VARIATION, 1979

TYPICAL SPEED VARIATION[1] (MPH)	CROSSINGS	TYPICAL SPEED VARIATION (MPH)	CROSSINGS	TYPICAL SPEED VARIATION (MPH)	CROSSINGS
01-05	59642	36-40	6679	71-75	673
06-10	53946	41-45	3362	76-80	487
11-15	24505	46-50	5068	81-85	58
16-20	21241	51-55	1065	86-90	61
21-25	13055	56-60	2665	91-95	0
26-30	12342	61-65	809	96-100	0
31-35	6173	66-70	740	OVER 100	2

UNDER 1 3550

[1]TYPICAL SPEED VARIATION IS THE DIFFERENCE BETWEEN TYPICAL MAXIMUM AND TYPICAL MINIMUM SPEEDS.

3.2.3 HIGHWAY TRAFFIC DATA

TABLE 58. TOTAL CROSSINGS BY ANNUAL AVERAGE DAILY TRAFFIC (AADT), 1979

AADT	CROSSINGS	AADT	CROSSINGS	AADT	CROSSINGS
1-100	78865	1-1K	158014	1-10K	208648
101-200	20365	1K-2K	17484	10K-20K	5760
201-300	19415	2K-3K	10391	20K-30K	1119
301-400	8265	3K-4K	5927	30K-40K	204
401-500	9107	4K-5K	5292	40K-50K	34
501-600	4980	5K-6K	3163	50K-60K	7
601-700	3731	6K-7K	2334	60K-70K	6
701-800	5766	7K-8K	2505	70K-80K	4
801-900	2925	8K-9K	1597	80K-90K	3
901-1K	4595	9K-10K	1941	90K-100K	1
				OVER 100K	5

K = THOUSANDS

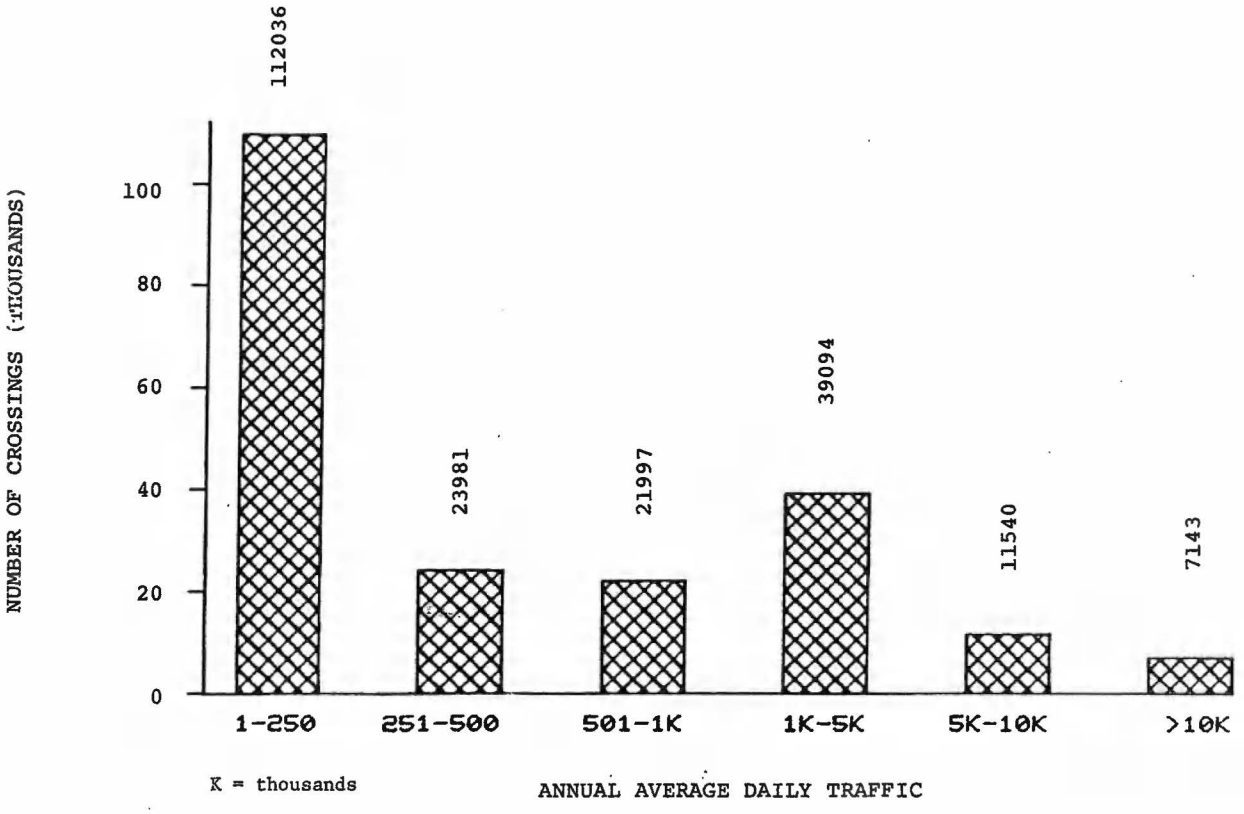


FIGURE 38. CROSSINGS BY ANNUAL AVERAGE DAILY TRAFFIC, 1979

TABLE 59. TOTAL CROSSINGS BY ANNUAL AVERAGE DAILY TRAFFIC AND HIGHEST WARNING DEVICE[1], 1979

HIGHEST WARNING DEVICE[1]	ANNUAL AVERAGE DAILY TRAFFIC 1-250	251-500	501-1K	1K-5K	5K-10K	OVER 10K	TOTAL
GATES	1929	1426	1984	5433	2356	1849	14977
FLASHING LIGHTS	5059	3746	5150	13001	4511	2921	34388
HWY. SIGNALS, WIGWAGS, BELLS	986	383	426	815	282	223	3115
SPECIAL WARNING DEVICES	1580	914	987	2461	874	645	7461
CROSSBUCKS	92111	15222	11473	14378	2689	1096	136969
STOP SIGNS	2076	472	373	485	79	24	3509
OTHER SIGNS	507	199	138	136	39	11	1030
NO SIGNS OR SIGNALS	7788	1619	1466	2385	710	374	14342
TOTAL	112036	23981	21997	39094	11540	7143	215791

K = THOUSANDS

[1]SEE APPENDIX A FOR DEFINITION OF HIGHEST WARNING DEVICE.

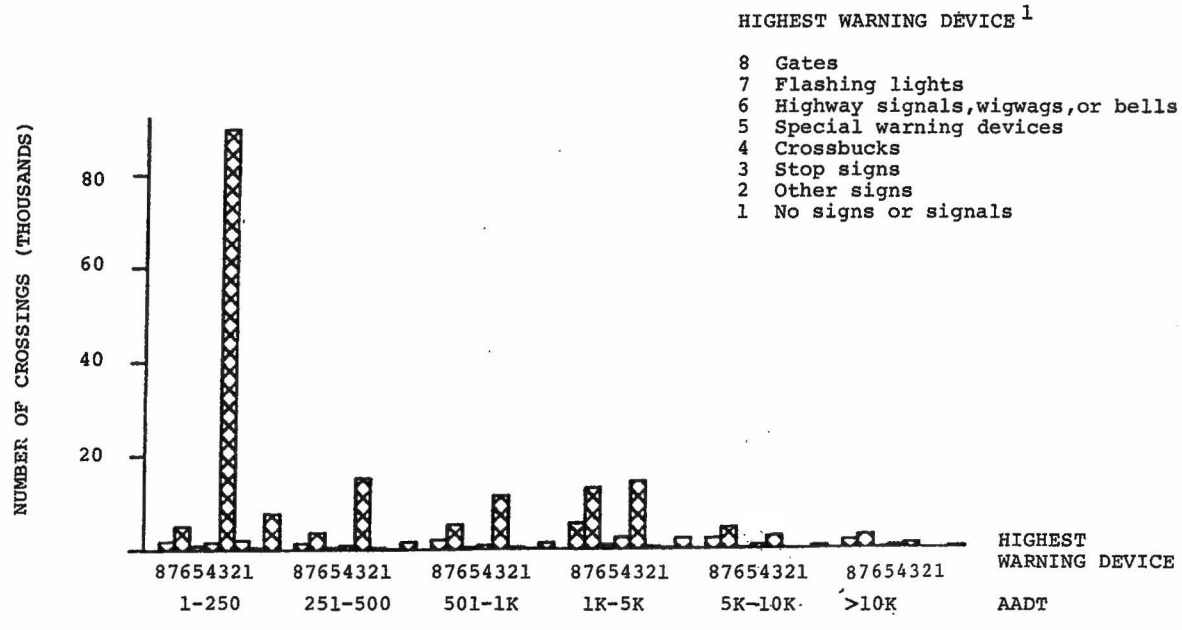


FIGURE 39. CROSSINGS BY ANNUAL AVERAGE DAILY TRAFFIC AND HIGHEST WARNING DEVICE, 1979

K = thousands

[1]see appendix A for definition of highest warning device.

