U. S. Department
of Transportation
Federal Railroad
Administration

SEPTEMBER 1998

RAILROAD SAFETY STATISTICS

ANNUAL REPORT 1997

always expect a train

FOREWORD

The Federal Railroad Administration (FRA) has established an ultimate goal of "Zero Tolerance" for railroad related accidents, injuries and fatalities. In pursuit of that goal, significant strides have been made, particularly over the past five years, in reducing the number of train collisions, derailments, highway-rail grade crossing incidents and injuries to railroad workers. These results have been achieved because of a dedicated effort on the part of all segments of the rail industry to forge nationwide rail safety partnership with the FRA. This partnership includes: railroad management, rail labor, rail equipment suppliers and contractors, as well as other federal and state agencies whose mission involves ensuring railroad safety. Central to the success of this rail safety mission is the ability to understand the nature of rail-related accidents and to analyze trend in railroad safety.

The FRA's Railroad Safety Statistics – Annual Report is intended as a resource for the FRA's safety partners and other entities who play a primary role in promoting railroad safety. It is also intended as a general reference source for individuals and organizations with an interest in examining rail safety issues. Statistical data, tables and charts are provided to depict the nature and cause of many categories of rail-related accidents and incidents that occurred in 1997. Furthermore, selected historical data and trend lines are included to provide a context for the railroad industry's safety performance.

It is hoped that the information provided in this publication will provide insight into the most significant safety issues facing the rail industry and, in turn, lead to continued rail safety improvements. Only by increasing our understanding about how and why railroad accidents and incidents occur, can we hope to approach our goal of "Zero Tolerance."

This edition of the Railroad Safety Statistics is a composite of previous safety bulletins prepared by the Federal Railroad Administration (FRA). These include: the *Accident/Incident Bulletin*; the *Highway-Rail Crossing Accident/Incident And Inventory Bulletin*; and the *Trespasser Bulletin*. The consolidation of accident/incident statistics previously contained in other publications provides the reader with a single source for a comprehensive overview of railroad safety. We have also made it easier to locate information, and have displayed it in a more consistent format. Recordkeeping changes for 1997 resulted in new categories of information being reported and many of these data are incorporated in tables and charts throughout this publication.

Railroads are required by law to submit accident/incident reports within thirty days after the month to which they pertain. They are also required to update their report if the original information is incomplete or inaccurate. Railroads have until April 15 of the following year to "close out" their records and submit any updates to complete their file.

The completeness and accuracy of the information presented in this bulletin are primarily

dependent upon each railroad's data collection and reporting processes. The FRA conducts routine audits of these procedures, but does not have sufficient resources to perform comprehensive reviews of each railroad's reporting procedures. We extensively review and edit the reports we receive and make inquiry when information is incomplete or inconsistent.

It is not possible to identify reportable events that were omitted from a railroad's submission. Likewise, there may be instances where incorrectly reported information passes all reviews and is accepted. Although we attempt to be as vigilant as possible in both the editing and presentation of the accident/incident data reported, errors do occasionally occur.

Any questions, comments, or suggestions regarding the information contained in this publication should be brought to the attention of:

Federal Railroad Administration
Office of Public Affairs (Stop 5)
400 7th Street, S.W.
Washington, DC 20590

Phone number (202) 493-6006

Additional information about FRA's various programs, including searching the accident/incident databases, is available on our Web site at http://www.fra.dot.gov.

TABLE OF CONTENTS

Chapters

Appendices

CHAPTER 1

OVERVIEW OF ACCIDENTS/INCIDENTS AND RATES

Railroads began reporting accidents to the Federal Government following passage of the Reports Act of 1910. The current definitions describing reportable events were adopted in 1975, and have remained largely unchanged since then. A number of modifications to the record-keeping and reporting requirements were put in place for 1997. These modifications did not redefine what was to be reported, but did expand the types of information being collected and the forms used for reporting. The changes made in 1997 were implemented for the purpose of collecting additional information necessary for safety analysis and to support the Federal Railroad Administration's (FRA) overall goal of hazard elimination and risk reduction on the Nation's railroads.

A railroad is required by Federal Railroad Administration (FRA) regulations at Title 49, Part 225 of the Code of Federal Regulations to use the current FRA Guide for Preparing Accident/Incident Reports ("Guide" or "reporting guide") when preparing its monthly report. The instructions and interpretations contained in this publication are provided to assist railroads in meeting this obligation

"Accident/Incident" is the term used to describe the entire list of reportable events. These include collisions, derailments, and other events involving the operation of on-track equipment and causing reportable damage above an established threshold; impacts between railroad on-track equipment and highway users at crossings; and all other incidents or exposures that cause a fatality or injury to any person, or an occupational illness to a railroad employee.

Accidents/incidents are divided into three major groups for reporting purposes. These correspond to the following FRA forms:

Train accidents. A safety-related event involving on-track rail equipment (both standing and moving), causing monetary damage to the rail equipment and track above a prescribed amount. Reported on form FRA F 6180.54, RAIL EQUIPMENT ACCIDENT/ INCIDENT REPORT. (The threshold for 1997 was $6,500)

Highway-rail grade crossing incidents. Any impact between a rail and highway user (both motor vehicles and other users of the crossing) at a designated crossing site, including walkways, sidewalks, etc., associated with the crossing. Reported on form FRA F 6180.57, HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT.

Other incidents. Any death, injury, or occupational illness of a railroad employee that is not the result of a "train accident" or "highway-rail incident." Reported on form FRA F 6180.55a, RAILROAD INJURY AND ILLNESS SUMMARY.

A single form is usually sufficient to report most events; however, there are situations when multiple report forms are necessary. An example is a highway-rail crossing incident resulting in reportable injuries. An accident of this type would require the completion of both a Form FRA F 6180.57 and a Form FRA F 6180.55a. A Form FRA F 6180.54 must also be prepared if reportable on-track equipment and track damage in this accident exceeds the current monetary threshold for train accidents.

Because of overlap in the reporting requirements, some incidents may fall into multiple categories. The incident described above would be counted as a highway-rail incident, but it would also be included in the train accident total. Another example is a motorist hurt in a highway-rail incident after driving around gates at the crossing site. This individual is reported as a "trespasser" on form FRA F 6180.55a, but the event is classified as a highway-rail incident.

If there is an overlap in the information found in different chapters, when possible, a separate column or row total is provided, or counts are excluded when they are more appropriate to another chapter. In the example of the trespasser injured in a highway-rail incident, this injury appears in the highway-rail Chapter, but is excluded from the chapter on trespassing. The train accident counts in Chapter 5 include those highway-rail incidents causing reportable damage above the amount needed for reporting on form FRA F 6180-54. The user of this bulletin can exclude these, if desired, since the number of these are identified in most tables in this Chapter.

This bulletin provides overall national totals as well as specific area of safety concern. For example, Chapter 3 is a summary of all fatal and nonfatal casualties, regardless of the type of event causing them. Subsequent Chapters summarizing train accidents, highway-rail incidents, employee and trespassing casualties, provide additional information on the events causing these casualties.

The data is presented in the following general format. First, there is a graphic historical review of the major indicators of railroad safety since 1975. Following this, are overall totals for the 6-year period beginning with 1992, including summaries by railroad and states for this time frame. Next are a variety of tables and charts for the current year. The chapter for each major reporting area contains a description of the pertinent requirements and definitions associated with that specific accident/incident category.

Extensive consolidation of railroads has occurred over the years. In order to make a more valid comparison of major railroad systems, it was necessary to combine the information reported by predecessor railroads for the years prior to 1997. For example, data from railroads that made up the Southern Pacific Transportation System were merged into the Union Pacific counts.

CONTENTS

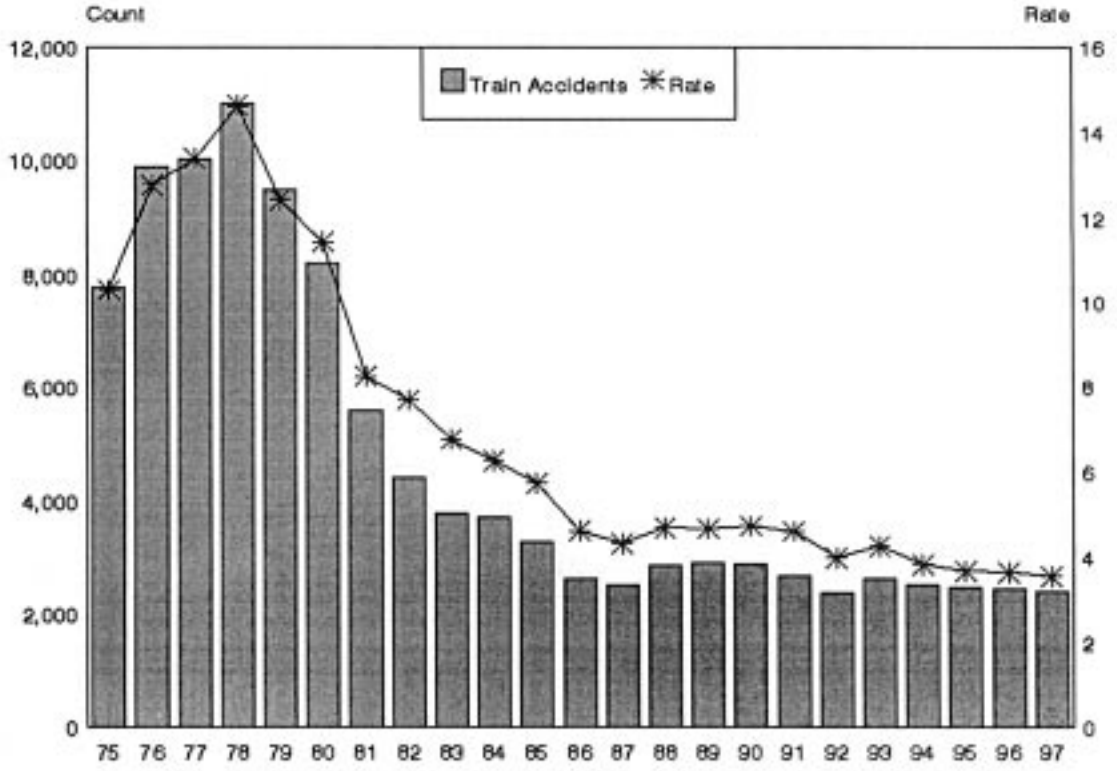
CHAPTER 1

OVERVIEW OF ACCIDENT/INCIDENTS AND RATES

Figures **Page**

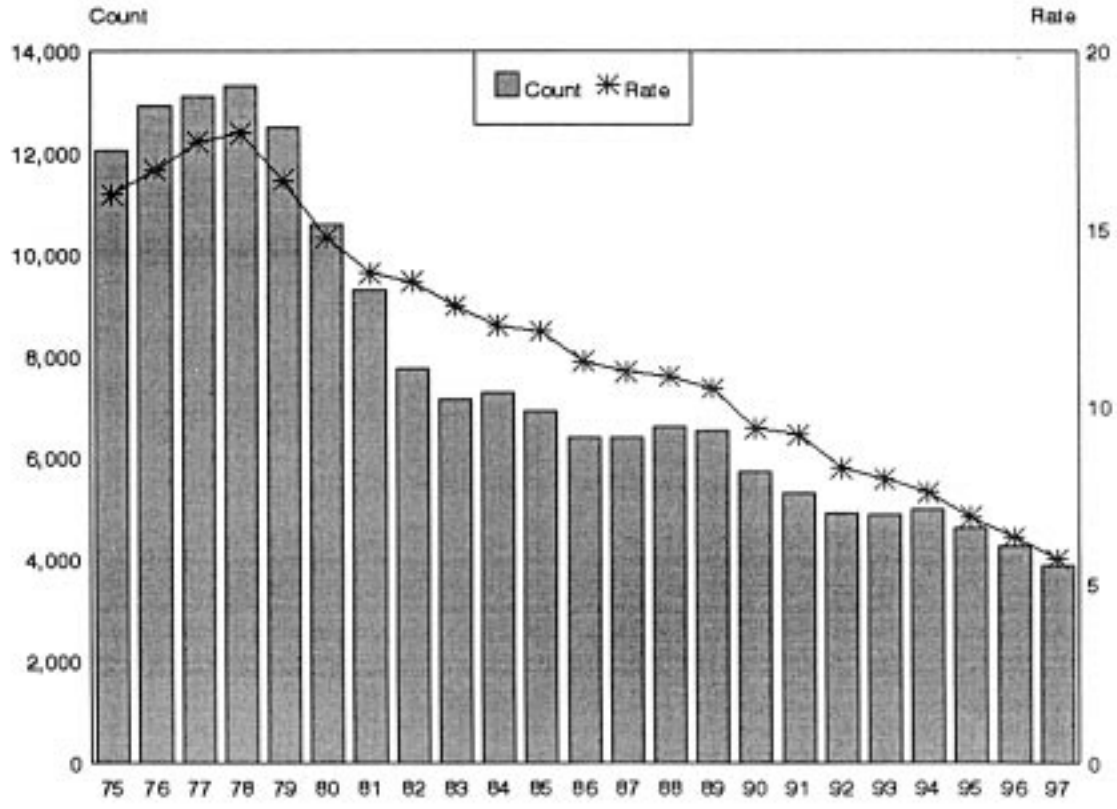
Tables

1-1 TRAIN ACCIDENTS

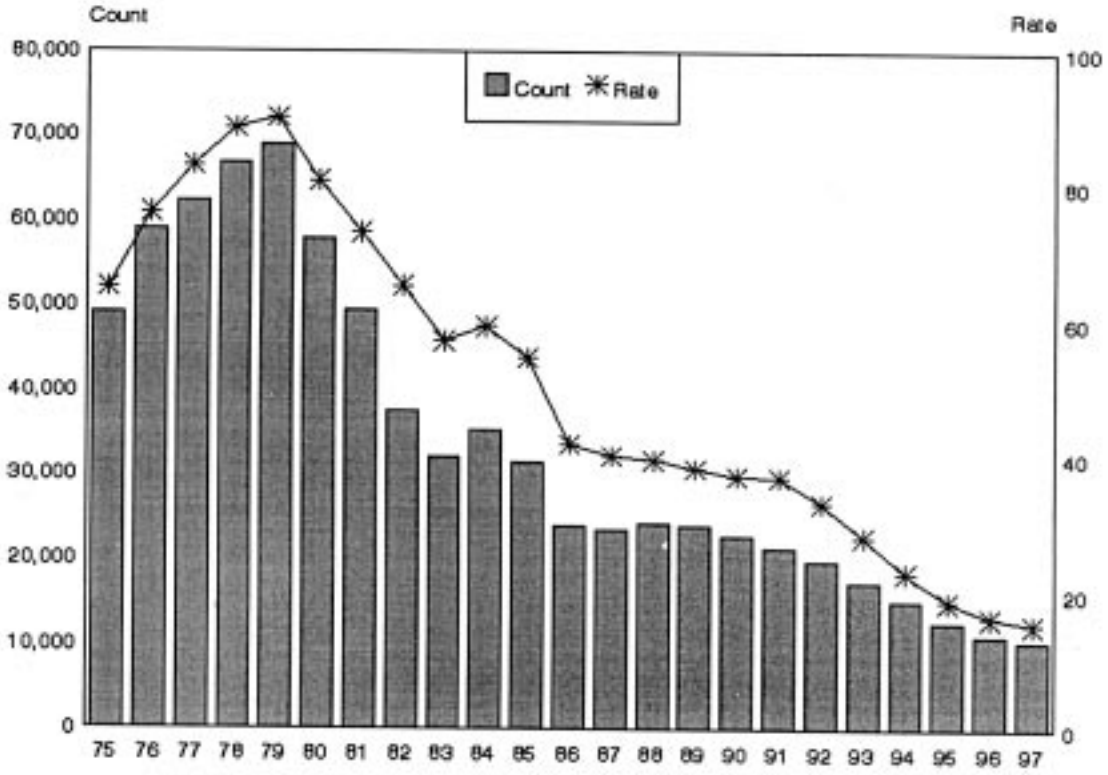


Excludes highway-rail incidents
Rate is the number of events per 1,000,000 train miles

1-2 HIGHWAY-RAIL INCIDENTS

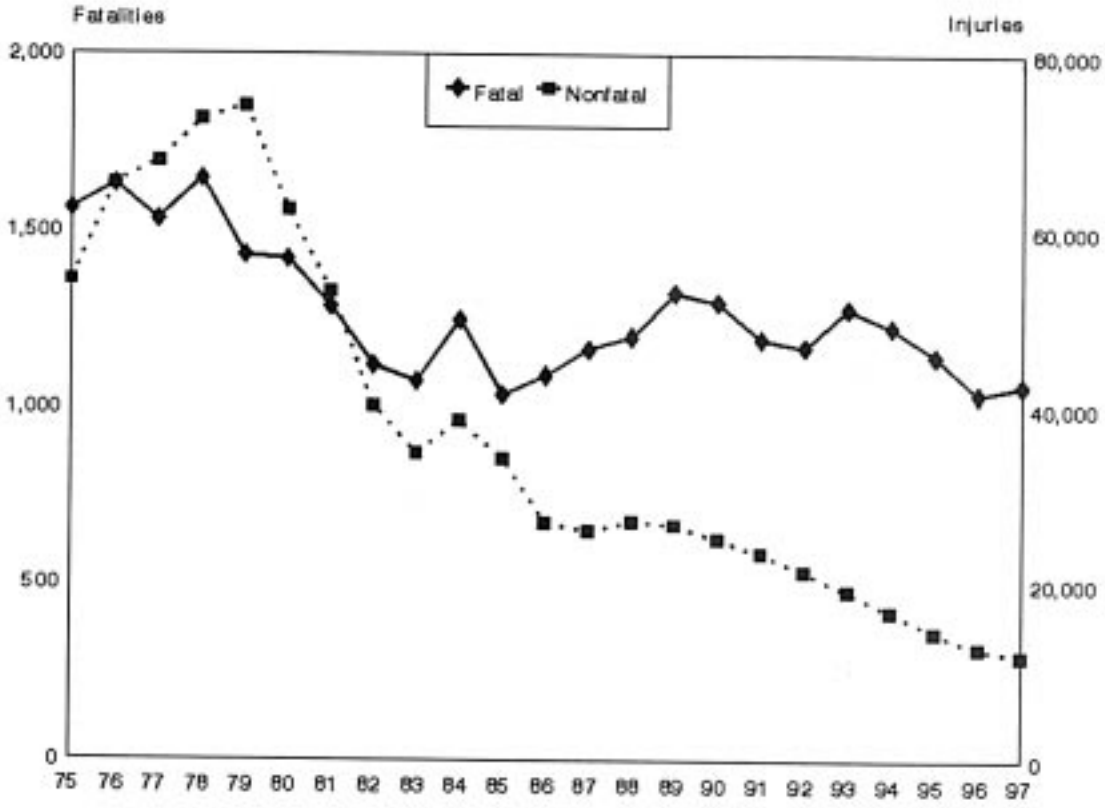


1-3 OTHER INCIDENTS

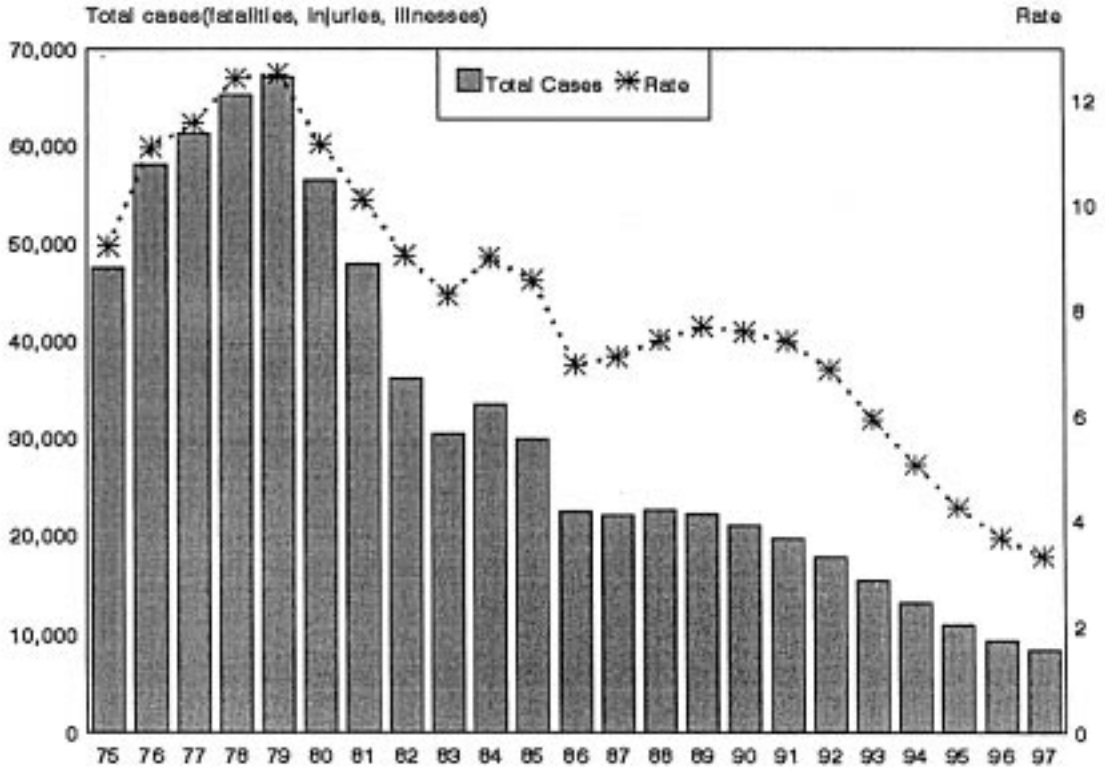


Excludes highway-rail incidents
Rate is the number of events per 1,000,000 train miles

1-4 TOTAL CASUALTIES

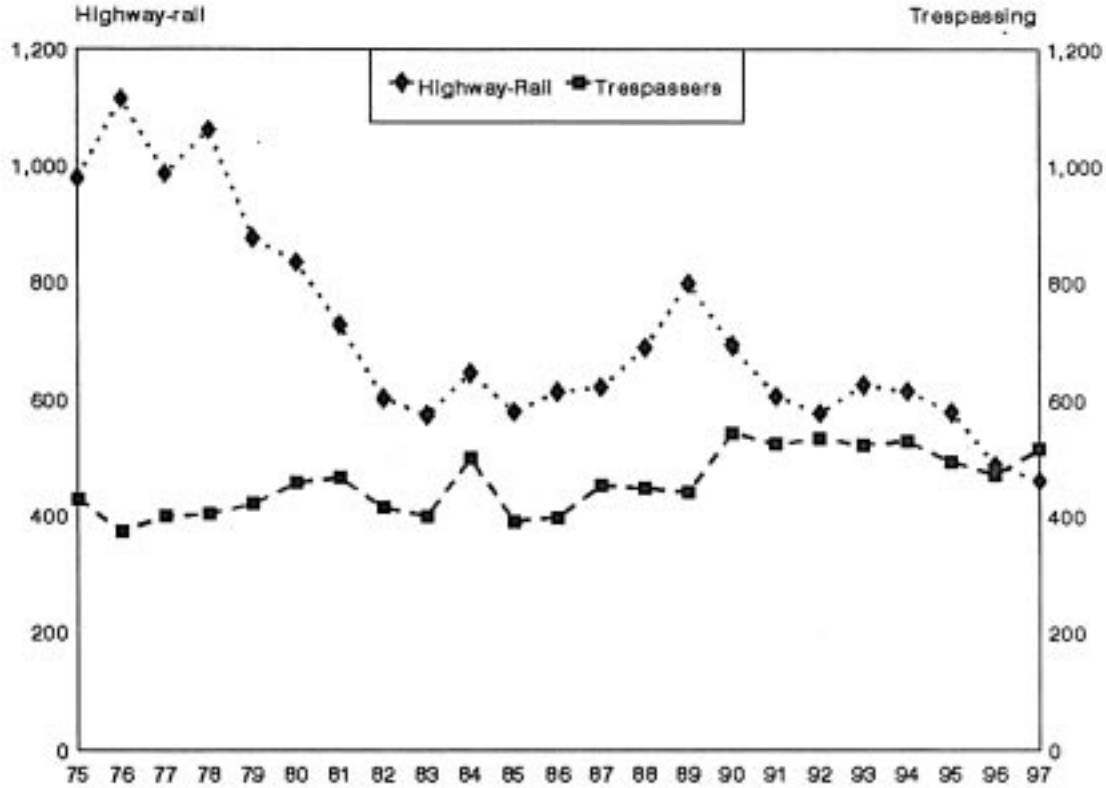


1-5 EMPLOYEE ON DUTY CASUALTIES

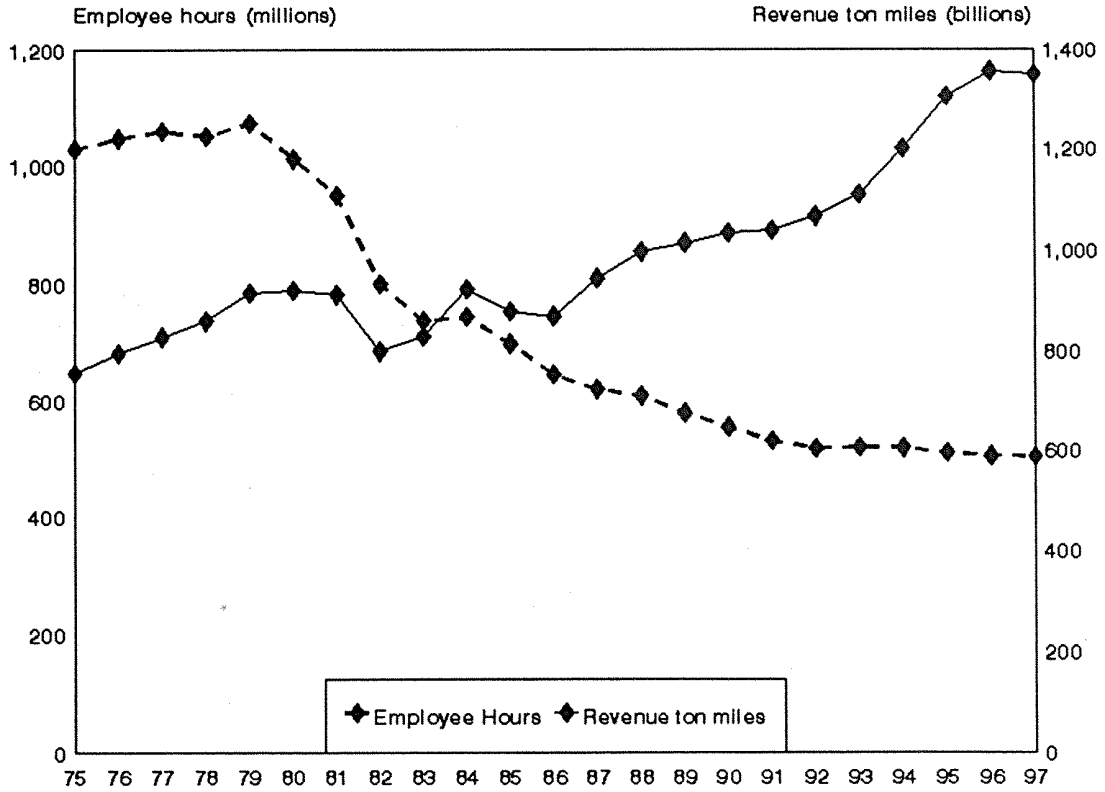


* Rate is the frequency of occurrence per 200,000 hours worked.

1-6 FATALITIES RESULTING FROM
Highway-Rail Incidents and Trespassing



1-7 EMPLOYEE HOURS WORKED AND REVENUE TON MILES



Revenue ton miles obtained from the Association of American Railroads

1-8 TRAIN MILES AND PASSENGERS TRANSPORTED

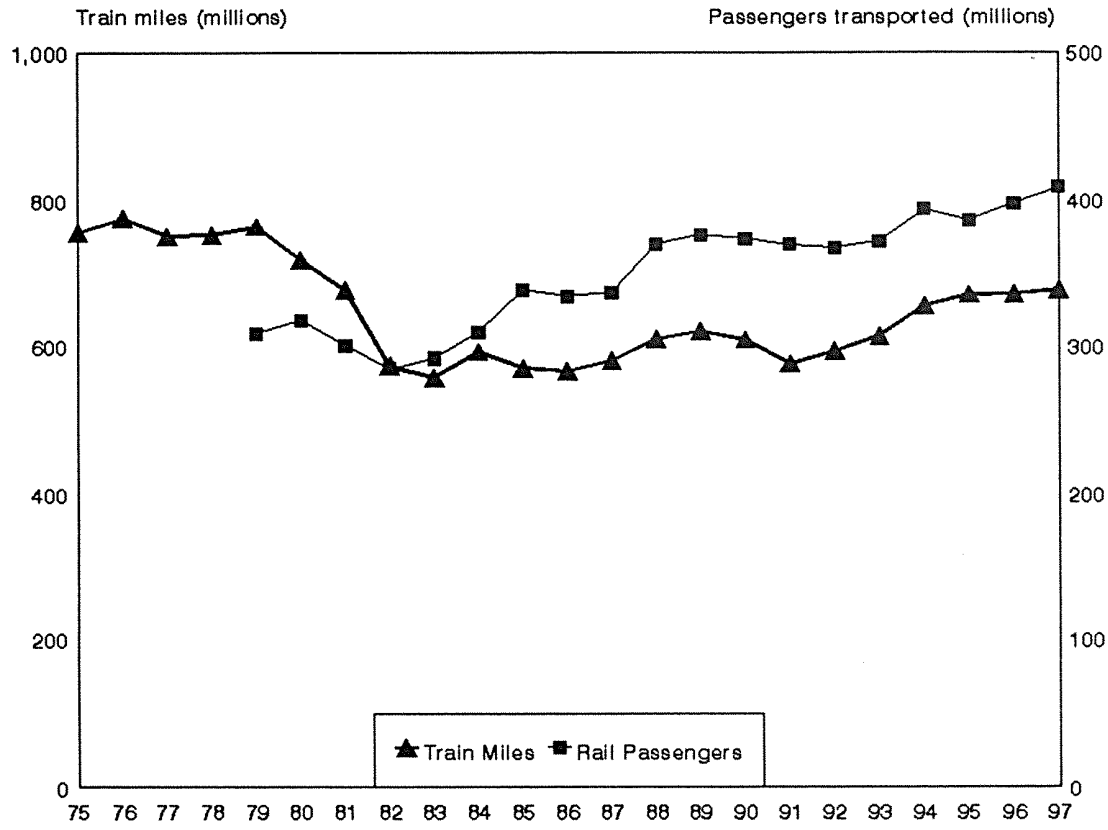


TABLE 1-1 ACCIDENT/INCIDENT SUMMARY

Category	1992	1993	1994	1995	1996	1997	% chg from 1996	% chg from 1992
1- Railroads reporting	635	668	688	679	704	688	-2.3	8.3
2-								
3- Total fatalities	1,170	1,279	1,226	1,146	1,039	1,063	2.3	-9.1
4- Employee on duty	34	47	31	34	33	37	12.1	8.8
5- Passengers on trains	3	58	5	0	12	6	-50.0	100.0
6- Trespassers, all	646	675	682	660	620	646	4.2	0.0
7- Trespassers, not at HRC	533	523	529	494	471	533	13.2	0.0
8-								
9- Total nonfatal cases	21,383	19,121	16,812	14,440	12,558	11,767	-6.3	-45.0
10- Employee on duty	17,755	15,363	13,080	10,777	9,199	8,295	-9.8	-53.3
11- Passengers on trains	411	559	497	573	513	601	17.2	46.2
12- Trespassers, all	772	733	764	700	750	728	-2.9	-5.7
13- Trespassers, not at HRC	540	509	542	461	474	516	8.9	-4.4
14-								
15- Railroad Employees								
16- Days absent from work	709,297	601,718	492,404	344,035	305,918	244,383	-20.1	-65.5
17- Average days absent	40	39	38	32	33	29	-12.1	-27.5
18- Days restricted at work	63,452	64,354	57,343	44,343	45,634	52,099	14.2	-17.9
19-								
20- Train accidents(includes HRC)	2,531	2,785	2,669	2,619	2,584	2,560	-0.9	1.1
21- Reportable damage (000)	127,017	190,905	180,551	199,347	221,127	225,723	2.1	77.7
22- Number of hazmat releases	27	29	36	27	34	31	-8.8	14.8
23-								
24- Train accidents without HRC	2,359	2,611	2,504	2,459	2,443	2,397	-1.9	1.6
25- Number that were fatal	6	11	7	11	10	12	20.0	100.0
26-								
27- Types Collisions	207	205	240	235	205	202	-1.5	-2.4
28- Derailments	1,734	1,930	1,825	1,742	1,816	1,741	-4.1	0.4
29- Other types	418	476	439	482	422	454	7.6	8.6
30- Causes Human factor	864	865	911	944	783	855	9.2	-1.0
31- Equipment defects	353	360	293	279	318	271	-14.8	-23.2
32- Track/signal defects	849	1,017	947	883	954	918	-3.8	8.1
33- Other causes	293	369	353	353	388	353	-9.0	20.5
34- Track Main	874	955	914	912	941	867	-7.9	-0.8
35- Yard	1,209	1,383	1,339	1,279	1,249	1,223	-2.1	1.2
36-								
37- Total highway-rail incidents	4,910	4,892	4,979	4,633	4,257	3,865	-9.2	-21.3
38- Number that were fatal	474	526	512	456	413	376	-9.0	-20.7
39- Fatalities	579	626	615	579	488	461	-5.5	-20.4
40- Nonfatal cases	1,975	1,837	1,961	1,894	1,610	1,540	-4.3	-22.0
41- HRC motor vehicle incidents	4,684	4,661	4,746	4,416	4,054	3,749	-7.5	-20.0
42- Fatalities	506	554	542	508	415	419	1.0	-17.2
43- Nonfatal cases	1,891	1,760	1,885	1,825	1,545	1,494	-3.3	-21.0
44-								
45- Other incidents	19,593	17,240	14,990	12,503	10,992	10,437	-5.0	-46.7
46- Number that were fatal	572	570	585	544	517	568	9.9	-0.7
47-								
48- Hours worked by EOD (000)	517,041	519,673	518,634	510,260	504,599	503,918	-0.1	-2.5
49- Train miles operated (000)	593,704	613,974	655,083	669,823	670,923	676,716	0.9	14.0
50- Revenue ton miles (billions)	1,067	1,109	1,201	1,306	1,356	1,349	-0.5	26.4
51- Passengers transported (000)	366,904	371,610	393,600	385,825	397,394	408,619	2.8	11.4
52- Passenger miles (millions)	13,764	13,777	14,046	13,719	13,587	14,134	4.0	2.7
53- Public HRC crossings	170,622	168,116	166,035	163,917	162,426	160,395	-1.3	-6.0

HRC = Highway-rail crossing. EOD = Employee on duty. Chg = change.

