



FOR THE YEAR ENDED DECEMBER 31, 1967

RAIL-HIGHWAY GRADE-CROSSING ACCIDENTS

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
BUREAU OF RAILROAD SAFETY**

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

PREFACE

This is the thirty-third annual statistical report on rail-highway grade crossing accidents based upon reports of rail carriers filed pursuant to the Accident Reports Act of 1910 (as amended).

The primary purpose of this report is to direct attention to the hazards inherent at public grade crossings, and to provide a basis for formulation of regulations which would promote the safety of both rail and highway traffic at crossings.

Statistics recently compiled by the Bureau of Public Roads, Federal Highway Administration, show an increase of more than three million highway motor vehicle registrations compared with 1966. There was a decrease in the number of grade crossing accidents and in casualties, both killed and injured.

In 1967, 99 more crossings were "specially protected" as defined under "Classification of Crossings." There is no statistical evidence to indicate that the decrease in crossing accidents in 1967 was the result of any specific factor or combination of factors.

In reference to the tables shown in this report, it should be noted that only Tables A, B, C and Table 1 pertain to rail-highway grade crossing accidents of all kinds. All the other tables pertain to collisions involving motor vehicles, such as automobiles, busses, motortrucks and motorcycles.

A. Scheffer Lang
Administrator

SUMMARY

Rail-Highway Grade Crossing Accidents of All Kinds

In 1967, there were 3,932 crossing accidents involving pedestrians, automobiles, motortrucks, busses, motorcycles, and other vehicles or machines. The above accidents resulted in 1,632 deaths and 3,812 injuries. For the first time since 1962, statistics show a decrease in all three categories.

The following three tables show data for the ten-year period, 1958 - 1967.

Table A. -Total number of accidents and casualties at rail-highway grade crossings

Year	No. of accidents	Killed	Injured
Average 1958-67	3,470	1,416	3,550
1958	3,099	1,271	3,161
1959	3,075	1,203	3,247
1960	3,195	1,364	3,424
1961	3,204	1,291	3,514
1962	3,149	1,241	3,192
1963	3,373	1,302	3,524
1964	3,755	1,543	3,783
1965	3,820	1,534	3,801
1966	4,097	1,780	4,043
1967	3,932	1,632	3,812

Table B.-Ratios of the number of crossing accidents and casualties to the average of the 1958-1967 period.

Year	No. of accidents	Killed	Injured
Average number, 1958-1967	3,470	1,416	3,550
	Percent	Percent	Percent
1958-1967	100.00	100.00	100.00
1958	89.31	89.76	89.04
1959	88.62	84.96	91.46
1960	92.07	96.33	96.45
1961	92.33	91.17	98.98
1962	90.75	87.64	89.92
1963	97.20	91.95	99.27
1964	108.21	108.97	106.56
1965	110.09	108.33	107.07
1966	118.07	125.71	113.89
1967	113.31	115.25	107.38

Table C.-Ratio of number of casualties to number of crossing accidents

Year	Killed	Injured
1958	0.410	1.020
1959	0.391	1.056
1960	0.427	1.072
1961	0.403	1.097
1962	0.394	1.014
1963	0.386	1.045
1964	0.411	1.007
1965	0.402	0.995
1966	0.434	0.987
1967	0.415	0.969

Table C shows that with respect to deaths, the severity of crossing accidents in 1967 was slightly lower than in the preceding year. In the matter of injuries, the severity was the lowest in the past decade.

Grade Crossing Accidents Involving Motor Vehicles

Of the 3,932 crossing accidents of all kinds in 1967, 3,733 involved collisions between railroad movements and motor vehicles, and resulted in 1,520 deaths and 3,726 injuries. In 2,456 collisions, 65.79 percent, trains struck motor vehicles, resulting in 1,158, or 76.18 percent, of the deaths and in 2,218, or 59.53 percent of the injuries. In the other 1,277 collisions, 34.21 percent, motor vehicles struck the sides of train movements, resulting in 362, or 23.82 percent, of the deaths and in 1,508, or 40.47 percent, of the injuries.

The number of crossing accidents in 1967 involving collisions with motor vehicles show a decrease from 1966. In comparison with last year, there was also a decrease of 137 in the number of deaths and 201 in the number of injuries.

Table D. Number of crossing accidents involving motor vehicles, per million vehicles registered.

Year	Number of accidents	Number of motor vehicles registered	Number of accidents per million vehicles registered
		(Thousands)	
1958	2,855	68,821	41.5
1959	2,842	71,778	39.6
1960	2,980	74,660	39.9
1961	2,931	76,442	38.3
1962	2,944	79,682	36.9
1963	3,195	83,478	38.3
1964	3,539	87,281	40.5
1965	3,602	91,738	39.3
1966	3,862	94,177	41.0
1967	3,733	96,989	38.5

Types of Crossing Protection Provided

Of the 3,733 collisions, 1,617, or 43.32 percent, occurred at crossings which were specially protected by one of the following: Lowered gates, trainman, watchman, audible and visual signals, audible signals, or visible signals. The other 2,116, or 56.68 percent, occurred at crossings protected by signals or signs that did not indicate the approach of trains.

The latest available statistics show a total of 214,417 rail-highway crossings at grade. Of these crossings, 44,432 or 20.72 percent, were specially protected; 169,985, or 79.28 percent, were not specially protected.

Times and Weather Conditions Involved in Motor Vehicle Collisions

Of the 3,733 crossing collisions, 2,273, or 60.89 percent, occurred in daylight, and 1,460, or 39.11 percent, took place at night. There were 2,564 collisions, or 68.68 percent, in clear weather, and 1,169, or 31.32 percent, under cloudy or inclement weather conditions.

Types of Motor Vehicles Involved in Crossing Accidents

Of the 3,733 collisions between trains and motor vehicles, automobiles were involved in 2,906, or 77.85 percent; busses in 11, or 0.29 percent; motortrucks in 780, or 20.89 percent, and motorcycles in 36, or 0.96 percent.