TABLE 60. TOTAL CROSSINGS BY TRUCK TRAFFIC AS PERCENT OF ANNUAL AVERAGE DAILY TRAFFIC, 1979

%	CROSSINGS	%	CROSSINGS
UNDER 1	7753		
01-05	85442	51-55	21
06-10	76853	56-60	164
11-15	23104	61-65	5
16-20	10076	66-70	59
21-25	2386	71-75	114
26-30	7168	76-80	66
31-35	415	81-85	6
36-40	1159	86-90	55
41-45	155	91-95	2
46-50	1114	96-99	6

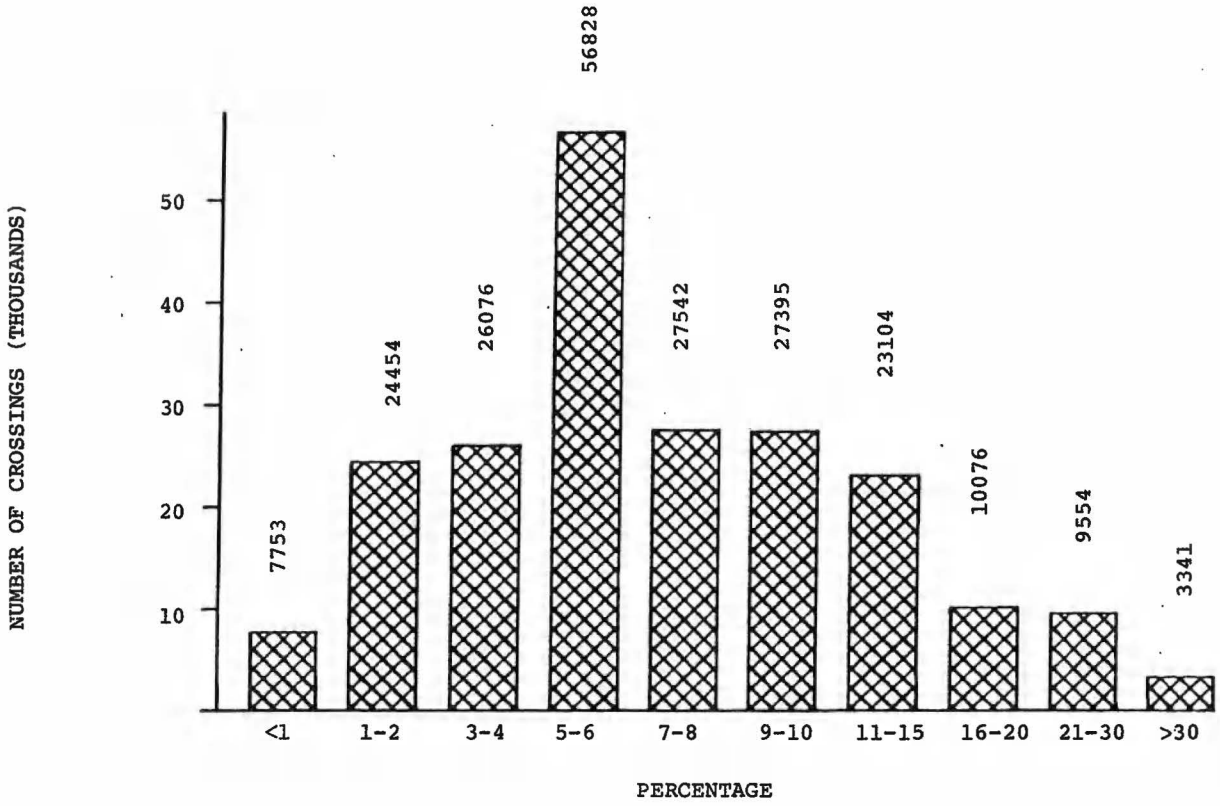


FIGURE 40. CROSSINGS BY TRUCK TRAFFIC AS PERCENT OF ANNUAL AVERAGE DAILY TRAFFIC, 1979

APPENDIX A: DEFINITIONS

ACCIDENT/INCIDENT REPORTABILITY REQUIREMENTS

The rules governing monthly reporting of railroad accidents/incidents, which were in effect at the end of 1979 define a reportable accident/incident as an event arising from the operation of a railroad that results in one or more stated circumstances.

(a) An impact occurs between railroad on-track equipment and an automobile, bus, truck, motorcycle, bicycle, farm vehicle, pedestrian or other highway user at a rail-highway grade crossing.

(b) Any collision, derailment, fire, explosion, act of God or other event involving the operation of railroad on-track equipment (standing or moving) which results in more than $2,900 in damages to railroad on-track equipment, signals, track and/or track structures, and roadbed.

(c) Any event arising from the operation of a railroad which results in:

(i) death of one or more persons;

(ii) injury to one or more persons, other than railroad employees, requiring medical treatment;

(iii) injury to one or more employees requiring medical treatment or resulting in restriction of work or motion for one or more days, one or more lost workdays, transfer to another job, termination of employment or loss of consciousness;

(iv) any occupational illness of a railroad employee diagnosed by a physician.

CLASSIFICATION OF ACCIDENTS/INCIDENTS

Accidents/Incidents are divided into the following groups:

Train accidents are defined as those events, with or without casualties, arising from the operation of railroad on-track equipment which satisfies the conditions specified in (b) above.

From 1957 through 1974, the damage threshold for reporting train accidents remained at $750. In 1975, the threshold was increased to $1750, in 1977 to $2300, and in 1979 to $2900. The reporting threshold is reviewed periodically and adjusted every two years as necessary.

Train incidents are defined as those events arising from the movement of railroad on-track equipment which result in a reportable death, injury or illness, but do not result in railroad, equipment, track or roadbed damage of more than $2900.

Non-train incidents are defined as events which result in a reportable death, injury or illness arising from the operation of a railroad and not the movement of railroad on-track equipment.

CLASSIFICATION OF CASUALTIES

Fatalities: Prior to 1975, a railroad operation death occurring more than 24 hours after the initial injury was reported as an injury and as a subsequent fatality. Such fatal injuries are now classified as fatalities. In addition, fatalities resulting from occupational illnesses within 365 days of the initial diagnosis are now reportable. These were not reportable prior to 1975.

Occupational Illness: This is a new category with no counterpart in casualty statistics prior to 1975. In this publication, nonfatal illnesses are included as injury data.

Occupational Injuries: The definition of a reportable injury was substantially changed in 1975. This made railroad industry statistics comparable with those published by the Occupational Safety and Health Administration (OSHA) for other industries. Previous regulations required that injury to an employee was to be reported if performance of normally assigned duties was prevented for more than 24 hours during the 10 days immediately following the injury. Since only those injuries causing at least 2 days of lost or restricted time were reported, the revised regulation requires the reporting of any employee injury which results in one or more lost or restricted workdays, medical treatment beyond first

aid, transfer to another job, termination of employment, or loss of consciousness. In addition, each case remains active for 365 days rather than the 10-day period previously specified. Injury to a person other than an on-duty employee was reportable if their customary vocation or mode of life of the injured person was prevented for more than 24 hours during the 10 days immediately following the injury. Such an injury is presently reportable if the injured person requires medical treatment beyond first aid.

TYPES OF PERSONS

Employees "on duty" are those persons engaged in the operation of a railroad. Ordinarily, this will be determined by whether or not an employee is in pay status. An employee who is on railroad property performing required tasks is considered to be "on duty." This includes rest or meal periods, training periods, or work-related tasks that are performed outside of normal working hours.

Employees "not on duty" are those employees on railroad property for personal business to get a paycheck or pick up clothes with railroad permission, but who are not "on duty" as defined above.

Passengers are persons boarding, riding, or alighting from railroad cars for the purpose of travel.

Trespassers are persons on that part of railroad property used in railroad operation, and whose presence is prohibited, forbidden, or unlawful. Employees who are injured while trespassing are categorized as trespassers. A person entering a rail-highway grade crossing is classified as a trespasser if the crossing is protected by gates, or other barriers, which are closed. Any person attempting to pass over or under trains or rail cars at a crossing is considered as a trespasser.