TABLE 1-2 ACCIDENT/INCIDENT RATE SUMMARY

Category	1992	1993	1994	1995	1996	1997	% chg from 1996	% chg from 1992
1- Overall Accident/Incident Rate	24.18	21.83	19.15	16.60	15.05	14.14	-6.0	-41.5
2-								
3- Train Accidents, excludes HRC	3.97	4.25	3.82	3.67	3.64	3.54	-2.7	-10.8
4- Yard Track Rate	14.32	15.87	14.91	14.23	14.22	14.41	1.3	0.6
5- Other Track Rate	2.26	2.33	2.06	2.03	2.05	1.98	-3.4	-12.4
6-								
7- Highway-Rail Incident Rate	8.27	7.97	7.60	6.92	6.34	5.71	-9.9	-31.0
8-								
9- All Other Incidents Rate	17.64	15.21	12.77	10.59	9.35	8.84	-5.5	-49.9
10-								
11- RR Employee on Duty Rate	6.88	5.93	5.06	4.24	3.66	3.31	-9.6	-51.9
12-								
13- Trespasser Rate	1.81	1.68	1.50	1.43	1.41	1.55	9.9	-14.4
14-								
15- Passenger on Trains Rate	3.01	4.48	3.57	4.18	3.86	4.29	11.1	42.5
16-								
17- Passengers in Train Acc Rate	0.23	1.26	0.51	0.65	0.91	0.37		

Overall accident/incident rate (line 1) is the total number of reportable incidents (train accidents, highway-rail, and other incidents) times one million divided by the sum of train miles operated and employee hours worked.

Train accident and highway-rail incident rates (lines 3 and 7) are the number of events per one million train miles operated.

The yard accident rate (line 4) is the number of accidents occurring on yard track per one million yard switching train miles operated.

The other track rate (line 5) is the number of accidents that did not occur on yard track per one million train miles, excluding yard switching train miles.

The employee on duty rate (line 11) is the total number of railroad employee casualties times 200,000 divided by the number of hours worked by employees.

Other incidents rate (line 9) is the number of other incidents times one million divided by the sum of train miles operated and employee hours worked.

The trespasser rate (line 13) is the total number of trespasser casualties, excluding those trespassers Fatal or injured in highway-rail incidents, per one million train miles operated.

The passenger on train rate (line 15) is the total number of passenger casualties in all accidents/incidents per 100,000,000 passenger miles. A passenger mile is the movement of one passenger for a distance of one mile.

The passenger in train accident rate (line 17) is the total number of passenger casualties in train accidents per 100,000,000 passenger miles.

TABLE 1-3 SUMMARY BY TYPE INCIDENT AND TYPE PERSON

GRAND TOTAL

	Fatalities						Nonfatal Conditions					
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997
A - Worker on duty(rr empl)	34	47	31	34	33	37	17,755	15,363	13,080	10,777	9,199	8,295
B - Employee not on duty	1	4	.	2	.	.	310	348	306	252	228	263
C - Passenger on train	3	58	5	.	12	6	411	559	497	573	513	601
D - Nontrespasser	475	489	505	443	365	362	1,909	1,856	1,913	1,869	1,660	1,517
E - Trespasser	646	675	682	660	620	646	772	733	764	700	750	728
F - Worker on duty(contractor)	11	6	3	7	9	6	226	262	252	269	208	213
G - Contractor(other)	.	.	.	.	.	5	.	.	.	.	.	121
H - Worker on duty(volunteer)	.	.	.	.	.	.	.	.	.	.	.	3
I - Volunteer(other)	.	.	.	.	.	.	.	.	.	.	.	3
J - Nontrespasser, off rr prop	.	.	.	.	.	1	.	.	.	.	.	23
--Total...	1,170	1,279	1,226	1,146	1,039	1,063	21,383	19,121	16,812	14,440	12,558	11,767

All trespassers, including those hurt in highway-rail incidents are included in the above counts.

Train Accidents Excluding Highway-Rail Crossing (HRC) Incidents

	Fatalities						Nonfatal Conditions					
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997
A - Worker on duty(rr empl)	4	13	8	10	14	11	132	157	144	189	158	113
B - Employee not on duty	.	2	.	1	.	.	.	13	26	9	1	12
C - Passenger on train	.	49	2	.	9	1	31	124	70	89	115	51
D - Nontrespasser	1	.	2	.	.	.	5	11	18	6	1	.
E - Trespasser	1	3	.	3	2	4	3	3	.	.	.	.
F - Worker on duty(contractor)	.	.	.	.	.	.	.	.	4	1	6	2
J - Nontrespasser, off rr prop	.	.	.	.	.	1	.	.	.	.	.	5
--Total...	6	67	12	14	25	17	171	308	262	294	281	183

TABLE 1-3 SUMMARY BY TYPE INCIDENT AND TYPE PERSON (Continued)

Highway-Rail Crossing (HRC) Incidents

	Fatalities						Nonfatal Conditions					
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997
A - Worker on duty(rr empl)	2	3	1	2	1	.	157	143	125	123	79	111
B - Employee not on duty	.	.	.	.	.	.	1	1	1	4	2	3
C - Passenger on train	.	.	.	.	.	.	82	44	84	30	24	43
D - Nontrespasser	463	471	461	411	338	348	1,501	1,424	1,438	1,497	1,229	1,154
E - Trespasser	113	152	153	166	149	113	232	224	312	239	276	212
F - Worker on duty(contractor)	1	.	.	.	.	.	2	1	1	1	.	.
G - Contractor(other)	.	.	.	.	.	.	.	.	.	.	.	1
J - Nontrespasser, off rr prop	.	.	.	.	.	.	.	.	.	.	.	16
--Total...	579	626	615	579	488	461	1,975	1,837	1,961	1,894	1,610	1,540

Other Incidents, Excluding HRC

	Fatalities						Nonfatal Conditions					
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997
A - Worker on duty(rr empl)	28	31	22	22	18	26	17,466	15,063	12,811	10,465	8,962	8,071
B - Employee not on duty	1	2	.	1	.	.	309	334	279	239	225	248
C - Passenger on train	3	9	3	.	3	5	298	391	343	454	374	507
D - Nontrespasser	11	18	42	32	27	14	403	421	457	366	430	363
E - Trespasser	532	520	529	491	469	529	537	506	452	461	474	516
F - Worker on duty(contractor)	10	6	3	7	9	6	224	261	247	267	202	211
G - Contractor(other)	.	.	.	.	.	5	.	.	.	.	.	120
H - Worker on duty(volunteer)	.	.	.	.	.	.	.	.	.	.	.	3
I - Volunteer(other)	.	.	.	.	.	.	.	.	.	.	.	3
J - Nontrespasser, off rr prop	.	.	.	.	.	.	.	.	.	.	.	2
--Total...	585	586	599	553	526	585	19,237	16,976	14,589	12,252	10,667	10,044

TABLE 1-4 TOTAL CASUALTIES BY RAILROAD

	Fatalities						Nonfatal					
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997
Alton & Southern RR	1	.	.	.	.	.	12	12	18	19	14	17
Alaska RR Corp.	2	.	3	1	1	2	59	49	38	47	52	72
Amtrak (Natl RR Passenger Corp.)	119	214	127	124	101	117	1,548	1,802	1,644	1,516	1,209	1,328
Bangor & Aroostook RR	1	.	.	.	.	.	40	50	32	35	37	37
Bessemer & Lake Erie RR Co.	2	.	2	.	.	1	10	5	7	16	12	15
Burlington Northern Santa Fe	175	159	198	215	174	180	4,846	3,196	2,041	1,678	1,208	1,174
Belt Rwy Co. Of Chicago	.	.	.	.	1	1	31	24	56	15	13	16
Birmingham Southern RR Co.	.	1	.	.	.	.	17	13	12	12	12	13
Consolidated Rail Corp.	123	97	95	79	53	59	1,597	1,529	1,430	972	813	627
CSX Transportation	117	114	127	139	101	112	1,359	1,092	1,063	834	847	894
Delaware & Hudson Rwy Co.	7	7	7	4	1	5	30	40	44	47	46	39
Dakota, Minnesota & Eastern RR	.	.	.	1	1	1	30	51	27	34	29	23
Duluth, Missabe & Iron Range Rwy	.	2	2	.	.	.	92	86	45	47	66	53
Duluth, Winnipeg & Pacific Rwy	2	.	2	.	.	3	6	8	8	7	10	8
Elgin, Joliet & Eastern Rwy Co.	.	3	1	.	.	.	55	34	41	21	48	52
Florida East Coast Rwy Co.	10	20	13	18	23	19	44	52	84	65	73	68
Other Railroads	13	36	28	20	40	24	1,440	1,462	1,572	1,546	1,358	1,257
Guilford Rail System	1	2	1	2	.	4	64	52	30	29	21	19
Grand Trunk Western RR Inc.	17	16	16	6	11	10	502	491	278	254	183	164
Gateway Western Rwy	.	1	1	2	3	1	11	8	13	15	21	11
Houston Belt & Terminal Rwy Co.	1	.	.	1	.	.	28	20	27	17	7	13
Illinois Central RR Co.	27	19	14	8	19	17	266	237	256	211	208	183
Indiana Harbor Belt RR Co.	1	.	2	3	1	2	56	68	80	85	36	64
I & M Rail Link, LLC	.	.	.	.	.	2	.	.	.	.	.	25
Kansas City Southern Rwy Co.	22	16	12	19	26	27	228	152	187	184	166	176
Long Island Rail Road	19	22	10	17	9	18	915	808	880	743	745	706
Massachusetts Bay Transit Auth.	.	.	.	.	6	11	.	.	.	.	119	74
Metro North Commuter RR Co.	5	7	12	15	3	7	663	626	630	575	599	481
Montana Rail Link	4	9	4	2	5	5	106	73	52	64	74	49
Northern IN Commuter Trans. Dist	1	9	2	1	1	2	50	101	60	57	36	37
Northeast IL Reg Commuter Rail	4	10	9	9	7	7	152	160	278	234	265	189
New Jersey Transit Rail	22	12	20	31	20	23	409	387	418	203	188	118
Norfolk Southern Corp.	159	166	151	123	108	108	978	947	824	721	657	534
Paducah & Louisville Rwy Co.	1	.	.	1	1	.	33	37	29	28	22	18
Port Authority Trans Hudson	.	2	.	3	.	.	282	312	216	218	188	188
Penisula Commuter(San Mateo Cnty	.	.	.	.	3	6	.	.	.	.	14	16
Port Terminal RR Association	.	1	1	1	.	.	27	23	15	13	10	9
Southern CA Regional Rail Auth.	.	6	4	6	5	8	.	3	.	10	4	29
Southeastern PA Trans. Authority	3	9	5	2	5	7	227	261	328	299	290	376
Soo Line RR Co.	17	17	11	9	11	7	528	545	497	480	411	258
Texas Mexican RR Co.	.	.	2	1	.	.	50	42	61	8	2	10
Terminal RR Assn Of St. Louis	.	.	1	.	.	.	17	10	4	11	19	10
Union Pacific RR Co.	288	294	331	272	294	258	4,354	4,002	3,228	2,806	2,207	2,101
Union RR Co. (Pittsburgh)	.	.	.	.	.	.	22	25	26	19	28	15
Wisconsin Central Ltd.	6	7	10	11	4	7	172	200	202	223	169	182
Wheeling & Lake Erie Rwy Co.	.	1	2	.	1	2	27	26	31	22	22	19
Total	1,170	1,279	1,226	1,146	1,039	1,063	21,383	19,121	16,812	14,440	12,558	11,767

TABLE 1-5 TOTAL CASUALTIES BY STATE

	Fatalities						Nonfatal						6 Year Total	
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997	Ftl	Nonf
AL	20	81	17	24	25	30	272	339	231	203	191	176	197	1,412
AK	2	.	3	1	2	2	80	65	50	64	72	97	10	428
AZ	16	10	19	17	22	24	158	179	164	164	107	169	108	941
AR	19	30	26	22	26	11	438	379	358	307	233	243	134	1,958
CA	99	143	119	106	96	109	1,285	1,191	946	793	731	724	672	5,670
CO	18	12	21	13	12	9	380	345	245	229	184	159	85	1,542
CT	5	9	6	7	3	8	228	181	204	156	159	136	38	1,064
DE	4	3	2	.	1	3	81	83	74	89	62	70	13	459
DC	1	.	1	1	.	.	96	98	109	93	80	82	3	558
FL	25	50	50	48	41	37	290	336	337	327	248	282	251	1,820
GA	32	33	26	29	27	24	348	303	259	228	189	199	171	1,526
ID	12	8	15	10	7	7	199	174	100	154	113	105	59	845
IL	84	92	97	91	76	73	1,364	1,283	1,444	1,303	1,059	926	513	7,379
IN	50	55	40	42	40	36	513	510	536	420	361	378	263	2,718
IA	14	16	23	13	14	15	503	388	395	319	254	227	95	2,086
KS	26	9	22	17	19	22	478	451	288	246	205	182	115	1,850
KY	19	15	20	21	13	22	234	213	176	179	175	140	110	1,117
LA	40	42	30	36	37	35	410	321	325	291	248	288	220	1,883
ME	1	.	.	.	.	1	74	87	56	56	53	71	2	397
MD	11	8	8	9	18	5	163	158	140	129	176	72	59	838
MA	7	12	14	12	12	19	271	224	199	221	215	153	76	1,283
MI	47	25	34	17	28	24	701	667	471	398	377	392	175	3,006
MN	24	24	22	24	21	15	715	698	508	436	399	307	130	3,063
MS	32	15	31	32	17	22	217	145	170	121	132	136	149	921
MO	28	30	25	31	30	24	637	488	378	312	241	212	168	2,268
MT	8	16	6	9	8	8	385	215	139	127	145	113	55	1,124
NE	21	17	28	12	14	16	852	554	386	319	220	197	108	2,528
NV	2	3	3	9	4	3	63	73	49	115	32	30	24	362
NH	.	.	.	.	1	.	4	14	7	15	10	5	1	55
NJ	31	24	26	35	25	29	821	874	774	533	481	407	170	3,890
NM	4	7	13	15	14	17	140	128	98	90	84	67	70	607
NY	44	62	47	48	27	41	2,052	1,865	2,001	1,696	1,621	1,453	269	10,688
NC	42	37	47	30	27	26	219	179	206	122	180	146	209	1,052
ND	7	8	5	9	5	2	240	167	117	98	101	81	36	804
OH	63	64	54	49	34	45	655	662	596	435	383	365	309	3,096
OK	34	23	21	18	28	30	299	235	198	154	130	134	154	1,150
OR	10	12	10	20	7	18	321	314	248	194	185	136	77	1,398
PA	37	35	35	30	19	30	1,103	1,066	1,068	854	756	778	186	5,625
RI	.	1	.	.	1	4	16	15	35	16	14	12	6	108
SC	20	39	25	16	18	21	134	160	138	141	99	104	139	776
SD	2	1	1	5	2	1	79	67	56	50	41	37	12	330
TN	27	18	18	22	20	20	245	206	192	192	130	135	125	1,100
TX	110	109	117	114	124	99	1,397	1,298	1,073	895	731	768	673	6,162
UT	.	11	20	10	14	6	242	173	105	107	92	87	61	806
VT	2	1	.	1	1	.	33	32	28	18	26	11	5	148
VA	19	21	24	16	18	12	327	265	214	187	143	139	110	1,275
WA	22	24	19	25	19	25	776	477	314	277	231	210	134	2,285
WV	6	9	9	7	8	12	157	159	107	87	78	64	51	652
WI	16	13	19	20	9	19	465	435	396	388	300	283	96	2,267
WY	7	2	8	3	5	2	223	182	104	92	81	79	27	761
Tot	1,170	1,279	1,226	1,146	1,039	1,063	21,383	19,121	16,812	14,440	12,558	11,767	6,923	96,081

Ftl = A fatality, Nonf = non fatal condition.

TABLE 1-6 TOTAL EMPLOYEE ON DUTY CASES BY RAILROAD

	1992		1993		1994		1995		1996		1997	
	Cnt	Rate	Cnt	Rate	Cnt	Rate	Cnt	Rate	Cnt	Rate	Cnt	Rate
Alton & Southern RR	9	2.57	12	3.45	14	4.03	19	5.67	13	3.92	17	5.03
Alaska RR Corp.	47	7.89	43	7.50	37	7.24	36	7.58	45	8.66	63	11.45
Amtrak (Natl RR Passenger Corp.)	1,135	4.86	1,302	5.37	1,368	5.58	1,283	5.71	987	4.64	901	4.33
Bangor & Aroostook RR	36	10.79	48	14.76	30	9.04	33	10.02	36	11.16	36	11.90
Bessemer & Lake Erie RR Co.	10	2.72	5	1.57	8	2.48	16	4.95	12	3.70	8	2.14
Burlington Northern Santa Fe	4,485	10.65	2,815	6.59	1,626	3.69	1,185	2.68	879	2.01	789	1.74
Belt Rwy Co. Of Chicago	31	6.92	21	3.83	55	9.18	14	2.23	14	2.08	14	2.02
Birmingham Southern RR Co.	16	7.20	12	5.49	11	5.04	12	5.53	12	5.65	13	6.40
Consolidated Rail Corp.	1,352	5.74	1,306	5.39	1,239	5.13	836	3.74	671	3.13	518	2.58
CSX Transportation	1,028	3.43	792	2.74	706	2.42	503	1.73	582	2.05	608	2.15
Delaware & Hudson Rwy Co.	25	3.20	26	3.40	34	4.55	40	5.65	43	7.14	31	5.27
Dakota, Minnesota & Eastern RR	21	8.35	37	14.03	19	7.00	25	9.07	22	6.17	21	5.83
Duluth, Missabe & Iron Range Rwy	66	8.82	60	8.80	41	6.61	47	6.91	65	9.32	50	6.93
Duluth, Winnipeg & Pacific Rwy	5	2.72	7	3.82	8	4.58	5	2.25	8	3.73	8	3.73
Elgin, Joliet & Eastern Rwy Co.	51	5.58	31	3.91	36	4.82	18	2.36	45	6.04	47	5.97
Florida East Coast Rwy Co.	21	2.17	33	3.39	37	3.77	39	4.11	45	4.94	39	4.43
Other Railroads	1,254	11.46	1,241	11.14	1,339	11.70	1,185	10.43	1,109	9.42	1,024	8.57
Guilford Rail System	55	4.63	50	4.16	28	2.32	27	2.32	18	1.86	11	1.16
Grand Trunk Western RR Inc.	475	16.74	462	16.13	247	8.54	220	7.94	152	6.77	131	6.35
Gateway Western Rwy	10	4.49	7	3.42	11	4.60	16	5.69	17	6.11	5	2.01
Houston Belt & Terminal Rwy Co.	22	4.78	19	3.99	26	5.78	16	3.97	6	2.61	12	4.67
Illinois Central RR Co.	191	4.80	163	4.21	171	4.42	139	3.45	136	3.53	111	2.91
Indiana Harbor Belt RR Co.	46	5.68	54	6.83	66	8.02	71	8.08	27	2.98	53	6.14
I & M Rail Link, LLC	.	.	.	.	.	.	.	.	.	.	17	3.15
Kansas City Southern Rwy Co.	123	4.67	68	2.52	100	3.71	84	3.01	89	3.33	79	3.01
Long Island Rail Road	831	14.11	686	11.29	693	11.27	584	10.12	508	8.90	451	7.72
Massachusetts Bay Transit Auth.	.	.	.	.	.	.	.	.	96	6.36	69	4.16
Metro North Commuter RR Co.	581	10.81	563	10.51	574	10.66	525	9.79	533	10.19	433	8.27
Montana Rail Link	98	9.93	69	6.89	48	5.17	58	5.71	67	5.97	40	3.46
Northern IN Commuter Trans. Dist	33	11.29	67	22.25	54	17.46	51	16.34	30	9.06	29	8.70
Northeast IL Reg Commuter Rail	90	4.20	95	4.19	116	4.91	123	5.14	134	5.59	110	4.59
New Jersey Transit Rail	246	6.48	220	5.99	239	6.51	86	2.35	88	2.29	89	2.44
Norfolk Southern Corp.	557	2.27	498	2.06	432	1.83	362	1.54	294	1.26	220	0.94
Paducah & Louisville Rwy Co.	28	8.90	33	10.24	26	8.22	25	8.37	20	7.11	11	4.07
Port Authority Trans Hudson	207	14.90	222	16.96	138	12.85	131	12.65	113	11.04	113	11.45
Penisula Commuter(San Mateo Cnty	.	.	.	.	.	.	.	.	14	3.96	15	4.33
Port Terminal RR Association	19	4.74	20	5.09	15	3.73	11	3.14	6	1.88	5	1.55
Southern CA Regional Rail Auth.	.	.	.	.	.	.	6	3.40	3	1.35	12	3.66
Southeastern PA Trans. Authority	164	9.64	207	12.37	243	14.67	231	13.21	198	11.30	193	11.68
Soo Line RR Co.	467	10.44	495	11.08	451	10.79	434	10.09	369	9.06	229	6.53
Texas Mexican RR Co.	47	19.90	40	16.45	59	25.63	8	4.67	1	0.58	5	2.10
Terminal RR Assn Of St. Louis	12	3.80	10	3.34	5	1.72	10	3.65	15	5.37	4	1.47
Union Pacific RR Co.	3,717	6.63	3,405	6.03	2,572	4.71	2,099	3.86	1,561	2.91	1,545	2.89
Union RR Co. (Pittsburgh)	22	6.39	24	6.67	26	7.10	19	5.25	28	7.67	15	4.25
Wisconsin Central Ltd.	137	8.41	132	7.72	153	8.40	168	8.53	110	5.31	122	5.50
Wheeling & Lake Erie Rwy Co.	19	5.98	10	2.93	10	2.77	11	2.81	11	2.94	16	4.45

Cnt = total deaths, injuries and occupational illnesses.
Rate is the frequency of this total per 200,000 hours worked by employees.

TABLE 1-7 TRAIN ACCIDENTS BY RAILROAD, EXCLUDING HRC

	1992		1993		1994		1995		1996		1997	
	Cnt	Rate	Cnt	Rate	Cnt	Rate	Cnt	Rate	Cnt	Rate	Cnt	Rate
Alton & Southern RR	15	20.29	11	14.91	14	18.81	9	11.94	6	8.18	4	5.55
Alaska RR Corp.	5	5.00	7	6.82	2	2.33	4	4.94	5	5.80	7	6.47
Amtrak (Natl RR Passenger Corp.)	64	1.53	93	2.18	79	1.83	68	1.78	88	2.60	84	2.27
Bangor & Aroostook RR	6	15.16	6	15.09	2	4.79	2	4.34	3	3.51	.	.
Bessemer & Lake Erie RR Co.	1	4.81	.	.	1	5.07	1	5.66	1	4.09	1	4.18
Burlington Northern Santa Fe	475	3.61	607	4.53	515	3.64	580	3.98	454	3.11	439	2.84
Belt Rwy Co. Of Chicago	27	105.8	57	158.6	67	179.3	49	125.8	59	126.7	39	77.48
Birmingham Southern RR Co.	1	10.15	1	10.99	.	.	1	9.84	2	16.94	1	7.71
Consolidated Rail Corp.	154	3.59	179	3.92	169	3.54	146	3.24	175	3.83	187	4.12
CSX Transportation	161	2.39	161	2.29	133	1.65	134	1.61	163	1.95	257	3.07
Delaware & Hudson Rwy Co.	8	4.79	8	3.85	10	4.87	12	6.09	8	4.59	6	2.92
Dakota, Minnesota & Eastern RR	31	46.50	30	46.77	34	53.05	27	41.41	26	36.00	27	38.39
Duluth, Missabe & Iron Range Rwy	5	7.73	3	4.82	6	8.29	8	9.12	7	9.24	10	11.72
Duluth, Winnipeg & Pacific Rwy	3	6.10	1	1.74	.	.	5	7.53	4	6.12	1	1.38
Elgin, Joliet & Eastern Rwy Co.	6	11.82	4	7.78	10	17.53	12	20.29	15	24.41	11	18.34
Florida East Coast Rwy Co.	11	3.66	8	2.58	8	2.18	17	5.29	12	3.64	12	3.55
Other Railroads	208	12.63	222	12.54	245	13.16	218	11.18	221	10.52	255	10.57
Guilford Rail System	16	13.55	11	10.17	6	5.59	2	1.87	2	1.88	3	2.74
Grand Trunk Western RR Inc.	64	12.42	47	9.04	53	10.29	46	8.95	32	5.85	25	4.42
Gateway Western Rwy	6	7.92	6	10.65	10	11.37	7	6.78	6	5.98	4	4.41
Houston Belt & Terminal Rwy Co.	13	17.40	18	21.65	14	16.09	11	12.60	5	14.80	12	15.29
Illinois Central RR Co.	89	11.19	82	10.78	88	9.20	74	7.79	82	9.14	58	6.37
Indiana Harbor Belt RR Co.	23	22.30	25	20.78	19	14.76	27	18.39	9	5.87	25	16.01
I & M Rail Link, LLC	.	.	.	.	.	.	.	.	.	.	19	13.91
Kansas City Southern Rwy Co.	47	5.79	58	8.12	92	13.17	109	13.54	75	9.23	71	8.59
Long Island Rail Road	14	1.71	22	2.69	35	4.30	30	3.66	39	4.77	22	2.70
Massachusetts Bay Transit Auth.	.	.	.	.	.	.	.	.	.	.	1	0.37
Metro North Commuter RR Co.	20	2.74	29	3.93	33	4.48	23	2.94	23	3.09	20	2.62
Montana Rail Link	29	7.41	35	9.11	22	6.24	30	7.20	34	9.05	39	9.59
Northern IN Commuter Trans. Dist	2	2.43	2	2.41	4	4.85	1	1.20	.	.	2	2.40
Northeast IL Reg Commuter Rail	2	0.63	.	.	2	0.62	6	1.67	6	1.77	6	1.72
New Jersey Transit Rail	25	3.49	31	4.17	14	1.88	6	0.80	12	1.54	16	1.99
Norfolk Southern Corp.	118	2.28	99	1.84	100	1.70	94	1.51	151	2.37	170	2.64
Paducah & Louisville Rwy Co.	5	7.66	3	4.49	.	.	3	4.59	7	11.68	7	11.60
Port Authority Trans Hudson	6	3.85	4	2.46	2	1.19	5	2.53	.	.	.	.
Penisula Commuter(San Mateo Cnty	.	.	.	.	.	.	.	.	.	.	.	.
Port Terminal RR Association	16	16.82	18	17.61	17	16.06	10	9.51	6	5.31	11	8.84
Southern CA Regional Rail Auth.	.	.	5	11.21	2	2.19	3	2.84	4	3.20	3	2.21
Southeastern PA Trans. Authority	10	2.29	10	2.25	4	0.81	4	0.79	9	1.78	16	3.12
Soo Line RR Co.	94	9.02	91	8.62	92	9.88	95	8.71	106	10.74	54	6.44
Texas Mexican RR Co.	3	10.72	4	14.87	2	8.88	1	4.96	2	7.03	3	5.13
Terminal RR Assn Of St. Louis	9	18.76	19	38.60	17	33.93	15	29.67	14	26.96	18	33.12
Union Pacific RR Co.	738	4.80	771	4.78	716	4.13	694	3.88	719	4.00	581	3.51
Union RR Co. (Pittsburgh)	1	8.07	3	19.79	3	19.49	4	26.95	9	58.90	1	6.71
Wisconsin Central Ltd.	36	10.12	44	12.15	60	14.60	67	13.79	50	9.92	36	7.13
Wheeling & Lake Erie Rwy Co.	4	7.41	8	11.42	4	6.80	8	14.55	1	1.79	7	14.93

Cnt = the number of reported train accidents.
Rate = the number of accidents per 1,000,000 train miles.