DEFINITION OF TERMS

Classification of Accidents. A public rail-highway grade-crossing accident is one which results in (a) a reportable casualty to a person or (b) in a collision or derailment of a train, locomotive, or car, or other train accident and in which there is more than \$750 damage to equipment, track, or roadbed.

Classification of Casualties. Reportable casualties are:

(a) Death of a person: A death resulting from an accident within 24 hours immediately following the accident is reportable as a fatality; if death occurs after the expiration of the 24-hour period, the casualty is reported as an injury and also as a subsequent fatality.

(b) Injury to a railroad employee is the injury is sufficient to incapacitate the injured person from performing his or her duties for a period of more than 24 hours in the aggregate during the 10 days immediately following the accident. (Prior to January 1, 1961, the injury was not reportable unless the employee was incapacitated for a period of more than three days in the aggregate during the 10 days immediately following the accident)

(c) Injury to a person other than a railroad employee if the injury is sufficient to incapacitate the injured person from following his or her customary vocation or mode of life for a period of more than 24 hours in the aggregate during the 10 days immediately following the accident.

Classification of Crossings. A highway crossing comprises all the tracks within, or immediately adjacent to, the railroad right-of-way, owned or leased, at an intersection with the highway. Crossings with streets, avenues, and rural highways, are included. Only public crossings are covered. Highway crossings with industrial tracks only, not owned or leased by a railroad, are excluded.

The type of signaling device for restricting use of a crossing by trains, highway vehicles, or pedestrians determines whether the crossing is "specially protected" or "not specially protected." "Specially protected" crossings are those protected by: Gates operated 24 hours per day or less; trainmen; watchmen on duty 24 hours per day or less; or devices that indicate the approach of trains. Crossings "not specially protected" are those that merely indicate the proximity of a crossing by fixed signs, and those without stationary signs or other cautionary fixtures.

Classification of Persons. Persons using crossings as a continuation of a street or road are divided into two classes, "trespassers" and "non-trespassers." A person is not reported as a trespasser on a highway-grade crossing unless the crossing is protected by gates, or other similar barriers, which were closed when the person went on the crossing, or unless the person attempted to pass over or under trains or cars at the crossing.

There are instances in which persons on trains may be killed or injured. Such persons may be classified as passengers, employees on duty, non-trespassers, and trespassers.

Table 1. Rail-Highway Accidents of All Kinds and Casualties, 1967-1966 *

Cause of accident	Accidents				Killed				Injured			
	1967		1966		1967		1966		1967		1966	
	No.	Percent of total	No.	Percent of total	No.	Percent of total	No.	Percent of total	No.	Percent of total	No.	Percent of total
Trains striking or being struck by:												
Pedestrians	115	2.92	144	3.51	85	5.21	100	5.62	35	0.92	47	1.16
Passenger autos	2,906	73.91	2,964	72.35	1,219	74.69	1,292	72.58	3,043	79.83	3,130	77.42
Motor busses	11	.28	23	.56	9	.55	31	1.74	23	.60	98	2.42
Motor trucks	780	19.84	837	20.43	275	16.85	311	17.47	637	16.71	680	16.82
Motorcycles	36	.92	38	.93	17	1.04	23	1.29	23	.60	19	.47
Other vehicles or machines	45	1.14	45	1.10	25	1.53	23	1.29	19	.50	26	.64
Pedestrians passing over or under..	6	.15	4	.10	2	.12	-	-	4	.10	4	.10
Miscellaneous	33	.84	42	1.03	-	.12	-	-	28	.73	39	.96
Total	3,932	100.00	4,097	100.00	1,632	100.00	1,780	100.00	3,812	100.00	4,043	100.00

* Nontrain accidents excluded.

Table 2. Nature of Rail-Highway Accidents Involving Motor Vehicles, 1967-1964

	Number of Accidents				Killed				Injured			
	1967	1966	1965	1964	1967	1966	1965	1964	1967	1966	1965	1964
Motor vehicle:												
Struck by train	2,456	2,595	2,387	2,283	1,158	1,301	1,075	1,047	2,218	2,445	2,244	2,252
Ran into side of train...	1,277	1,267	1,215	1,256	362	356	359	385	1,508	1,482	1,419	1,424
Total	3,733	3,862	3,602	3,539	1,520	1,657	1,434	1,432	3,726	3,927	3,663	3,676

Percent of total

Motor vehicle:												
Struck by train	65.79	67.19	66.27	64.51	76.18	78.52	74.97	73.11	59.53	62.26	61.26	61.26
Ran into side of train...	34.21	32.81	33.73	35.49	23.82	21.48	25.03	26.89	40.47	37.74	38.74	38.74
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

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Nature of collision	Accidents in 1967		Killed in 1967		Injured in 1967	
	Daylight	Dark	Daylight	Dark	Daylight	Dark
Struck by train:						
Passenger automobiles ...	1,217	628	641	288	1,097	649
Motor busses	8	1	5	2	17	2
Motor trucks	514	81	196	22	377	72
Motorcycles	4	3	2	2	2	2
Total	1,743	713	844	314	1,493	725
Ran into side of train:						
Passenger automobiles ...	395	666	113	177	489	808
Motor busses	2	-	2	-	4	-
Motor trucks	117	68	41	16	119	69
Motorcycles	16	13	7	6	11	8
Total	530	747	163	199	623	885

Table 3. Accidents Involving Motor Vehicles, Classified as "Ran into Side of Train," 1967-1965

Part of train struck	Number of accidents			Percent of total			Number in 1967	
	1967	1966	1965	1967	1966	1965	Daylight	Dark
Head end of train								
Motive power pulling or running light	785	794	725	61.47	62.67	59.67	446	339
Lead car shoved	74	61	66	5.79	4.81	5.43	26	48
Other part at or near head end of train <u>1/</u>	5	2	10	.39	.16	.82	2	3
Sub-total	864	857	801	67.66	67.64	65.92	474	390
Last Unit of train	36	41	46	2.82	3.24	3.79	6	30
Other parts of train consisting of more than 3 units:								
First quarter of train	140	163	148	10.96	12.87	12.18	34	106
Second quarter of train	104	89	92	8.14	7.02	7.57	12	92
Third quarter of train	54	36	50	4.23	2.84	4.12	3	51
Fourth quarter of train <u>2/</u>	72	78	71	5.64	6.16	5.84	1	71
Sub-total	370	366	361	28.97	28.89	29.71	50	320
Part of train not reported	7	3	7	.55	.24	.58	-	7
Grand Total	1,277	1,267	1,215	100.00	100.00	100.00	530	747

1/ Includes accidents involving trains of less than four cars where the motive power unit was not involved.