Nontrespassers are persons who are lawfully on railroad property which is used in railroad operation (other than those defined as employees, passengers or trespassers), and persons

adjacent to railroad premises when injured as the result of railroad operation.

Contractor employees are persons employed by a contractor engaged by a railroad to perform normal maintenance work to railroad rolling stock, track structure, bridges, building, etc.

CLASSIFICATION OF ON-TRACK EQUIPMENT

Train: A train is a locomotive unit, or units, coupled with or without cars and with or without markers displayed. Included in this definition are those trains consisting entirely of self-propelled units designed to carry passengers and/or freight traffic.

Locomotive: A locomotive is a self-propelled unit of equipment designed for moving other equipment. It includes a self-propelled unit designed to carry freight and/or passenger traffic.

Car: A car is any unit of equipment designed to be hauled by locomotives or on-track work equipment such as a track motorcar, highway-rail car, on-track crane, on-track ballast tamping machine, etc.

Equipment Consist: An equipment consist is a train, locomotive(s), cut of cars, or any single car not coupled to another car or locomotive.

HIGHEST WARNING DEVICE: At crossings which have more than one warning device, the "highest warning level" is determined by the following method:

Highest	8)	Gates[1]
	7)	Flashing lights[1]
	6)	Highway signals, wigwags or bells
	5)	Special warning devices
	4)	Crossbucks
	3)	Stop signs
	2)	Other signs
Lowest	1)	No signs or signals

[1]When cantilevered flashing lights are categorized separately they are ranked 8th and gates are ranked 9th.

RAILROAD CLASSES

Class I Railroads are those railroads with annual gross operating revenues in excess of $50,000,000.

Class II Railroads have annual operating revenues of between $10,000,000 and $50,000,000.

Class III Railroads are all those with annual operating revenues of less than $10,000,000 and all switching and terminal companies.

FORMS

Up to three separate forms may be required to properly report a rail-highway crossing accident/incident. These are:

FRA F 6180-57 Grade Crossing Accident/Incident Report
FRA F 6180-55 Railroad Injury and Illness Summary
FRA F 6180-54 Rail Equipment Accident/Incident Report

For all reportable grade crossing accidents/incidents, form FRA F 6180-57 must be submitted by the carrier having on-track equipment involved. If reportable casualties resulted, these casualties must be reported individually on form FRA F 6180-55. Finally, if the accident also resulted in more than $2900 in damages to railroad on-track equipment, signals, track, track structures, and roadbed, form FRA 6180-54 must be submitted.

GRADE CROSSING INVENTORY CHARACTERISTICS

Annual Average Daily Traffic: Estimate of the annual average daily highway traffic in both directions.

Active Warning Devices: Warning systems activated by an approaching train--gates, flashing lights, highway signals, wigwags, or bells.

Commercial Power: A source of commercial power within 500 feet of the crossing.

Crossing Surfaces:

1. Sectional treated timber - prefabricated units approximately eight feet long, made of treated timber individually installed and removable for maintenance and replacement purposes.

2. Full wood plank - wood surface, other than sectional treated timber, covering the entire crossing area above the cross-ties.

3. Asphalt - surface over the entire crossing area, or the area between planks or other material, forming flangeway openings with or without single planks on the outside of running rails.

4. Concrete slab - precast concrete slabs, installed and removable individually for maintenance and replacement purposes.

5. Concrete pavement - continuous concrete surface over the track area which cannot be removed except by destruction of the surface.

6. Rubber slabs - preformed rubber sections which can be installed and individually removed for maintenance and replacement purposes.

7. Metal sections - preformed sections of steel, or other metal which can be installed and removed individually for maintenance and replacement purposes.

8. Other metal - crossing area is completed with covered rails or other permanent metal materials in limited sectional units.

9. Unconsolidated - ballast or other unconsolidated material is placed above the tops of crossties, with or without planks on one or both sides of running rail.

Daylight Train Movements: Train movements between 6 am to 6 pm.

Flashing Lights: Includes cantilevered flashing lights, mast mounted flashing lights and other flashing lights not conforming with the latest "Manual on Uniform Traffic Control Devices."

Highway Signals: Train activated highway lights (red-amber-green) that control street traffic over the crossing.

Main Track: A track over which "thru" trains operate.

Maximum Speed Minus Minimum Speed: Typical variation in train speed over crossing. Indicates possible warning time variability between signaling of train and its passage over the crossing if warning devices are not equipped with speed selection equipment.

Maximum Timetable Speed: Maximum train speed permitted over the crossing.

Nearby Intersecting Highway: A highway intersection within 75 feet of the crossing.

Night Train Movements: Train movements between 6 pm to 6 am.

Number of Crossbucks: The number of masts with crossbucks. A mast with two or more crossbucks is counted as one. A crossbuck on an active device is not counted.

Other Signs: Signs other than crossbucks or stop signs.

Other Stop Signs: Stop signs other than the standard highway stop signs.

Other Track: A track other than main track.

Passive Warning Device: Warning systems not automatically activated by an approaching train; e.g. signs (crossbucks, standard highway signs) or special warning devices (manually operated gates, flood lights, etc.).

Pavement Markings: Markings prescribed, or generally similar, in highway traffic manuals, in particular, stoplines and railroad crossing symbols.

Percentage Trucks: The percentage of total daily highway traffic represented by trucks.

Public Crossing: A location open to public travel where rail tracks cross a road which is under the jurisdiction and maintenance of a public authority.

Railroad: The railroad company that owns and maintains the roadbed, tracks and signal system controlling the crossing.

Railroad Advance Warnings: Advance warning signs present on any highway approaches.

Rural Crossing: A crossing classification derived from the highway system code.

Signals For Train Operation: Automatic signals or interlocks which control train operation in the vicinity of a crossing.

Smallest Crossing Angle: The smallest angle between the highway and the track.

Special Warning Devices: Non-train-activated devices other than signs. Includes manually operated gates, train crew flagging the crossing, watchmen, and the use of flood lights.

Speed Selection For Trains: The provisions for a uniform warning time for the speed range of trains typically encountered at the crossing.

Standard Highway Stop Sign: Octagonal, red sign with white letters.

Stop Signs: The standard octagonal highway stop sign or other stop signs.

Switch Trains: All trains other than thru trains; i.e., locals, industrial runs, switch engines.

Thru Trains: Trains whose primary responsibility is to move cars over the road and may have a limited number of pickups and setouts along the route.

Total Train Movements: Includes all movements for both the reporting company and any other railroad operating over the crossing.

Traffic Lanes: Number of highway traffic lanes, not including shoulders or parking lanes.

Truck Pullout Lane: A special lane designed to accommodate vehicles required to stop at a crossing.

Type of Development:

1. Open space - undeveloped or sparsely developed, very lightly populated or agricultural

2. Residential - built-up residential area
3. Commercial - retail stores, businesses, offices, personal services.
4. Industrial - manufacturing, construction, heavy products, factories, warehouses, etc.
5. Institutional - schools, churches, hospitals, parks, and other community facilities

Typical Maximum Speed: Maximum train speed (mph) typically encountered at a crossing.

Typical Minimum Speed: Minimum train speed (mph) typically encountered at the crossing.

Urban Crossing: A crossing classification derived from the highway system code.

APPENDIX B: REPORTING FORMS

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

RAILROAD INJURY AND ILLNESS SUMMARY

Form Approved
OMB No. 04-R4009

1. NAME OF REPORTING RAILROAD	2. ALPHABETIC CODE	3. REPORT MONTH & YEAR	4. STATE ALPHABETIC CODE	5. COUNTY

NAME OF REPORTING OFFICER	OFFICIAL TITLE
ADDRESS	**TELEPHONE** *(Area Code) (Number)*

6.

I, _____, being first duly sworn, do say upon my oath that I
(Name of Affiant)
am _____, of the railroad aforesaid and as such officer of the said railroad it is my duty to have supervision
(Title of Office held by affiant)
over the record of reportable incidents arising from the operation of the said railroad, and that I have caused to be compiled from the said record and to be carefully examined the annexed report of such incidents occurring during the month named at the head of this sheet; and that the said report is true and complete to the best of my knowledge and belief.

Subscribed and sworn to before me, a notary public in and for the State and County aforesaid, this _____ day of _____, 19____.

(Use an impression seal) [L.S]

_____ *(Notary Public)*

_____ *(Signature of affiant)*

7. **MILES RUN DURING MONTH**

A. LOCOMOTIVE TRAIN MILES	B. MOTOR TRAIN MILES	C. YARD SWITCHING MILES	D. TOTAL

8.