TABLE 1-8 TRAIN ACCIDENTS BY STATE, EXCLUDING HRC

	1992		1993		1994		1995		1996		1997		6 Year Total	
	Cnt	%	Cnt	%	Cnt	%	Cnt	%	Cnt	%	Cnt	%	Cnt	%
AL	35	1.5	21	0.8	22	0.9	16	0.7	34	1.4	37	1.5	165	1.1
AK	5	0.2	7	0.3	2	0.1	4	0.2	5	0.2	7	0.3	30	0.2
AZ	31	1.3	24	0.9	22	0.9	37	1.5	22	0.9	21	0.9	157	1.1
AR	59	2.5	58	2.2	64	2.6	56	2.3	56	2.3	50	2.1	343	2.3
CA	136	5.8	125	4.8	129	5.2	112	4.6	127	5.2	105	4.4	734	5.0
CO	24	1.0	48	1.8	41	1.6	49	2.0	52	2.1	39	1.6	253	1.7
CT	16	0.7	22	0.8	33	1.3	16	0.7	13	0.5	12	0.5	112	0.8
DE	6	0.3	7	0.3	6	0.2	2	0.1	3	0.1	5	0.2	29	0.2
DC	4	0.2	6	0.2	9	0.4	4	0.2	8	0.3	5	0.2	36	0.2
FL	25	1.1	26	1.0	22	0.9	42	1.7	38	1.6	39	1.6	192	1.3
GA	45	1.9	33	1.3	35	1.4	28	1.1	43	1.8	64	2.7	248	1.7
ID	48	2.0	49	1.9	37	1.5	32	1.3	31	1.3	25	1.0	222	1.5
IL	219	9.3	287	11.0	266	10.6	248	10.1	258	10.6	251	10.5	1,529	10.3
IN	58	2.5	50	1.9	55	2.2	46	1.9	57	2.3	68	2.8	334	2.3
IA	67	2.8	66	2.5	68	2.7	83	3.4	79	3.2	89	3.7	452	3.1
KS	64	2.7	83	3.2	90	3.6	74	3.0	71	2.9	59	2.5	441	3.0
KY	28	1.2	27	1.0	27	1.1	22	0.9	39	1.6	56	2.3	199	1.3
LA	90	3.8	77	2.9	63	2.5	61	2.5	56	2.3	61	2.5	408	2.8
ME	13	0.6	12	0.5	5	0.2	4	0.2	6	0.2	4	0.2	44	0.3
MD	17	0.7	25	1.0	9	0.4	12	0.5	12	0.5	30	1.3	105	0.7
MA	12	0.5	16	0.6	11	0.4	12	0.5	10	0.4	11	0.5	72	0.5
MI	68	2.9	56	2.1	62	2.5	61	2.5	48	2.0	48	2.0	343	2.3
MN	102	4.3	101	3.9	97	3.9	92	3.7	92	3.8	65	2.7	549	3.7
MS	20	0.8	35	1.3	71	2.8	82	3.3	62	2.5	42	1.8	312	2.1
MO	64	2.7	80	3.1	79	3.2	79	3.2	77	3.2	46	1.9	425	2.9
MT	42	1.8	58	2.2	42	1.7	42	1.7	52	2.1	54	2.3	290	2.0
NE	67	2.8	88	3.4	88	3.5	96	3.9	79	3.2	77	3.2	495	3.4
NV	15	0.6	9	0.3	12	0.5	3	0.1	10	0.4	8	0.3	57	0.4
NH	4	0.2	2	0.1	3	0.1	2	0.1	.	.	.	.	11	0.1
NJ	41	1.7	41	1.6	31	1.2	20	0.8	18	0.7	28	1.2	179	1.2
NM	19	0.8	17	0.7	18	0.7	16	0.7	18	0.7	15	0.6	103	0.7
NY	77	3.3	103	3.9	92	3.7	105	4.3	113	4.6	96	4.0	586	4.0
NC	21	0.9	17	0.7	26	1.0	19	0.8	19	0.8	21	0.9	123	0.8
ND	21	0.9	34	1.3	38	1.5	34	1.4	33	1.4	28	1.2	188	1.3
OH	72	3.1	65	2.5	62	2.5	58	2.4	76	3.1	71	3.0	404	2.7
OK	38	1.6	60	2.3	44	1.8	50	2.0	37	1.5	32	1.3	261	1.8
OR	40	1.7	39	1.5	37	1.5	35	1.4	46	1.9	40	1.7	237	1.6
PA	69	2.9	85	3.3	108	4.3	86	3.5	88	3.6	102	4.3	538	3.6
RI	.	.	.	.	2	0.1	1	0.0	.	.	.	.	3	0.0
SC	11	0.5	19	0.7	8	0.3	18	0.7	17	0.7	22	0.9	95	0.6
SD	29	1.2	19	0.7	29	1.2	39	1.6	28	1.1	24	1.0	168	1.1
TN	41	1.7	57	2.2	50	2.0	44	1.8	42	1.7	63	2.6	297	2.0
TX	269	11.4	273	10.5	214	8.5	239	9.7	182	7.4	223	9.3	1,400	9.5
UT	22	0.9	42	1.6	34	1.4	19	0.8	35	1.4	21	0.9	173	1.2
VT	5	0.2	1	0.0	3	0.1	5	0.2	3	0.1	4	0.2	21	0.1
VA	26	1.1	30	1.1	29	1.2	31	1.3	54	2.2	46	1.9	216	1.5
WA	59	2.5	84	3.2	64	2.6	85	3.5	49	2.0	46	1.9	387	2.6
WV	20	0.8	13	0.5	16	0.6	19	0.8	28	1.1	23	1.0	119	0.8
WI	62	2.6	67	2.6	82	3.3	74	3.0	68	2.8	70	2.9	423	2.9
WY	33	1.4	47	1.8	47	1.9	45	1.8	49	2.0	44	1.8	265	1.8
Tot	2,359	100.0	2,611	100.0	2,504	100.0	2,459	100.0	2,443	100.0	2,397	100.0	14,773	100.0

Cnt = the number of reported train accidents
% = the percent of the total.

TABLE 1-9 CONSISTS TRANSPORTING HAZMAT, BY RAILROAD

	1992			1993			1994			1995			1996			1997		
	Cnt	Dmg	Rls	Cnt	Dmg	Rls	Cnt	Dmg	Rls	Cnt	Dmg	Rls	Cnt	Dmg	Rls	Cnt	Dmg	Rls
ALS	2	1	-	4	2	-	4	-	-	1	1	-	3	2	-	1	1	-
ARR	-	-	-	2	2	1	1	1	1	1	1	-	-	-	-	1	1	-
ATK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BAR	2	1	-	1	1	-	2	2	-	1	-	-	2	-	-	-	-	-
BLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BNSF	93	57	7	148	56	4	139	55	7	157	61	7	132	57	5	122	54	3
BRC	4	-	-	9	2	-	13	10	-	12	3	-	12	7	-	10	7	-
BS	-	-	-	2	-	-	-	-	-	-	-	-	1	1	-	-	-	-
CR	18	13	1	31	19	2	21	19	2	29	27	4	25	25	1	32	26	3
CSX	40	21	5	47	23	6	29	19	2	31	21	3	47	28	5	62	33	4
DH	2	-	-	3	2	-	3	2	-	1	1	-	-	-	-	-	-	-
DME	-	-	-	1	1	-	1	1	-	-	-	-	1	-	-	-	-	-
DMIR	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-
DWP	2	1	-	-	-	-	-	-	-	3	3	-	2	1	-	1	1	-
EJE	1	-	-	1	-	-	1	1	-	2	2	-	4	3	-	2	-	-
FEC	1	-	-	1	1	-	2	-	-	1	-	-	2	-	-	4	1	-
GRP3	25	15	1	36	22	-	50	31	5	48	37	3	42	23	2	37	21	4
GRS	7	4	1	3	1	-	2	-	-	-	-	-	-	-	-	1	1	-
GTW	1	1	-	3	3	-	1	1	-	4	4	1	1	-	-	2	2	-
GWWR	3	1	-	1	1	-	2	2	1	1	1	-	5	4	-	1	1	1
HBT	5	4	-	1	-	-	-	-	-	1	-	-	1	1	-	1	1	-
IC	45	16	1	28	11	2	36	19	6	23	15	-	44	26	3	24	18	2
IHB	6	1	-	9	5	-	5	4	-	14	5	-	-	-	-	2	2	-
IMRL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	3	-
KCS	10	3	-	12	7	1	12	11	1	9	2	-	2	1	1	12	4	2
LI	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-
MBTA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MNCW	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MRL	11	1	-	13	1	-	8	4	1	12	5	1	14	5	1	14	8	-
NICD	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-
NIRC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NJTR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NS	21	7	1	21	13	2	17	8	2	18	6	1	27	17	4	39	23	4
PAL	-	-	-	1	1	-	-	-	-	1	1	-	5	4	-	4	3	1
PATH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PTRA	2	-	-	3	3	-	6	6	-	4	4	1	-	-	-	2	1	-
SCAX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEPA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SOO	37	7	-	16	3	-	17	1	1	31	15	1	16	10	1	11	4	-
TM	-	-	-	1	-	-	-	-	-	-	-	-	2	-	-	2	1	1
TRRA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UP	148	76	9	175	84	11	168	66	7	161	82	5	154	67	10	135	59	6
URR	1	1	-	1	-	-	-	-	-	1	1	-	-	-	-	-	-	-
WC	19	1	1	11	3	-	16	6	-	25	8	-	17	9	1	10	1	-
WE	1	1	-	1	1	-	-	-	-	4	2	-	-	-	-	-	-	-
Tot	507	233	27	586	268	29	558	271	36	596	308	27	562	292	34	540	277	31

Cnt = Number of Consists; Dmg = Damaged; Rls = Releases
A consist is a train, locomotive(s), cut of cars, or a single car.

TABLE 1-10 CONSISTS TRANSPORTING HAZMAT, BY STATE

	1992			1993			1994			1995			1996			1997		
	Cnt	Dmg	Rls	Cnt	Dmg	Rls	Cnt	Dmg	Rls	Cnt	Dmg	Rls	Cnt	Dmg	Rls	Cnt	Dmg	Rls
AL	10	5	1	7	1	-	15	9	1	6	4	1	14	8	-	15	6	-
AK	-	-	-	2	2	1	1	1	1	1	1	-	-	-	-	1	1	-
AZ	10	4	-	8	3	-	9	5	2	16	13	1	14	9	2	10	6	2
AR	9	6	-	15	5	-	17	5	-	13	6	-	23	7	-	7	3	1
CA	30	22	-	32	13	-	46	22	4	30	18	1	35	19	4	24	10	-
CO	2	1	-	11	5	-	6	2	-	9	6	-	12	4	1	4	2	-
CT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
DE	-	-	-	2	2	-	-	-	-	-	-	-	-	-	-	1	1	-
DC	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FL	2	1	-	3	3	-	5	2	-	3	2	1	2	-	-	6	2	1
GA	5	2	-	9	7	2	7	4	1	10	3	-	8	4	1	12	5	-
ID	8	3	2	11	2	1	5	4	1	8	4	-	8	4	-	10	3	1
IL	44	13	-	76	30	2	45	25	2	72	24	2	69	35	2	52	31	3
IN	13	9	1	7	5	-	8	8	-	11	8	-	7	3	-	11	7	-
IA	11	4	-	8	3	-	6	3	1	21	9	-	14	9	2	23	11	1
KS	10	5	-	13	4	-	20	7	-	15	4	-	24	14	-	20	8	1
KY	9	4	1	8	6	1	7	4	-	3	1	-	16	10	1	18	13	1
LA	53	29	3	36	22	2	27	16	3	23	14	1	20	14	1	24	14	2
ME	8	4	1	4	2	-	3	3	-	1	-	-	3	-	-	2	2	-
MD	3	2	-	3	3	-	2	2	-	1	1	-	2	1	1	5	4	1
MA	1	1	-	3	2	-	3	-	-	2	2	-	-	-	-	3	1	1
MI	5	4	-	5	2	1	6	3	-	9	5	1	4	3	-	7	4	-
MN	23	5	-	17	3	-	20	5	1	16	11	-	11	6	1	11	3	-
MS	10	2	1	12	5	-	21	13	2	14	8	-	13	5	1	10	4	1
MO	8	3	1	15	4	1	13	6	1	21	9	3	13	6	-	12	9	-
MT	16	5	1	17	5	1	14	5	1	14	5	1	20	8	1	18	10	-
NE	9	3	2	17	7	1	16	8	1	25	14	1	12	3	1	8	1	-
NV	3	1	-	5	2	-	5	-	-	-	-	-	3	2	-	1	-	-
NH	1	-	-	1	1	-	1	-	-	2	1	-	1	-	-	-	-	-
NJ	1	1	-	-	-	-	6	5	-	3	3	-	1	1	-	5	2	-
NM	4	3	-	4	-	-	8	2	1	10	2	1	9	5	-	7	3	-
NY	6	2	-	5	4	-	7	6	-	7	5	2	7	7	1	5	5	2
NC	2	1	-	2	1	-	6	2	-	4	2	-	9	8	2	6	3	1
ND	9	3	-	5	3	-	5	2	1	6	3	1	7	2	-	2	1	-
OH	17	8	-	24	13	3	15	9	3	15	13	2	15	12	-	16	11	1
OK	12	5	-	13	4	-	14	5	-	20	9	2	10	5	-	4	2	1
OR	11	2	-	12	4	2	5	4	-	5	3	-	10	4	2	11	4	-
PA	13	8	1	15	7	-	12	8	2	12	12	1	10	8	-	14	11	-
RI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SC	2	1	1	4	3	1	1	1	-	3	2	-	6	5	1	4	1	-
SD	-	-	-	2	2	-	1	1	-	-	-	-	1	-	-	2	1	-
TN	14	4	-	13	7	2	15	7	2	13	6	-	18	11	2	23	13	2
TX	65	40	3	78	42	4	72	33	4	76	42	5	58	26	3	83	43	3
UT	6	1	-	10	4	2	12	5	-	6	1	-	5	2	-	6	5	1
VT	2	2	1	-	-	-	1	1	-	2	-	-	2	-	-	1	-	-
VA	1	-	-	5	2	-	-	-	-	3	1	-	6	5	1	5	3	1
WA	6	4	-	19	11	1	13	4	-	26	10	-	6	2	-	14	2	-
WV	3	3	2	3	2	-	-	-	-	7	6	-	3	1	-	2	1	1
WI	24	3	2	7	5	-	19	5	-	24	11	-	19	10	1	11	2	-
WY	6	4	3	17	5	1	18	9	1	8	4	-	12	4	2	3	2	1
Tot	507	233	27	586	268	29	558	271	36	596	308	27	562	292	34	540	277	31

Cnt = Number of Consists; Dmg = Damaged; Rls = Releases
A consist is a train, locomotive(s), cut of cars, or a single car.

TABLE 1-11 TOTAL HIGHWAY-RAIL CROSSING INCIDENTS BY RAILROAD

	At Public Crossing						At Private Crossing					
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997
Alton & Southern RR	1	3	3	1	1	.	.	.	.	.	.	.
Alaska RR Corp.	9	9	3	3	5	4	1	1	.	.	1	1
Amtrak (Natl RR Passenger Corp.)	144	148	147	138	132	150	22	22	25	16	18	26
Bangor & Aroostook RR	4	1	2	1	1	2	2	3	3	2	2	1
Bessemer & Lake Erie RR Co.	1	1	1	.	2	5	.	.	.	1	.	.
Burlington Northern Santa Fe	605	594	625	667	528	537	82	90	94	105	104	74
Belt Rwy Co. Of Chicago	1	4	2	5	.	2	.	.	.	.	.	.
Birmingham Southern RR Co.	5	1	1	.	.	2	.	3	.	.	2	1
Consolidated Rail Corp.	360	308	283	212	218	173	53	34	25	24	24	14
CSX Transportation	556	464	494	553	446	432	33	27	46	43	35	37
Delaware & Hudson Rwy Co.	5	6	5	7	6	9	3	.	3	6	2	3
Dakota, Minnesota & Eastern RR	20	26	15	17	10	19	3	.	2	1	1	2
Duluth, Missabe & Iron Range Rwy	2	3	3	1	3	2	.	.	.	.	1	.
Duluth, Winnipeg & Pacific Rwy	3	2	1	1	2	4	.	.	.	.	.	.
Elgin, Joliet & Eastern Rwy Co.	9	10	3	9	7	3	1	3	2	6	2	2
Florida East Coast Rwy Co.	23	26	28	26	28	20	.	1	2	.	.	.
Guilford Rail System	16	8	7	5	9	13	2	2	1	3	.	2
Grand Trunk Western RR Inc.	45	64	57	47	43	38	2	6	3	3	.	2
Gateway Western Rwy	8	5	10	6	7	6	.	.	.	1	2	.
Houston Belt & Terminal Rwy Co.	8	6	5	3	4	2	.	1	.	.	.	.
Illinois Central RR Co.	136	125	128	119	124	115	16	8	10	9	12	21
Indiana Harbor Belt RR Co.	17	9	17	17	12	10	1	2	.	1	2	4
I & M Rail Link, LLC	.	.	.	.	.	16	.	.	.	.	.	4
Kansas City Southern Rwy Co.	167	154	166	188	165	171	12	14	14	19	13	16
Long Island Rail Road	8	12	5	11	10	4	.	.	.	.	.	.
Massachusetts Bay Transit Auth.	.	.	.	.	1	4	.	.	.	.	.	1
Metro North Commuter RR Co.	9	4	3	4	7	2	1	1	3	.	2	1
Montana Rail Link	9	9	10	9	12	15	2	8	3	4	10	8
Northern IN Commuter Trans. Dist	6	16	9	7	10	13	.	.	1	1	.	.
Northeast IL Reg Commuter Rail	15	15	23	15	21	15	.	.	.	3	2	1
New Jersey Transit Rail	8	17	9	6	12	10	1	.	.	2	.	.
Norfolk Southern Corp.	691	744	667	608	500	446	69	83	82	83	68	62
Other Railroads	318	377	403	335	365	314	41	33	43	27	34	43
Paducah & Louisville Rwy Co.	6	5	4	4	4	9	.	.	.	1	.	2
Port Authority Trans Hudson	.	.	.	.	.	.	.	.	1	.	.	.
Port Terminal RR Association	8	3	3	5	4	4	1	5	9	4	1	1
Southern CA Regional Rail Auth.	.	.	4	12	10	8	.	.	.	.	.	1
Southeastern PA Trans. Authority	2	4	4	4	1	1	.	.	1	.	.	.
Soo Line RR Co.	103	94	84	73	77	49	7	8	6	12	8	6
Texas Mexican RR Co.	11	6	6	2	4	12	.	1	2	.	.	.
Terminal RR Assn Of St. Louis	8	2	3	1	2	.	.	.	.	.	.	.
Union Pacific RR Co.	1,026	1,025	1,126	919	871	680	84	90	87	96	115	103
Union RR Co. (Pittsburgh)	.	.	.	.	.	1	.	.	.	.	2	.
Wisconsin Central Ltd.	75	100	104	93	105	81	5	9	8	5	5	11
Wheeling & Lake Erie Rwy Co.	17	27	30	19	19	11	1	.	.	2	1	1
Total	4,465	4,437	4,503	4,153	3,788	3,414	445	455	476	480	469	451

TABLE 1-12 TOTAL HIGHWAY-RAIL CROSSING INCIDENTS BY STATE

	At Public Crossing						At Private Crossing						At Public Crossing			At Private Crossing		
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf
AL	173	167	172	168	142	121	9	15	16	10	15	14	943	104	407	79	2	12
AK	9	10	3	3	5	4	1	1	.	.	1	1	34	5	15	4	.	.
AZ	30	28	24	34	25	25	1	3	7	4	5	2	166	19	58	22	1	5
AR	123	141	139	150	131	100	12	11	6	11	14	18	784	100	308	72	8	15
CA	161	165	183	169	172	133	24	26	33	31	29	26	983	158	310	169	31	67
CO	50	57	43	53	25	24	6	7	9	6	8	4	252	39	94	40	8	6
CT	14	10	4	6	9	4	2	2	6	.	3	2	47	2	21	15	3	7
DE	4	10	5	3	4	4	4	1	.	2	.	.	30	5	15	7	1	2
DC	.	.	.	.	2	.	.	.	.	.	.	.	2	.	.	.	.	.
FL	98	110	114	88	93	79	9	3	10	7	9	10	582	89	264	48	7	22
GA	158	148	148	147	136	124	13	8	13	13	19	14	861	90	332	80	4	27
ID	40	43	39	33	43	27	3	5	6	1	6	3	225	41	72	24	.	4
IL	292	280	308	268	210	191	26	23	29	27	22	22	1,549	256	694	149	12	48
IN	273	286	273	255	211	210	20	13	9	16	13	17	1,508	176	598	88	2	28
IA	116	132	157	118	114	90	11	5	2	5	9	16	727	65	297	48	5	20
KS	86	100	94	92	101	99	1	6	3	9	12	10	572	83	194	41	2	10
KY	75	72	80	87	69	49	9	10	17	16	8	16	432	38	203	76	3	27
LA	237	206	202	205	213	179	20	18	23	18	18	24	1,242	154	650	121	11	42
ME	9	4	5	6	6	10	3	5	3	5	2	2	40	1	13	20	.	8
MD	16	12	12	11	9	16	3	2	1	1	1	2	76	1	32	10	.	4
MA	20	9	16	13	19	14	3	3	4	1	3	4	91	3	55	18	.	2
MI	178	153	158	126	136	144	8	18	5	7	6	8	895	104	462	52	4	27
MN	111	124	138	139	132	110	8	9	11	13	25	6	754	84	245	72	4	10
MS	157	121	163	146	120	133	7	9	13	13	12	15	840	117	392	69	7	28
MO	104	103	115	113	107	89	12	12	10	15	20	23	631	89	230	92	6	19
MT	16	22	18	13	23	18	6	14	12	6	11	11	110	17	44	60	4	8
NE	72	82	86	71	54	62	13	9	6	15	9	6	427	70	130	58	3	12
NV	1	1	7	5	6	.	1	3	1	3	1	1	20	5	9	10	5	1
NH	2	3	2	4	1	2	2	.	1	1	1	.	14	.	2	5	1	1
NJ	31	48	34	20	27	33	3	3	3	4	4	1	193	27	69	18	1	11
NM	20	24	17	15	23	17	2	1	3	3	3	3	116	26	86	15	1	4
NY	44	42	37	42	31	27	11	6	10	10	5	10	223	40	85	52	6	13
NC	160	155	145	122	112	103	18	13	14	13	11	11	797	69	282	80	6	30
ND	34	36	20	34	30	19	1	.	2	4	3	2	173	26	79	12	1	3
OH	272	259	229	220	174	172	18	18	11	19	12	6	1,326	200	455	84	6	17
OK	112	122	116	108	75	109	6	5	10	5	5	8	642	108	330	39	3	13
OR	44	40	38	29	28	25	9	12	6	6	15	10	204	21	42	58	10	3
PA	93	98	73	70	64	58	18	15	17	10	10	9	456	41	150	79	9	23
RI	.	.	.	1	.	1	.	.	2	.	.	.	2	.	1	2	.	1
SC	97	81	87	99	83	72	7	5	5	12	4	2	519	58	221	35	7	5
SD	28	30	29	41	20	22	2	2	2	.	.	1	170	8	74	7	.	.
TN	109	100	99	91	113	78	7	8	9	10	10	10	590	62	165	54	8	9
TX	443	464	502	423	391	368	43	42	55	51	43	53	2,591	318	1136	287	44	96
UT	33	26	26	30	31	25	3	5	2	3	4	2	171	44	43	19	1	4
VT	2	3	3	3	3	1	3	4	3	1	3	.	15	4	13	14	.	3
VA	59	71	56	57	50	37	20	23	26	19	20	19	330	24	110	127	8	47
WA	78	55	60	50	51	57	20	20	15	33	18	7	351	25	90	113	7	30
WV	43	29	41	33	17	19	6	12	16	7	5	6	182	10	49	52	4	14
WI	134	151	176	132	144	106	9	13	6	8	6	11	843	52	381	53	5	13
WY	4	4	7	7	3	4	2	7	3	6	6	3	29	6	6	27	3	3
Tot	4,465	4,437	4,503	4,153	3,788	3,414	445	455	476	480	469	451	24,760	3084	1E4	2,776	264	804

Cnt = the count of accidents. Ftl = fatalities . Nonf = the number of nonfatal injuries.

TABLE 1-13 HIGHWAY-RAIL CROSSING INCIDENTS CASUALTIES BY RAILROAD

	Fatalities						Nonfatal					
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997
Alton & Southern RR	1	.	.	.	.	.	2	.	3	.	1	.
Alaska RR Corp.	1	.	3	.	.	1	2	5	3	5	.	.
Amtrak (Natl RR Passenger Corp.)	63	63	44	63	41	53	152	110	44	70	66	123
Bangor & Aroostook RR	1	.	.	.	.	.	4	2	2	2	1	.
Bessemer & Lake Erie RR Co.	1	.	.	.	.	1	.	.	.	.	.	5
Burlington Northern Santa Fe	78	92	118	128	107	85	246	252	285	280	197	209
Belt Rwy Co. Of Chicago	.	.	.	.	.	1	.	2	1	1	.	2
Birmingham Southern RR Co.	.	1	.	.	.	.	.	1	.	.	.	.
Consolidated Rail Corp.	67	41	46	36	25	23	126	102	93	52	97	58
CSX Transportation	64	57	58	71	42	59	291	229	266	269	196	213
Delaware & Hudson Rwy Co.	5	.	1	2	.	2	4	3	6	4	2	6
Dakota, Minnesota & Eastern RR	.	.	.	1	1	.	8	14	8	11	6	1
Duluth, Missabe & Iron Range Rwy	.	2	2	.	.	.	1	1	2	.	1	1
Duluth, Winnipeg & Pacific Rwy	2	.	1	.	.	3	1	1	.	2	2	.
Elgin, Joliet & Eastern Rwy Co.	.	2	1	.	.	.	3	3	2	5	2	2
Florida East Coast Rwy Co.	.	7	3	6	5	5	5	6	16	7	10	9
Other Railroads	9	19	16	9	13	10	120	152	151	142	149	87
Guilford Rail System	.	.	.	1	.	1	9	1	3	.	3	2
Grand Trunk Western RR Inc.	13	10	13	3	9	7	22	26	30	28	20	33
Gateway Western Rwy	.	1	1	.	3	.	2	.	2	1	.	4
Houston Belt & Terminal Rwy Co.	.	.	.	1	.	.	6	1	.	2	.	1
Illinois Central RR Co.	15	13	8	7	11	13	70	73	61	60	67	66
Indiana Harbor Belt RR Co.	.	.	.	.	.	.	6	7	7	8	7	6
I & M Rail Link, LLC	.	.	.	.	.	2	.	.	.	.	.	8
Kansas City Southern Rwy Co.	15	7	8	13	24	22	105	74	88	98	69	82
Long Island Rail Road	2	5	2	4	3	3	7	1	.	2	6	2
Massachusetts Bay Transit Auth.	.	.	.	.	.	1	.	.	.	.	22	1
Metro North Commuter RR Co.	.	.	.	.	1	.	8	2	4	5	3	.
Montana Rail Link	1	4	3	1	3	1	4	1	1	3	5	8
Northern IN Commuter Trans. Dist	.	1	.	.	1	.	2	2	2	.	1	2
Northeast IL Reg Commuter Rail	1	6	3	4	2	2	9	8	84	4	13	9
New Jersey Transit Rail	2	1	2	5	2	7	2	16	4	.	2	1
Norfolk Southern Corp.	80	104	81	72	49	46	244	234	219	227	192	187
Paducah & Louisville Rwy Co.	.	.	.	.	.	.	5	3	.	2	.	6
Port Terminal RR Association	.	1	.	.	.	.	6	2	1	2	4	3
Southern CA Regional Rail Auth.	.	.	2	4	3	2	.	.	.	4	1	.
Southeastern PA Trans. Authority	1	1	.	.	.	1	6	5	1	1	1	3
Soo Line RR Co.	11	14	10	7	6	2	52	45	39	32	31	26
Texas Mexican RR Co.	.	.	1	.	.	.	4	.	2	.	.	4
Terminal RR Assn Of St. Louis	.	.	.	.	.	.	4	.	.	.	2	.
Union Pacific RR Co.	142	167	177	136	133	103	395	375	464	499	376	325
Wisconsin Central Ltd.	4	6	9	5	3	3	34	62	46	55	45	42
Wheeling & Lake Erie Rwy Co.	.	1	2	.	1	2	8	16	21	11	10	3
	579	626	615	579	488	461	1,975	1,837	1,961	1,894	1,610	1,540

TABLE 1-14 TOTAL HIGHWAY-RAIL CROSSING INCIDENTS CASUALTIES BY STATE

	Fatalities						Nonfatal						6 Year Total	
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997	Ftl	Nonf
AL	16	25	12	16	18	19	74	53	78	86	70	58	106	419
AK	1	.	3	.	.	1	2	5	3	5	.	.	5	15
AZ	4	2	3	2	4	5	13	11	11	11	5	12	20	63
AR	13	22	21	22	20	10	44	56	66	73	39	44	108	322
CA	32	40	43	28	24	22	76	50	60	70	56	65	189	377
CO	7	9	13	11	5	2	16	21	12	32	13	6	47	100
CT	3	1	.	1	.	.	9	4	7	4	3	1	5	28
DE	4	.	1	.	.	1	2	6	4	1	2	2	6	17
FL	7	21	17	23	16	12	34	72	49	53	36	42	96	286
GA	14	19	13	17	19	12	71	62	57	68	44	57	94	359
ID	7	6	9	7	6	6	12	14	14	15	15	6	41	76
IL	45	55	54	48	39	27	123	118	189	139	88	85	268	742
IN	33	36	29	29	28	23	117	96	129	91	81	112	178	626
IA	7	15	19	9	8	12	55	46	56	67	38	55	70	317
KS	20	5	16	15	13	16	22	35	32	47	40	28	85	204
KY	9	7	10	7	3	5	48	42	42	48	24	26	41	230
LA	32	26	18	28	31	30	149	101	107	105	119	111	165	692
ME	1	.	.	.	.	.	7	3	4	3	2	2	1	21
MD	1	.	.	.	.	.	6	5	5	6	7	7	1	36
MA	.	.	.	1	.	2	24	1	3	1	27	1	3	57
MI	31	16	25	5	17	14	76	84	85	70	85	89	108	489
MN	13	17	18	19	14	7	32	46	65	32	48	32	88	255
MS	20	14	25	31	15	19	103	66	70	51	69	61	124	420
MO	13	13	13	22	19	15	40	38	46	56	36	33	95	249
MT	3	9	1	4	3	1	6	6	11	4	14	11	21	52
NE	16	11	20	8	9	9	29	28	23	28	21	13	73	142
NV	.	2	2	5	1	.	.	.	3	2	5	.	10	10
NH	.	.	.	.	1	.	1	.	.	2	.	.	1	3
NJ	2	4	6	5	2	9	7	31	10	3	15	14	28	80
NM	.	4	5	5	7	6	24	24	6	11	19	6	27	90
NY	10	10	6	9	4	7	26	16	14	14	14	14	46	98
NC	21	16	12	11	9	6	70	51	48	40	53	50	75	312
ND	6	7	2	7	4	1	16	16	12	18	13	7	27	82
OH	47	45	38	36	14	26	99	97	85	82	63	46	206	472
OK	20	13	17	15	22	24	51	64	70	64	38	56	111	343
OR	5	7	2	12	1	4	12	9	12	5	5	2	31	45
PA	11	11	8	12	3	5	45	41	23	13	25	26	50	173
RI	.	.	.	.	.	.	.	.	1	1	.	.	.	2
SC	6	23	10	6	6	14	22	38	37	63	39	27	65	226
SD	1	.	1	4	2	.	12	15	15	15	9	8	8	74
TN	13	9	14	13	9	12	38	26	28	32	26	24	70	174
TX	59	75	58	55	61	54	196	194	241	229	175	198	362	1,233
UT	.	7	17	7	11	3	5	6	6	15	7	8	45	47
VT	2	1	.	.	1	.	2	4	2	3	5	.	4	16
VA	7	6	7	6	4	2	60	22	16	22	22	15	32	157
WA	6	5	4	4	6	7	21	16	21	21	18	23	32	120
WV	1	2	4	1	2	4	21	13	9	10	6	4	14	63
WI	10	9	14	13	5	6	57	83	74	61	66	53	57	394
WY	.	1	5	.	2	1	.	2	.	2	5	.	9	9
Tot	579	626	615	579	488	461	1,975	1,837	1,961	1,894	1,610	1,540	3,348	10,817

Cnt = the count of accidents. Ftl = fatalities . Nonf = the number of nonfatal injuries.