2/ Excludes accidents involving last unit of train.

Table 4. Nature of Rail-Highway Collision Involving Motor Vehicles and part of 24-hour Period, 1967-1964

Part of 24-hour period	Total number of accidents				Percent of total				Struck by train in 1967		Ran into side o train in 1967	
	1967	1966	1965	1964	1967	1966	1965	1964	Persons		Persons	
									Killed	Injured	Killed	Injured
Daylight	2,273	2,354	2,138	2,108	60.89	67.19	59.35	59.56	844	1,493	163	623
Dark	1,460	1,508	1,464	1,431	39.11	32.81	40.65	40.44	314	725	199	885
Total	3,733	3,862	3,602	3,539	100.00	100.00	100.00	100.00	1,158	2,218	362	1,508

Table 5. Rail-highway Accidents Involving Motor Vehicles, According to Hour, 1967-1964

Hour	Total				Struck by train				Ran into side of train			
	1967	1966	1965	1964	1967	1966	1965	1964	1967	1966	1965	1964
Midnight to 12:59 A.M.	124	132	124	126	48	56	58	56	76	76	66	70
1 to 1:59 A.M.	123	130	106	104	41	51	37	36	82	79	69	68
2 to 2:59 " "	109	91	90	97	38	35	31	39	71	56	59	58
3 to 3:59 " "	72	69	69	45	27	28	28	16	45	41	41	29
4 to 4:59 " "	55	61	46	63	21	29	21	32	34	32	25	31
5 to 5:59 " "	53	94	70	72	28	62	38	44	25	32	32	28
6 to 6:59 " "	129	142	130	150	88	98	99	111	41	44	31	39
7 to 7:59 " "	210	195	188	160	169	150	141	113	41	45	47	47
8 to 8:59 " "	176	190	161	165	134	147	127	119	42	43	34	46
9 to 9:59 " "	164	201	170	173	129	162	129	131	35	39	41	42
10 to 10:59 " "	196	206	151	176	156	157	118	129	40	49	33	47
11 to 11:59 " "	196	192	192	164	150	142	150	117	46	50	42	47
Noon to 12:59 P.M.	201	196	156	156	154	156	120	117	47	40	36	39
1 to 1:59 " "	162	189	190	182	129	148	139	127	33	41	51	55
2 to 2:59 " "	176	204	199	173	130	164	156	131	46	40	43	42
3 to 3:59 " "	211	198	203	187	167	150	157	138	44	48	46	49
4 to 4:59 " "	212	193	198	198	157	151	153	146	55	42	45	52
5 to 5:59 " "	194	187	178	202	141	134	133	146	53	53	45	56
6 to 6:59 " "	183	181	196	194	121	111	129	127	62	70	67	67
7 to 7:59 " "	174	182	179	172	99	108	113	105	75	74	66	67
8 to 8:59 " "	167	160	146	142	101	92	76	84	66	68	70	58
9 to 9:59 " "	138	165	176	158	80	105	105	75	58	60	71	83
10 to 10:59 " "	151	152	141	139	75	77	69	75	76	75	72	64
11 to 11:59 " "	157	152	143	141	73	82	60	69	84	70	83	72
Total	3,733	3,862	3,602	3,539	2,456	2,595	2,387	2,283	1,277	1,267	1,215	1,256

Table 6. Rail-highway Accidents Involving Motor Vehicles, According to Day, 1967-1964

Day	Total				Struck by train				Ran into side of train			
	1967	1966	1965	1964	1967	1966	1965	1964	1967	1966	1965	1964
Sunday	411	379	356	367	256	257	236	233	155	122	120	134
Monday	497	517	503	467	346	354	338	313	151	163	165	154
Tuesday	523	549	506	463	362	392	342	298	161	157	164	165
Wednesday	502	583	512	543	337	375	339	368	165	208	173	175
Thursday	512	557	520	525	340	373	356	329	172	184	164	196
Friday	666	579	609	605	444	377	391	381	222	202	218	224
Saturday	622	698	596	569	371	467	385	361	251	231	211	208
Total	3,733	3,862	3,602	3,539	2,456	2,595	2,387	2,283	1,277	1,267	1,215	1,256

Table 7. Rail-Highway Accidents Involving Motor Vehicles, by Month, 1967-1964

Month	Total				Struck by train				Ran into side of train			
	1967	1966	1965	1964	1967	1966	1965	1964	1967	1966	1965	1964
January	394	431	364	359	264	316	262	249	130	115	102	110
February	373	351	363	364	263	239	251	243	110	112	112	121
March	277	310	328	294	188	211	237	199	89	99	91	95
April	262	270	253	244	173	182	163	152	89	88	90	92
May	258	264	232	208	172	186	152	143	86	78	80	65
June	209	240	234	217	140	155	156	120	69	85	78	97
July	253	236	225	215	155	150	141	130	98	86	84	85
August	284	261	255	228	186	173	143	152	98	88	112	76
September	275	277	261	255	173	173	163	151	102	104	98	104
October	333	328	322	371	222	206	202	238	111	122	120	133
November	389	403	368	364	250	265	254	219	139	138	114	145
December	426	491	397	420	270	339	263	287	156	152	134	133
Total	3,733	3,862	3,602	3,539	2,456	2,595	2,387	2,283	1,277	1,267	1,215	1,256