A. EMPLOYEE MANHOURS WORKED	B. PASSENGER MILES OPERATED	C. NUMBER OF PASSENGERS TRANSPORTED

TOTAL TRAIN ACCIDENTS	TOTAL FRA FORMS 6180-55A	TOTAL FRA FORMS 6180-54	TOTAL FRA FORMS 6180-57

SECTION A—RECAPITULATION OF ALL CASUALTIES *INCLUDING* HIGHWAY GRADE CROSSING ACCIDENT/INCIDENT CASUALTIES								CLASS OF PERSON FOR SECTIONS A AND B	SECTION B—RECAPITULATION OF ALL HIGHWAY GRADE CROSSING ACCIDENT/INCIDENT CASUALTIES							
TRAIN ACCIDENTS		TRAIN INCIDENTS		NONTRAIN INCIDENTS		TOTAL			TRAIN ACCIDENTS		TRAIN INCIDENTS		NONTRAIN INCIDENTS		TOTAL	
Kld	Inj	Kld	Inj	Kld	Inj	Kld	Inj		Kld	Inj	Kld	Inj	Kld	Inj	Kld	Inj
								1. Employees on duty								
								2. Employees not on duty								
								3. Passengers on trains								
								4. Other nontrespassers								
								5. Trespassers (all classes)								
								6. Contractor Employees								
								7. GRAND TOTAL								

SECTION C—MEMORANDUM—SUBSEQUENT FATALITIES DEVELOPED FROM REPORTED CASUALTIES

LINE NO.	ACCIDENT/INCIDENT NUMBER	TYPE PERSON OR JOB CODE	DATE OF INJURY	DATE OF DEATH	STATE
1.					
2.					
3.					
4.					

FORM FRA F 6180-55 (8-76) REPLACES FORM FRA F 6180-55 (12-74) WHICH IS OBSOLETE.

This report is required by law (45 USC 40). Failure to report can result in the imposition of civil penalties.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

RAILROAD INJURY AND ILLNESS SUMMARY

(CONTINUATION SHEET)

FORM APPROVED
OMB NO. 04R4035

SHEET____ OF_____

1. NAME OF REPORTING RAILROAD	2. ALPHABETIC CODE	3. REPORT MONTH

9.

CASUALTIES *(Cont.)*

a. INCIDENT NUMBER	b. TYPE PERSON OR JOB CODE	c. INJURY OR ILLNESS CODE	d. OCCURRENCE CODE	e. AGE	f. NUMBER OF DAYS AWAY FROM WORK	g. NUMBER OF DAYS OF RESTRICTED ACTIVITY	h. CASES WITH-OUT LOST WORK DAYS	i. STATE ALPHABETIC CODE

FORM FRA F 6180-55a (8-74)

GPO 880-564

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

RAIL EQUIPMENT ACCIDENT/INCIDENT REPORT

FORM APPROVED
OMB NO. 04R4008

1. NAME OF REPORTING RAILROAD	1a. Alphabetic Code	1b. Railroad Accident/Incident No.
Amtrak ☐ Autotrain ☐		
2. NAME OF OTHER RAILROAD INVOLVED IN TRAIN ACCIDENT/INCIDENT	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
3. NAME OF RAILROAD RESPONSIBLE FOR TRACK MAINTENANCE *(single entry)*	3a. Alphabetic Code	3b. Railroad Accident/Incident No.
4. U. S. DOT-AAR GRADE CROSSING IDENTIFICATION NUMBER	5. DATE OF ACCIDENT/INCIDENT month / day / year	6. TIME OF ACCIDENT/INCIDENT am ☐ pm ☐

7. TYPE OF ACCIDENT/INCIDENT *(enter number in code box, single entry)* — CODE

1. Derailment 2. Head on collision 3. Rear end collision 4. Side collision 5. Raking collision 6. Broken train collision 7. Rail-Hwy crossing 8. RR grade crossing 9. Obstruction 10. Explosion-Detonation 11. Fire or violent rupture 12. Other *(specify)*

HAZARDOUS MATERIALS *(number of)*

8. CARS CARRYING	9. CARS DAMAGED OR DERAILED	10. CARS WHICH RELEASED HAZ. MAT.	11. PEOPLE EVACUATED *(est.)*

LOCATION

12. DIVISION	13. NEAREST STATION	14. MILEPOST *(to nearest tenth)*	15. STATE *(two letter code)*	CODE

ENVIRONMENTAL CONDITIONS

16. TEMPERATURE *(specify if minus)*	17. VISIBILITY *(single entry)*	CODE	18. WEATHER *(single entry)*	CODE
°F	1. Dawn 3. Dusk 2. Day 4. Dark		1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow	

OPERATIONAL DATA

19. METHOD *(place X in appropriate box(es))*

1 ☐ Manual block 2 ☐ Interlocking 3 ☐ Cab signal 4 ☐ Automatic block 5 ☐ Traffic control 6 ☐ Auto. train stop 7 ☐ Yard rules 8 ☐ Time table 9 ☐ Radio 10 ☐ Auto. train control 11 ☐ Verbal permission 12 ☐ Train orders 13 ☐ Other *(specify)*

20. SPEED *(recorded speed, if available)*	21. TRAIN NUMBER	22. TIME TABLE DIRECTION	CODE
Est. ☐ MPH Recorded ☐		1. North 2. South 3. East 4. West	

EQUIPMENT

23. TRAILING TONS *(gross tonnage, excluding power units)*	24. TYPE OF EQUIPMENT CONSIST *(single entry)*	CODE	25. WAS THE EQUIPMENT IDENTIFIED IN ITEM 24 UNATTENDED?	CODE
	1. Freight train 2. Passenger train 3. Mixed train 4. Work train 5. Single car 6. Cut of cars 7. Yard/switching 8. Light loco(s)		1. Yes 2. No	

26. TRACK NUMBER OR NAME	27. FRA TRACK CLASSIFICATION	28. ANNUAL TRACK DENSITY *(gross tons in millions)*	29. TYPE OF TRACK	CODE
			1. Main 2. Yard 3. Siding 4. Industry	

30. PRINCIPLE CAR/UNIT	30a. Initial and Number	30b. Position in Train	30c. Loaded *(yes or no)*
(1) First Involved *(derailed, struck, striking, etc.)*			
(2) Causing *(mechanical failures)*			

31. LOCOMOTIVE UNITS *(no. of)*	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End e. Remote
(1) Total in Train					
(2) Total Derailed					

32. CARS *(no. of)*	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist					
(2) Total Derailed					

PROPERTY DAMAGE *(estimated cost, including labor, to repair or replace)*

33. EQUIPMENT DAMAGE *(to be reported for this equipment consist only)*	$	34. TRACK, SIGNAL, WAY AND STRUCTURES DAMAGE *(to be reported by railroad in item 3 only)*	$

ACCIDENT/INCIDENT CAUSE CODE

35. PRIMARY CAUSE	CODE	36. CONTRIBUTING CAUSE	CODE	37. If no code available, explain cause.

CASUALTIES

38. NUMBER OF PERSONS INJURED	39. ESTIMATED TOTAL DAYS DISABILITY	40. NUMBER OF FATALITIES

CREW *(no. of)*

41. ENGINEERS	42. FIREMEN	43. CONDUCTORS	44. BRAKEMEN

HOURS ON DUTY

45. ENGINEER		46. CONDUCTOR	
Hrs:	Mins:	Hrs:	Mins:

47. TYPED NAME AND TITLE	48. SIGNATURE	49. DATE

50. NARRATIVE DESCRIPTION – *Describe the cause, nature and circumstances of accident/incident*

FORM FRA F 6180-54 (12-74) REPLACES FORM FRA F 6180-15 (11-72) WHICH IS OBSOLETE

GPO 880-585

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

RAIL-HIGHWAY GRADE CROSSING ACCIDENT/INCIDENT REPORT

FORM APPROVED
OMB NO. 04R4033

1. NAME OF REPORTING RAILROAD	1a. Alphabetic Code	1b. Railroad Accident/Incident No.
Amtrak ☐ Autotrain ☐		
2. NAME OF OTHER RAILROAD INVOLVED IN TRAIN ACCIDENT/INCIDENT	2a. Alphbetic Code	2b. Railroad Accident/Incident No.
3. NAME OF RAILROAD RESPONSIBLE FOR TRACK MAINTENANCE *(single entry)*	3a. Alphabetic Code	3b. Railroad Accident/Incident No.
4. U.S. DOT-AAR GRADE CROSSING IDENTIFICATION NUMBER	5. DATE OF ACCIDENT/INCIDENT month / day / year	6. TIME OF ACCIDENT/INCIDENT am ☐ pm ☐