TABLE 1-15 TRESPASSER CASUALTIES BY RAILROAD, NOT AT HRC

	Fatalities(Ftl)						Nonfatal (Nonf)						6 Year Total	
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997	Ftl	Nonf
ALS	.	.	.	.	.	.	1	.	1	.	.	.	.	2
ARR	1	.	.	1	1	.	.	.	.	1	2	.	3	3
ATK	51	96	80	59	56	57	45	20	12	6	14	32	399	129
BLE	1	.	1	.	.	.	.	.	.	.	.	.	2	.
BNSF	87	55	72	81	60	85	73	55	68	85	77	68	440	426
BS	.	.	.	.	.	.	1	.	.	.	.	.	.	1
CR	53	49	10	9	4	33	50	44	16	19	5	38	158	172
CSX	49	54	64	60	51	47	44	59	59	45	54	47	325	308
DH	2	7	6	2	1	2	1	11	4	3	1	2	20	22
DME	.	.	.	.	.	1	1	.	.	.	1	2	1	4
DMIR	.	.	.	.	.	.	1	.	.	.	.	.	.	1
DWP	.	.	1	.	.	.	.	.	.	.	.	.	1	.
EJE	.	1	.	.	.	.	.	.	1	.	.	.	1	1
FEC	9	13	10	12	17	14	17	13	26	19	9	13	75	97
GRP3	2	14	12	9	10	10	11	13	15	26	13	11	57	89
GRS	1	2	1	1	.	3	.	1	.	2	.	6	8	9
GTW	2	5	3	3	2	2	7	6	3	4	4	1	17	25
GWWR	.	.	.	.	.	1	.	.	.	.	1	1	1	2
HBT	1	.	.	.	.	.	.	.	1	.	1	.	1	2
IC	10	3	5	1	6	4	7	5	12	13	5	7	29	49
IHB	1	.	2	3	1	2	3	7	2	5	2	2	9	21
KCS	7	9	4	6	2	4	3	10	2	5	8	6	32	34
LI	16	11	7	13	6	14	12	10	9	9	16	37	67	93
MBTA	.	.	.	.	6	9	.	.	.	.	3	.	15	3
MNCW	3	6	11	14	2	6	8	5	2	5	4	3	42	27
MRL	3	4	1	1	2	3	3	2	3	3	1	1	14	13
NICD	1	.	2	1	.	1	.	.	.	.	.	1	5	1
NIRC	2	2	6	5	5	5	7	5	6	3	4	2	25	27
NJTR	18	11	17	25	14	15	13	11	5	9	3	5	100	46
NS	75	58	66	49	57	54	70	71	57	57	67	56	359	378
PAL	1	.	.	1	1	.	.	1	3	1	1	1	3	7
PATH	.	.	.	1	.	.	.	.	.	.	.	1	1	1
PCMZ	.	.	.	.	3	6	.	.	.	.	.	1	9	1
PTRA	.	.	.	1	.	.	1	1	.	.	.	1	1	3
SCAX	.	6	2	2	2	6	.	2	.	2	.	1	18	5
SEPA	2	4	5	1	5	4	3	2	4	4	2	6	21	21
SOO	6	1	1	2	4	3	5	5	7	8	6	1	17	32
TM	.	.	1	1	.	.	.	1	.	.	1	1	2	3
TRRA	.	.	.	.	.	.	1	.	.	.	1	.	.	2
UP	128	111	138	125	152	139	151	145	130	121	159	155	793	861
WC	1	1	1	5	1	3	1	4	4	6	7	7	12	29
WE	.	.	.	.	.	.	.	.	.	.	2	.	.	2
Tot	533	523	529	494	471	533	540	509	452	461	474	516	3,083	2,952

TABLE 1-16 TRESPASSER CASUALTIES BY STATE, NOT AT HRC

	Fatalities(Ftl)						Nonfatal (Nonf)						6 Year Total	
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997	Ftl	Nonf
AL	4	8	5	7	7	9	10	8	8	5	12	11	40	54
AK	1	.	.	1	1	.	.	.	.	1	2	.	3	3
AZ	10	7	15	14	16	18	11	10	11	9	9	3	80	53
AR	6	7	3	.	5	1	8	8	8	4	6	8	22	42
CA	63	98	73	73	68	81	59	42	37	43	45	38	456	264
CO	9	3	7	2	5	7	6	2	9	7	4	11	33	39
CT	2	7	6	6	3	7	3	2	1	1	4	2	31	13
DE	.	2	1	.	1	.	.	1	.	.	1	.	4	2
DC	1	.	1	1	.	.	.	.	.	.	.	1	3	1
FL	17	27	31	25	23	24	27	24	32	29	14	22	147	148
GA	17	12	10	12	8	11	21	21	14	14	18	9	70	97
ID	3	2	5	3	1	.	5	5	2	2	1	4	14	19
IL	34	30	40	36	32	44	34	37	34	38	30	28	216	201
IN	14	10	7	7	7	11	14	4	7	8	6	4	56	43
IA	6	1	4	4	4	2	9	2	6	4	6	7	21	34
KS	6	4	6	2	5	2	13	3	7	2	5	4	25	34
KY	8	6	10	12	8	17	8	7	7	12	14	7	61	55
LA	7	16	11	8	6	5	9	20	13	18	9	16	53	85
ME	.	.	.	.	.	1	.	.	.	2	.	6	1	8
MD	9	6	8	9	7	4	3	5	6	6	2	2	43	24
MA	7	12	12	8	11	16	10	5	3	3	4	3	66	28
MI	14	8	8	6	10	7	16	10	10	6	7	14	53	63
MN	8	6	4	5	4	6	6	8	9	9	5	3	33	40
MS	12	1	5	1	2	3	6	6	5	5	3	1	24	26
MO	13	15	12	7	10	6	3	4	5	8	9	7	63	36
MT	5	5	4	5	5	6	4	2	4	6	3	2	30	21
NE	4	5	4	2	5	4	4	6	2	3	6	4	24	25
NV	2	1	1	3	2	2	5	.	5	1	1	4	11	16
NJ	25	18	17	25	16	18	18	18	9	12	4	9	119	70
NM	4	2	7	9	5	11	5	7	3	4	12	7	38	38
NY	30	42	29	33	16	32	33	32	15	22	20	54	182	176
NC	19	20	34	18	16	19	20	15	19	9	19	22	126	104
ND	1	.	3	2	1	1	4	1	1	3	3	.	8	12
OH	15	17	10	7	12	15	16	17	13	10	10	14	76	80
OK	14	7	4	2	6	6	3	3	4	2	13	11	39	36
OR	4	4	7	8	5	12	12	13	7	6	14	8	40	60
PA	23	17	14	11	14	21	15	33	12	16	8	26	100	110
RI	.	1	.	.	1	4	.	.	.	.	.	.	6	.
SC	14	16	13	9	12	5	14	10	9	3	6	9	69	51
SD	.	1	.	1	.	1	1	1	1	.	1	2	3	6
TN	14	9	4	9	11	8	3	7	6	10	9	11	55	46
TX	46	28	48	54	60	38	58	61	62	67	89	78	274	415
UT	.	3	3	3	3	3	4	7	.	5	5	5	15	26
VT	.	.	.	1	.	.	.	1	.	.	.	.	1	1
VA	12	15	16	9	14	9	12	11	3	10	8	8	75	52
WA	13	13	15	21	13	17	8	13	17	22	10	16	92	86
WV	5	6	4	6	3	7	8	11	11	6	9	5	31	50
WI	5	4	5	6	4	11	6	4	14	8	8	10	35	50
WY	7	1	3	1	3	1	6	2	1	.	.	.	16	9
Tot	533	523	529	494	471	533	540	509	452	461	474	516	3,083	2,952

CHAPTER 2

CURRENT YEAR SUMMARY OF ACCIDENTS/INCIDENTS AND RATES

The Federal Railroad Administration's (FRA) regulations on reporting railroad accidents/ incidents are found primarily in Title 49 of the Code of Federal Regulations (CFR), Part 225 (49 CFR Part 225). The purpose of the regulations in Part 225 is to provide FRA with accurate information concerning the hazards and risks that exist on the Nation's railroads. FRA needs this information to effectively carry out its regulatory and enforcement responsibilities under the Federal railroad safety statutes. FRA also uses this information for determining comparative trends of railroad safety and to develop hazard elimination and risk reduction programs that focus on preventing railroad injuries and accidents. Issuance of these regulations preempts States from prescribing accident/incident reporting requirements. Any State may, however, require railroads to submit to it copies of reports filed with FRA under Part 225 for accidents/incidents that occur in that State.

These FRA accident/incident reporting requirements apply to all railroads except--

1. A railroad that operates freight trains only on track inside an installation which is not part of the general railroad system of transportation or that owns no track except for track that is inside an installation that is not part of the general railroad system of transportation and used for freight operations.

2. Rail mass transit operations in an urban area that are not connected with the general railroad system of transportation.

3. A railroad that exclusively hauls passengers inside an installation that is insular or that owns no track except for track used exclusively for the hauling of passengers inside an installation that is insular. An operation is not considered insular if one or more of the following exists on its line:

    a. A public highway-rail grade crossing that is in use;

    b. An at-grade rail crossing that is in use;

    c. A bridge over a public road or waters used for commercial navigation; or

    d. A common corridor with a railroad, i.e., its operations are within 30 feet of those of any railroad.

Part 225 covers any and all activities of a railroad related to the performance of its rail transportation business. "Railroad transportation" means any form of non-highway ground

transportation that run on rails or electro-magnetic guideways, including (1) commuter or other short-haul railroad passenger service in a metropolitan or suburban area, as well as any commuter railroad service that was operated by the Consolidated Rail Corporation as of January 1, 1979, and (2) high speed ground transportation systems that connect metropolitan areas, without regard to whether they use new technologies not associated with traditional railroads. Such term does not include rapid transit operations within an urban area that are not connected to the general railroad system of transportation.

Approximately 700 railroads currently submit accident/incident reports. It is not possible to display the safety record of each railroad in this publication. Consequently, the listing of individual railroads has been limited to those define by the Surface Transportation Board (STB) to be Class 1 railroads, and other railroads reporting annual employees worked in excess of 400,000. (The STB defines Class 1 railroads to be those with average annual operating revenues of $225 million or more.)

Railroads have been assigned to 1 of 3 groups in this bulletin. Group 1 corresponds to the railroads that have defined as Class 1; Group 2 includes railroads that reported at least 400,000 hours worked; and, Group 3 contains all other railroads.

In order to conserve space, most tables display the reporting code assigned to a railroad. Please see Table 2-8 for a listing of the code and railroad name.

CONTENTS

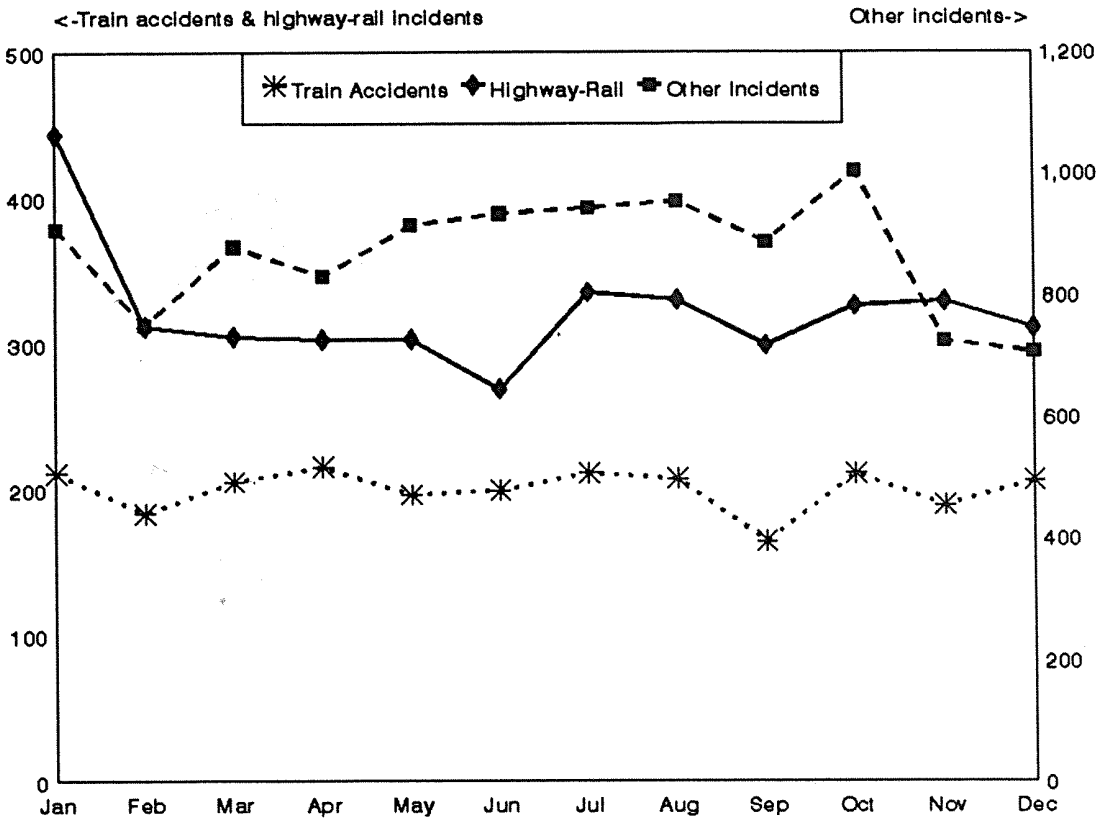
CHAPTER 2

CURRENT YEAR SUMMARY OF ACCIDENTS/INCIDENTS AND RATES

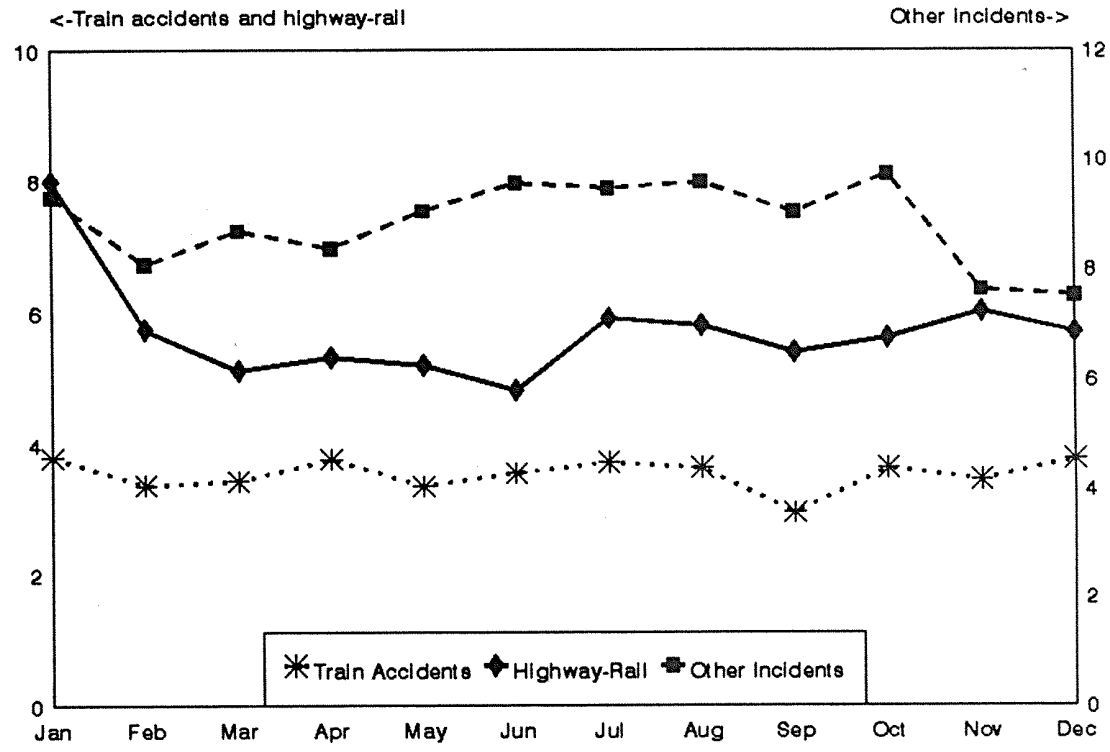
Figures **Page**

Tables

2-1 ACCIDENT/INCIDENT COUNTS, 1997

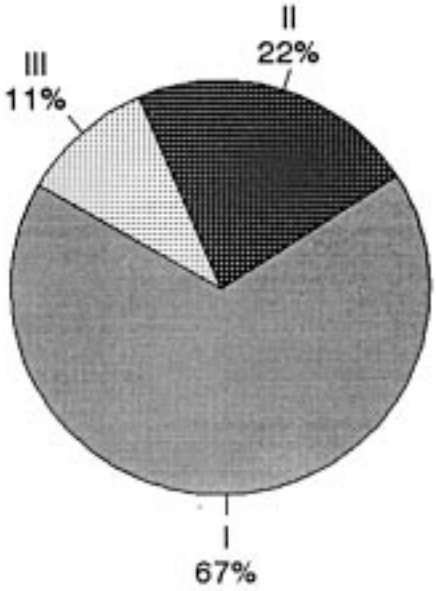


2-2 ACCIDENT/INCIDENT RATES, 1997

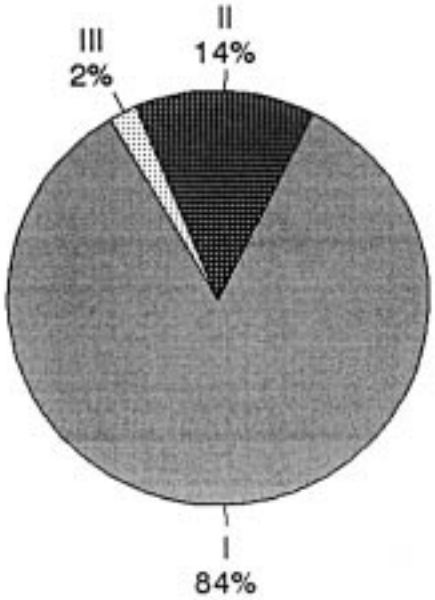


Train accident and highway-rail rates is the number of events per 1,000,000 train miles.
Other incidents is the number of events times 1,000,000 divided by the sum of train miles and employee hours.

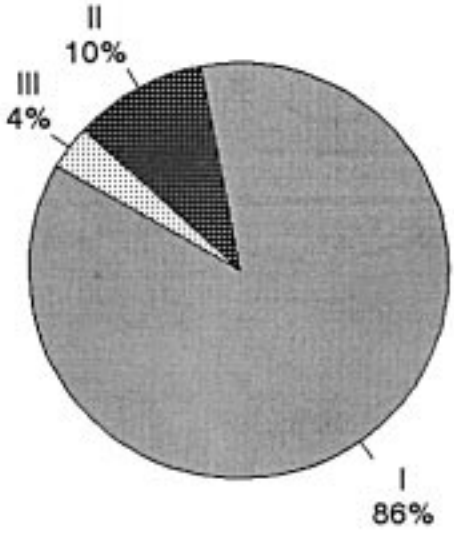
2-3 RAILROAD GROUPS, 1997



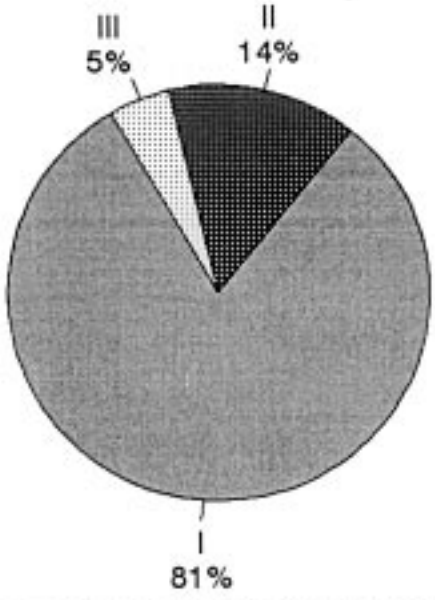
PERCENT OF TOTAL INCIDENTS



PERCENT OF TOTAL FATALITIES



PERCENT OF TRAIN MILES



PERCENT OF RR EMPLOYEE HOURS

TABLE 2-1 ACCIDENTS/INCIDENTS, BY MONTH, 1997

	Total			Train Accidents			HRC Incidents			Other Incidents		
	Cnt	Fatal	Nonf	Cnt	Fatal	Nonf	Cnt	Fatal	Nonf	Cnt	Fatal	Nonf
Jan	1,563	68	1,116	211	.	15	443	33	199	909	35	902
Feb	1,246	73	874	183	2	13	312	31	135	751	40	726
Mar	1,389	85	971	205	.	9	305	49	108	879	36	854
Apr	1,349	87	926	215	.	5	303	39	117	831	48	804
May	1,413	87	1,003	196	.	10	303	36	118	914	51	875
Jun	1,401	112	985	199	6	7	269	32	102	933	74	876
Jul	1,489	114	1,042	211	1	23	335	50	117	943	63	902
Aug	1,491	98	1,125	207	3	61	330	34	151	954	61	913
Sep	1,350	97	982	164	2	6	299	37	135	887	58	841
Oct	1,540	93	1,117	211	1	14	326	44	138	1,003	48	965
Nov	1,243	77	824	189	1	14	329	35	111	725	41	699
Dec	1,225	72	802	206	1	6	311	41	109	708	30	687
Total	16,699	1,063	11,767	2,397	17	183	3,865	461	1,540	10,437	585	10,044

Cnt = the count of accidents. Fatal = the number of fatalities. Nonf = the number of nonfatal injuries.

TABLE 2-2 ACCIDENT/INCIDENT RATES, BY MONTH, 1997

	Total Rate	Train Acc Rate	EOD Rate	HRC Rate	Other Events	Tres Rate	Psgr Rate	Psgr Train Rate	Yard Track Rate	Other Track Rate
Jan	15.98	3.80	3.48	7.98	9.29	1.03	6.02	1.73	13.57	2.27
Feb	13.38	3.37	3.09	5.74	8.06	1.58	5.72	1.48	12.44	1.99
Mar	13.72	3.44	3.35	5.12	8.68	1.46	4.19	1.26	13.14	2.02
Apr	13.58	3.77	3.08	5.32	8.36	1.56	3.74	0.62	14.81	2.08
May	13.97	3.36	3.25	5.20	9.04	1.70	5.52	0.45	15.96	1.71
Jun	14.34	3.56	3.43	4.82	9.55	2.24	4.04	0.45	15.44	1.95
Jul	14.93	3.72	3.52	5.91	9.46	1.82	3.45	1.60	14.94	2.19
Aug	14.96	3.64	3.58	5.80	9.57	1.92	6.19	0.86	13.91	2.20
Sep	13.73	2.96	3.23	5.40	9.02	1.77	3.94	0.95	12.21	1.63
Oct	14.93	3.64	3.64	5.62	9.72	1.50	3.45	1.67	15.93	1.84
Nov	13.07	3.46	2.99	6.02	7.62	1.21	2.60	0.80	13.84	2.00
Dec	13.00	3.78	2.96	5.71	7.52	0.79	3.11	0.93	17.01	1.92
Total	14.14	3.54	3.31	5.71	8.84	1.55	4.29	1.06	14.41	1.98

See following page for description of rates.

Total accident/incident rate (column 1) is the total number of reportable incidents (train accidents, highway-rail, and other incidents) times one million divided by the sum of train miles operated and employee hours worked.

Train accident and highway-rail incident rates (column 2 and 4) are the number of events per one million train miles operated.

The yard accident rate (column 9) is the number of accidents occurring on yard track per one million yard switching train miles operated.

The other track rate (line 5) is the number of accidents that did not occur on yard track per one million train miles, excluding yard switching train miles.

The employee on duty rate (column 3) is the total number of railroad employee casualties times 200,000 divided by the number of hours worked by employees.

Other events rate (column 5) is the number of other incidents times one million divided by the sum of train miles operated and employee hours worked.

The trespasser rate (column 6) is the total number of trespasser casualties, excluding those trespassers Fatal or injured in highway-rail incidents, per one million train miles operated.

The passenger on train rate (column 7) is the total number of passenger casualties per 100,000,000 passenger miles. A passenger mile is the movement of one passenger for a distance of one mile.

The passenger train accident rate (column 8) is the number of accidents involving passenger trains per one million passenger train miles operated.

TABLE 2-3 ACCIDENTS/INCIDENTS BY RAILROAD GROUPS, 1997

	Total			Train Accidents			HRC Incidents			Other Incidents		
	Cnt	Fatal	Nonf	Cnt	Fatal	Nonf	Cnt	Fatal	Nonf	Cnt	Fatal	Nonf
I	11,236	895	7,439	1,793	12	156	3,152	413	1,322	6,291	470	5,961
II	3,705	144	3,071	362	2	18	356	38	131	2,987	104	2,922
III	1,758	24	1,257	242	3	9	357	10	87	1,159	11	1,161
ALL	16,699	1,063	11,767	2,397	17	183	3,865	461	1,540	10,437	585	10,044

Cnt = the count of accidents. Fatal = fatalities. Nonf = the number of nonfatal injuries. HRC = Highway-rail crossing.

TABLE 2-4 OPERATIONAL DATA BY RAILROAD GROUPS, 1997

	Train Miles	Freight Train Miles	Passenger Train Miles	Yard Switching Train Miles	Other Train Miles	Employee Hours	Passengers Carried
I	581,973,072	475,607,235	35,934,588	70,065,019	366,230	407,060,034	57,639,072
II	70,613,067	22,592,592	38,640,256	8,535,634	844,585	72,950,512	338,514,235
III	24,130,268	14,216,042	3,456,248	6,273,146	184,832	23,907,052	12,466,062
ALL	676,716,407	512,415,869	78,031,092	84,873,799	1,395,647	503,917,598	408,619,369

TABLE 2-5 ACCIDENT/INCIDENT RATES BY RAILROAD GROUPS, 1997

	Total Rate	Train Acc Rate	EOD Rate	HRC Rate	Other Events	Tres Rate	Psgr Rate	Psgr Train Rate	Yard Rate
I	11.36	3.08	2.52	5.42	6.36	1.44	4.46	1.03	13.53
II	25.81	5.13	5.97	5.04	20.81	2.68	4.20	1.16	24.02
III	36.60	10.03	8.57	14.79	24.13	0.87	3.91	0.29	11.16
Tot	14.14	3.54	3.31	5.71	8.84	1.55	4.29	1.06	14.41

See page 2 for description of rates.

Railroads have been assigned to 1 of 3 groups in this bulletin. Group 1 corresponds to the railroads that have been defined as Class 1; Group 2 includes railroads that reported at least 400,000 hours worked; and, Group 3 contains all other railroads.

TABLE 2-6 ACCIDENTS/INCIDENTS BY RAILROAD, 1997

Grp-	RR	Total			Train Accidents			HRC Incidents			Other Incidents		
		Cnt	Fatal	Nonf	Cnt	Fatal	Nonf	Cnt	Fatal	Nonf	Cnt	Fatal	Nonf
1	ATK	1,413	117	1,328	84	1	74	176	53	123	1,153	63	1,131
	BNSF	2,064	180	1,174	439	1	21	611	85	209	1,014	94	944
	CR	969	59	627	187	1	5	187	23	58	595	35	564
	CSX	1,432	112	894	257	1	15	469	59	213	706	52	666
	GTW	195	10	164	25	1	-	40	7	33	130	2	131
	IC	309	17	183	58	-	2	136	13	66	115	4	115
	KCS	355	27	176	71	-	2	187	22	82	97	5	92
	NS	1,069	108	534	170	-	12	508	46	187	391	62	335
	SOO	345	7	258	54	-	-	55	2	26	236	5	232
	UP	3,218	258	2,101	581	7	25	783	103	325	1,854	148	1,751
2	ALS	21	-	17	4	-	-	-	-	-	17	-	17
	ARR	85	2	72	7	-	-	5	1	-	73	1	72
	BAR	40	-	37	-	-	-	3	-	-	37	-	37
	BLE	16	1	15	1	-	-	5	1	5	10	-	10
	BRC	55	1	16	39	-	-	2	1	2	14	-	14
	BS	17	-	13	1	-	-	3	-	-	13	-	13
	DH	53	5	39	6	-	1	12	2	6	35	3	32
	DME	71	1	23	27	-	-	21	-	1	23	1	22
	DMIR	63	-	53	10	-	-	2	-	1	51	-	52
	DWP	13	3	8	1	-	-	4	3	-	8	-	8
	EJE	66	-	52	11	-	-	5	-	2	50	-	50
	FEC	102	19	68	12	-	1	20	5	9	70	14	58
	GRS	38	4	19	3	-	-	15	1	2	20	3	17
	GWWR	18	1	11	4	-	-	6	-	4	8	1	7
	HBT	26	-	13	12	-	-	2	-	1	12	-	12
	IHB	99	2	64	25	-	-	14	-	6	60	2	58
	IMRL	55	2	25	19	-	1	20	2	8	16	-	16
	LI	722	18	706	22	-	5	4	3	2	696	15	699
	MBTA	85	11	74	1	1	1	5	1	1	79	9	72
	MNCW	501	7	481	20	-	-	3	-	-	478	7	481
	MRL	106	5	49	39	-	-	23	1	8	44	4	41
	NICD	52	2	37	2	-	-	13	-	2	37	2	35
	NIRC	207	7	189	6	-	-	16	2	9	185	5	180
	NJTR	156	23	118	16	-	3	10	7	1	130	16	114
	PAL	30	-	18	7	-	-	11	-	6	12	-	12
	PATH	188	-	188	-	-	-	-	-	-	188	-	188
	PCMZ	22	6	16	-	-	-	-	-	-	22	6	16
	PTRA	22	-	9	11	-	-	5	-	3	6	-	6
	SCAX	47	8	29	3	-	-	9	2	-	35	6	29
	SEPA	392	7	376	16	-	2	1	1	3	375	6	371
	TM	21	-	10	3	-	-	12	-	4	6	-	6
	TRRA	28	-	10	18	-	-	-	-	-	10	-	10
	URR	17	-	15	1	-	-	1	-	-	15	-	15
	WC	264	7	182	36	1	4	92	3	42	136	3	136
	WE	35	2	19	7	-	-	12	2	3	16	-	16
3	GRP3	1,711	24	1,257	255	3	9	357	10	87	1,099	11	1,161

Highway-Rail Counts Are Excluded From Other Categories
Cnt = the count of accidents. Fatal = fatalities. Nonf = the number of nonfatal injuries. HRC = Highway-rail crossing.

TABLE 2-7 ACCIDENT/INCIDENT RATES BY RAILROAD, 1997

Grp-	RR	Total Rate	Train Acc Rate	EOD Rate	HRC Rate	Other Events	Tres Rate	Psgr Rate	Psgr Train Rate	Yard Rate
1	ATK	17.95	2.27	4.33	4.75	14.65	2.40	4.65	1.05	18.39
	BNSF	8.41	2.84	1.74	3.95	4.13	.99	1.39	.	10.46
	CR	11.34	4.12	2.58	4.12	6.96	1.57	.	.	14.61
	CSX	10.20	3.07	2.15	5.60	5.03	1.12	.	.	10.21
	GTW	19.93	4.42	6.35	7.07	13.29	.53	.	.	15.79
	IC	18.47	6.37	2.91	14.93	6.87	1.21	.	.	162.09
	KCS	26.29	8.59	3.01	22.64	7.18	1.21	.	.	29.12
	NS	9.63	2.64	.94	7.90	3.52	1.71	.	.	8.91
	SOO	22.41	6.44	6.53	6.56	15.33	.48	.	.	14.14
	UP	11.81	3.51	2.89	4.73	6.80	1.78	4.30	.	21.48
2	ALS	15.03	5.55	5.03	.	12.16	.	.	.	5.55
	ARR	38.94	6.47	11.45	4.62	33.45	.	22.97	5.56	9.63
	BAR	25.57	.	11.90	3.13	23.65	.	.	.	.
	BLE	16.23	4.18	2.14	20.91	10.14	.	.	.	.
	BRC	29.09	77.48	2.02	3.97	7.40	.	.	.	82.41
	BS	31.70	7.71	6.40	23.13	24.24	.	.	.	65.89
	DH	16.41	2.92	5.27	5.85	10.84	1.95	.	.	8.28
	DME	49.87	38.39	5.83	29.86	16.16	4.27	.	.	.
	DMIR	27.44	11.72	6.93	2.34	22.21	.	.	.	11.74
	DWP	11.27	1.38	3.73	5.52	6.94	.	.	.	95.77
	EJE	30.36	18.34	5.97	8.34	23.00	.	.	.	26.80
	FEC	19.82	3.55	4.43	5.91	13.61	7.98	.	.	12.37
	GRS	12.72	2.74	1.16	13.72	6.69	8.23	.	.	.
	GWWR	12.82	4.41	2.01	6.62	5.70	2.21	.	.	17.18
	HBT	20.02	15.29	4.67	2.55	9.24	.	.	.	11.47
	IHB	30.11	16.01	6.14	8.97	18.25	2.56	.	.	.
	IMRL	22.50	13.91	3.15	14.64	6.54	.	.	.	191.05
	LI	36.45	2.70	7.72	.49	35.13	6.27	3.18	1.36	224.15
	MBTA	14.10	.37	4.16	1.84	13.10	3.32	.83	.37	.
	MNCW	27.66	2.62	8.27	.39	26.39	1.18	.17	2.09	.
	MRL	16.62	9.59	3.46	5.66	6.90	.98	107.16	.	207.37
	NICD	34.70	2.40	8.70	15.63	24.69	2.40	.	.	.
	NIRC	24.98	1.72	4.59	4.58	22.32	2.00	6.39	.29	49.59
	NJTR	10.17	1.99	2.44	1.24	8.47	2.48	1.83	.44	19.58
	PAL	26.21	11.60	4.07	18.22	10.48	1.66	.	.	35.02
	PATH	46.75	.	11.45	.	46.75	.49	4.37	.	.
	PCMZ	14.51	.	4.33	.	14.51	8.50	.	.	.
	PTRA	11.64	8.84	1.55	4.02	3.17	.80	.	.	6.43
	SCAX	23.34	2.21	3.66	6.63	17.38	5.16	1.36	2.21	.
	SEPA	46.47	3.12	11.68	.19	44.46	1.95	42.58	1.75	.
	TM	19.82	5.13	2.10	20.53	5.66	1.71	.	.	.
	TRRA	25.75	33.12	1.47	.	9.20	.	.	.	16.56
	URR	19.87	6.71	4.25	6.71	17.54	.	.	.	.
	WC	27.82	7.13	5.50	18.21	14.33	1.98	.	.	19.64
	WE	29.48	14.93	4.45	25.59	13.48	.	.	.	61.04
3	GRP3	35.62	10.57	8.57	14.79	22.88	.87	3.91	.29	12.43

Highway-Rail Counts Are Excluded From Other Categories.
See page 2 for description of rates.