Table 8. Types of Motor Vehicles Involved in Crossing Accidents, 1967-1964

Motor vehicle	Number of accidents				Number of motor vehicles registered (thousands)	Year 1967		Number of accidents occurring	
						Number of accidents per million vehicles registered	Daylight		
	1967	1966	1965	1964		Daylight	Dark		
Automobile	2,906	2,964	2,824	2,809	80,458	36.12	1,612	1,294	
Bus	11	23	10	6	337	32.64	10	1	
Motortruck	780	837	736	693	16,194	48.16	631	149	
Motorcycle	36	38	32	31	1,953	18.43	20	16	
Total	3,733	3,862	3,602	3,539	98,942	37.88	2,273	1,460	

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Table 9. Rail-Highway Accidents Involving Motor Vehicles, by Kind of Train, 1967-1964

Kind of train	Train Miles Class I railroads (thousands)		Number of accidents	Number per million Train Miles				Number of accidents occurring in 1967	
	1967	1966		1967	1967	1966	1965	1964	Daylight
	Freight	420,355	437,490	2,651	6.31	6.02	5.82	5.63	1,696
Passenger	149,820	164,264	561	3.74	3.88	3.64	3.56	404	157
Work	<u>2/</u> 5,400	<u>2/</u> 5,900	45	8.33	8.98	8.54	6.45	31	14
Yard (switching) & other <u>1/</u>	257,388	223,819	476	1.85	2.40	2.13	2.33	142	334
Total	832,963	831,473	3,733	4.48	4.64	4.39	4.30	2,273	1,460

1/ Excluding switching and terminal companies.

2/ Estimated.

Table 10. Rail-highway Accidents Involving Motor Vehicles, by Type of Crossing Protection, 1967

Type of crossing protection at time of accident	Number of accidents	Number of crossings ^{1/} on Dec. 31, 1966	Accidents per 100 crossings	Number occurring		Struck by train		Ran into side of train	
				Daylight	Dark	Daylight	Dark	Daylight	Dark
Lowered gates	89	7,651	1.16	35	54	29	25	6	29
Trainman	74			12	62	6	15	6	47
Watchman	22	1,004	2.19	8	14	7	7	1	7
Audible & Visible signal	918	20,517	4.47	560	358	420	188	140	170
Audible signal	32	1,425	2.25	22	10	15	8	7	2
Visible signal	482	13,835	3.48	286	196	222	101	64	95
Total special	1,617	44,432	3.64	923	694	699	344	224	350
Signal or sign not of a type indicating approach of train	2,116	169,985	1.24	1,350	766	1,044	369	306	397
Grand total	3,733	214,417	1.74	2,273	1,460	1,743	713	530	747

^{1/} On class I line-haul railroads and switching and terminal companies. Data for 1967 not available.

Note: Where more than one type of protection was afforded at the time of accident, the accident was classified according to the type first shown above.

Table 11. Rail-Highway Accidents Involving Motor Vehicles, According to Operation of Crossing Protection, 1967-1964

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Operation of crossing protection	Number of accidents				Year 1967						
					Number occurring		Struck by train		Ran into side of train		
	1967	1966	1965	1964	Daylight	Dark	No. occurring		No. occurring		
							Daylight	Dark	Daylight	Dark	
Automatic:											
Both sides of crossing ...	1,465	1,395	1,345	1,292	867	598	658	312	209	286	
Side of approach	28	53	63	76	15	13	11	5	4	8	
Opposite side	24	14	29	26	20	4	18	4	2	-	
Manual:											
Both sides of crossing ...	15	15	10	11	5	10	4	5	1	5	
Side of approach	82	67	96	104	14	68	8	18	6	50	
Opposite side	3	12	7	9	2	1	1	1	1		
Other: ^{1/}											
Both sides of crossing ...	1,736	1,877	1,682	1,595	1,091	645	839	304	252	341	
Side of approach	218	252	216	209	148	70	114	40	34	30	
Opposite side	125	130	125	179	88	37	70	16	18	21	
Not reported	37	47	29	38	23	14	20	8	3	6	
Total	3,733	3,862	3,602	3,539	2,273	1,460	1,743	713	530	747	

^{1/} Not of a type indicating approach of train.

Table 12. Crossing Accidents After Dark Involving Motor Vehicles, According to Illumination of Crossing, 1967-1964

Crossing illumination	Accidents after dark												Year 1967	
	Number of accidents				Struck by train				Ran into side of train				Persons	
	1967	1966	1965	1964	1967	1966	1965	1964	1967	1966	1965	1964	Killed	Injured
Lighted	645	656	614	630	322	364	342	341	323	292	272	289	202	706
Not lighted	815	852	850	801	391	422	413	397	424	430	437	404	311	904
Total	1,460	1,508	1,464	1,431	713	786	755	738	747	722	709	693	513	1,610

Table 13. Rail-Highway Accidents Involving Motor Vehicles, According to Speed and Kind of Train Involved, 1967

Speed of train (miles per hour)	Number of acci- dents	Struck by train		Ran into side of train		Kind of train					
		Number occurring		Number occurring		Freight		Passenger		Yard (switching) and other	
		Daylight	Dark	Daylight	Dark	Number	Percent of total	Number	Percent of total	Number	Percent of total
1 - 9	703	98	122	78	405	355	13.39	14	2.50	334	64.11
10 - 19	605	227	154	95	129	452	17.05	37	6.60	116	22.26
20 - 29	641	330	131	104	76	537	20.26	60	10.70	44	8.45
30 - 39	599	333	108	92	66	524	19.77	60	10.70	15	2.88
40 - 49	483	302	74	67	40	407	15.35	70	12.48	6	1.15
50 - 59	358	227	50	59	22	262	9.88	92	16.40	4	.77
60 - 69	206	131	45	26	4	110	4.15	94	16.76	2	.38
70 - 79	117	81	22	9	5	4	.15	113	20.14	-	-
80 - 89	18	12	6	-	-	-	-	18	3.21	-	-
90 and over	3	2	1	-	-	-	-	3	.53	-	-
Total	3,733	1,743	713	530	747	2,651	100.00	561	100.00	521	100.00

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Table 14. Rail-Highway Accidents Involving Motor Vehicles, According to Weather Conditions, 1967