LOCATION

7. NEAREST RAILROAD STATION	8. COUNTY	9. STATE *(two letter code)* CODE
10. CITY *(if in a city)*	11. HIGHWAY NAME OR NUMBER *(if private crossing, so state)*	

ACCIDENT/INCIDENT SITUATION

HIGHWAY USER INVOLVED

12. TYPE CODE
1. Auto 3. Truck-Trailer 6. Motorcycle
2. Truck 4. Bus 7. Pedestrian
5. School Bus 8. Other *(specify)*

13. SPEED *(estimated mph at impact)*

14. DIRECTION *(geographical)* CODE
1. North 3. East
2. South 4. West

15. POSITION CODE
1. Stalled on crossing 2. Stopped on crossing 3. Moving over crossing

RAILROAD EQUIPMENT INVOLVED

16. EQUIPMENT CODE
1. Train *(units pulling)* 3. Train *(standing)* 6. Light loco(s) *(moving)*
2. Train *(units pushing)* 4. Car(s) *(moving)* 7. Light loco(s) *(standing)*
5. Car(s) *(standing)* 8. Other *(specify)*

17. POSITION OF CAR/UNIT IN TRAIN CODE

18. CIRCUMSTANCE CODE
1. Train struck highway user 2. Train struck by highway user

19. CODE
Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway user 2. Rail equipment 3. Both 4. Neither

ENVIRONMENT

20. TEMPERATURE *(specify, if minus)* °F

21. VISIBILITY *(single entry)* CODE
1. Dawn 3. Dusk
2. Day 4. Dark

22. WEATHER *(single entry)* CODE
1. Clear 3. Rain 5. Sleet
2. Cloudy 4. Fog 6. Snow

TRAIN AND TRACK

23. TYPE OF TRAIN CODE
1. Freight 3. Mixed 5. Yard/Switching
2. Passenger 4. Work 6. Light Locomotive(s)

24. TRACK TYPE USED BY TRAIN INVOLVED CODE
1. Main 3. Siding
2. Yard 4. Industry

25. TRACK NUMBER OR NAME

26. FRA TRACK CLASSIFICATION

27. NUMBER OF LOCOMOTIVE UNITS

28. NUMBER OF CARS

29. TRAIN SPEED *(recorded speed, if available)* MPH Est ☐ Recorded ☐

30. TIME TABLE DIRECTION CODE
1. North 3. East
2. South 4. West

CROSSING WARNING

31. TYPE *(place X in appropriate box(es))*

1 ☐	Gates	5 ☐	Hwy. Traffic Signals	9 ☐	Watchman
2 ☐	Cantilever FLS	6 ☐	Audible	10 ☐	Flagged by crew
3 ☐	Standard FLS	7 ☐	Crossbucks	11 ☐	Other *(specify)*
4 ☐	Wig Wags	8 ☐	Stop Signs	12 ☐	None

32. SIGNALED CROSSING WARNING CODE
Was the signaled crossing warning identified in item 31 operating?
1. Yes 2. No

33. LOCATION OF WARNING CODE
1. Both sides 2. Side of vehicle approach 3. Opposite side of vehicle approach

34. CROSSING WARNING INTERCONNECTED WITH HIGHWAY SIGNALS CODE
1. Yes 2. No 3. Unknown

35. CROSSING ILLUMINATED BY STREET LIGHTS OR SPECIAL LIGHTS CODE
1. Yes 2. No 3. Unknown

MOTORIST ACTION

36. MOTORIST PASSED STANDING HIGHWAY VEHICLE CODE
1. Yes 2. No 3. Unknown

37. MOTORIST DROVE BEHIND OR IN FRONT OF TRAIN AND STRUCK OR WAS STRUCK BY SECOND TRAIN CODE
1. Yes 2. No 3. Unknown

38. MOTORIST CODE
1. Drove around or thru the gate 2. Stopped and then proceeded 3. Did not stop 4. Other *(specify)* 5. Unknown

39. VIEW OF TRACK OBSCURED BY *(primary obstruction)* CODE
1. Permanent structure 2. Standing railroad equipment 3. Passing train 4. Topography 5. Vegetation 6. Highway vehicles 7. Other *(specify)* 8. Not obstructed

HIGHWAY VEHICLE PROPERTY DAMAGE/CASUALTIES

40. HIGHWAY VEHICLE PROPERTY DAMAGE *(est dollar damage)*

41. DRIVER WAS CODE
1. Killed 2. Injured 3. Uninjured

42. WAS DRIVER IN THE VEHICLE? CODE
1. Yes 2. No

43. TOTAL NUMBER OF OCCUPANTS KILLED

44. TOTAL NUMBER OF OCCUPANTS INJURED

45. TOTAL NUMBER OF OCCUPANTS *(include driver)*

46. CODE
IS A RAIL EQUIPMENT ACCIDENT/INCIDENT REPORT BEING FILED? 1. Yes 2. No

47. TYPED NAME AND TITLE	48. SIGNATURE	49. DATE

FORM FRA F 6180-57 (12-74) REPLACES FORM FRA F 6180-13 (10-67) WHICH IS OBSOLETE

GPO 880-562

OMB-004-R4039

U.S. DOT — AAR CROSSING INVENTORY FORM

A. INITIATING AGENCY ☐ RAILROAD ☐ STATE

B. CROSSING NUMBER ☐☐☐☐☐☐☐

C. REASON FOR UPDATE:
☐ CHANGES IN EXISTING CROSSING DATA
☐ NEW CROSSING
☐ CLOSED CROSSING

D. EFFECTIVE DATE M D Y

Part I Location and Classification of All Crossings (Must Be Completed)

1. Railroad Operating Company
2. Railroad Division or Region
3. Railroad Subdivision or District
4. State
5. County
6. County Map. Ref. No.
7. City
8. Nearest City
9. Highway Type and No.
10. Street or Road Name
11. RR I. D. No.
12. Nearest RR Timetable Station
13. Branch or Line Name
14. Railroad Mile Post

DO NOT WRITE IN THIS SPACE: State, County, City, Nearest City, RR Code, Timetable Station

15. Pedestrian Crossing ☐ 1. at grade ☐ 2. RR under ☐ 3. RR over

16. Private Vehicle Crossing
A. ☐ 1. Farm ☐ 2. Residential ☐ 3. Recreational ☐ 4. Industrial
B. ☐ 5. at grade ☐ 6. RR under ☐ 7. RR over
C. ☐ 8. signs-specify ☐ 9. signals-specify ☐ 0. none

17. Public Vehicle Crossing ☐ 1. at grade ☐ 2. RR under ☐ 3. RR over

COMPLETE REMAINDER OF FORM ONLY FOR PUBLIC VEHICLE CROSSINGS AT GRADE

Part II Detailed Information for Public Vehicular at Grade Crossing

1A. Typical Number of Daily Train Movements

Daylight (6 AM to 6 PM)		Night (6 PM to 6 AM)	
thru trains	switching	thru trains	switching
1	2	3	4

1B. Check if Less Than One Movement Per Day ☐5

2. Speed of Train at Crossing
A. Maximum time table speed 1
B. Typical Speed Range Over Crossing from 2 to 3 mph

3. Type and Number of Tracks main 1 other 2 If other specify 3

4. Does Another RR Operate a Separate Track at Crossing? ☐ Yes 1☐ No Specify: RR 2

5. Does Another RR Operate Over Your Track at Crossing? ☐ Yes 1☐ No Specify: RR 2

6. Type of Warning Device at Crossing

A. Signs

Crossbucks		Standard Highway Stop Sign	Other Stop Signs	Other Signs: Specify
reflectorized	non-reflectorized			
01 Number	02 Number	03 Number	04 Number	05 Number 06; 07 Number 08

B. Train Activated Devices

Gates		Cantilevered Flashing Lights		Mast Mounted Flashing Lights	Other Flashing Lights Specify	Highway Traffic Signals	Wigwags	Bells
red & white reflectorized	other colored	over traffic lane	not over traffic lane					
09 Number	10 Number	11 Number	12 Number	13 Number	14 Number 15	16 Number	17 Number	18 Number