TABLE 2-8 RAILROAD RANKINGS, 1997

Group 1

RR	Train Miles	Hours	Total Rate	Train Acc Rate	EOD Rate	HRC Rate	Other Events	Tres Rate
ATK - Amtrak (Natl RR Passenger Corp.)	6	5	6	1	8	4	9	10
BNSF - Burlington Northern Santa Fe	2	2	1	3	2	1	2	3
CR - Consolidated Rail Corp.	5	6	4	6	4	2	6	7
CSX - CSX Transportation	3	3	3	4	3	5	3	4
GTW - Grand Trunk Western RR Inc.	10	10	8	7	9	7	8	2
IC - Illinois Central RR Co.	7	7	7	8	6	9	5	5
KCS - Kansas City Southern Rwy Co.	9	9	10	10	7	10	7	6
NS - Norfolk Southern Corp.	4	4	2	2	1	8	1	8
SOO - Soo Line RR Co.	8	8	9	9	10	6	10	1
UP - Union Pacific RR Co.	1	1	5	5	5	3	4	9

Group 2

RR	Train Miles	Hours	Total Rate	Train Acc Rate	EOD Rate	HRC Rate	Other Events	Tres Rate
ALS - Alton & Southern RR	25	24	8	19	21	1	15	1
ARR - Alaska RR Corp.	17	17	32	20	32	16	32	1
BAR - Bangor & Aroostook RR	18	28	19	1	35	12	28	1
BLE - Bessemer & Lake Erie RR Co.	33	19	9	16	7	32	12	1
BRC - Belt Rwy Co. Of Chicago	31	15	25	35	5	13	8	1
BS - Birmingham Southern RR Co.	35	35	29	23	27	33	29	1
DH - Delaware & Hudson Rwy Co.	10	16	10	13	22	19	14	22
DME - Dakota, Minnesota & Eastern RR	26	20	35	34	24	35	21	30
DMIR - Duluth, Missabe & Iron Range Rwy	20	14	22	27	28	10	25	1
DWP - Duluth, Winnipeg & Pacific Rwy	24	34	2	5	12	17	7	1
EJE - Elgin, Joliet & Eastern Rwy Co.	28	13	28	32	25	24	27	1
FEC - Florida East Coast Rwy Co.	8	11	13	15	17	20	18	33
GRS - Guilford Rail System	16	10	4	12	1	26	5	34
GWWR - Gateway Western Rwy	19	32	5	17	4	21	3	25
HBT - Houston Belt & Terminal Rwy Co.	23	31	15	30	20	11	11	1
IHB - Indiana Harbor Belt RR Co.	12	12	27	31	26	25	24	28
IMRL - I & M Rail Link, LLC	13	18	16	28	9	27	4	1
LI - Long Island Rail Road	1	1	31	11	29	7	33	32
MBTA - Massachusetts Bay Transit Auth.	9	6	6	4	14	9	16	29
MNCW - Metro North Commuter RR Co.	3	2	23	10	30	6	31	18
MRL - Montana Rail Link	6	8	11	25	10	18	6	17
NICD - Northern IN Commuter Trans. Dist	21	25	30	9	31	28	30	26
NIRC - Northeast IL Reg Commuter Rail	7	4	18	6	19	15	26	24
NJTR - New Jersey Transit Rail	2	3	1	7	8	8	9	27
PAL - Paducah & Louisville Rwy Co.	27	30	21	26	13	30	13	19
PATH - Port Authority Trans Hudson	11	9	34	1	33	1	35	15
PCMZ - Penisula Commuter(San Mateo Cnty	22	23	7	1	16	1	20	35
PTRA - Port Terminal RR Association	15	27	3	24	3	14	1	16
SCAX - Southern CA Regional Rail Auth.	14	26	17	8	11	22	22	31
SEPA - Southeastern PA Trans. Authority	4	7	33	14	34	5	34	21
TM - Texas Mexican RR Co.	29	33	12	18	6	31	2	20
TRRA - Terminal RR Assn Of St. Louis	30	29	20	33	2	1	10	1
URR - Union RR Co. (Pittsburgh)	34	22	14	21	15	23	23	1
WC - Wisconsin Central Ltd.	5	5	24	22	23	29	19	23
WE - Wheeling & Lake Erie Rwy Co.	32	21	26	29	18	34	17	1

Rates are ranked from lowest to highest, train miles and employee hours are ranked highest to lowest.

TABLE 2-9 OPERATIONAL DATA, BY RAILROAD, 1997

RR	Total Train Miles		Employee Hours Worked		Freight Train Miles	Passenger Train Miles	Yard Switching Miles	Other Train Miles	Psgrs Carried	Psgr Miles Millions
	Cnt	%	Cnt	%						
ALS	721,319	0.11	676,351	0.13	-	-	721,319	-	-	-
ARR	1,081,823	0.16	1,100,827	0.22	588,213	179,867	311,580	2,163	610,239	17
ATK	37,063,760	5.48	41,663,112	8.27	-	35,105,946	1,957,814	-	20,555,107	5,269
BAR	959,484	0.14	604,894	0.12	874,048	480	83,972	984	854	-
BLE	239,105	0.04	746,789	0.15	225,183	-	13,922	-	-	-
BNSF	154,612,101	22.85	90,875,429	18.03	136,898,241	601,028	17,112,832	-	13,371,442	289
BRC	503,365	0.07	1,387,451	0.28	78,659	-	424,706	-	-	-
BS	129,680	0.02	406,537	0.08	104,965	-	15,177	9,538	-	-
CR	45,356,069	6.70	40,081,970	7.95	37,402,157	-	7,598,082	355,830	-	-
CSX	83,733,024	12.37	56,673,848	11.25	70,183,070	225,021	13,324,933	-	-	-
DH	2,052,775	0.30	1,177,224	0.23	1,811,097	-	241,678	-	-	-
DME	703,320	0.10	720,372	0.14	703,320	-	-	-	-	-
DMIR	853,345	0.13	1,442,478	0.29	682,986	-	170,359	-	-	-
DWP	725,056	0.11	428,443	0.09	714,614	-	10,442	-	-	-
EJE	599,665	0.09	1,574,337	0.31	338,429	-	261,236	-	-	-
FEC	3,384,974	0.50	1,760,158	0.35	2,819,060	-	565,914	-	-	-
GRP3	24,130,268	3.57	23,907,052	4.74	14,216,042	3,456,248	6,273,146	184,832	12,466,062	947
GRS	1,093,120	0.16	1,895,146	0.38	943,520	-	149,600	-	-	-
GTW	5,657,394	0.84	4,124,903	0.82	4,327,237	-	1,330,157	-	-	-
GWWR	906,451	0.13	497,421	0.10	673,621	-	232,830	-	-	-
HBT	784,643	0.12	514,230	0.10	-	-	784,643	-	-	-
IC	9,107,722	1.35	7,624,896	1.51	8,887,567	-	209,755	10,400	-	-
IHB	1,561,458	0.23	1,726,362	0.34	1,561,458	-	-	-	-	-
IMRL	1,366,099	0.20	1,078,882	0.21	1,318,991	-	47,108	-	-	-
KCS	8,261,015	1.22	5,242,582	1.04	6,990,197	-	1,270,818	-	-	-
LI	8,133,411	1.20	11,677,246	2.32	1,520	8,096,200	35,691	-	75,801,112	2,136
MBTA	2,712,130	0.40	3,317,907	0.66	-	2,712,130	-	-	18,995,566	361
MNCW	7,646,877	1.13	10,467,402	2.08	-	7,646,877	-	-	61,582,737	1,774
MRL	4,066,020	0.60	2,310,323	0.46	3,915,659	10,516	139,845	-	5,035	1
NICD	831,664	0.12	667,020	0.13	119,629	712,035	-	-	3,670,042	106
NIRC	3,496,022	0.52	4,791,192	0.95	-	3,415,356	80,666	-	34,122,971	719
NJTR	8,055,742	1.19	7,286,916	1.45	-	6,778,701	459,623	817,418	49,657,274	1,095
NS	64,344,218	9.51	46,667,306	9.26	54,240,878	-	10,103,340	-	-	-
PAL	603,678	0.09	541,105	0.11	460,895	-	142,783	-	-	-
PATH	2,047,947	0.30	1,973,610	0.39	-	1,780,824	267,123	-	61,988,000	297
PCMZ	823,145	0.12	692,927	0.14	-	813,874	9,271	-	2,119,447	43
PTRA	1,244,115	0.18	645,995	0.13	-	-	1,244,115	-	-	-
SCAX	1,357,377	0.20	656,125	0.13	-	1,357,377	-	-	6,300,998	221
SEPA	5,131,944	0.76	3,303,452	0.66	-	5,131,944	-	-	23,656,541	322
SOO	8,384,726	1.24	7,010,910	1.39	6,404,786	-	1,979,940	-	-	-
TM	584,506	0.09	475,072	0.09	391,468	-	193,038	-	-	-
TRRA	543,470	0.08	543,928	0.11	-	-	543,470	-	-	-
UP	165,453,043	24.45	107,095,078	21.25	150,273,102	2,593	15,177,348	-	23,712,523	535
URR	148,928	0.02	706,465	0.14	-	-	148,928	-	-	-
WC	5,051,456	0.75	4,437,507	0.88	3,861,837	4,075	1,171,062	14,482	3,419	-
WE	468,953	0.07	718,418	0.14	403,420	-	65,533	-	-	-
Tot	676,716,407	100.0	503,917,598	100.0	512,415,869	78,031,092	84,873,799	1,395,647	408,619,369	14,134

Cnt = Count. Psgr = Passenger.
A passenger mile is the movement of a passenger for a distance of one mile.

TABLE 2-10 OPERATIONAL DATA, BY MONTH, 1997

Mon	Total Train Miles		Employee Hours Worked		Freight Train Miles	Passenger Train Miles	Yard Switching Miles	Other Train Miles	Psgrs Carried	Psgr Miles Millions
	Cnt	%	Cnt	%						
Jan	55,502,917	8.20	42,309,654	8.40	41,349,599	6,353,859	7,518,916	280,543	32,684,116	1,013
Feb	54,359,799	8.03	38,786,477	7.70	40,856,850	6,091,166	7,156,551	255,232	30,184,024	962
Mar	59,598,682	8.81	41,656,126	8.27	45,323,922	6,374,277	7,608,519	291,964	33,651,766	1,098
Apr	56,966,732	8.42	42,390,740	8.41	42,874,508	6,468,924	7,564,555	58,745	33,860,859	1,096
May	58,325,107	8.62	42,810,391	8.50	44,758,619	6,737,702	6,766,906	61,880	34,331,519	1,142
Jun	55,853,248	8.25	41,834,455	8.30	42,536,083	6,601,088	6,671,077	45,000	33,832,097	1,211
Jul	56,656,299	8.37	43,069,278	8.55	42,907,646	6,873,247	6,827,853	47,553	35,712,072	1,391
Aug	56,898,108	8.41	42,786,989	8.49	42,920,321	6,966,007	6,972,842	38,938	34,827,793	1,372
Sep	55,396,307	8.19	42,941,326	8.52	41,999,429	6,315,256	6,959,193	122,429	34,895,848	1,167
Oct	58,012,327	8.57	45,168,308	8.96	43,958,320	6,597,755	7,409,288	46,964	36,199,645	1,219
Nov	54,633,545	8.07	40,478,601	8.03	41,663,970	6,223,713	6,717,937	27,925	33,099,438	1,115
Dec	54,513,336	8.06	39,685,253	7.88	41,266,602	6,428,098	6,700,162	118,474	35,340,192	1,349
Tot	676,716,407	100.0	503,917,598	100.0	512,415,869	78,031,092	84,873,799	1,395,647	408,619,369	14,134

Cnt = count. Psgr = Passenger.
A passenger mile is the movement of a passenger for a distance of one mile.

SUMMARY TABLE 2-11 OF ACCIDENTS/INCIDENTS BY STATE, 1997

	Total			Train Accidents			HRC Incidents			Other Incidents		
	Cnt	Fatal	Nonf	Cnt	Fatal	Nonf	Cnt	Fatal	Nonf	Cnt	Fatal	Nonf
AL	298	30	176	37	.	1	135	19	58	126	11	117
AK	110	2	97	7	.	.	5	1	.	98	1	97
AZ	167	24	169	21	1	54	27	5	12	119	18	103
AR	359	11	243	50	.	2	118	10	44	191	1	197
CA	981	109	724	105	1	13	159	22	65	717	86	646
CO	223	9	159	39	.	1	28	2	6	156	7	152
CT	156	8	136	12	.	.	6	.	1	138	8	135
DE	71	3	70	5	.	.	4	1	2	62	2	68
DC	87	.	82	5	.	.	.	.	.	82	-	82
FL	389	37	282	39	.	2	89	12	42	261	25	238
GA	353	24	199	64	.	.	138	12	57	151	12	142
ID	154	7	105	25	.	.	30	6	6	99	1	99
IL	1,331	73	926	251	.	8	213	27	85	867	46	833
IN	561	36	378	68	2	7	227	23	112	266	11	259
IA	365	15	227	89	.	2	106	12	55	170	3	170
KS	322	22	182	59	1	4	109	16	28	154	5	150
KY	247	22	140	56	.	5	65	5	26	126	17	109
LA	444	35	288	61	.	.	203	30	111	180	5	177
ME	84	1	71	4	.	1	12	.	2	68	1	68
MD	118	5	72	30	.	.	18	.	7	70	5	65
MA	193	19	153	11	1	1	18	2	1	164	16	151
MI	502	24	392	48	2	.	152	14	89	302	8	303
MN	455	15	307	65	.	1	116	7	32	274	8	274
MS	266	22	136	42	.	.	148	19	61	76	3	75
MO	341	24	212	46	.	4	112	15	33	183	9	175
MT	190	8	113	54	.	1	29	1	11	107	7	101
NE	326	16	197	77	.	1	68	9	13	181	7	183
NV	42	3	30	8	.	.	1	.	.	33	3	30
NH	7	.	5	-	.	.	2	.	.	5	-	5
NJ	466	29	407	28	.	.	34	9	14	404	20	393
NM	105	17	67	15	.	1	20	6	6	70	11	60
NY	1,568	41	1,453	96	.	10	37	7	14	1,435	34	1,429
NC	244	26	146	21	.	7	114	6	50	109	20	89
ND	124	2	81	28	.	.	21	1	7	75	1	74
OH	579	45	365	71	.	3	178	26	46	330	19	316
OK	231	30	134	32	.	.	117	24	56	82	6	78
OR	221	18	136	40	.	.	35	4	2	146	14	134
PA	938	30	778	102	1	2	67	5	26	769	24	750
RI	16	4	12	-	.	.	1	.	.	15	4	12
SC	178	21	104	22	.	.	74	14	27	82	7	77
SD	77	1	37	24	.	.	23	.	8	30	1	29
TN	261	20	135	63	.	5	88	12	24	110	8	106
TX	1,228	99	768	223	6	15	421	54	198	584	39	555
UT	122	6	87	21	.	1	27	3	8	74	3	78
VT	16	.	11	4	.	.	1	.	.	11	-	11
VA	230	12	139	46	.	4	56	2	15	128	10	120
WA	304	25	210	46	.	6	64	7	23	194	18	181
WV	112	12	64	23	1	3	25	4	4	64	7	57
WI	421	19	283	70	1	5	117	6	53	234	12	225
WY	116	2	79	44	.	13	7	1	.	65	1	66
ALL	16,699	1,063	11,767	2,397	17	183	3,865	461	1,540	10,437	585	10,044

Highway-Rail counts are excluded from other categories
Cnt = count. Fatal = fatality. Nonf = nonfatal conditions.

CHAPTER 3

CASUALTY REPORTING

Any event connected with the operation of a railroad that results in one or more of the following consequences must be reported on Form FRA F 6180.55a:

1. Death of a person within 365 calendar days of the accident/ incident;

2. Injury to a person, other than a railroad employee, that requires medical treatment;

3. Injury to a railroad employee that requires medical treatment or results in restriction of work for one or more work days, the loss of one or more work days, termination of employment, transfer to another job, or loss of consciousness; or

4. Any occupational illness of a railroad employee.

A railroad need not report the following:

1. Casualties at highway-rail crossing sites that do not involve the presence or operation of on-track rail equipment, or the presence of railroad employees engaged in the operation of a railroad;

2. Casualties in or about living quarters that are not on the railroad premises and that do not arise from the operation of a railroad;

3. Suicides, as determined by a coroner or other public authority;

4. Attempted suicides.

The distinction between medical treatment and first aid depends not only on the treatment provided, but also on the severity of the injury being treated. First aid is:

1. Limited to one-time treatment and subsequent observation; and

2. Involves treatment of only <u>minor</u> injuries, not emergency treatment of serious injuries. An injury is not minor if:

a. It must be treated only by a physician or licensed medical personnel;

b. It impairs bodily function (i.e., normal use of senses, limbs, etc.);

c. It results in damage to the physical structure of a nonsuperficial nature (e.g. fractures); or

d. It involves complications requiring follow-up medical treatment.

One-time treatment of an injury should not be used as the sole basis for classifying a treatment or procedure as first aid. Medical treatment can, and often is, given on a one-time basis, e.g., the suturing of a wound. The procedures used and the skills required to treat an injury, as well as the seriousness of the injury, are all factors that must be considered when determining the type of treatment rendered.

Likewise, medical treatment cannot be determined solely on the basis of who treats a case. First aid treatment can be given by a physician, and medical treatment, by someone other than a physician.

The following are examples of typical medical treatment that are reportable:

Closure of a wound with suture (stitch), staple, Steristrip, butterfly, or the like.

The application of a cast or other professional means of immobilizing an injured part of the body, regardless of how long the cast, sling, splint, or the like, is actually worn.

Injection. Any application of medication through the use of a syringe, except a tetanus shot.

Bruise. The treatment of a bruise by drainage of blood.

Debridement. Surgical debridement, that is, the removal of dead or damaged skin.

Treatment of a burn. The treatment of a second-or third-degree burn is almost always medical treatment if the size of the affected area cannot be covered with a quarter.

Prescription medication. Any prescription medication prescribed or provided for a condition that is intended for subsequent use. A single dose taken orally or applied externally on the initial visit is considered to be first aid and is not reportable. (See

definition of prescription medication.)

Eye Injury. Removal of any object embedded in the eye, or the application of a patch or a bandage.

X-Ray. An X-Ray that is positive.

Whirlpool treatment. Any injury that requires more than one whirlpool treatment.

Multiple treatments. Any injury that results in additional treatment by a physician or other medical professional on a second or subsequent visit. This does not include a routine examination of the progress of an injury or instances where bandages or other dressings are replaced.

CONTENTS

CHAPTER 3

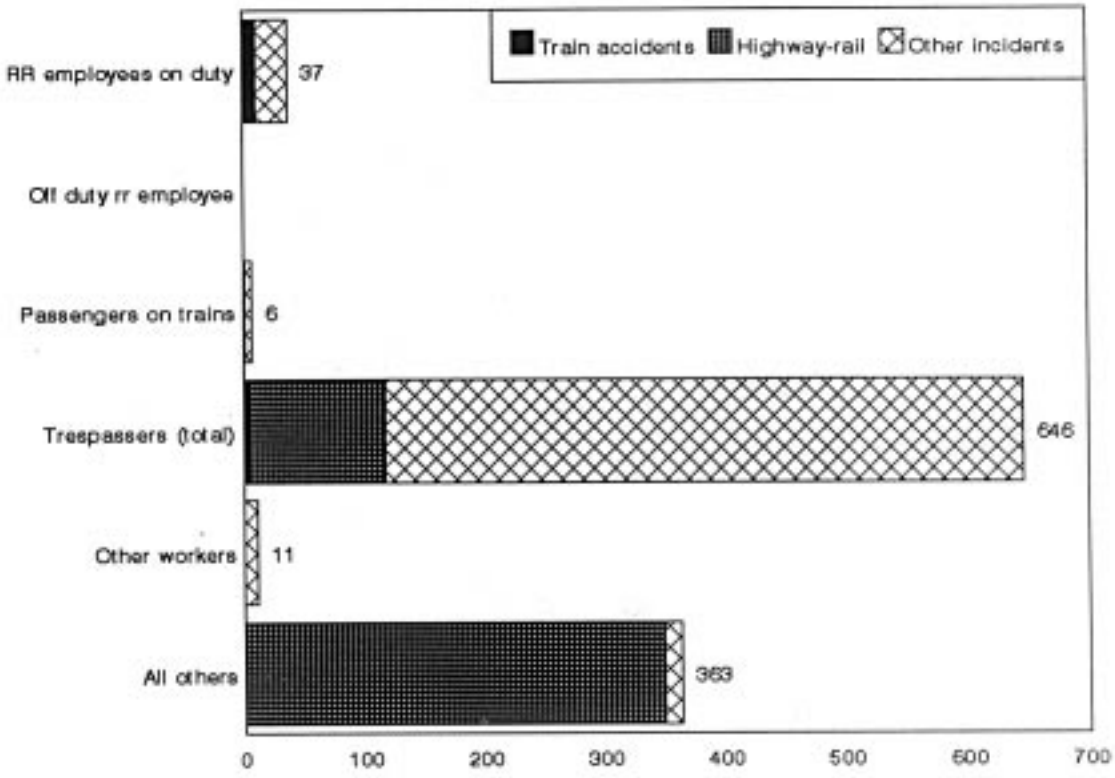
CASUALTY REPORTING

Figures **Page**

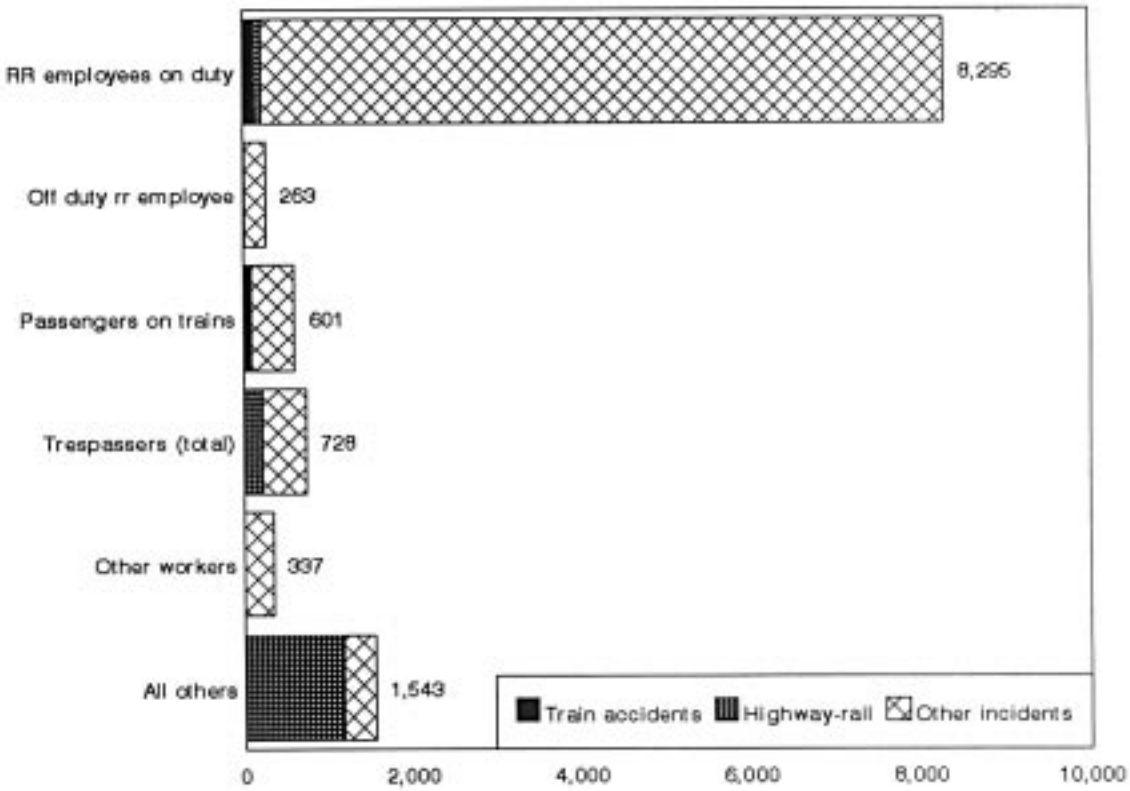
Tables

3-1 TOTAL CASUALTIES, 1997

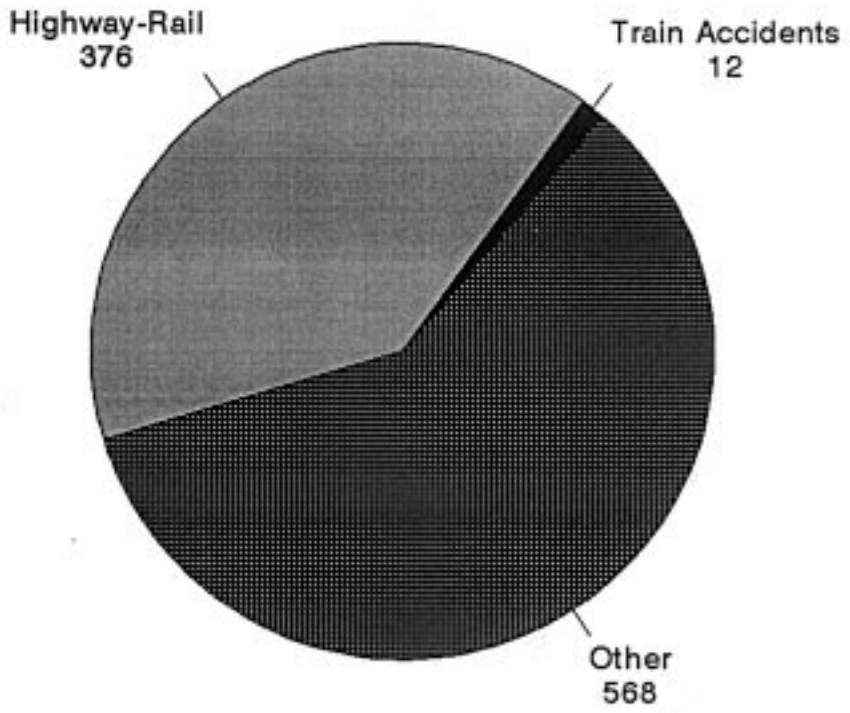
FATALITIES



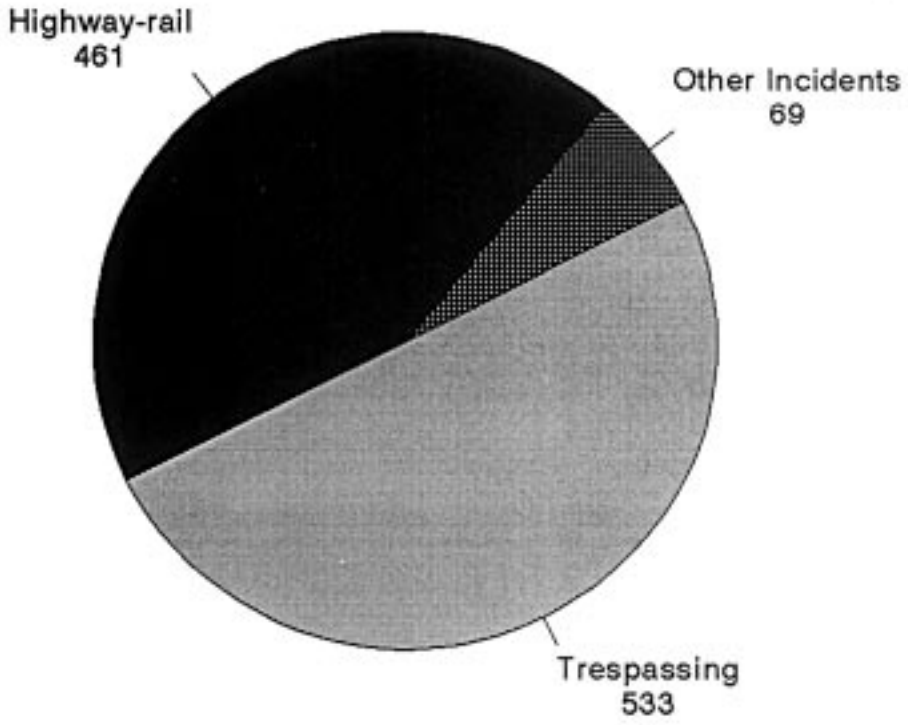
NONFATAL CONDITIONS



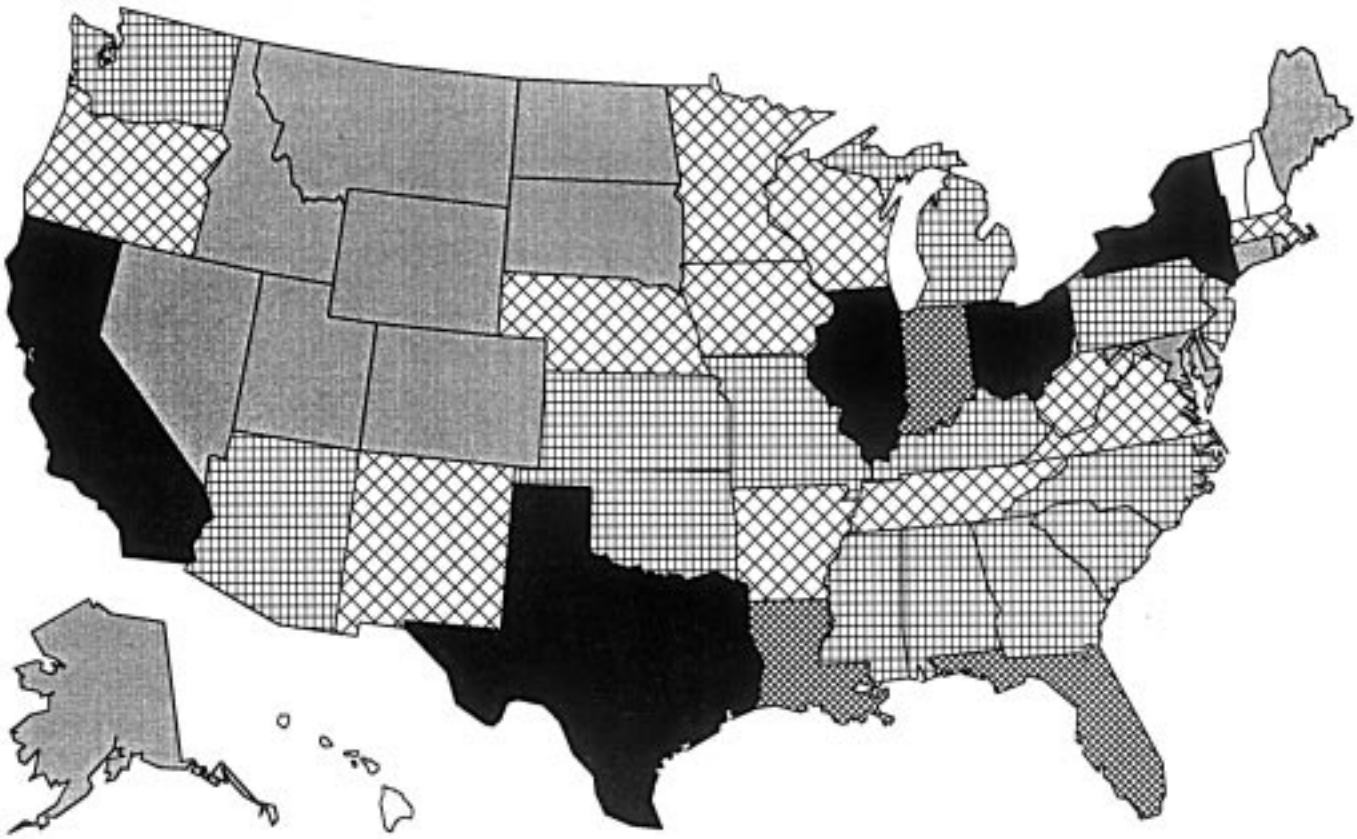
3-3 FATAL ACCIDENTS, 1997



3-4 WHERE FATALITIES OCCURRED, 1997



3–5 FATALITIES BY STATE, 1997



NUMBER 1-10 11-20 21-30 31-40 >=41

TABLE 3-1 CASUALTIES BY TYPE PERSON AND PRIMARY EVENT, 1997

	Total Incidents		Casualties		Train Accs w/o HRC		HRC Incs		Other Events	
	Fatal	Nonf	Ftl	Nonf	Ftl	Nonf	Ftl	Nonf	Ftl	Nonf
A - Worker on duty(rr employee)	34	8,026	37	8,295	11	113	.	111	26	8,071
B - Employee not on duty	.	229	.	263	.	12	.	3	.	248
C - Passenger on train	6	495	6	601	1	51	.	43	5	507
D - Nontrespasser	292	1,188	362	1,517	.	.	348	1,154	14	363
E - Trespasser	613	638	646	728	4	.	113	212	529	516
F - Worker on duty(contractor)	5	209	6	213	.	2	.	.	6	211
G - Contractor(other)	5	118	5	121	.	.	.	1	5	120
H - Worker on duty(volunteer)	.	2	.	3	.	.	.	.	.	3
I - Volunteer(other)	.	3	.	3	.	.	.	.	.	3
J - Nontrespasser, off rr property	1	12	1	23	1	5	.	16	.	2
-- Total..	956	10,920	1,063	11,767	17	183	461	1,540	585	10,044

The counts under column titled 'Total Incidents' are the number of incidents that resulted in a fatality or a nonfatal injury or occupational illness.