Weather	Number of accidents		Struck by train		Ran into side of train	
	Number	Percent of total	Number occurring		Number occurring	
			Daylight	Dark	Daylight	Dark
Clear	2,564	68.68	1,227	475	374	488
Cloudy	754	20.20	365	146	107	136
Rain	236	6.32	86	60	30	60
Snow, sleet or hail..	96	2.57	43	22	10	21
Fog	83	2.22	22	10	9	42
Dust	-	-	-	-	-	-
Total	3,733	100.00	1,743	713	530	747

Table 15. Rail-highway Accidents Involving Motor Vehicles, According to Number of Cars in Train and Kind of Train, 1967

Number of cars in train	Number of accidents				Percent of total				Number of accidents occurring	
	Total	Freight	Passenger	Yard (switching) and other	Total	Freight	Passenger	Yard (switching) and other	Daylight	Dark
None <u>1</u> /	213	93	3	117	5.71	3.51	0.53	22.46	103	110
1 - 9	1,101	516	347	238	29.49	19.46	61.85	45.68	727	374
10 - 19	564	290	189	85	15.11	10.94	33.69	16.31	328	236
20 - 29	273	222	15	36	7.31	8.37	2.67	6.91	168	105
30 - 39	203	183	3	17	5.44	6.90	.53	3.26	127	76
40 - 49	153	141	1	11	4.10	5.32	.18	2.11	95	58
50 - 59	161	153	1	7	4.31	5.77	.18	1.34	97	64
60 - 69	176	170	1	5	4.71	6.41	.18	.96	101	75
70 - 79	152	151		1	4.07	5.70		.19	96	56
80 - 89	149	149			3.99	5.62			97	52
90 - 99	139	138		1	3.72	5.21		.19	88	51
100 - 109	127	126		1	3.40	4.75		.19	69	58
110 - 119	99	98		1	2.65	3.70		.19	61	38
120 - 129	68	67	1		1.82	2.53	.18		37	31
130 - 139	43	43			1.15	1.62			19	24
140 - 149	42	42			1.13	1.58			26	16
150 and over	68	67		1	1.82	2.53		.19	32	36
Not reported or unknown	2	2			.05	.08			2	
Total	3,733	2,651	561	521	100.00	100.00	100.00	100.00	2,273	1,460

1/ Locomotives only.

Table 16. Rail-highway Accidents Involving Motor Vehicles, According to Speed of Motor Vehicles, 1967

Speed of motor vehicle (miles per hour)	Total				Struck by train						Ran into side of train					
	Number of accidents	Percent of total	Killed	Injured	Daylight			Dark			Daylight			Dark		
					Accidents	Killed	Injured	Accidents	Killed	Injured	Accidents	Killed	Injured	Accidents	Killed	Injured
Standing	441	11.81	145	353	312	106	262	125	39	85	1	-	1	3	-	5
1 - 9	374	10.02	144	347	234	106	207	83	26	77	34	9	35	23	3	28
10 - 19	611	16.37	264	590	343	165	299	144	74	153	63	10	70	61	15	68
20 - 29	760	20.36	251	792	363	170	304	150	47	171	113	25	143	134	9	174
30 - 39	539	14.44	207	613	195	114	178	107	50	124	94	22	119	143	21	192
40 - 49	311	8.33	124	370	94	54	91	29	21	36	77	23	104	111	26	139
50 - 59	236	6.32	129	233	66	42	52	22	13	24	61	33	52	87	41	105
60 and over	147	3.94	107	123	31	25	20	10	13	7	46	21	49	60	48	47
High speed ^{1/}	20	.54	12	17	6	3	5	3	1	3	3	3	3	8	3	8
Not reported	294	7.88	137	288	99	59	75	40	28	47	38	17	47	117	33	119
Total	3,733	100.00	1,520	3,726	1,743	844	1,493	713	314	725	530	163	623	747	199	885

^{1/} Miles per hour not known.