C. Specify Special Warning Device not Train Activated 19

D. No Signs or Signals ☐ 20

7. Is Commercial Power Available? ☐ Yes ☐ No

8. Does Crossing Signal Provide Speed Selection for Trains? ☐ Yes ☐ No ☐ N/A

9. Method of Signalling for Train Operation: Is Track Equipped with Signals? ☐ Yes ☐ No

Part III Physical Data

1. Type of Development ☐ 1. Open Sp. ☐ 2. Res ☐ 3. Comm. ☐ 4. Ind. ☐ 5. Inst.
2. Smallest Crossing Angle ☐ 0°-29° ☐ 30°-59° ☐ 60°-90°
3. Number of Traffic Lanes Crossing Railroad Number
4. Are Truck Pullout Lanes Present? ☐ Yes ☐ No
5. Is Highway Paved ☐ Yes ☐ No
6. Pavement Markings ☐ Stoplines ☐ RR Xing Sym. ☐ None
7. Are RR Advance Warning Signs Present? ☐ Yes ☐ No
8. Crossing Surface ☐ 1. Sec. Timber ☐ 2. Full Wd. Plank ☐ 3. Asphalt ☐ 4. Concrete Slab ☐ 5. Concrete Pave. ☐ 6. Rubber ☐ 7. Metal Sections ☐ 8. Other Metal ☐ 9. Unconsolidated ☐ 0. Other Specify
9. Does Track Run Down A Street? ☐ Yes ☐ No
10. Nearby Intersecting Highway? ☐ Yes ☐ No

Part IV Highway Department Information

1. Highway System
2. Is Crossing on State Highway System? ☐ Yes ☐ No.
3. Functional Classification of Road over Crossing
4. Estimate AADT
5. Estimate Percent Trucks

I. D. Number

APPENDIX C: MISCELLANEOUS DATA

TABLE C-1. MISCELLANEOUS DATA RECEIVED FROM THE RAIL-HIGHWAY CROSSING ACCIDENT/INCIDENT REPORTS, 1979

1. IS RAIL EQUIPMENT ACCIDENT/INCIDENT REPORT BEING FILED?

YES	NO	NOT REPORTED
221	11331	0

2. WAS DRIVER IN VEHICLE?

YES	NO	NOT REPORTED
10070	1360	122

3. DRIVER WAS

KILLED	INJURED	UNINJURED	NOT REPORTED
534	2704	8198	116

4. IS CROSSING WARNING INTERCONNECTED WITH HIGHWAY SIGNALS?

YES	NO	NOT REPORTED
387	8727	2438

5. DIRECTION (GEOGRAPHICAL) OF HIGHWAY USER INVOLVED:

NORTH	SOUTH	EAST	WEST	NOT REPORTED
3057	3088	2723	2597	87

6. TRAIN TIMETABLE DIRECTION:

NORTH	SOUTH	EAST	WEST	NOT REPORTED
2195	2142	3511	3632	72

TABLE C-2. MISCELLANEOUS DATA RECEIVED FROM DOT-AAR INVENTORY FORMS, 1979

LESS THAN ONE TRAIN PER DAY?

YES	NO	N/R
36767	179354	2

DOES ANOTHER RAILROAD OPERATE A SEPARATE TRACK AT CROSSING?

YES	NO	N/R
5371	210650	102

DOES ANOTHER RAILROAD OPERATE OVER YOUR TRACK AT CROSSING?

YES	NO	N/R
28178	187808	137

IS TRACK EQUIPPED WITH ANY SIGNS OR SIGNALS?

YES	NO	N/R
200339	15777	7

IS TRACK EQUIPPED WITH SIGNALS FOR TRAIN OPERATION?

YES	NO	N/R
59949	155774	400

IS HIGHWAY PAVED?

YES	NO	N/R
145264	70843	16

IS COMMERCIAL POWER AVAILABLE?

YES	NO	N/R
194590	21414	119

DOES TRACK RUN DOWN A STREET?[1]

YES	NO	N/R
6675	200432	9016

NEARBY INTERSECTING HIGHWAY?[1]

YES	NO	N/R
75818	131205	9100

RR ADVANCE WARNING SIGNS PRESENT?

YES	NO	N/R
89862	126217	44

ARE TRUCK PULLOUT LANES PRESENT?

YES	NO	N/R
2662	213385	76

IS CROSSING ON STATE HIGHWAY SYSTEM?

YES	NO	N/R
33175	182871	77

DOES CROSSING PROVIDE SPEED SELECTION?

YES	NO	N/A
6034	74496	135593

[1]NOT ON ORIGINAL INVENTORY FORM USED IN THE FIVE PILOT STATES.

N/R MEANS NOT RECORDED
N/A MEANS NOT APPLICABLE

APPENDIX D: ACCIDENTS/INCIDENTS AT PRIVATE CROSSINGS

TABLE D-1. ACCIDENTS/INCIDENTS AND CASUALTIES AT PRIVATE CROSSINGS INVOLVING MOTOR VEHICLES BY STATE AND TYPE OF TRAIN, 1979

STATE	TYPE OF TRAIN											
	*****FREIGHT*****			****PASSENGER****			YARD/ ****SWITCHING****			******OTHER[1]******		
	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
ALABAMA	12	0	0	1	0	0	2	0	0	4	0	0
ALASKA	1	0	0	0	0	0	0	0	0	0	0	0
ARIZONA	1	0	0	1	0	0	0	0	0	1	0	0
ARKANSAS	18	2	3	0	0	0	1	0	0	1	0	0
CALIFORNIA	19	3	6	1	0	0	9	0	1	5	0	1
COLORADO	8	1	0	1	0	0	0	0	0	2	1	1
CONNECTICUT	2	0	0	4	0	2	0	0	0	4	0	0
DELAWARE	0	0	0	0	0	0	0	0	0	0	0	0
DIST. COLUMBIA	0	0	0	0	0	0	1	0	0	0	0	0
FLORIDA	10	1	0	0	0	0	4	0	0	1	0	0
GEORGIA	11	0	3	0	0	0	8	0	1	2	0	0
HAWAII	0	0	0	0	0	0	0	0	0	0	0	0
IDAHO	5	0	1	0	0	0	1	0	0	2	0	1
ILLINOIS	24	5	4	3	0	0	19	0	3	13	0	2
INDIANA	23	1	5	1	0	0	5	0	1	8	0	1
IOWA	4	0	0	0	0	0	5	0	1	3	1	1
KANSAS	10	1	1	1	0	0	1	0	0	2	1	0
KENTUCKY	25	1	8	1	0	0	1	0	0	6	0	2
LOUISIANA	25	3	13	0	0	0	6	0	0	2	0	0
MAINE	4	0	0	0	0	0	2	0	0	0	0	0
MARYLAND	3	0	1	0	0	0	1	0	0	0	0	0
MASSACHUSETTS	1	0	0	1	0	0	1	0	0	0	0	0
MICHIGAN	14	0	2	0	0	0	17	0	1	8	0	2
MINNESOTA	11	0	2	0	0	0	7	0	2	1	0	0
MISSISSIPPI	9	0	2	1	0	0	5	0	2	2	0	1
MISSOURI	20	3	10	2	0	0	5	0	0	7	0	2
MONTANA	6	1	1	0	0	0	3	0	0	4	0	1
NEBRASKA	9	0	2	1	2	0	2	0	0	5	0	1
NEVADA	2	0	1	0	0	0	1	0	0	1	0	0
NEW HAMPSHIRE	1	0	0	0	0	0	0	0	0	0	0	0
NEW JERSEY	4	0	1	1	0	0	2	0	0	0	0	0
NEW MEXICO	3	2	0	0	0	0	1	0	0	0	0	0
NEW YORK	15	1	2	2	0	0	8	0	0	6	0	1
NORTH CAROLINA	23	0	8	1	0	0	2	0	0	2	0	1
NORTH DAKOTA	2	1	1	0	0	0	0	0	0	1	0	0
OHIO	22	3	7	1	0	2	16	0	0	8	0	3
OKLAHOMA	8	0	1	0	0	0	3	0	0	0	0	0
OREGON	7	0	0	0	0	0	3	0	0	1	0	0
PENNSYLVANIA	17	0	3	0	0	0	9	0	3	5	0	0
RHODE ISLAND	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH CAROLINA	2	0	2	3	0	1	5	0	0	0	0	0
SOUTH DAKOTA	1	0	0	0	0	0	0	0	0	0	0	0
TENNESSEE	8	0	1	0	0	0	3	0	0	2	0	0
TEXAS	29	1	11	2	0	1	19	0	5	5	0	1
UTAH	9	7	2	0	0	0	1	0	0	2	0	1
VERMONT	1	0	0	1	0	0	0	0	0	0	0	0
VIRGINIA	37	3	19	2	0	0	7	0	0	7	0	0
WASHINGTON	17	1	3	0	0	0	9	0	1	6	0	0
WEST VIRGINIA	28	0	8	0	0	0	4	0	2	6	0	4
WISCONSIN	11	0	1	0	0	0	3	0	0	2	0	0
WYOMING	4	0	1	0	0	0	1	0	0	3	0	0
TOTAL	526	41	136	32	2	6	203	0	23	140	3	27