HRC = highway-rail crossing. Ftl = fatality. Nonf = nonfatal injury or occupational illness of a railroad employee.
W/O = without. Incs = incidents.

TABLE 3-2 FATALITIES BY TYPE PERSON AND RAILROAD, 1997

	Total	%	A	C	D	E	F	G	J
ARR	2	0.2	-	1	-	1	-	-	-
ATK	117	11.0	3	4	34	76	-	-	-
BLE	1	0.1	-	-	-	1	-	-	-
BNSF	180	16.9	4	-	60	112	1	3	-
BRC	1	0.1	-	-	-	1	-	-	-
CR	59	5.6	3	-	17	39	-	-	-
CSX	112	10.5	3	-	52	57	-	-	-
DH	5	0.5	1	-	-	4	-	-	-
DME	1	0.1	-	-	-	1	-	-	-
DWP	3	0.3	-	-	1	2	-	-	-
FEC	19	1.8	-	-	1	18	-	-	-
GRP3	24	2.3	1	-	8	13	1	1	-
GRS	4	0.4	-	-	-	4	-	-	-
GTW	10	0.9	1	-	5	4	-	-	-
GWWR	1	0.1	-	-	-	1	-	-	-
IC	17	1.6	-	-	12	5	-	-	-
IHB	2	0.2	-	-	-	2	-	-	-
IMRL	2	0.2	-	-	2	-	-	-	-
KCS	27	2.5	-	-	21	5	1	-	-
LI	18	1.7	1	-	-	17	-	-	-
MBTA	11	1.0	1	-	-	10	-	-	-
MNCW	7	0.7	1	-	-	6	-	-	-
MRL	5	0.5	1	-	1	3	-	-	-
NICD	2	0.2	-	-	1	1	-	-	-
NIRC	7	0.7	-	-	1	6	-	-	-
NJTR	23	2.2	-	-	2	20	-	1	-
NS	108	10.2	4	-	43	58	3	-	-
PCMZ	6	0.6	-	-	-	6	-	-	-
SCAX	8	0.8	-	-	-	8	-	-	-
SEPA	7	0.7	-	1	1	5	-	-	-
SOO	7	0.7	2	-	2	3	-	-	-
UP	258	24.3	11	-	93	154	-	-	-
WC	7	0.7	-	-	3	3	-	-	1
WE	2	0.2	-	-	2	-	-	-	-
ALL	1,063	100	37	6	362	646	6	5	1

A - Worker on duty(rr employee)
B - Employee not on duty
C - Passenger on train
D - Nontrespasser
E - Trespasser
F - Worker on duty(contractor)
G - Contractor(other)
H - Worker on duty(volunteer)
I - Volunteer(other)
J - Nontrespasser, off rr property

TABLE 3-3 FATALITIES BY TYPE PERSON AND STATE, 1997

	Total	%	A	C	D	E	F	G	J
AK = Alaska	2	0.2	-	1	-	1	-	-	-
AL = Alabama	30	2.8	1	-	20	9	-	-	-
AR = Arkansas	11	1.0	-	-	8	3	-	-	-
AZ = Arizona	24	2.3	-	1	5	18	-	-	-
CA = California	109	10.3	3	-	11	94	-	1	-
CO = Colorado	9	0.8	-	-	2	7	-	-	-
CT = Connecticut	8	0.8	1	-	-	7	-	-	-
DE = Delaware	3	0.3	2	-	1	-	-	-	-
FL = Florida	37	3.5	-	-	4	32	-	1	-
GA = Georgia	24	2.3	1	-	8	15	-	-	-
IA = Iowa	15	1.4	1	-	9	5	-	-	-
ID = Idaho	7	0.7	1	-	6	-	-	-	-
IL = Illinois	73	6.9	1	-	21	51	-	-	-
IN = Indiana	36	3.4	1	-	21	14	-	-	-
KS = Kansas	22	2.1	3	-	17	2	-	-	-
KY = Kentucky	22	2.1	-	-	5	17	-	-	-
LA = Louisiana	35	3.3	-	-	27	8	-	-	-
MA = Massachusetts	19	1.8	1	-	-	18	-	-	-
MD = Maryland	5	0.5	1	-	-	4	-	-	-
ME = Maine	1	0.1	-	-	-	1	-	-	-
MI = Michigan	24	2.3	2	-	14	8	-	-	-
MN = Minnesota	15	1.4	1	-	3	10	-	1	-
MO = Missouri	24	2.3	-	-	14	9	1	-	-
MS = Mississippi	22	2.1	-	-	17	5	-	-	-
MT = Montana	8	0.8	1	-	-	7	-	-	-
NC = North Carolina	26	2.4	-	-	5	21	-	-	-
ND = North Dakota	2	0.2	-	-	-	2	-	-	-
NE = Nebraska	16	1.5	1	2	7	6	-	-	-
NJ = New Jersey	29	2.7	1	-	3	24	-	1	-
NM = New Mexico	17	1.6	-	-	4	13	-	-	-
NV = Nevada	3	0.3	1	-	-	2	-	-	-
NY = New York	41	3.9	2	-	3	36	-	-	-
OH = Ohio	45	4.2	-	1	22	20	2	-	-
OK = Oklahoma	30	2.8	-	-	17	13	-	-	-
OR = Oregon	18	1.7	1	-	4	13	-	-	-
PA = Pennsylvania	30	2.8	2	1	4	23	-	-	-
RI = Rhode Island	4	0.4	-	-	-	4	-	-	-
SC = South Carolina	21	2.0	2	-	10	9	-	-	-
SD = South Dakota	1	0.1	-	-	-	1	-	-	-
TN = Tennessee	20	1.9	-	-	7	13	-	-	-
TX = Texas	99	9.3	4	-	45	48	1	1	-
UT = Utah	6	0.6	-	-	3	3	-	-	-
VA = Virginia	12	1.1	-	-	1	10	1	-	-
WA = Washington	25	2.4	-	-	6	18	1	-	-
WI = Wisconsin	19	1.8	1	-	5	12	-	-	1
WV = West Virginia	12	1.1	1	-	3	8	-	-	-
WY = Wyoming	2	0.2	-	-	-	2	-	-	-
ALL	1,063	100	37	6	362	646	6	5	1

A - Worker on duty(rr employee)
B - Employee not on duty
C - Passenger on train
D - Nontrespasser
E - Trespasser
F - Worker on duty(contractor)
G - Contractor(other)
H - Worker on duty(volunteer)
I - Volunteer(other)
J - Nontrespasser, off rr property

TABLE 3-4 NONFATAL CONDITIONS BY TYPE PERSON AND RAILROAD, 1997

	Total	%	A	B	C	D	E	F	G	H	I	J
ALS	17	0.1	17	-	-	-	-	-	-	-	-	-
ARR	72	0.6	63	-	3	-	-	6	-	-	-	-
ATK	1,328	11.3	898	46	241	87	52	1	1	-	-	2
BAR	37	0.3	36	1	-	-	-	-	-	-	-	-
BLE	15	0.1	8	1	-	3	2	-	1	-	-	-
BNSF	1,174	10.0	785	50	4	172	98	6	59	-	-	-
BRC	16	0.1	14	-	-	-	2	-	-	-	-	-
BS	13	0.1	13	-	-	-	-	-	-	-	-	-
CR	627	5.3	515	15	-	39	53	5	-	-	-	-
CSX	894	7.6	605	11	-	182	67	28	1	-	-	-
DH	39	0.3	30	-	-	4	5	-	-	-	-	-
DME	23	0.2	21	-	-	-	2	-	-	-	-	-
DMIR	53	0.5	50	-	-	-	1	1	1	-	-	-
DWP	8	0.1	8	-	-	-	-	-	-	-	-	-
EJE	52	0.4	47	2	-	2	-	1	-	-	-	-
FEC	68	0.6	39	1	-	-	17	-	7	-	-	4
GRP3	1,257	10.7	1,023	8	37	72	22	74	8	3	2	8
GRS	19	0.2	11	-	-	-	8	-	-	-	-	-
GTW	164	1.4	130	-	-	24	10	-	-	-	-	-
GWWR	11	0.1	5	-	-	4	1	-	-	-	1	-
HBT	13	0.1	12	-	-	1	-	-	-	-	-	-
IC	183	1.6	111	-	-	63	9	-	-	-	-	-
IHB	64	0.5	53	2	-	-	8	-	1	-	-	-
IMRL	25	0.2	17	-	-	8	-	-	-	-	-	-
KCS	176	1.5	79	5	-	82	6	-	4	-	-	-
LI	706	6.0	450	12	68	134	39	-	3	-	-	-
MBTA	74	0.6	68	2	3	-	1	-	-	-	-	-
MNCW	481	4.1	432	11	3	5	3	27	-	-	-	-
MRL	49	0.4	39	-	1	8	1	-	-	-	-	-
NICD	37	0.3	29	-	-	6	2	-	-	-	-	-
NIRC	189	1.6	110	7	46	11	11	1	3	-	-	-
NJTR	118	1.0	89	2	20	1	5	-	1	-	-	-
NS	534	4.5	216	16	-	162	79	43	14	-	-	4
PAL	18	0.2	11	-	-	-	7	-	-	-	-	-
PATH	188	1.6	113	-	13	52	1	-	9	-	-	-
PCMZ	16	0.1	15	-	-	-	1	-	-	-	-	-
PTRA	9	0.1	5	-	-	1	3	-	-	-	-	-
SCAX	29	0.2	12	-	3	1	1	6	6	-	-	-
SEPA	376	3.2	193	2	136	35	9	-	-	-	-	1
SOO	258	2.2	227	3	-	25	2	-	1	-	-	-
TM	10	0.1	5	-	-	4	1	-	-	-	-	-
TRRA	10	0.1	4	-	-	-	-	6	-	-	-	-
UP	2,101	17.9	1,534	61	23	284	192	7	-	-	-	-
URR	15	0.1	15	-	-	-	-	-	-	-	-	-
WC	182	1.5	122	4	-	43	7	1	1	-	-	4
WE	19	0.2	16	1	-	2	-	-	-	-	-	-
ALL	11767	100	8,295	263	601	1,517	728	213	121	3	3	23

A - Worker on duty(rr employee)
B - Employee not on duty
C - Passenger on train
D - Nontrespasser
E - Trespasser
F - Worker on duty(contractor)
G - Contractor(other)
H - Worker on duty(volunteer)
I - Volunteer(other)
J - Nontrespasser, off rr property

TABLE 3-5 NONFATAL CONDITIONS BY TYPE PERSON AND STATE, 1997

	Total	%	A	B	C	D	E	F	G	H	I	J
AK = Alaska	97	0.8	84	-	7	-	-	6	-	-	-	-
AL = Alabama	176	1.5	99	2	1	52	15	3	4	-	-	-
AR = Arkansas	243	2.1	178	4	6	37	14	3	1	-	-	-
AZ = Arizona	169	1.4	88	13	43	15	7	1	2	-	-	-
CA = California	724	6.2	532	17	53	42	52	8	18	-	-	2
CO = Colorado	159	1.4	126	6	7	7	11	1	1	-	-	-
CT = Connecticut	136	1.2	124	2	6	-	3	1	-	-	-	-
DC = Dist of Col.	82	0.7	72	3	5	1	1	-	-	-	-	-
DE = Delaware	70	0.6	61	2	4	1	2	-	-	-	-	-
FL = Florida	282	2.4	187	5	21	17	33	7	8	-	-	4
GA = Georgia	199	1.7	122	6	10	30	21	7	3	-	-	-
IA = Iowa	227	1.9	164	1	1	49	9	1	1	-	-	1
ID = Idaho	105	0.9	81	1	-	7	4	10	2	-	-	-
IL = Illinois	926	7.9	659	29	81	81	47	12	14	-	2	1
IN = Indiana	378	3.2	242	5	3	94	15	18	-	-	-	1
KS = Kansas	182	1.5	131	8	1	25	5	10	2	-	-	-
KY = Kentucky	140	1.2	100	3	-	18	13	4	2	-	-	-
LA = Louisiana	288	2.4	156	6	3	99	22	-	2	-	-	-
MA = Massachusetts	153	1.3	140	4	3	-	4	2	-	-	-	-
MD = Maryland	72	0.6	56	-	2	9	3	1	-	1	-	-
ME = Maine	71	0.6	59	1	-	1	8	1	-	-	-	1
MI = Michigan	392	3.3	259	1	5	74	27	22	3	-	-	1
MN = Minnesota	307	2.6	255	10	-	31	6	2	3	-	-	-
MO = Missouri	212	1.8	142	6	2	30	12	14	5	-	1	-
MS = Mississippi	136	1.2	68	1	5	58	1	1	2	-	-	-
MT = Montana	113	1.0	92	4	3	11	2	-	1	-	-	-
NC = North Carolina	146	1.2	70	3	4	32	35	2	-	-	-	-
ND = North Dakota	81	0.7	70	1	2	7	-	1	-	-	-	-
NE = Nebraska	197	1.7	162	9	4	10	8	1	3	-	-	-
NH = New Hampshire	5	0.0	3	-	2	-	-	-	-	-	-	-
NJ = New Jersey	407	3.5	285	12	39	49	11	3	8	-	-	-
NM = New Mexico	67	0.6	50	1	1	7	7	-	1	-	-	-
NV = Nevada	30	0.3	23	-	1	1	4	1	-	-	-	-
NY = New York	1,453	12.3	1,081	26	83	170	60	27	6	-	-	-
OH = Ohio	365	3.1	278	6	4	37	22	13	1	2	-	2
OK = Oklahoma	134	1.1	57	2	-	45	18	11	1	-	-	-
OR = Oregon	136	1.2	118	1	5	4	8	-	-	-	-	-
PA = Pennsylvania	778	6.6	536	13	135	55	33	2	1	-	-	3
RI = Rhode Island	12	0.1	12	-	-	-	-	-	-	-	-	-
SC = South Carolina	104	0.9	60	1	5	26	12	-	-	-	-	-
SD = South Dakota	37	0.3	26	1	-	7	2	-	1	-	-	-
TN = Tennessee	135	1.1	85	4	2	24	13	3	4	-	-	-
TX = Texas	768	6.5	452	21	7	164	108	3	11	-	-	2
UT = Utah	87	0.7	66	6	3	7	5	-	-	-	-	-
VA = Virginia	139	1.2	94	3	15	7	12	7	-	-	-	1
VT = Vermont	11	0.1	11	-	-	-	-	-	-	-	-	-
WA = Washington	210	1.8	158	3	7	19	18	-	5	-	-	-
WI = Wisconsin	283	2.4	204	5	3	54	10	2	1	-	-	4
WV = West Virginia	64	0.5	51	3	-	3	5	1	1	-	-	-
WY = Wyoming	79	0.7	66	2	7	-	-	1	3	-	-	-
ALL	11767	100	8,295	263	601	1,517	728	213	121	3	3	23

TABLE 3-6 REPORTABLE CONDITIONS, ALL TYPE PERSONS, 1997

Condition	Cnt	%	Type of Person *									
			A	B	C	D	E	F	G	H	I	J
Bruise/contusion	2,015	15.7	1,243	50	192	358	112	32	18	-	1	9
Occ. Illness	134	1.0	128	2	1	-	-	1	2	-	-	-
Sprain/Str., other	109	0.8	66	9	10	18	4	1	-	-	-	1
Sprain/Str.,arm/hand	442	3.4	401	9	10	7	1	9	4	-	1	-
Sprain/Str.,leg/foot	1,235	9.6	1,067	33	58	57	6	8	6	-	-	-
Sprain/Str.,head/face	369	2.9	261	27	18	45	11	4	3	-	-	-
Sprain/Str.,torso	2,391	18.6	2,165	43	58	77	8	30	10	-	-	-
Cut/abrasion	1,639	12.8	1,017	28	115	283	121	42	30	-	-	3
Puncture wound	163	1.3	142	3	1	5	3	3	5	-	1	-
Electric shock/burn	54	0.4	43	-	2	1	4	4	-	-	-	-
Other burn	128	1.0	110	2	6	1	1	8	-	-	-	-
Dislocation	97	0.8	73	2	6	6	3	3	4	-	-	-
Fracture,other	10	0.1	3	-	-	3	1	1	2	-	-	-
Fracture,arm/hand	505	3.9	351	12	20	49	41	18	13	1	-	-
Fracture,leg/foot	387	3.0	206	15	30	59	61	12	4	-	-	-
Fracture,head/face	60	0.5	21	2	5	19	6	4	1	-	-	2
Fracture,torso	214	1.7	112	4	27	47	16	4	2	1	-	1
Fracture,multiple	24	0.2	5	-	1	9	8	1	-	-	-	-
Dental related	47	0.4	32	1	4	6	-	4	-	-	-	-
Amputation,arm/hand	56	0.4	32	1	-	1	18	4	-	-	-	-
Amputation,leg/foot	119	0.9	17	-	-	4	97	-	1	-	-	-
Amputation,other	3	0.0	-	-	-	-	3	-	-	-	-	-
Fatality	1,063	8.3	37	-	6	362	646	6	5	-	-	1
Object in eye	280	2.2	254	5	4	1	-	13	3	-	-	-
Hernia	68	0.5	66	-	-	1	-	1	-	-	-	-
Concussion	84	0.7	35	-	3	25	15	3	3	-	-	-
Nervous shock	8	0.1	6	-	-	2	-	-	-	-	-	-
Internal injury	68	0.5	8	-	-	34	25	-	-	-	-	1
Skin reaction	45	0.4	41	1	-	1	-	1	1	-	-	-
One-time exp. to noise	13	0.1	13	-	-	-	-	-	-	-	-	-
Unspecified injury	898	7.0	282	12	27	398	163	2	7	1	-	6
One-time exp.-fumes	102	0.8	95	2	3	-	-	-	2	-	-	-
ALL	12,830	100	8,332	263	607	1,879	1,374	219	126	3	3	24

A - Worker on duty(rr employee)
B - Employee not on duty
C - Passenger on train
D - Nontrespasser
E - Trespasser
F - Worker on duty(contractor)
G - Contractor(other)
H - Worker on duty(volunteer)
I - Volunteer(other)
J - Nontrespasser, off rr property

TABLE 3-7 TOTAL CASUALTIES BY AGE OF INDIVIDUAL, 1997 AND TYPE OF PERSON

Age		Total		Type of Person *									
		Cnt	%	A	B	C	D	E	F	G	H	I	J
Ftl	Unk	183	1.4	-	-	2	35	146	-	-	-	-	-
	1-5	12	0.1	-	-	-	7	5	-	-	-	-	-
	6-10	13	0.1	-	-	-	7	6	-	-	-	-	-
	11-15	27	0.2	-	-	-	9	18	-	-	-	-	-
	16-20	114	0.9	-	-	-	42	70	1	1	-	-	-
	21-25	107	0.8	3	-	-	38	63	2	1	-	-	-
	26-30	78	0.6	2	-	1	27	47	-	1	-	-	-
	31-35	99	0.8	-	-	-	27	72	-	-	-	-	-
	36-40	110	0.9	5	-	-	35	69	-	-	-	-	1
	41-45	74	0.6	5	-	1	18	48	2	-	-	-	-
	46-50	58	0.5	7	-	-	24	26	-	1	-	-	-
	51-55	54	0.4	11	-	-	21	21	-	1	-	-	-
	56-60	37	0.3	3	-	-	19	15	-	-	-	-	-
	61-65	17	0.1	1	-	-	13	3	-	-	-	-	-
	66-70	21	0.2	-	-	-	13	8	-	-	-	-	-
	Other	59	0.5	-	-	2	27	29	1	-	-	-	-
	Total	1,063	8.3	37	-	6	362	646	6	5	-	-	1
Nonf	Unk	464	3.6	6	-	134	155	143	16	1	-	2	7
	1-5	63	0.5	-	-	17	34	8	2	1	-	-	1
	6-10	49	0.4	-	-	7	25	15	-	-	-	-	2
	11-15	112	0.9	-	-	5	50	57	-	-	-	-	-
	16-20	342	2.7	68	2	9	172	65	16	8	-	-	2
	21-25	824	6.4	415	18	20	212	90	42	24	-	-	3
	26-30	1,082	8.4	750	16	33	155	73	38	15	-	-	2
	31-35	1,125	8.8	844	31	30	119	54	29	18	-	-	-
	36-40	1,504	11.7	1,161	36	47	141	77	24	15	-	1	2
	41-45	1,907	14.9	1,642	49	39	87	49	17	21	1	-	2
	46-50	1,840	14.3	1,586	50	58	87	35	10	11	2	-	1
	51-55	1,131	8.8	969	32	36	66	20	7	1	-	-	-
	56-60	769	6.0	639	18	35	57	12	4	3	-	-	1
	61-65	290	2.3	193	10	26	50	4	6	1	-	-	-
	66-70	84	0.7	18	-	28	30	6	1	1	-	-	-
	Other	181	1.4	4	1	77	77	20	1	1	-	-	-
	Total	11,767	91.7	8,295	263	601	1,517	728	213	121	3	3	23
Total		12,830	100.0	8,332	263	607	1,879	1,374	219	126	3	3	24

Ftl = fatality.

A - Worker on duty(rr employee)
B - Employee not on duty
C - Passenger on train
D - Nontrespasser
E - Trespasser
F - Worker on duty(contractor)
G - Contractor(other)
H - Worker on duty(volunteer)
I - Volunteer(other)
J - Nontrespasser, off rr property

TABLE 3-8 TOTAL CASUALTIES BY MONTH AND TYPE PERSON, 1997

Condition		Total	Type of Person *									
		Cnt	A	B	C	D	E	F	G	H	I	J
Ftl	Jan	68	4	-	-	30	33	1	-	-	-	-
	Feb	73	3	-	1	27	42	-	-	-	-	-
	Mar	85	1	-	-	35	48	1	-	-	-	-
	Apr	87	2	-	-	27	58	-	-	-	-	-
	May	87	-	-	2	29	56	-	-	-	-	-
	Jun	112	8	-	1	23	77	2	1	-	-	-
	Jul	114	3	-	-	38	72	1	-	-	-	-
	Aug	98	4	-	1	27	63	-	3	-	-	-
	Sep	97	2	-	-	32	62	1	-	-	-	-
	Oct	93	3	-	-	40	49	-	1	-	-	-
	Nov	77	1	-	1	27	47	-	-	-	-	1
	Dec	72	6	-	-	27	39	-	-	-	-	-
	Total	1,063	37	-	6	362	646	6	5	-	-	1
Nonf	Jan	1,116	733	48	61	187	59	17	8	-	-	3
	Feb	874	597	16	54	135	57	11	2	-	-	2
	Mar	971	696	13	46	115	72	19	9	-	1	-
	Apr	926	651	23	41	121	57	23	5	-	-	5
	May	1,003	695	20	61	131	61	17	16	-	-	2
	Jun	985	710	13	48	103	81	14	15	-	1	-
	Jul	1,042	754	33	48	122	54	21	8	-	1	1
	Aug	1,125	762	33	84	143	72	18	11	-	-	2
	Sep	982	691	15	46	139	60	11	17	2	-	1
	Oct	1,117	820	24	42	125	64	25	15	-	-	2
	Nov	824	605	14	28	86	61	19	5	1	-	5
	Dec	802	581	11	42	110	30	18	10	-	-	-
	Total	11,767	8,295	263	601	1,517	728	213	121	3	3	23
Total		12,830	8,332	263	607	1,879	1,374	219	126	3	3	24

Ftl = fatality.

A - Worker on duty(rr employee)
B - Employee not on duty
C - Passenger on train
D - Nontrespasser
E - Trespasser
F - Worker on duty(contractor)
G - Contractor(other)
H - Worker on duty(volunteer)
I - Volunteer(other)
J - Nontrespasser, off rr property

TABLE 3-9 TOTAL CASUALTIES BY TIME OF DAY, 1997 AND TYPE OF PERSON

Time		Total		Type of Person *									
		Cnt	%	A	B	C	D	E	F	G	H	I	J
AM	1	337	2.6	187	4	19	44	76	5	1	-	-	1
	2	282	2.2	182	4	3	22	63	3	4	-	-	1
	3	269	2.1	182	6	7	28	43	1	2	-	-	-
	4	228	1.8	156	8	2	26	33	1	2	-	-	-
	5	285	2.2	159	22	44	20	30	2	3	-	-	5
	6	331	2.6	202	25	19	39	41	2	3	-	-	-
	7	636	5.0	350	24	71	124	49	10	8	-	-	-
	8	768	6.0	517	17	44	114	55	11	9	-	1	-
	9	880	6.9	640	12	35	113	49	22	9	-	-	-
	10	1,003	7.8	795	4	22	83	54	31	12	-	-	2
	11	954	7.4	741	8	26	91	49	30	9	-	-	-
	12	376	2.9	215	6	11	58	77	3	6	-	-	-
	Total	6,349	49.5	4,326	140	303	762	619	121	68	-	1	9
PM	1	791	6.2	559	5	23	121	51	23	5	3	-	1
	2	851	6.6	586	16	22	127	68	18	11	-	-	3
	3	674	5.3	406	17	37	119	71	15	5	-	1	3
	4	571	4.5	320	17	33	122	57	10	9	-	-	3
	5	590	4.6	343	8	34	107	86	4	6	-	1	1
	6	493	3.8	292	6	30	105	53	5	1	-	-	1
	7	419	3.3	241	14	22	60	74	3	4	-	-	1
	8	404	3.1	218	13	27	74	67	3	2	-	-	-
	9	331	2.6	220	1	17	40	48	2	3	-	-	-
	10	378	2.9	195	9	19	79	69	2	3	-	-	2
	11	350	2.7	213	6	9	58	63	-	1	-	-	-
	12	629	4.9	413	11	31	105	48	13	8	-	-	-
	Total	6,481	50.5	4,006	123	304	1,117	755	98	58	3	2	15
Total		12,830	100	8,332	263	607	1,879	1,374	219	126	3	3	24

A - Worker on duty(rr employee)
B - Employee not on duty
C - Passenger on train
D - Nontrespasser
E - Trespasser
F - Worker on duty(contractor)
G - Contractor(other)
H - Worker on duty(volunteer)
I - Volunteer(other)
J - Nontrespasser, off rr property

CHAPTER 4

EMPLOYEE ON DUTY CASUALTIES

The work environment is the physical location, equipment, materials processed or used, and activities of a railroad employee associated with his or her work, whether on or off the railroad's property. There are no stated exclusions of place or circumstance. All activities of a Worker on Duty--Employee (Class A) while in the work environment are presumed to be work-related for accident/incident reporting purposes.

An employee is in the work environment:

1. While engaged in work activity or apprenticeship/vocational training required by the employer.

2. While on break, in the rest room, or in storage areas when located on the employer's premises.

3. While performing work for pay or compensation at home, pursuant to the employer's instructions, if the injury or illness is directly related to the performance of work rather than the general home environment or setting.

4. While traveling on business, including to and from customer contacts. Employees in travel status (i.e., traveling on company business) should be considered engaged in work-related activities during all of their time spent in the "interest of their company". This includes, but is not limited to, travel to and from customer contacts, conducting job tasks, and entertaining or being entertained for the purpose of transacting, discussing, or promoting business.

5. While employee is engaged in work activity where a vehicle is considered the work environment (e.g., truck, taxi).

6. While at conferences where attendance is expected or required by the employer.

7. Some workplaces provide living quarters for employees on their premises. In these workplaces, injuries or illnesses are presumed to be work-related if the employee is on-duty or engaged in a work activity. The injury or illness is also considered work-related if the employee was harmed as a result of a serious workplace accident such as a chemical release, fire, explosion, derailment, collision, or building collapse. All other injuries and illnesses occurring during off-duty hours while in living quarters are considered non-work-related. The worker should be classified as an "employee not on duty" in these cases if a reportable condition occurs.

Employees present in the work environment, but for reasons unconnected with their employment, generally are not reportable as Worker on Duty--Employee (Class A) should they be injured. These individuals are more appropriately classified as employees not on duty, nontrespassers on railroad property, passengers on train, etc., and if hurt should be identified as such. The following are examples:

1. Injuries or illnesses that occur to employees present at their employer's establishment as a member of the general public rather than as a worker.

2. Injuries or illnesses that are solely the result of employees doing personal tasks (unrelated to their employment) at the establishment outside of normal working hours.

3. Injuries or illnesses occurring on company parking lots and access roads while employees are arriving at or leaving work.

4. An injury or illness solely associated with participation in voluntary community or civic projects, e.g., Operation Lifesaver presentations; unless the employee was under pay status.

Injury/Illness Distinction. The distinction between occupational illnesses and injuries is based primarily on the event or exposure that precipitated the employee's condition. Injuries are generally the result of instantaneous events; for example, an employee is struck by an object and sustains a cut or a bruise. Illnesses, on the other hand, are usually the result of an exposure that occurs over time; such as hearing impairment caused by working in a noisy environment. Exceptions to this general rule are muscular sprains, strains, or soreness, occurring after work activity for which no single movement or event can be isolated as the primary causal factor. Physical conditions of this type are to be recorded as injuries when the condition is attributable to activity of limited duration--typically no more than a single work shift.