Table 17. Rail-highway Accidents Involving Motor Vehicles, by States, 1967-1966

State	Total Number of accidents		Total persons				Struck by train 1967						Ran into side of train 1967					
			Killed		Injured		Daylight			Dark			Daylight			Dark		
	1967	1966	1967	1966	1967	1966	Number of accidents	Persons		Number of accidents	Persons		Number of accidents	Persons		Number of accidents	Persons	
								Killed	Injured		Killed	Injured		Killed	Injured		Killed	Injured
1. Alabama	88	106	31	36	85	95	44	15	44	11	6	9	18	5	17	15	5	15
2. Alaska	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Arizona	29	20	7	5	28	17	11	2	9	7	4	5	8	1	3	5	1	5
4. Arkansas	67	65	35	22	59	69	39	24	32	19	10	19	4	17	40	48	17	54
5. California	267	276	122	128	267	254	119	72	95	62	16	78	38	17	40	7	-	12
6. Colorado	31	31	7	17	33	24	14	5	11	5	1	4	5	1	6	7	-	1
7. Connecticut	2	3	-	1	2	2	-	-	-	-	-	-	1	-	3	1	1	-
8. Delaware	11	6	3	1	9	5	2	-	2	5	2	6	3	4	31	35	6	43
9. Florida	154	120	51	61	149	134	73	35	63	15	6	12	31	7	23	20	9	19
10. Georgia	119	139	60	62	115	148	62	35	53	18	9	20	19	7	23	20	9	19
11. Hawaii	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12. Idaho	14	24	6	12	14	24	7	3	6	3	3	2	1	2	3	3	4	4
13. Illinois	283	280	112	124	279	263	138	64	122	60	25	65	26	9	25	59	14	67
14. Indiana	203	207	88	98	188	183	105	42	86	49	28	46	21	6	31	28	12	25
15. Iowa	104	136	40	77	102	125	43	23	32	12	3	10	19	7	22	30	7	38
16. Kansas	91	115	39	57	94	96	41	24	37	14	4	13	25	9	29	11	2	15
17. Kentucky	64	42	23	17	60	45	39	13	41	7	5	2	7	3	7	11	5	10
18. Louisiana	88	91	30	26	101	132	36	18	35	18	5	23	16	2	22	18	5	21
19. Maine	18	10	4	3	21	19	11	3	10	-	-	-	4	1	7	3	-	4
20. Maryland	16	16	8	12	9	13	8	5	3	4	2	3	2	-	2	2	1	1
21. Massachusetts	8	9	4	18	9	26	2	-	3	5	3	6	-	-	64	61	10	75
22. Michigan	200	191	71	72	231	176	69	36	59	32	10	33	38	15	16	24	7	23
23. Minnesota	103	121	42	43	100	137	47	17	41	19	15	20	13	3	18	8	-	11
24. Mississippi	74	86	25	33	84	87	44	19	47	11	3	8	11	3	3	18	5	29
25. Missouri	102	83	55	63	93	71	65	45	47	13	2	14	6	3	3	18	5	29
26. Montana	15	23	13	5	8	34	8	8	4	2	1	1	3	2	2	9	2	1
27. Nebraska	68	63	42	39	49	49	36	27	22	15	9	8	8	2	6	1	-	1
28. Nevada	3	4	2	1	1	3	2	2	2	-	-	-	-	-	-	-	-	-
29. New Hampshire	6	5	3	3	4	5	3	3	3	1	-	1	-	-	4	5	1	6
30. New Jersey	36	53	16	19	34	49	23	10	17	6	2	7	2	3	4	5	1	6
31. New Mexico	8	11	7	5	6	8	3	3	2	2	3	1	-	-	3	1	1	3
32. New York	72	80	32	40	84	80	27	13	32	20	11	23	13	7	15	12	1	14
33. North Carolina	111	118	43	43	106	122	61	25	53	23	10	24	14	3	14	13	5	15
34. North Dakota	21	28	12	10	17	36	10	5	7	6	4	5	5	3	5	-	-	-
35. Ohio	240	236	79	112	256	215	101	42	82	48	16	55	19	3	18	72	18	101
36. Oklahoma	85	89	41	34	87	99	45	31	35	13	3	20	19	6	23	8	1	9
37. Oregon	57	51	15	13	55	52	28	5	31	8	2	7	7	4	3	14	4	14
38. Pennsylvania	90	103	30	33	80	103	41	10	32	19	15	17	14	4	11	16	3	20
39. Rhode Island	1	-	-	-	1	-	-	-	1	-	-	-	-	-	6	-	-	-
40. South Carolina	63	81	32	31	57	93	29	19	21	21	11	23	4	-	9	2	7	7
41. South Dakota	19	23	13	13	15	26	8	9	2	4	2	5	7	1	17	18	11	18
42. Tennessee	75	69	29	33	78	70	37	12	36	10	5	10	10	11	72	82	20	101
43. Texas	336	362	121	139	363	390	126	57	118	72	33	72	6	1	3	4	-	5
44. Utah	25	24	8	14	26	25	15	4	12	5	3	6	1	1	1	1	1	1
45. Vermont	3	8	1	6	2	3	1	-	1	-	-	-	-	-	-	-	-	-
46. Virginia	42	46	21	14	31	92	22	12	17	8	6	5	7	3	4	5	-	5
47. Washington	64	57	29	10	71	71	31	18	29	14	5	15	7	1	6	12	5	21
48. West Virginia	23	18	8	8	25	15	11	5	8	5	1	8	1	-	1	6	2	8
49. Wisconsin	124	125	54	42	128	134	48	21	47	21	11	19	19	11	23	36	11	39
50. Wyoming	10	8	6	2	10	8	5	3	3	1	1	-	2	2	5	2	-	2
51. District of Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52. State Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53. Total	3,733	3,862	1,520	1,657	3,726	3,927	1,743	844	1,493	713	314	725	530	163	623	747	199	885

Table 18. Rail-highway Accidents by States and Type of Motor Vehicles Involved, 1967

	State	Total			Automobile			Buses			Motortrucks			Motorcycles		
		Number of accidents	Persons		Number of accidents	Persons		Number of accidents	Persons		Number of accidents	Persons		Number of accidents	Persons	
			Killed	Injured		Killed	Injured		Killed	Injured		Killed	Injured		Killed	Injured
1.	Alabama	88	31	85	68	23	69				18	7	15	2	1	1
2.	Alaska															
3.	Arizona	29	7	28	20	6	22				9	1	6			
4.	Arkansas	67	35	59	47	24	45				20	11	14			
5.	California	267	122	267	199	101	217	2	2	3	60	17	42	6	2	5
6.	Colorado	31	7	33	17	5	20				14	2	13			
7.	Connecticut	2		2	1		1				1		1			
8.	Delaware	11	3	9	10	3	8				1		1			
9.	Florida	154	51	149	120	42	123	1		1	29	6	23	4	3	2
10.	Georgia	119	60	115	87	41	93				30	17	21	2	2	1
11.	Hawaii															
12.	Idaho	14	6	14	10	5	10				4	1	4			
13.	Illinois	283	112	279	228	100	234				52	12	42	3		3
14.	Indiana	203	88	188	150	67	153	1		1	49	20	32	3	1	2
15.	Iowa	104	40	102	78	30	79				25	10	19			
16.	Kansas	91	39	94	63	29	71				25	8	22	3	2	1
17.	Kentucky	64	23	60	50	16	52				13	7	7	1		1
18.	Louisiana	88	30	101	71	22	88				16	6	13	1	2	
19.	Maine	18	4	21	14	3	19				4	1	2			
20.	Maryland	16	8	9	12	7	7				4	1	2			
21.	Massachusetts	8	4	9	8	4	9									
22.	Michigan	200	71	231	173	57	191				25	13	39	2	1	1
23.	Minnesota	103	42	100	84	37	86				19	5	14			
24.	Mississippi	74	25	84	55	14	65	3	1	6	16	10	13			
25.	Missouri	102	55	93	79	44	71	1		1	22	11	21			
26.	Montana	15	13	8	7	11	2				8	2	6			
27.	Nebraska	68	42	49	47	27	32	1	4	4	20	11	13			
28.	Nevada	3	2	1	2	1	1				1	1				
29.	New Hampshire	6	3	4	4	1	4				2	2				
30.	New Jersey	36	16	34	27	12	23	1	2	3	7	2	7	1		1
31.	New Mexico	8	7	6	8	7	6									
32.	New York	72	32	84	57	30	56				15	2	28			
33.	North Carolina	111	43	106	78	32	85				31	9	21	2	2	
34.	North Dakota	21	12	17	14	7	13				7	5	4			
35.	Ohio	240	79	256	208	71	232				31	8	23	1		1
36.	Oklahoma	85	41	87	67	32	70				18	9	17			
37.	Oregon	57	15	55	34	9	36				22	6	18	1		1
38.	Pennsylvania	90	30	80	67	23	63				21	6	16	2	1	1
39.	Rhode Island	1	1	1	1		1									
40.	South Carolina	63	32	57	51	24	47				12	8	10			
41.	South Dakota	19	13	15	15	9	14				4	4	1			
42.	Tennessee	75	29	78	63	25	70				12	4	8			
43.	Texas	336	121	363	274	106	310				62	15	53			
44.	Utah	25	8	26	19	6	22				6	2	4			
45.	Vermont	3	1	2	3	1	2									
46.	Virginia	42	21	31	32	16	26				10	5	5			
47.	Washington	64	29	71	52	26	56				11	3	14	1		1
48.	West Virginia	23	8	25	18	7	21				5	1	4			
49.	Wisconsin	124	54	128	107	50	111				16	4	16	1		1
50.	Wyoming	10	6	10	7	6	7				3		3			
51.	District of Columbia															
52.	State Unknown															
53.	Total	3,733	1,520	3,726	2,906	1,219	3,043	11	9	23	780	275	637	36	17	23