KLD=KILLED
INJ=INJURED

[1] INCLUDES MIXED TRAINS, WORK TRAINS, AND LIGHT LOCOMOTIVES

TABLE D-2. ACCIDENTS/INCIDENTS AT PRIVATE CROSSINGS INVOLVING MOTOR VEHICLES BY STATE AND HIGHEST WARNING DEVICE, 1979

STATE	HIGHEST WARNING DEVICE[2]								
	GATES	FLASHING LIGHTS	HWY SIGS. WIGWAGS BELLS	SPECIAL[1]	CROSS-BUCKS	STOP SIGNS	OTHER SIGNS	NO SIGNS OR SIGNALS	TOTAL
ALABAMA	0	1	0	0	5	1	1	11	19
ALASKA	0	0	0	0	0	0	0	1	1
ARIZONA	0	0	0	1	2	0	0	0	3
ARKANSAS	0	0	0	2	8	0	0	10	20
CALIFORNIA	0	0	4	5	3	17	0	5	34
COLORADO	0	0	1	0	4	0	3	3	11
CONNECTICUT	0	5	0	0	2	0	1	2	10
DELAWARE	0	0	0	0	0	0	0	0	0
DIST. COLUMBIA	0	0	0	1	0	0	0	0	1
FLORIDA	0	1	0	1	7	1	0	5	15
GEORGIA	0	1	1	2	10	0	0	7	21
HAWAII	0	0	0	0	0	0	0	0	0
IDAHO	0	1	0	0	4	1	0	2	8
ILLINOIS	1	0	1	2	17	1	2	35	59
INDIANA	2	3	0	1	7	4	2	18	37
IOWA	1	0	0	0	3	1	1	6	12
KANSAS	0	0	0	0	5	0	0	9	14
KENTUCKY	0	0	0	1	7	3	1	21	33
LOUISIANA	0	1	0	4	9	0	0	19	33
MAINE	0	1	0	1	0	2	0	2	6
MARYLAND	0	0	0	1	1	0	0	2	4
MASSACHUSETTS	0	1	0	0	2	0	0	0	3
MICHIGAN	0	14	3	1	4	3	0	14	39
MINNESOTA	0	0	1	1	4	2	0	11	19
MISSISSIPPI	0	0	0	3	4	0	0	10	17
MISSOURI	0	2	0	0	8	0	0	24	34
MONTANA	0	0	1	0	5	0	0	7	13
NEBRASKA	0	0	0	0	6	1	0	10	17
NEVADA	0	0	0	0	1	0	1	2	4
NEW HAMPSHIRE	0	0	0	0	0	1	0	0	1
NEW JERSEY	0	0	0	0	3	2	0	2	7
NEW MEXICO	0	0	0	1	2	0	0	1	4
NEW YORK	1	1	0	4	3	4	1	17	31
NORTH CAROLINA	0	0	0	1	16	0	0	11	28
NORTH DAKOTA	0	0	0	0	1	0	1	1	3
OHIO	2	2	0	4	5	9	3	22	47
OKLAHOMA	0	0	0	0	4	0	1	6	11
OREGON	0	0	1	1	2	4	0	3	11
PENNSYLVANIA	0	3	1	5	8	5	0	9	31
RHODE ISLAND	0	0	0	0	0	0	0	0	0
SOUTH CAROLINA	0	0	1	1	5	1	0	2	10
SOUTH DAKOTA	0	0	0	0	1	0	0	0	1
TENNESSEE	0	0	0	0	4	0	1	8	13
TEXAS	1	2	2	4	27	1	0	18	55
UTAH	0	0	0	1	1	1	2	7	12
VERMONT	0	0	0	0	1	1	0	0	2
VIRGINIA	1	0	1	1	8	2	3	37	53
WASHINGTON	0	1	2	1	5	5	0	18	32
WEST VIRGINIA	1	1	0	0	5	0	1	30	38
WISCONSIN	0	0	0	2	6	1	0	7	16
WYOMING	0	0	0	0	1	2	0	5	8
TOTAL	10	41	20	53	236	76	25	440	901

[1] SPECIAL WARNING DEVICE NOT TRAIN ACTIVATED, E.G. CROSSING FLAGGED BY CREW

[2] SEE APPENDIX A FOR DEFINITION OF HIGHEST WARNING DEVICE

TABLE D-3. ACCIDENTS/INCIDENTS AND CASUALTIES AT PRIVATE CROSSINGS BY TYPE OF ROADWAY USER, 1979

TRAINS STRIKING OR BEING STRUCK BY:	**ACC/INC*** NO.	%	***KILLED*** NO.	%	**INJURED*** NO.	%
AUTOMOBILE	466	48.69	30	61.22	109	52.91
TRUCK	278	29.05	13	26.53	62	30.10
TRUCK TRAILER	145	15.15	0	0.0	18	8.74
BUS	0	0.0	0	0.0	0	0.0
SCHOOL BUS	1	0.10	0	0.0	0	0.0
MOTORCYCLE	11	1.15	3	6.12	3	1.46
PEDESTRIAN	1	0.10	1	2.04	0	0.0
OTHER	55	5.75	2	4.08	14	6.80
TOTAL	957	100.00	49	100.00	206	100.00

TABLE D-4. ACCIDENTS/INCIDENTS AND CASUALTIES AT PRIVATE CROSSINGS INVOLVING MOTOR VEHICLES BY HIGHEST WARNING DEVICE AND MOTORIST ACTION, 1979

HIGHEST WARNING DEVICE [1]	****TOTAL****			DROVE AROUND OR **THRU GATE**			STOPPED AND THEN **PROCEEDED**			DID NOT ****STOP*****			****OTHER****			***UNKNOWN***		
	A/I	KLD	INJ	A/I	KLD	INJ	A/I	KLD	INJ	A/I	KLD	INJ	A/I	KLD	INJ	A/I	KLD	INJ
GATES	10	0	2	4	0	1	0	0	0	0	0	0	6	0	1	0	0	0
CANTILEVERED FLASHING LIGHTS	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
STANDARD FLASHING LIGHTS	40	0	7	0	0	0	2	0	0	26	0	7	11	0	0	1	0	0
HIGHWAY SIGNALS WIGWAGS OR BELLS	20	0	1	0	0	0	1	0	0	12	0	0	5	0	1	2	0	0
SPECIAL	53	0	5	0	0	0	8	0	0	33	0	3	8	0	1	4	0	1
CROSSBUCKS	236	12	58	0	0	0	16	2	3	110	7	35	96	3	20	14	0	0
STOP SIGNS	76	3	15	0	0	0	9	1	1	41	2	9	21	0	4	5	0	1
OTHER SIGNS	25	1	2	0	0	0	0	0	0	16	0	2	8	1	0	1	0	0
NO SIGNS OR SIGNALS	440	30	102	0	0	0	27	1	3	212	23	71	187	6	24	14	0	4
UNKNOWN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	901	46	192	4	0	1	63	4	7	451	32	127	342	10	51	41	0	6

A/I = ACCIDENTS/INCIDENTS
KLD = KILLED
INJ = INJURED

[1] See Appendix A for definition of highest warning device.