CONTENTS

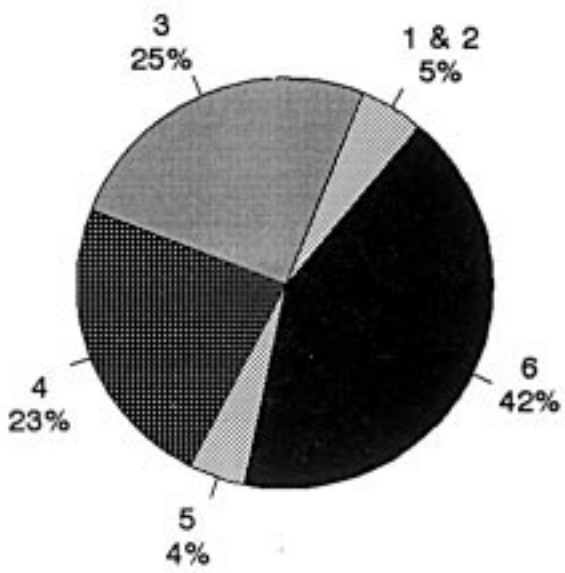
CHAPTER 4

EMPLOYEE ON DUTY CASUALTIES

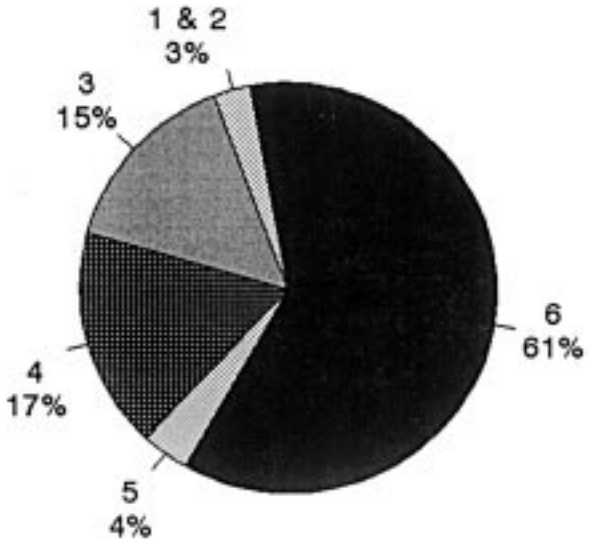
Figures **Page**

Tables

4-1 NONFATAL CASES TO EMPLOYEES BY JOB, 1997



TOTAL CASES



DAYS ABSENT FROM WORK

1/2 = Executives, officials, staff assistants, professional and administrative
3 = Maintenance of way; 4 = Maintenance of equipment and stores
5 = Transportation, other than train and engine; 6 = Transportation, train and engine

4-2 NONFATAL EMPLOYEE INJURIES, 1997

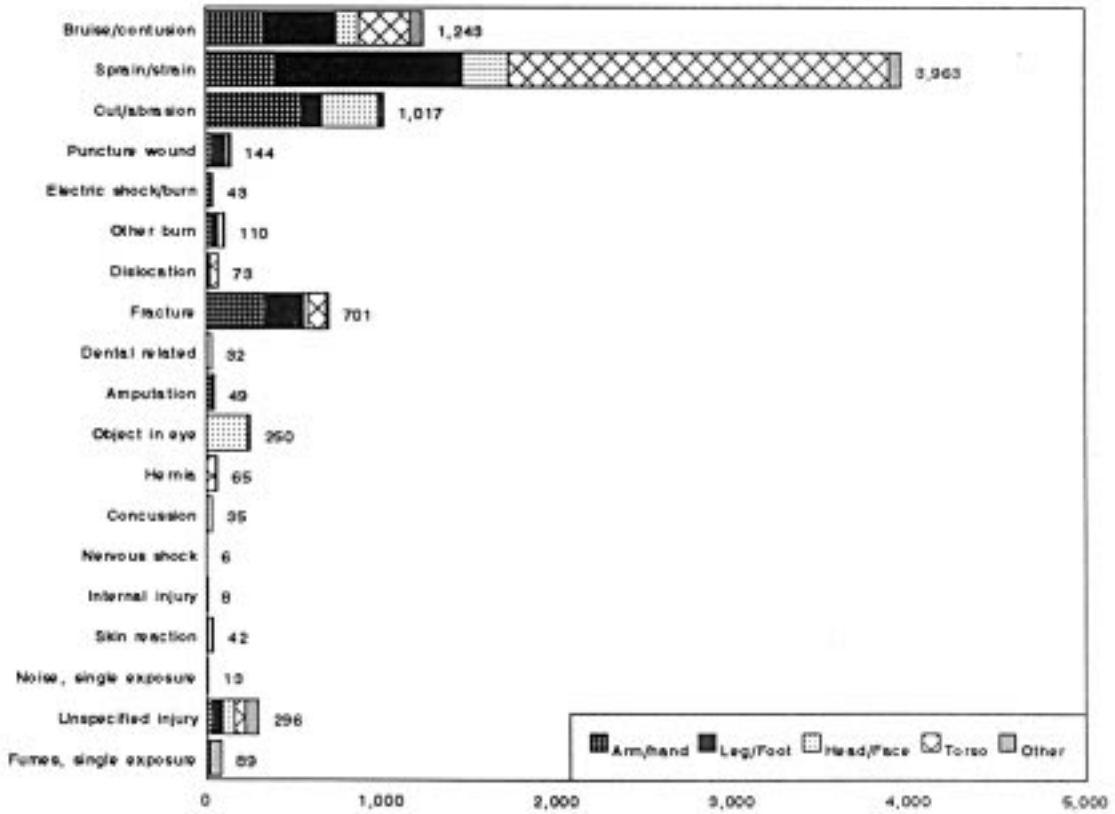


TABLE 4-1 REPORTABLE CONDITIONS TO RR EMPLOYEES ON DUTY, 1997

Condition	Total		Days Absent			Absent Cases		Term./ Trans.	Days Restricted			Hazmat Exp.
	Cnt	%	Cnt	%	Avg.	Cnt	%	Cnt	Cnt	%	Avg.	Cnt
Bruise/contusion	1,243	14.9	29,970	12.3	24	805	15.0	3	6,534	12.5	5	-
Occ. Illness	128	1.5	2,638	1.1	21	63	1.2	1	1,406	2.7	11	1
Sprain/Str., other	66	.8	2,274	.9	34	54	1.0	-	70	.1	1	-
Sprain/Str.,arm/hand	401	4.8	9,301	3.8	23	229	4.3	1	3,397	6.5	8	-
Sprain/Str.,leg/foot	1,067	12.8	39,005	16.0	37	825	15.4	6	8,212	15.8	8	-
Sprain/Str.,head/face	261	3.1	11,870	4.9	45	195	3.6	1	1,800	3.5	7	-
Sprain/Str.,torso	2,165	26.0	80,421	32.9	37	1,595	29.7	9	16,923	32.5	8	-
Cut/abrasion	1,017	12.2	9,891	4.0	10	372	6.9	-	2,568	4.9	3	-
Puncture wound	142	1.7	1,052	.4	7	51	.9	-	332	.6	2	-
Electric shock/burn	43	.5	901	.4	21	29	.5	-	238	.5	6	-
Other burn	110	1.3	1,291	.5	12	56	1.0	-	408	.8	4	3
Dislocation	73	.9	5,202	2.1	71	60	1.1	-	655	1.3	9	-
Fracture,other	3	-	35	-	12	3	.1	-	6	-	2	-
Fracture,arm/hand	351	4.2	8,444	3.5	24	199	3.7	1	3,117	6.0	9	-
Fracture,leg/foot	206	2.5	11,583	4.7	56	181	3.4	2	2,531	4.9	12	-
Fracture,head/face	21	.3	824	.3	39	17	.3	-	156	.3	7	-
Fracture,torso	112	1.3	5,629	2.3	50	97	1.8	-	1,024	2.0	9	-
Fracture,multiple	5	.1	684	.3	137	4	.1	-	-	-	-	-
Dental related	32	.4	31	-	1	5	.1	-	-	-	-	-
Amputation,arm/hand	32	.4	1,479	.6	46	27	.5	-	302	.6	9	-
Amputation,leg/foot	17	.2	2,791	1.1	164	17	.3	-	100	.2	6	-
Fatality	37	.4	-	-	-	-	-	2	-	-	-	-
Object in eye	254	3.0	514	.2	2	94	1.8	1	27	.1	-	-
Hernia	66	.8	2,595	1.1	39	56	1.0	-	415	.8	6	-
Concussion	35	.4	925	.4	26	28	.5	-	93	.2	3	-
Nervous shock	6	.1	548	.2	91	5	.1	-	-	-	-	-
Internal injury	8	.1	1,109	.5	139	8	.1	-	-	-	-	-
Skin reaction	41	.5	320	.1	8	23	.4	-	1	-	-	6
One-time exp. to noise	13	.2	248	.1	19	10	.2	-	2	-	-	-
Unspecified injury	282	3.4	11,516	4.7	41	184	3.4	-	1,744	3.3	6	3
One-time exp.-fumes	95	1.1	1,292	.5	14	79	1.5	-	38	.1	-	3
ALL	8,332	100	244,383	100	29	5,371	100	27	52,099	100	6	16

Cnt = count. % = percent of column total. Avg. = average. Term. = terminated. Trans. = transferred. Hazmat Exp. = condition was result of hazardous material exposure.

A day absent from work is any day (consecutive or not) following the date of injury or diagnosis of occupational illness that a railroad employee does not report to work for reasons connected with a reportable conditions.

A restricted work day is the inability of a railroad employee to perform all normally assigned duties of his or her regular job following a reportable condition. It includes temporary assignment to another job, being placed on restricted duties, or when the employee works less than full time at a regular job.

The count of "Absent cases" is the number of cases that resulted in an employee being absent from work.

TABLE 4-2 REPORTABLE CONDITIONS TO EMPLOYEE ON DUTY, BY RAILROAD, 1997

RR	Total		Fatal		Nonfatal		Days Absent			Absent Cases		Term./ Trans.	Days Restricted			Hazmat Exp.
	Cnt	%	Cnt	%	Cnt	%	Cnt	%	Avg.	Cnt	%	Cnt	Cnt	%	Avg.	Cnt
ALS	17	0.2	-	-	17	0.2	1,052	0.4	62	15	0.3	-	39	0.1	2	-
ARR	63	0.8	-	-	63	0.8	881	0.4	14	37	0.7	-	346	0.7	5	-
ATK	901	10.8	3	8.1	898	10.8	20,194	8.3	22	641	11.9	-	48	0.1	0	-
BAR	36	0.4	-	-	36	0.4	267	0.1	7	23	0.4	-	10	0.0	0	-
BLE	8	0.1	-	-	8	0.1	104	0.0	13	3	0.1	-	50	0.1	6	-
BNSF	789	9.5	4	10.8	785	9.5	20,879	8.5	26	355	6.6	4	19,694	37.8	25	-
BRC	14	0.2	-	-	14	0.2	282	0.1	20	9	0.2	-	55	0.1	4	-
BS	13	0.2	-	-	13	0.2	675	0.3	52	4	0.1	-	232	0.4	18	-
CR	518	6.2	3	8.1	515	6.2	21,250	8.7	41	411	7.7	3	3,507	6.7	7	-
CSX	608	7.3	3	8.1	605	7.3	29,386	12.0	48	480	8.9	1	449	0.9	1	3
DH	31	0.4	1	2.7	30	0.4	1,026	0.4	33	22	0.4	-	3	0.0	0	-
DME	21	0.3	-	-	21	0.3	239	0.1	11	4	0.1	-	54	0.1	3	-
DMIR	50	0.6	-	-	50	0.6	232	0.1	5	12	0.2	-	462	0.9	9	-
DWP	8	0.1	-	-	8	0.1	430	0.2	54	7	0.1	-	14	0.0	2	-
EJE	47	0.6	-	-	47	0.6	1,476	0.6	31	25	0.5	1	367	0.7	8	-
FEC	39	0.5	-	-	39	0.5	2,049	0.8	53	34	0.6	-	3	0.0	0	-
GRP3	1,024	12.3	1	2.7	1,023	12.3	10,082	4.1	10	476	8.9	9	4,543	8.7	4	4
GRS	11	0.1	-	-	11	0.1	391	0.2	36	8	0.1	-	93	0.2	8	-
GTW	131	1.6	1	2.7	130	1.6	7,893	3.2	60	100	1.9	-	1,306	2.5	10	-
GWWR	5	0.1	-	-	5	0.1	141	0.1	28	4	0.1	-	86	0.2	17	-
HBT	12	0.1	-	-	12	0.1	338	0.1	28	8	0.1	-	1	0.0	0	1
IC	111	1.3	-	-	111	1.3	3,310	1.4	30	78	1.5	1	278	0.5	3	-
IHB	53	0.6	-	-	53	0.6	3,827	1.6	72	48	0.9	-	26	0.0	0	-
IMRL	17	0.2	-	-	17	0.2	333	0.1	20	8	0.1	-	189	0.4	11	-
KCS	79	0.9	-	-	79	1.0	1,209	0.5	15	52	1.0	-	242	0.5	3	1
LI	451	5.4	1	2.7	450	5.4	10,892	4.5	24	408	7.6	1	2,067	4.0	5	-
MBTA	69	0.8	1	2.7	68	0.8	1,181	0.5	17	58	1.1	-	0	0.0	0	-
MNCW	433	5.2	1	2.7	432	5.2	9,467	3.9	22	219	4.1	-	7,885	15.1	18	-
MRL	40	0.5	1	2.7	39	0.5	663	0.3	17	29	0.5	-	365	0.7	9	-
NICD	29	0.3	-	-	29	0.3	93	0.0	3	12	0.2	-	105	0.2	4	-
NIRC	110	1.3	-	-	110	1.3	949	0.4	9	54	1.0	-	241	0.5	2	-
NJTR	89	1.1	-	-	89	1.1	2,281	0.9	26	77	1.4	-	30	0.1	0	-
NS	220	2.6	4	10.8	216	2.6	15,837	6.5	72	153	2.8	-	639	1.2	3	-
PAL	11	0.1	-	-	11	0.1	211	0.1	19	7	0.1	-	47	0.1	4	-
PATH	113	1.4	-	-	113	1.4	1,189	0.5	11	98	1.8	1	229	0.4	2	-
PCMZ	15	0.2	-	-	15	0.2	1,222	0.5	81	12	0.2	-	0	0.0	0	-
PTRA	5	0.1	-	-	5	0.1	437	0.2	87	4	0.1	-	0	0.0	0	-
SCAX	12	0.1	-	-	12	0.1	114	0.0	10	7	0.1	-	18	0.0	2	-
SEPA	193	2.3	-	-	193	2.3	1,944	0.8	10	138	2.6	-	204	0.4	1	-
SOO	229	2.7	2	5.4	227	2.7	10,330	4.2	45	156	2.9	1	406	0.8	2	-
TM	5	0.1	-	-	5	0.1	261	0.1	52	4	0.1	2	75	0.1	15	-
TRRA	4	0.0	-	-	4	0.0	43	0.0	11	3	0.1	-	13	0.0	3	-
UP	1,545	18.5	11	29.7	1,534	18.5	57,698	23.6	37	986	18.4	-	6,330	12.1	4	7
URR	15	0.2	-	-	15	0.2	123	0.1	8	7	0.1	-	21	0.0	1	-
WC	122	1.5	-	-	122	1.5	1,170	0.5	10	66	1.2	3	1,189	2.3	10	-
WE	16	0.2	-	-	16	0.2	332	0.1	21	9	0.2	-	138	0.3	9	-
ALL	8,332	100	37	100	8,295	100	244,383	100	29	5,371	100	27	52,099	100	6	16

Cnt = count. % = percent of column total. Avg. = average. Term. = terminated. Trans. = transferred. Hazmat Exp. = condition was result of hazardous material exposure.

TABLE 4-3 REPORTABLE CONDITIONS TO EMPLOYEE ON DUTY, BY STATE, 1997

	Total		Fatal		Nonfatal		Days Absent			Absent Cases		Term./ Trans.	Days Restricted			Hazmat Exp.
	Cnt	%	Cnt	%	Cnt	%	Cnt	%	Avg.	Cnt	%	Cnt	Cnt	%	Avg.	Cnt
AL	100	1.2	1	2.7	99	1.2	4,451	1.8	45	68	1.3	-	483	.9	5	-
AK	84	1.0	-	-	84	1.0	1,001	.4	12	46	.9	-	347	.7	4	2
AZ	88	1.1	-	-	88	1.1	3,509	1.4	40	68	1.3	-	811	1.6	9	-
AR	178	2.1	-	-	178	2.1	6,066	2.5	34	92	1.7	-	739	1.4	4	-
CA	535	6.4	3	8.1	532	6.4	14,223	5.8	27	344	6.4	2	4,150	8.0	8	3
CO	126	1.5	-	-	126	1.5	3,728	1.5	30	64	1.2	-	601	1.2	5	-
CT	125	1.5	1	2.7	124	1.5	2,288	.9	18	59	1.1	-	1,497	2.9	12	-
DE	63	.8	2	5.4	61	.7	1,564	.6	25	38	.7	-	156	.3	2	-
DC	72	.9	-	-	72	.9	1,817	.7	25	59	1.1	-	-	-	-	-
FL	187	2.2	-	-	187	2.3	6,820	2.8	36	135	2.5	-	165	.3	1	-
GA	123	1.5	1	2.7	122	1.5	4,188	1.7	34	86	1.6	-	237	.5	2	-
ID	82	1.0	1	2.7	81	1.0	2,492	1.0	30	46	.9	-	275	.5	3	1
IL	660	7.9	1	2.7	659	7.9	17,219	7.0	26	419	7.8	1	3,741	7.2	6	1
IN	243	2.9	1	2.7	242	2.9	10,589	4.3	44	170	3.2	2	996	1.9	4	-
IA	165	2.0	1	2.7	164	2.0	2,709	1.1	16	85	1.6	2	1,353	2.6	8	1
KS	134	1.6	3	8.1	131	1.6	2,720	1.1	20	61	1.1	1	1,283	2.5	10	-
KY	100	1.2	-	-	100	1.2	5,515	2.3	55	80	1.5	-	57	.1	1	-
LA	156	1.9	-	-	156	1.9	5,728	2.3	37	95	1.8	-	511	1.0	3	-
ME	59	.7	-	-	59	.7	627	.3	11	35	.7	-	115	.2	2	-
MD	57	.7	1	2.7	56	.7	2,685	1.1	47	45	.8	-	28	.1	-	-
MA	141	1.7	1	2.7	140	1.7	2,732	1.1	19	109	2.0	-	127	.2	1	-
MI	261	3.1	2	5.4	259	3.1	10,667	4.4	41	166	3.1	-	2,143	4.1	8	-
MN	256	3.1	1	2.7	255	3.1	6,649	2.7	26	110	2.0	-	1,809	3.5	7	-
MS	68	.8	-	-	68	.8	1,933	.8	28	46	.9	-	171	.3	3	1
MO	142	1.7	-	-	142	1.7	4,500	1.8	32	81	1.5	-	1,184	2.3	8	-
MT	93	1.1	1	2.7	92	1.1	2,006	.8	22	55	1.0	-	1,151	2.2	12	-
NE	163	2.0	1	2.7	162	2.0	5,153	2.1	32	94	1.8	-	1,463	2.8	9	-
NV	24	.3	1	2.7	23	.3	308	.1	13	15	.3	-	20	-	1	-
NH	3	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-
NJ	286	3.4	1	2.7	285	3.4	5,322	2.2	19	230	4.3	1	348	.7	1	-
NM	50	.6	-	-	50	.6	1,246	.5	25	33	.6	-	1,231	2.4	25	-
NY	1,083	13.0	2	5.4	1,081	13.0	25,826	10.6	24	817	15.2	2	9,181	17.6	8	-
NC	70	.8	-	-	70	.8	3,638	1.5	52	55	1.0	-	94	.2	1	-
ND	70	.8	-	-	70	.8	1,722	.7	25	32	.6	2	1,459	2.8	21	-
OH	278	3.3	-	-	278	3.4	11,448	4.7	41	198	3.7	2	702	1.3	3	-
OK	57	.7	-	-	57	.7	1,732	.7	30	37	.7	1	590	1.1	10	1
OR	119	1.4	1	2.7	118	1.4	3,067	1.3	26	75	1.4	2	1,120	2.1	9	-
PA	538	6.5	2	5.4	536	6.5	10,356	4.2	19	344	6.4	1	1,559	3.0	3	-
RI	12	.1	-	-	12	.1	167	.1	14	11	.2	-	-	-	-	-
SC	62	.7	2	5.4	60	.7	1,917	.8	31	43	.8	-	89	.2	1	-
SD	26	.3	-	-	26	.3	246	.1	9	8	.1	-	218	.4	8	-
TN	85	1.0	-	-	85	1.0	2,038	.8	24	59	1.1	2	524	1.0	6	-
TX	456	5.5	4	10.8	452	5.4	21,605	8.8	47	273	5.1	3	2,808	5.4	6	2
UT	66	.8	-	-	66	.8	1,589	.7	24	42	.8	-	75	.1	1	1
VT	11	.1	-	-	11	.1	3	-	-	1	-	-	61	.1	6	-
VA	94	1.1	-	-	94	1.1	5,213	2.1	55	72	1.3	-	107	.2	1	3
WA	158	1.9	-	-	158	1.9	4,484	1.8	28	82	1.5	-	3,694	7.1	23	-
WV	52	.6	1	2.7	51	.6	2,344	1.0	45	43	.8	-	460	.9	9	-
WI	205	2.5	1	2.7	204	2.5	4,114	1.7	20	111	2.1	3	1,591	3.1	8	-
WY	66	.8	-	-	66	.8	2,419	1.0	37	34	.6	-	575	1.1	9	-
ALL	8,332	100	37	100	8,295	100	244,383	100	29	5,371	100	27	52,099	100	6	16

TABLE 4-4 REPORTABLE CONDITIONS TO EMPLOYEE ON DUTY BY EVENT,1997

Event	Total		Days Absent		Absent Cases		Term./ Trans.	Days Restricted		Hazmat Exp.
	Cnt	%	Cnt	%	Cnt	%	Cnt	Cnt	%	Cnt
Aggravated pre-existing condition	122	1.5	5,014	2.1	103	1.9	3	422	.8	-
Apprehending/removing from property	14	.2	128	.1	10	.2	-	110	.2	-
Assaulted by other	59	.7	992	.4	45	.8	-	247	.5	-
Assaulted by coworker	17	.2	225	.1	9	.2	1	7	-	-
Bitten/stung by bee, spider, other insect	73	.9	81	-	32	.6	-	9	-	-
Bitten by animal	6	.1	109	-	3	.1	-	34	.1	-
Bodily function/sudden movement, e.g.,sneez	231	2.8	7,576	3.1	150	2.8	-	1,945	3.7	-
Caught in/compressed by hand tools	57	.7	315	.1	13	.2	-	326	.6	-
Caught in/compressed by other machinery	114	1.4	2,272	.9	62	1.2	-	755	1.4	-
Caught in/crushed by materials	201	2.4	2,521	1.0	88	1.6	-	1,151	2.2	-
Caught in/crushed in excavation, land slide	4	-	75	-	1	-	-	85	.2	-
Caught in/compressed by powered hand tools	18	.2	275	.1	5	.1	-	75	.1	-
Cave in, slide, etc.	7	.1	139	.1	6	.1	-	59	.1	-
Climatic conditions, other (e.g., high wind	53	.6	358	.1	21	.4	1	93	.2	-
Climatic condition, exposure to environment	21	.3	75	-	10	.2	-	63	.1	-
Collision - between on track equipment	134	1.6	7,567	3.1	101	1.9	-	809	1.6	-
Collision/impact - auto, truck, bus, van, e	204	2.4	8,536	3.5	138	2.6	-	1,634	3.1	-
Defective/malfunctioning equipment	206	2.5	9,183	3.8	156	2.9	1	1,382	2.7	-
Derailment	67	.8	5,439	2.2	59	1.1	-	276	.5	-
Electrical shock while operating welding e	1	-	-	-	-	-	-	-	-	-
Electrical shock due to contact with 3rd ra	9	.1	300	.1	7	.1	-	13	-	-
Electrical shock, other (explain in narrati	12	.1	323	.1	9	.2	-	138	.3	-
Electrical shock from hand tool	14	.2	577	.2	12	.2	-	24	-	-
Exposure to fumes - inhalation	122	1.5	1,473	.6	97	1.8	-	76	.1	6
Exposure to chemicals - external	57	.7	479	.2	28	.5	-	6	-	10
Exposure to poisonous plants	14	.2	21	-	4	.1	-	5	-	-
Exposure to noise - single incident	14	.2	238	.1	12	.2	-	19	-	-
Exposure to welding light	5	.1	1	-	1	-	-	-	-	-
Highway-rail collision/impact	117	1.4	7,443	3.0	103	1.9	1	784	1.5	-
Horseplay, practical joke, etc.	7	.1	83	-	3	.1	1	45	.1	-
Lost balance	438	5.3	15031	6.2	305	5.7	-	4,033	7.7	-
Missed handhold, grabiron, step, etc.	106	1.3	4,288	1.8	74	1.4	1	539	1.0	-
Needle puncture/prick/stick	23	.3	131	.1	5	.1	-	4	-	-
Other impacts - on track equipment	39	.5	1,073	.4	24	.4	1	154	.3	-
Overexertion	1,063	12.8	34581	14.2	756	14.1	1	10,117	19.4	-
Pushed/shoved into/against	68	.8	1,883	.8	35	.7	-	532	1.0	-
Pushed/shoved onto	16	.2	793	.3	11	.2	-	151	.3	-
Pushed/shoved from	13	.2	238	.1	10	.2	-	20	-	-
Ran into on-track equipment	16	.2	550	.2	11	.2	-	35	.1	-
Ran into object/equipment	40	.5	1,229	.5	27	.5	1	124	.2	-
Repetitive motion - work processes	125	1.5	4,215	1.7	78	1.5	-	1,190	2.3	-
Repetitive motion - typing, keyboard, etc.	21	.3	198	.1	13	.2	1	467	.9	-
Repetitive motion - tools	53	.6	1,210	.5	27	.5	-	739	1.4	-
Repetitive motion - other (describe in narr	22	.3	241	.1	10	.2	1	199	.4	-
Rubbed, abraded, etc.	49	.6	202	.1	13	.2	-	298	.6	-
Shot	10	.1	291	.1	6	.1	-	-	-	-
Slack action, draft, compressive buff/coupl	61	.7	3,468	1.4	49	.9	1	621	1.2	-
Slipped,fell,stumbled,etc. due to irregular	461	5.5	16119	6.6	346	6.4	1	3,386	6.5	-
Slipped, fell, stumbled, etc. due to climat	324	3.9	11546	4.7	238	4.4	1	3,301	6.3	-
Slipped,fell,stumbled,etc. on oil, grease,e	192	2.3	9,363	3.8	153	2.8	-	886	1.7	-
Slipped,fell,stumbled,etc. due to object,ba	599	7.2	24260	9.9	439	8.2	2	3,664	7.0	-
Stabbing, knifing, etc.	15	.2	58	-	5	.1	-	10	-	-
Stepped on object	148	1.8	4,320	1.8	94	1.8	1	985	1.9	-
Struck by thrown or propelled object	207	2.5	2,299	.9	105	2.0	-	516	1.0	-

TABLE 4-4 REPORTABLE CONDITIONS TO EMPLOYEE ON DUTY BY EVENT,1997

(CONTINUED)

Event	Total		Days Absent		Absent Cases		Term./ Trans.	Days Restricted		Hazmat Exp.
	Cnt	%	Cnt	%	Cnt	%	Cnt	Cnt	%	Cnt
Struck by object	562	6.7	7,320	3.0	266	5.0	1	2,028	3.9	-
Struck by on-track equipment	86	1.0	4,039	1.7	60	1.1	2	331	.6	-
Struck by falling object	195	2.3	3,761	1.5	112	2.1	-	699	1.3	-
Struck against object	356	4.3	5,974	2.4	196	3.6	1	1,538	3.0	-
Sudden release of air	31	.4	375	.2	11	.2	-	254	.5	-
Sudden/unexpected movement of material	219	2.6	5,561	2.3	111	2.1	-	1,472	2.8	-
Sudden/unexpected movement of on-track equ	144	1.7	5,046	2.1	101	1.9	-	993	1.9	-
Sudden/unexpected movement of vehicle	82	1.0	2,072	.8	62	1.2	-	903	1.7	-
Sustained viewing	2	-	-	-	-	-	-	-	-	-
Thrill seeking	1	-	-	-	-	-	-	-	-	-
Unknown	1	-	-	-	-	-	-	-	-	-
Other (describe in narrative)	564	6.8	10830	4.4	330	6.1	3	1,318	2.5	-
ALL	8,332	100	244E3	100	5,371	100	27	52,099	100	16

TABLE 4-5 REPORTABLE CONDITIONS TO EMPLOYEE ON DUTY BY LOCATION, 1997

Location	Total		Days Absent		Absent Cases		Term./ Trans.	Days Restricted		Hazmat Exp.
	Cnt	%	Cnt	%	Cnt	%	Cnt	Cnt	%	Cnt
Main/branch	2,389	28.7	72,596	29.7	1,549	28.8	6	14,615	28.1	2
Yard	2,609	31.3	92,617	37.9	1,819	33.9	11	16,678	32.0	9
Siding	237	2.8	6,002	2.5	130	2.4	-	1,837	3.5	-
Industry	380	4.6	13,770	5.6	250	4.7	3	2,303	4.4	4
Repair	250	3.0	4,658	1.9	120	2.2	-	1,793	3.4	-
Break/lunch room	47	.6	1,351	.6	33	.6	1	114	.2	-
Freight terminal	31	.4	1,488	.6	25	.5	-	39	.1	-
Highway/roadway	226	2.7	7,224	3.0	157	2.9	1	2,296	4.4	-
Loading dock	56	.7	1,063	.4	36	.7	-	698	1.3	-
Lodging facility	13	.2	198	.1	10	.2	-	19	-	-
Office environment	264	3.2	5,602	2.3	160	3.0	1	1,955	3.8	-
Parking lot	81	1.0	1,978	.8	51	.9	1	502	1.0	-
Passenger terminal	383	4.6	7,093	2.9	282	5.3	-	1,983	3.8	-
Repair shop	1,009	12.1	20,512	8.4	549	10.2	2	5,467	10.5	1
Storage facility	110	1.3	2,037	.8	66	1.2	-	722	1.4	-
Sidewalk/walkway	39	.5	1,164	.5	22	.4	-	146	.3	-
Other, (off site location	77	.9	2,246	.9	44	.8	-	507	1.0	-
Other (explain in narrati	43	.5	1,425	.6	28	.5	-	146	.3	-
Other location (describe	88	1.1	1,359	.6	40	.7	1	279	.5	-
ALL	8,332	100	244,383	100	5,371	100	27	52,099	100	16

Cnt = count. % = percent of column total. Avg. = average. Term. = terminated. Trans. = transferred. Hazmat Exp. = condition was result of hazardous material exposure.