Table 19. Rail-highway Accidents Involving Motor Vehicles, by States and Months, 1967

	State	January	February	March	April	May	June	July	August	September	October	November	December	Year
1.	Alabama	5	8	7	1	2	4	9	5	7	11	13	16	88
2.	Alaska													
3.	Arizona	3	3	3	2	1	2	6	2		3	1	3	29
4.	Arkansas	5	9	5	5	11	3		6	6	4	4	9	67
5.	California	24	19	28	34	18	22	22	22	19	22	12	25	267
6.	Colorado	3	2	2	2	2	1		2	2	1	8	6	31
7.	Connecticut					1				1				2
8.	Delaware	2		1			1		2	2	2	1		1
9.	Florida	14	12	10	15	6	10	14	11	11	14	22	15	154
10.	Georgia	16	13	9	8	6	6	7	7	14	13	13	7	119
11.	Hawaii													
12.	Idaho	1	2	1	1	1	1		1	1	2	2	1	14
13.	Illinois	29	32	25	29	10	18	15	30	17	19	29	30	283
14.	Indiana	20	27	19	11	14	14	16	13	16	14	14	25	203
15.	Iowa	13	8	10	4	4	6	10	7	9	12	9	12	104
16.	Kansas	12	7	5	11	7	2	8	10	3	6	14	6	91
17.	Kentucky	3	13	3	1	10	5	4	3	4	5	4	9	64
18.	Louisiana	11	9	1	6	7	4	9	6	10	6	9	10	88
19.	Maine	2	5	2	2	2		1	1			2	1	18
20.	Maryland	2	2	2		1	1	1		2	3		2	16
21.	Massachusetts	1	1	1	1	1				1		1	1	8
22.	Michigan	24	18	15	8	14	11	17	8	17	22	27	19	200
23.	Minnesota	13	14	8	2	6	8	5	6	9	9	8	15	103
24.	Mississippi	9	4	5	5	9	1	5	9	3	12	5	7	74
25.	Missouri	8	12	7	5	9	2	5	7	4	18	16	9	102
26.	Montana	1	2	1		2	1			1	2	3	2	15
27.	Nebraska	12	6	3	3	2	2	7	4	5	8	6	10	68
28.	Nevada			1					1				1	3
29.	New Hampshire	1	1					3					1	6
30.	New Jersey	2	1	4	3	4	4	2	5	2	2	5	2	36
31.	New Mexico	2				2				1	1	1	1	8
32.	New York	6	7	8	7	4	2	5	3	5	7	7	11	72
33.	North Carolina	7	10	7	6	10	7	8	13	6	8	17	12	111
34.	North Dakota	1	4		1	2	2	1	1	4	2	2	1	21
35.	Ohio	20	32	10	18	13	9	18	16	23	21	31	29	240
36.	Oklahoma	12	8	9	7	5	4	3	11	5	5	7	9	85
37.	Oregon	4	5	5	7	3	3	2	6	1	7	10	4	57
38.	Pennsylvania	11	11	4	3	11	6	6	8	5	5	12	8	90
39.	Rhode Island									1				1
40.	South Carolina	8	4	4	3	4	6	4	1	4	8	8	9	63
41.	South Dakota	1			2		3	1	3	1	1	2	5	19
42.	Tennessee	10	3	6	6	6	3	6	1	5	6	8	15	75
43.	Texas	47	31	27	18	32	18	20	26	19	19	36	43	336
44.	Utah	3	1	1	2	1		2	2	3	5	3	2	25
45.	Vermont		1		1							1		3
46.	Virginia	5	6	3	2	2	3	5	1	6	2	2	5	42
47.	Washington	4	5	8	8	3	3	1	9	5	3	6	9	64
48.	West Virginia	3		1	3	2	2		1	4	4	3		23
49.	Wisconsin	13	14	6	10	7	7	5	13	11	16	5	17	124
50.	Wyoming	1	1		1	1	2		1		1		2	10
51.	District of Columbia													
52.	State Unknown													
53.	Total	394	373	277	262	258	209	253	284	275	333	389	426	3,733

Table 20. Rail-highway Accidents Involving Trains and Motor Vehicles,
Classified as to Kind of Crossing Protection, Class I Railroads, 1967