TABLE D-5. ACCIDENTS/INCIDENTS AND CASUALTIES AT PRIVATE CROSSINGS INVOLVING MOTOR VEHICLES BY SPEED OF TRAIN, CIRCUMSTANCE, AND VISIBILITY. 1979

CIRCUMSTANCE AND TRAIN SPEED (MPH)	******TOTAL******			VISIBILITY ******DAWN*******			*******DAY*******			******DUSK*******			******DARK*******		
	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ	ACC/INC	KLD	INJ
STRUCK BY TRAIN															
STANDING	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-9	322	0	26	8	0	0	223	0	18	11	0	0	80	0	8
10-19	106	0	24	6	0	1	69	0	17	1	0	0	30	0	6
20-29	111	3	54	3	0	3	74	3	35	3	0	3	31	0	13
30-39	96	15	37	4	2	2	61	12	30	0	0	0	31	1	5
40-49	98	21	18	2	0	1	63	17	15	2	3	0	31	1	2
50-59	34	1	6	0	0	0	20	1	4	2	0	0	12	0	2
60-69	12	3	5	0	0	0	7	2	4	0	0	0	5	1	1
70-79	8	2	0	0	0	0	4	2	0	0	0	0	4	0	0
80-89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 AND OVER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNKNOWN	8	0	2	0	0	0	4	0	1	1	0	0	3	0	1
TOTAL	795	45	172	23	2	7	525	37	124	20	3	3	227	3	38
RAN INTO TRAIN															
STANDING	12	0	0	0	0	0	5	0	0	0	0	0	7	0	0
1-9	59	0	6	0	0	0	31	0	3	1	0	0	27	0	3
10-19	11	0	3	1	0	1	4	0	0	0	0	0	6	0	2
20-29	10	0	4	0	0	0	9	0	4	0	0	0	1	0	0
30-39	5	0	2	1	0	1	2	0	0	0	0	0	2	0	1
40-49	5	1	0	0	0	0	2	0	0	1	1	0	2	0	0
50-59	2	0	3	0	0	0	2	0	3	0	0	0	0	0	0
60-69	1	0	2	0	0	0	1	0	2	0	0	0	0	0	0
70-79	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80-89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 AND OVER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNKNOWN	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
TOTAL	106	1	20	2	0	2	57	0	12	2	1	0	45	0	6
GRAND TOTAL															
STANDING	12	0	0	0	0	0	5	0	0	0	0	0	7	0	0
1-9	381	0	32	8	0	0	254	0	21	12	0	0	107	0	11
10-19	117	0	27	7	0	2	73	0	17	1	0	0	36	0	8
20-29	121	3	58	3	0	3	83	3	39	3	0	3	32	0	13
30-39	101	15	39	5	2	3	63	12	30	0	0	0	33	1	6
40-49	103	22	18	2	0	1	65	17	15	3	4	0	33	1	2
50-59	36	1	9	0	0	0	22	1	7	2	0	0	12	0	2
60-69	13	3	7	0	0	0	8	2	6	0	0	0	5	1	1
70-79	8	2	0	0	0	0	4	2	0	0	0	0	4	0	0
80-89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90 AND OVER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNKNOWN	9	0	2	0	0	0	5	0	1	1	0	0	3	0	1
TOTAL	901	46	192	25	2	9	582	37	136	22	4	3	272	3	44

KLD=KILLED INJ=INJURED

TABLE D-6. ACCIDENTS/INCIDENTS AT PRIVATE CROSSINGS INVOLVING MOTOR VEHICLES BY RAILROAD AND HIGHEST WARNING DEVICE, 1979

RAILROAD	GATES	CANTI-LEVERED FLASHING LIGHTS	STANDARD FLASHING LIGHTS	HWY. SIG. WIGWAGS BELLS	HIGHEST WARNING DEVICE[4] SPECIAL[1]	CROSS-BUCKS	STOP SIGNS	OTHER SIGNS	NO SIGNS OR SIGNALS	TOTAL
CLASS I RAILROAD										
ALABAMA GREAT SOUTHERN RAILROAD	0	0	0	0	0	1	0	0	3	4
AMTRAK[2]	1	0	0	0	1	9	2	0	10	23
ATCHISON, TOPEKA & SANTA FE	1	0	1	0	1	17	4	0	11	35
BALTIMORE & OHIO RAILWAY	0	0	1	0	0	3	2	0	13	19
BESSEMER & LAKE ERIE RAILROAD	0	0	0	0	0	0	0	0	0	0
BOSTON & MAINE CORPORATION	0	0	1	0	0	2	0	0	0	3
BURLINGTON NORTHERN	0	0	3	5	0	26	8	1	62	105
CENTRAL OF GEORGIA RAILROAD	0	0	0	0	0	3	0	0	3	6
CHESAPEAKE & OHIO RAILWAY	1	0	1	0	0	6	3	2	22	35
CHICAGO & NORTH WESTERN	0	0	0	0	1	1	0	0	1	3
CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC	0	0	0	1	1	6	0	0	5	13
CHICAGO, ROCK ISLAND & PACIFIC	0	0	0	0	0	6	0	1	2	9
CINN., NEW ORLEANS & TEXAS PACIFIC	0	0	0	0	0	1	0	0	1	2
CLINCHFIELD RAILROAD	0	0	0	0	0	2	0	0	1	3
COLORADO & SOUTHERN RAILWAY	0	0	0	1	0	0	0	0	2	3
CONSOLIDATED RAIL CORPORATION	4	0	17	1	12	20	11	4	64	133
THE ESTATES[3]	0	0	0	0	0	0	0	0	0	0
DELAWARE & HUDSON RAILWAY	0	0	0	0	0	0	0	0	1	1
DENVER & RIO GRANDE WESTERN	0	0	0	0	0	0	0	5	2	7
DETROIT, TOLEDO & IRONTON	0	0	1	0	1	0	0	1	2	5
DULUTH, MISSABE & IRON RANGE	0	0	0	0	0	0	0	0	0	0
ELGIN, JOLIET & EASTERN	0	0	0	0	0	0	0	0	0	0
FLORIDA EAST COAST RAILWAY	0	0	0	0	0	0	0	0	0	0
FORT WORTH & DENVER RAILWAY	0	0	0	0	0	1	0	0	0	1
GRAND TRUNK WESTERN	0	1	7	2	0	2	1	0	5	18
ILLINOIS CENTRAL GULF RAILROAD	1	0	0	0	3	11	1	0	22	38
KANSAS CITY SOUTHERN RAILWAY	0	0	1	0	2	2	0	0	6	11
LONG ISLAND RAIL ROAD	1	0	0	0	0	0	0	0	0	1
LOUISIANA & ARKANSAS RAILWAY COMPANY	0	0	0	0	0	3	0	0	4	7
LOUISVILLE & NASHVILLE	0	0	0	0	1	10	1	1	14	27
MISSOURI-KANSAS-TEXAS RAILROAD	0	0	0	0	1	0	0	0	0	1
MISSOURI PACIFIC RAILROAD	0	0	0	0	4	19	1	0	28	52
NORFOLK & WESTERN RAILWAY	0	0	0	1	0	11	4	1	55	72
PITTSBURGH & LAKE ERIE RAILROAD	0	0	0	0	0	2	0	0	0	2
ST. LOUIS-SAN FRANCISCO RAILWAY	0	0	0	0	0	6	0	1	16	23
ST. LOUIS SOUTHWESTERN RAILWAY	0	0	0	0	0	2	0	0	1	3
SEABOARD COAST LINE RAILROAD	0	0	1	2	2	24	2	0	8	39
SOO LINE	0	0	0	0	0	1	1	1	9	12
SOUTHERN PACIFIC TRANSPORTATION COMPANY	0	0	0	3	5	8	6	0	7	29
SOUTHERN RAILWAY	0	0	0	0	4	11	0	0	26	41
UNION PACIFIC RAILROAD	0	0	0	0	1	8	7	1	20	37
WESTERN MARYLAND RAILWAY	0	0	0	0	0	0	1	0	3	4
WESTERN PACIFIC	0	0	0	2	0	1	4	0	2	9

TABLE D-6. (CONT.)

RAILROAD	GATES	HIGHEST WARNING DEVICE[4] CANTI-LEVERED FLASHING LIGHTS	STANDARD FLASHING LIGHTS	HWY. SIG. WIGWAGS BELLS	SPECIAL[1]	CROSS-BUCKS	STOP SIGNS	OTHER SIGNS	NO SIGNS OR SIGNALS	TOTAL
RECAPITULATION										
TOTAL CLASS I	8	1	34	18	39	216	57	19	421	813
CLASS II & III RAILROADS	2	0	6	2	14	20	19	6	19	88
TOTAL	10	1	40	20	53	236	76	25	440	901

[1]SPECIAL WARNING DEVICE NOT TRAIN-ACTIVATED, E.G. CROSSING FLAGGED BY TRAIN CREW

[2]AMTRAK AND AUTO-TRAIN ACCIDENTS HAVE BEEN EXCLUDED IN ALL OTHER TABLES. THESE ACCIDENTS ARE REPORTED BY BOTH AMTRAK OR AUTO-TRAIN AND THE OPERATING CARRIER. IN THIS TABLE THEY ARE INCLUDED IN THE DETAIL LINES BUT EXCLUDED IN THE RECAPITULATION.

[3]CROSSINGS ON LINES NOT MERGED INTO CONSOLIDATED RAIL CORPORATION OR NOT YET IDENTIFIED AS BELONGING TO CONSOLIDATED RAIL CORP.

[4]SEE APPENDIX A FOR DEFINITION OF HIGHEST WARNING DEVICE.

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