Railroad	Number	Lowered gates	Trainman	Watchman	Audible & visible signal	Audible Signal	Visible Signal	Signal or sign not of a type indicating approach of train
Eastern district								
Akron, Canton & Youngstown	4						1	3
Ann Arbor	8				1			7
Baltimore & Ohio	100	1	1	3	7	1	22	65
Bangor & Aroostook	1							1
Bessemer & Lake Erie	4							4
Boston & Maine	9	1			4		1	3
Canadian Pacific Lines in Maine	1				1			
Central R. R. Co. of New Jersey	11		1		2	1	2	5
Central Vermont	3						1	2
Chesapeake & Ohio	114	5	2		26	1	24	56
Chicago & Eastern Illinois	8				4			4
Chicago & Illinois Midland	4						2	2
Delaware & Hudson	11		1		2	1	2	5
Detroit & Toledo Shore Line	2						2	
Detroit, Toledo & Ironton	10		3		1			6
Elgin, Joliet & Eastern	7	1					1	5
Erie-Lackawanna	36	2			6		12	16
Grand Trunk Western	47	4		3	11	2	2	25
Illinois Terminal	10				5			5
Lehigh Valley	16	1			7			8
Long Island	15	3			6		2	4
Maine Central	10				4	1	1	4
Missouri-Illinois	1							1
Monon	8		1		2		1	4

Table 20. Rail-highway Accidents Involving Motor Vehicles, Classified as to Kind of Crossing Protection, Class I Railroads, 1967 - Continued

Railroad	Number	Lowered gates	Trainman	Watchman	Audible & visible signal	Audible Signal	Visible Signal	Signal or sign not of a type indicating approach of train
Eastern district - Continued								
New York Central	180	6	6	1	21	6	54	86
New York, New Haven & Hartford	7				5		1	1
Norfolk & Western	197	6	1	2	12	5	54	117
Pennsylvania	148	11	7	4	12	2	40	72
Pennsylvania-Reading Seashore Lines ..	11		1		3		1	6
Pittsburgh & Lake Erie	2		1					1
Reading	20	1			1	1	12	5
Richmond, Fredericksburg & Potomac ...	1							1
Western Maryland	5							5
Total	1,011	42	25	13	143	21	238	529
Southern district								
Alabama Great Southern	6				3			3
Central of Georgia	20				2		3	15
Cincinnati, New Orleans & Tex. Pac. ..	12				5			7
Clinchfield	2				1		1	
Florida East Coast	16		1		3		2	10
Georgia	3				2			1
Georgia Southern & Florida	15				1			14
Gulf, Mobile & Ohio	29				6		1	22
Illinois Central	155	6	2		32		13	102
Louisville & Nashville	112	1	6		18	2	7	77

Table 20. Rail-highway Accidents Involving Motor Vehicles, Classified as to Kind of Crossing Protection, Class I Railroads, 1967 - Continued

Railroad	Number	Lowered gates	Trainman	Watchman	Audible & visible signal	Audible Signal	Visible Signal	Signal or sign not of a type indicating approach of train
Southern district - continued								
New Orleans & Northeastern	16				2			14
Norfolk Southern	8				1			7
Piedmont & Northern	5				1			4
Seaboard Coast Line *	250	4	2	1	37		23	183
Southern	185	1	3		40			141
Total	834	12	14	2	154	2	50	600
Western district								
Atchison, Topeka & Santa Fe	192	6	6		114		10	56
Chicago & North Western	128	4			65	3	8	48
Chicago, Burlington & Quincy	82		1		20	1	2	58
Chicago Great Western	15				3		3	9
Chicago, Milwaukee, St. Paul & Pacific	98	4	1	1	16		11	65
Chicago, Rock Island & Pacific	101				32		2	67
Colorado & Southern	7				1		2	4
Denver & Rio Grande Western	18				8		1	9
Duluth, Missabe & Iron Range	1						1	
Duluth, Winnipeg & Pacific	2						1	1

* Includes 12 months combined operation, Seaboard Air Line and Atlantic Coast Line

Table 20. Rail-highway Accidents Involving Motor Vehicles, Classified as to Kind of Crossing Protection, Class I Railroads, 1967 - Continued

Railroad	Number	Lowered gates	Trainman	Watchman	Audible & visible signal	Audible Signal	Visible Signal	Signal or sign not of a type indicating approach of train
Western district - continued								
Fort Worth & Denver	22				7			15
Great Northern	77		1	1	10		8	57
Kansas City Southern	23		1		7		1	14
Lake Superior & Ishpeming	1				1			
Louisiana & Arkansas	18				5			13
Missouri-Kansas-Texas	45	1			13	2	1	28
Missouri Pacific	137	1	3		32		20	81
Northern Pacific	63	3	1		24		1	34
Northwestern Pacific	6				4			2
St. Louis-San Francisco	112	3	3		30	1	7	68
St. Louis Southwestern	30				9		17	4
Soo Line	50		1		12	1	12	24
Southern Pacific	305	6	3	1	125		39	131
Spokane, Portland & Seattle	15		1		3			11
Texas & Pacific	48	1	1		9		8	29
Toledo, Peoria & Western	2							2
Union Pacific	113	2	5		21	1	17	67
Western Pacific	22				12		1	9
Total	1,733	31	28	3	583	9	173	906

Table 20. Rail-highway Accidents Involving Motor Vehicles, Classified as to Kind of Crossing Protection, Class I Railroads, 1967 - Concluded

RECAPITULATION

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Railroad	Number	Lowered gates	Trainman	Watchman	Audible & visible signal	Audible Signal	Visible Signal	Signal or sign not of a type indicating approach of train
All districts								
Eastern district	1,011	42	25	13	143	21	238	529
Southern district	834	12	14	2	154	2	50	600
Western district	1,733	31	28	3	583	9	173	906
Class I railroads (excluding Switching and Terminal Co.'s).....	3,578	85	67	18	880	32	461	2,035
Class I Switching and Terminal Co.'s	30	3	2	2	4		9	10
Railroads other than Class I	125	1	5	2	34		12	71
Total, all classes	3,733	89	74	22	918	32	482	2,116