TABLE 4-6 REPORTABLE CONDITIONS TO EMPLOYEE ON DUTY BY ACTIVITY, 1997

Activity	Total		Days Absent		Absent Cases		Term./ Trans.	Days Restricted		Hazmat Exp.
	Cnt	%	Cnt	%	Cnt	%	Cnt	Cnt	%	Cnt
Adjusting coupler	48	.6	2,033	.8	39	.7	1	323	.6	-
Adjusting drawbar	26	.3	1,992	.8	21	.4	-	263	.5	-
Adjusting, other	116	1.4	4,256	1.7	78	1.5	-	521	1.0	-
Applying rail anchors	24	.3	347	.1	8	.1	-	186	.4	-
Bending, stooping	153	1.8	3,701	1.5	100	1.9	-	695	1.3	-
Carrying	84	1.0	1,705	.7	52	1.0	-	735	1.4	-
Chaining/cabling car/loco	5	.1	99	-	3	.1	-	5	-	-
Cleaning	118	1.4	1,883	.8	61	1.1	-	419	.8	2
Climbing over/on	149	1.8	4,489	1.8	102	1.9	-	829	1.6	-
Closing	111	1.3	2,618	1.1	62	1.2	-	707	1.4	-
Coupling electric cables	10	.1	252	.1	9	.2	-	-	-	-
Coupling air hose	79	.9	2,650	1.1	49	.9	1	429	.8	-
Crossing over	33	.4	1,556	.6	24	.4	-	11	-	-
Crossing/crawling under	3	-	8	-	1	-	-	-	-	-
Crossing between	6	.1	482	.2	6	.1	-	-	-	-
Cutting rail	26	.3	129	.1	12	.2	-	115	.2	-
Cutting vegetation	38	.5	279	.1	14	.3	-	79	.2	-
Cutting, other	80	1.0	785	.3	25	.5	-	159	.3	-
Digging, excavating	37	.4	605	.2	23	.4	-	459	.9	-
Driving motor vehicle	164	2.0	3,383	1.4	98	1.8	1	868	1.7	1
Flagging	18	.2	404	.2	12	.2	-	-	-	-
Fueling	13	.2	182	.1	8	.1	-	189	.4	-
Getting on	125	1.5	3,702	1.5	91	1.7	-	1,818	3.5	-
Getting off	291	3.5	11,750	4.8	221	4.1	2	1,929	3.7	-
Grinding	36	.4	240	.1	12	.2	-	33	.1	-
Handling baggage	18	.2	103	-	9	.2	-	22	-	-
Handling car parts	46	.6	1,019	.4	27	.5	-	347	.7	-
Handling material, general	268	3.2	4,152	1.7	136	2.5	-	2,152	4.1	-
Handling loco parts	47	.6	607	.2	24	.4	-	694	1.3	-
Handling wheels/trucks	18	.2	483	.2	8	.1	-	26	-	-
Handling other trk material	70	.8	1,075	.4	34	.6	-	619	1.2	-
Handling poles	3	-	30	-	1	-	-	41	.1	-
Handling rail,ties,etc.	122	1.5	1,707	.7	61	1.1	-	1,017	2.0	-
Inspecting	111	1.3	2,921	1.2	67	1.2	1	396	.8	1
Installing	107	1.3	2,466	1.0	66	1.2	-	327	.6	-
Jumping from	57	.7	2,674	1.1	43	.8	-	743	1.4	-
Jumping onto	7	.1	111	-	4	.1	-	8	-	-
Laying	11	.1	576	.2	7	.1	-	85	.2	-
Lifting other material	245	2.9	5,319	2.2	154	2.9	-	1,436	2.8	-
Lifting tools/parts,etc.)	214	2.6	4,836	2.0	131	2.4	2	1,839	3.5	-
Lining switches	329	3.9	15,097	6.2	254	4.7	2	2,700	5.2	2
Lining, other	18	.2	552	.2	10	.2	-	173	.3	-
Loading/unloading	139	1.7	3,079	1.3	80	1.5	1	557	1.1	-
Maintaining	73	.9	2,461	1.0	41	.8	-	264	.5	-
Opening	170	2.0	3,008	1.2	113	2.1	-	1,031	2.0	-
Opening/closing angle cock	33	.4	529	.2	17	.3	-	435	.8	-
Operating	332	4.0	14,442	5.9	239	4.4	2	1,660	3.2	1
Pulling pin lifter/uncoupling	77	.9	2,923	1.2	57	1.1	-	695	1.3	1
Pulling	231	2.8	5,594	2.3	141	2.6	2	1,353	2.6	-
Pushing	73	.9	2,391	1.0	42	.8	2	385	.7	-
Reaching	90	1.1	1,839	.8	59	1.1	-	247	.5	-
Removing rail anchors, etc	30	.4	280	.1	14	.3	-	122	.2	-

TABLE 4-6 REPORTABLE CONDITIONS TO EMPLOYEE ON DUTY BY ACTIVITY, 1997 (CONTINUED)

Activity	Total		Days Absent		Absent Cases		Term./ Trans.	Days Restricted		Hazmat Exp.
	Cnt	%	Cnt	%	Cnt	%	Cnt	Cnt	%	Cnt
Repairing	172	2.1	2,553	1.0	79	1.5	-	1,454	2.8	-
Riding	434	5.2	19,721	8.1	329	6.1	1	3,167	6.1	-
Running	35	.4	1,321	.5	24	.4	-	227	.4	-
Sitting	288	3.5	11,378	4.7	220	4.1	1	1,581	3.0	-
Spiking (install/remove)	110	1.3	1,493	.6	43	.8	-	729	1.4	-
Standing	298	3.6	9,491	3.9	197	3.7	2	1,330	2.6	2
Stepping up	89	1.1	3,463	1.4	63	1.2	1	334	.6	-
Stepping down	306	3.7	10,691	4.4	235	4.4	-	1,637	3.1	-
Stepping over	49	.6	1,422	.6	27	.5	-	272	.5	-
Uncoupling air hose	21	.3	338	.1	8	.1	-	86	.2	-
Uncoupling steam hose	2	-	-	-	-	-	-	-	-	-
Uncoupling electric cables	10	.1	281	.1	7	.1	-	-	-	-
Using hand signals	3	-	3	-	1	-	-	12	-	-
Using hand tool	271	3.3	4,405	1.8	116	2.2	-	1,747	3.4	-
Using, other	54	.6	1,432	.6	30	.6	-	499	1.0	-
Walking	1,198	14.4	41,718	17.1	870	16.2	4	8,196	15.7	5
Welding/field welding	48	.6	296	.1	17	.3	-	131	.3	-
75	1	-	-	-	-	-	-	17	-	-
98	1	-	192	.1	1	-	-	75	.1	-
Other activities	210	2.5	4,381	1.8	134	2.5	1	459	.9	1
ALL	8,332	100	244,383	100	5,371	100	27	52,099	100	16

Cnt = count. % = percent of column total. Avg. = average. Term. = terminated. Trans. = transferred. Hazmat Exp. = condition was result of hazardous material exposure.

TABLE 4-7 REPORTABLE CONDITIONS TO EMPLOYEE ON DUTY, 1997

Executives, Officials, and Staff Assistants

	---Total...		---- Days ----	
	Ftl	Nonf	Absent From Work	Restricted At Work
Executives, officials, and staff assistants (miscellaneous)	-	1	1	-
Executives and general officers	-	7	111	55
Corporate staff managers	-	8	1	14
Regional/division officers, assistants and staff assistants	-	14	124	44
Transportation officers/managers	-	8	77	9
--Total	-	38	314	122

Ftl = fatality. Nonf = nonfatal injury or occupational illness.

TABLE 4-7 REPORTABLE CONDITIONS TO EMPLOYEE ON DUTY, 1997

Professional and Administrative

	---Total...		---- Days ----	
	Ftl	Nonf	Absent From Work	Restricted At Work
Professional and administrative (miscellaneous)	-	9	57	112
Professional	-	14	54	22
Subprofessionals	-	5	30	2
Auditors, traveling auditors or accountants	-	1	9	-
General and administrative supervisors	-	18	174	75
Sales and traffic representatives and agents	-	31	184	-
Freight and other claim agents and investigators	-	4	9	-
Lieutenants and sergeants of police	-	12	60	56
Police officers,watchmen,guards (except crossing & bridge)	1	76	1,422	784
Inspectors, (except MOW & MOE), other investigators, etc	-	5	236	6
Buyers, and sales agents	-	10	81	-
Clerical technicians and clerical specialists	-	19	489	107
Office machine and data equipment operators	-	6	9	-
Secretaries, stenographers, and typists	-	11	31	71
General/other clerks (except yd clerk and crew dispatcher)	-	123	2,333	1,933
Building and office attendants	-	39	959	195
Messengers and office persons	-	6	13	42
Motor vehicle operators	-	32	760	169
--Total	1	421	6,910	3,574

Maintenance of Way and Structures

	---Total...		---- Days ----	
	Ftl	Nonf	Absent From Work	Restricted At Work
Maintenance of way and structures (miscellaneous)	-	34	509	38
Supervisors, MOW, structures, communication & signls	-	43	742	523
MOW, structures, comm. & signals, & scale inspectors	-	29	599	94
Bridge and building gang foreman	-	38	623	405
Bridge and building carpenters	1	96	2,023	538
Bridge and building ironworkers	-	29	452	280
Bridge and building painters	-	3	193	33
Masons, bricklayers, plasterers, and plumbers	-	116	2,223	902
Bridge and building helpers and apprentices	-	45	696	272
Bridge/building gang and bridge/building dept laborers	-	75	893	916
Track gang foremen (extra gang work train laborers)	-	71	990	300
Gang or section foreman	1	126	2,652	669
Extra gang laborers	1	268	4,791	1,610
Section laborers	2	416	6,339	2,213
Machine operators	2	308	6,737	1,892
Gang foremen, communications and signals	-	26	243	68
Signalmen and signal maintainers	-	229	4,111	1,713
Linemen and groundmen and communications craftsman	1	74	1,272	845
Assistant signalmen and assistant signal maintainers	-	34	364	106
Signal helpers and signal maintainer helpers	-	12	390	-
Camp car cooks	-	3	50	10
--Total	8	2,075	36,892	13,427

TABLE 4-7 REPORTABLE CONDITIONS TO EMPLOYEE ON DUTY, 1997

Maintenance of Equipment and Stores

	---Total...		---- Days ----	
	Ftl	Nonf	Absent From Work	Restricted At Work
Maintenance of equipment and stores (miscellaneous)	-	36	242	87
Supervisors and general foremen, maintenance of equipment	-	34	396	283
Supervisors and general foremen, materials and stores	-	11	432	43
Equipment, shop, electrical inspectors	-	15	117	38
Storekeeper	-	20	375	53
Gang foremen, maintenance of equipment	1	51	1,067	202
Blacksmiths	-	5	113	-
Boilermakers	-	20	153	19
Carmen (freight)	3	405	9,754	3,004
Carmen (other)	-	264	5,909	1,280
Electrical workers (A)	2	245	6,046	1,496
Electrical workers (B)	-	13	333	-
Electrical workers (C)	-	6	72	-
Machinists	1	340	8,236	3,193
Sheet metal workers	-	58	1,123	608
SFatal trades, helpers, maintenance of equipment and stores	-	67	517	165
Apprentices, maintenance of equipment and stores	-	18	44	113
Coach cleaners	-	151	3,424	527
Laborers: shops, enginehouses and power plants	-	131	3,168	407
Gang foremen, materials and stores	-	2	6	21
Equipment operators/general laborers, materials and stores	-	30	548	233
Stationary engineers	-	1	47	-
Stationary firemen	-	3	43	17
--Total	7	1,926	42,165	11,789

Ftl = fatality. Nonf = nonfatal injury or occupational illness.

TABLE 4-7 REPORTABLE CONDITIONS TO EMPLOYEE ON DUTY, 1997

Transportation, Other Than Train and Engine

	---Total...		---- Days ----	
	Ftl	Nonf	Absent From Work	Restricted At Work
Transportation, other than train and engine (miscellaneous)	-	4	9	17
Transportation supervisor and chief train dispatcher	-	10	108	14
Train dispatchers	-	9	445	-
Station, freight and passenger agents	-	28	673	22
Clerk operators, towerman, train directors	-	24	757	-
Station masters & assts, super bag. agents, bag. agents, etc	-	1	-	-
Baggage, parcel room and station attendents	-	40	550	14
Gen/asst gnrl foremen,stations,warehouses,grain elev., docks	-	1	-	-
Grain elevator, and dock laborers	-	6	16	31
Station, and warehouse laborers	-	41	1,329	20
Truckers (station, warehouse and platforms)	-	2	42	-
Food and lodging manager, supervisors	-	5	229	-
Waiters and kitchen helpers (restaurant and dining car)	-	18	162	208
Chefs and cooks (restaurant and dining car)	-	25	416	4
Marine officers and workers and shore workers	-	1	-	-
Train attendants	-	102	3,218	5
Bridge operators and helpers	-	5	-	5
Yards clerks	-	28	1,119	245
Crew dispatchers	-	2	12	-
Yardmasters and assistant yardmasters	-	15	102	14
--Total	-	367	9,187	599

Transportation, Train and Engine

	---Total...		---- Days ----	
	Ftl	Nonf	Absent From Work	Restricted At Work
Transportation, train and engine (miscellaneous)	-	17	353	57
Switchtenders	-	11	213	179
Car retarder operators and ground service employees	-	4	148	-
Outside hostlers	-	12	275	119
Outside hostler helpers	-	3	45	51
Inside hostler	-	5	534	5
Road passenger conductors	1	268	6,129	1,903
Assistant road passenger conductors and ticket collectors	-	111	2,552	225
Road freight conductors (through freight)	5	543	30,214	4,756
Road freight conductors (local and way freight)	4	314	13,270	2,521
Road Passenger brakemen and flagmen	-	42	958	41
Road freight brakemen and flagmen (through freight)	2	140	7,873	412
Road freight brakemen and flagmen (local and way freight)	-	208	10,451	1,365
Yard conductors and yard foremen	2	426	18,822	3,014
Yard brakemen and yard helpers	2	485	16,108	3,960
Road passenger engineers and motormen	-	176	4,527	488
Road freight engineers (through freight)	3	391	24,282	1,856
Road freight engineers (local and way freight)	1	144	4,459	1,358
Yard engineers	1	153	7,470	219
Road passenger firemen and helpers	-	5	6	9
Road freight firemen and helpers (through freight)	-	8	226	50
Yard firemen and helpers	-	2	-	-
--Total	21	3,468	148,915	22,588

TABLE 4-8 OCCUPATIONAL ILLNESSES OF EMPLOYEE ON DUTY, 1997

Illness	Total		Ftl	Nonf	Days Absent	Absent Cases	Term./ Trans.	Days Restri- cted	Hazmat Exp.
	Cnt	%							
Dermatitis	2	1.6	-	2	-	-	-	-	-
Rashes	16	12.5	-	16	18	5	-	5	1
Misc. skin diseases/disorders	5	3.9	-	5	5	1	-	-	-
Silicosis	1	.8	-	1	4	1	-	10	-
Pneumonitis	2	1.6	-	2	191	2	-	-	-
Acute congestion, dust/gas/etc.	7	5.5	-	7	66	4	-	24	-
Misc. respiratory conditions	1	.8	-	1	-	-	-	-	-
Poisoning, insecticides	1	.8	-	1	26	1	-	198	-
Heat exhaustion	7	5.5	-	7	6	3	-	-	-
Misc. disorders,physical agents	1	.8	-	1	4	1	-	-	-
Synovitis	5	3.9	-	5	146	3	-	292	-
Tenosynovitis	4	3.1	-	4	196	2	-	-	-
Bursitis	2	1.6	-	2	10	1	-	164	-
Raynaud's phenomena	2	1.6	-	2	188	1	-	-	-
Carpal tunnel syndrome	20	15.6	-	20	730	12	-	586	-
Misc. repeated trauma condition	15	11.7	-	15	74	5	1	37	-
Stress related syndromes	23	18.0	-	23	190	10	-	90	-
Misc. illnesses, unclassified	7	5.5	-	7	20	6	-	-	-
Emotional trauma/nervous shock	7	5.5	-	7	764	5	-	-	-
Total....	128	100	-	128	2,638	63	1	1,406	1

TABLE 4-9 OCCUPATIONAL ILLNESSES OF EMPLOYEE ON DUTY, BY RAILROAD, 1997

RR	Total		Ftl	Nonf	Days Absent			Absent Cases		Term./ Trans.	Days Restricted			Hazmat Exp.
	Cnt	%			Cnt	%	Avg.	Cnt	%	Cnt	Cnt	%	Avg.	Cnt
ALS	1	0.8	-	1	3	0.1	3	1	1.6	-	0	0.0	0	-
ARR	10	7.8	-	10	25	0.9	3	2	3.2	-	19	1.4	2	-
ATK	9	7.0	-	9	14	0.5	2	4	6.3	-	0	0.0	0	-
BNSF	16	12.5	-	16	767	29.1	48	11	17.5	-	494	35.1	31	-
CSX	2	1.6	-	2	0	0.0	0	-	-	-	0	0.0	0	-
DMIR	1	0.8	-	1	23	0.9	23	1	1.6	-	0	0.0	0	-
EJE	2	1.6	-	2	2	0.1	1	1	1.6	1	0	0.0	0	-
FEC	1	0.8	-	1	253	9.6	253	1	1.6	-	0	0.0	0	-
GRP3	20	15.6	-	20	299	11.3	15	7	11.1	-	173	12.3	9	1
GTW	13	10.2	-	13	269	10.2	21	12	19.0	-	0	0.0	0	-
IC	1	0.8	-	1	0	0.0	0	-	-	-	0	0.0	0	-
LI	7	5.5	-	7	138	5.2	20	7	11.1	-	338	24.0	48	-
MBTA	1	0.8	-	1	32	1.2	32	1	1.6	-	0	0.0	0	-
MNCW	27	21.1	-	27	151	5.7	6	5	7.9	-	193	13.7	7	-
NIRC	1	0.8	-	1	0	0.0	0	-	-	-	0	0.0	0	-
SCAX	1	0.8	-	1	60	2.3	60	1	1.6	-	0	0.0	0	-
SEPA	1	0.8	-	1	1	0.0	1	1	1.6	-	0	0.0	0	-
SOO	2	1.6	-	2	0	0.0	0	-	-	-	0	0.0	0	-
UP	8	6.3	-	8	578	21.9	72	6	9.5	-	174	12.4	22	-
URR	1	0.8	-	1	2	0.1	2	1	1.6	-	0	0.0	0	-
WC	3	2.3	-	3	21	0.8	7	1	1.6	-	15	1.1	5	-
Tot.	128	100	-	128	2,638	100	21	63	100	1	1,406	100	11	1

CHAPTER 5

TRAIN ACCIDENTS

Collisions, derailments, fires, explosions, acts of God, or other events involving the operation of railroad on-track equipment (standing or moving) and causing reportable damages greater than the reporting threshold for the year in which the accident/incident occurred must be reported using Form FRA F 6180.54. The reporting threshold for calendar years 1992-1996 was $6,300. The reporting threshold for calendar year 1997 was $6,500.

Reportable damage includes labor costs and all other costs to repair or replace in kind damaged on-track equipment, signals, track, track structures, or roadbed. Reportable damage does not include the cost of clearing a wreck; however, additional damage to the above listed items caused while clearing the wreck is to be included in your damage estimate.

> Examples of other costs included in reportable damage are: (1) rental and/or operation of machinery such as cranes, bulldozers, including the services of contractors, to replace or repair the track right-of-way and associated structures; and (2) costs associated with the repair or replacement of roller bearings on units that were derailed or submerged in water. (Replacement costs include the labor costs resulting from a wheel set change out.)

If the property of more than one railroad is involved in an accident/incident, the reporting threshold is calculated by including the damages suffered by all of the railroads involved. When total reportable damage to all railroads directly involved in an accident/incident exceeds the reporting threshold, a report is required even though an individual railroad's damages were below the threshold.

The tables displaying train accidents counts by railroad, are the number of events that a railroad was involved in, regardless of whether or not that railroad's operations were the primary reason the accident occurred. This is done because all railroads are required to report the extent of their involvement in the accident, regardless of whether or not their is agreement on the cause of the accident.

A form must be completed for each consist involved in an accident. The railroad responsible for the on-track equipment at the time of the accident, and only that railroad, will report the consist.

In joint operations, if the railroad having track maintenance responsibility did not also have on-track rail equipment involved, a report containing the track information must be forwarded.

Track information for accidents occurring on industry track of a non-reporting company is to be reported by the railroad operating the on-track equipment. Damages to industry track and on-track equipment are included in reportable damage.

A railroad need not report the following:

1. Cars derailed on industry tracks by non-railroad employees or non-railroad employee vandalism, providing there is no involvement of railroad employees;

2. Damage to out-of-service cars resulting from high water or flooding, e.g., empties placed on storage or repair track. This exclusion does not apply if such cars are placed into a moving consist and as a result of this damage, a reportable rail equipment accident results.

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

A car is:

(1) any unit of on-track equipment designed to be hauled by locomotives, or

(2) any unit of on-track work equipment such as a track motorcar, highway-rail vehicle, push car, crane, or ballast tamping machine.

Locomotive. A locomotive is a piece of on-track equipment, other than hi-rail or specialized maintenance equipment,

(1) With one or more propelling motors designed for moving other equipment;

(2) With one or more propelling motors designed to carry freight or passenger traffic, or both; or

(3) Without propelling motors but with one or more control stands.

Motorcar. A self-propelled unit of equipment, designed to carry freight or passenger traffic. (Does not include track motor cars or similar work equipment.)

Train. For purposes of accident/incident reporting, a train is a locomotive or locomotives coupled with or without cars, and with or without markers displayed. This definition includes trains consisting entirely of self-propelled units designed to carry passengers, freight traffic, or both.

Yard switching trains. Those trains operated primarily within yards for the purpose of switching other equipment. Examples include the making up or breaking up of trains, service industrial tracks within yard limits, storing or

classifying cars, and other similar operations.

Note: Switching performed by a road crew that is incidental to the road operation is not included.

Work trains are non-revenue trains used for the administration and upkeep service of the railroad. Examples are: official trains; inspection trains; special trains running with company fire apparatus to save the railroad's property from destruction; trains that transport the railroad's employees to and from work when no transportation charge is made; construction and upkeep trains run in connection with maintenance and improvement work; and material and supply trains run in connection with operations.

CONTENTS

CHAPTER 5

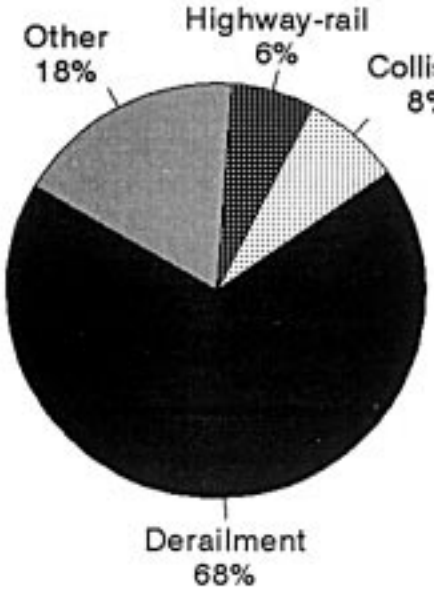
TRAIN ACCIDENTS

Figures **Page**

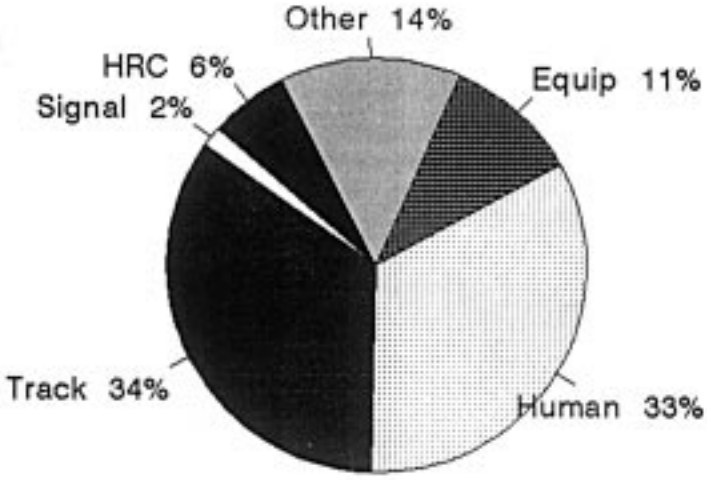
Tables

5-1 TRAIN ACCIDENTS, 1997

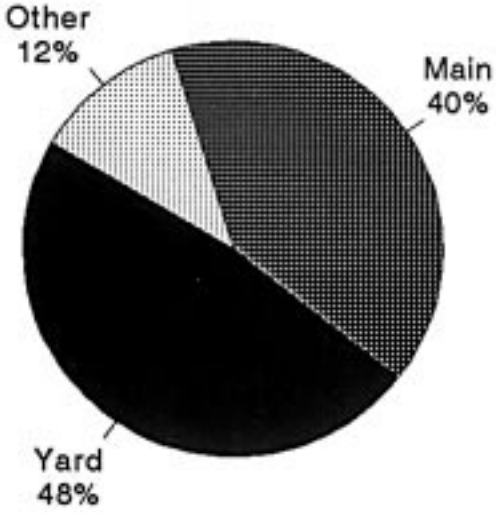
By type, cause, type track, and damages



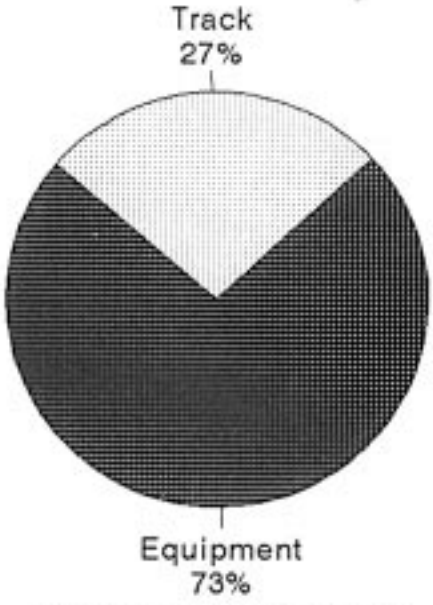
TYPE OF ACCIDENT



MAJOR CAUSES

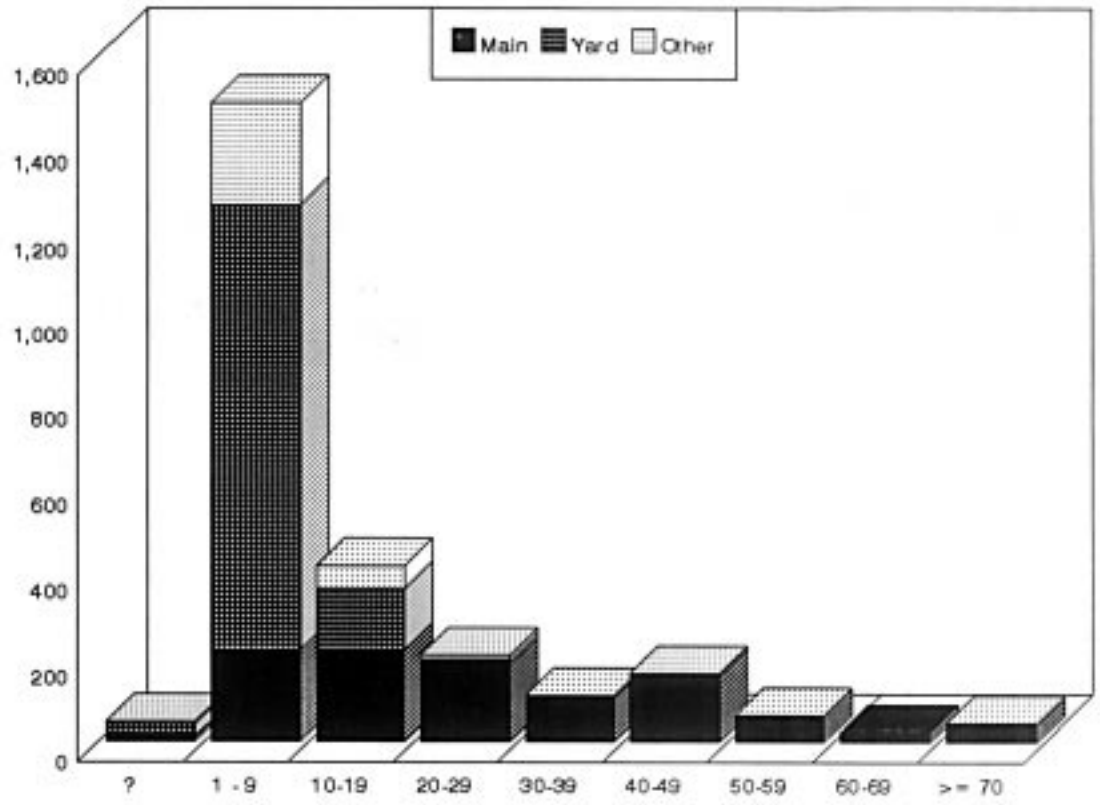


TYPE OF TRACK

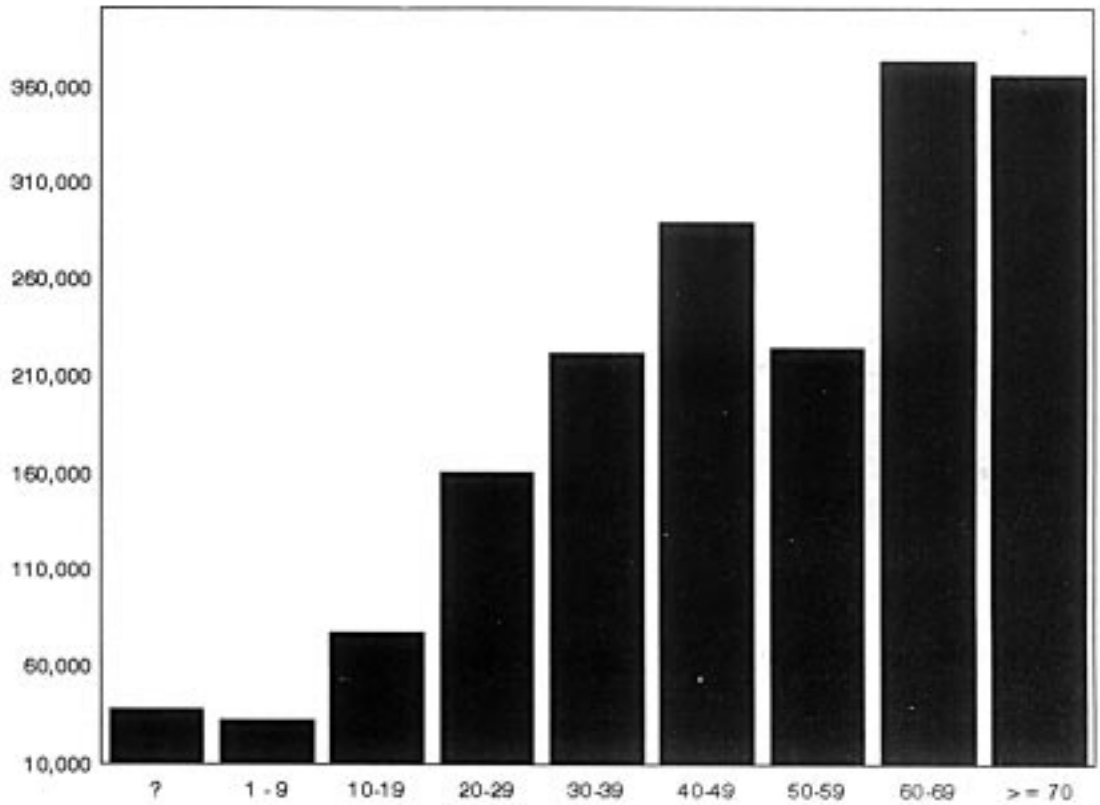


REPORTABLE DAMAGE

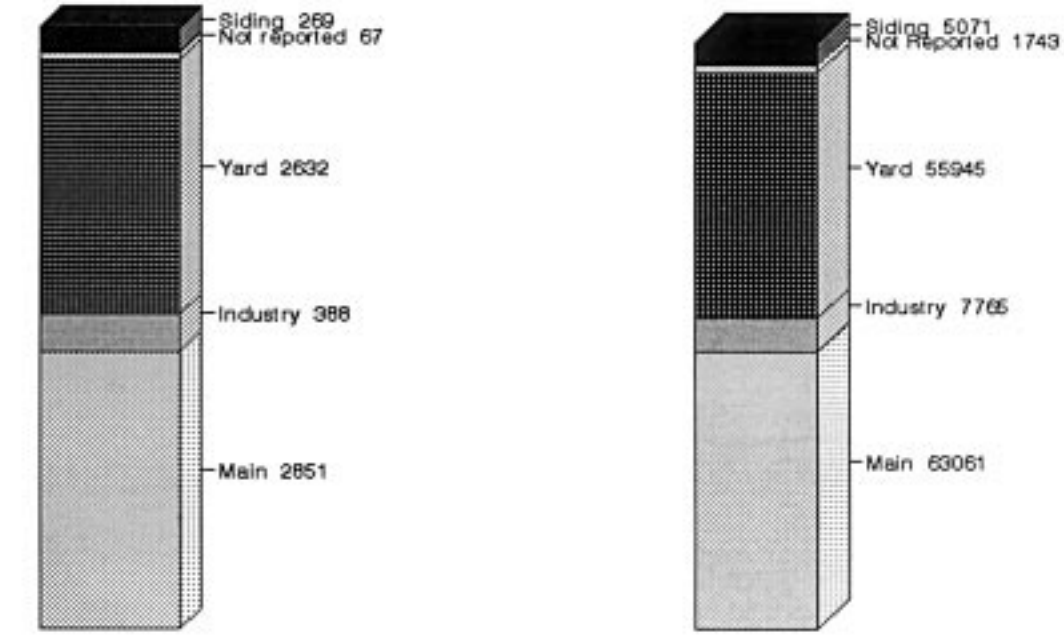
5-2 TRAIN ACCIDENTS BY CONSIST SPEED AND TYPE TRACK, 1997



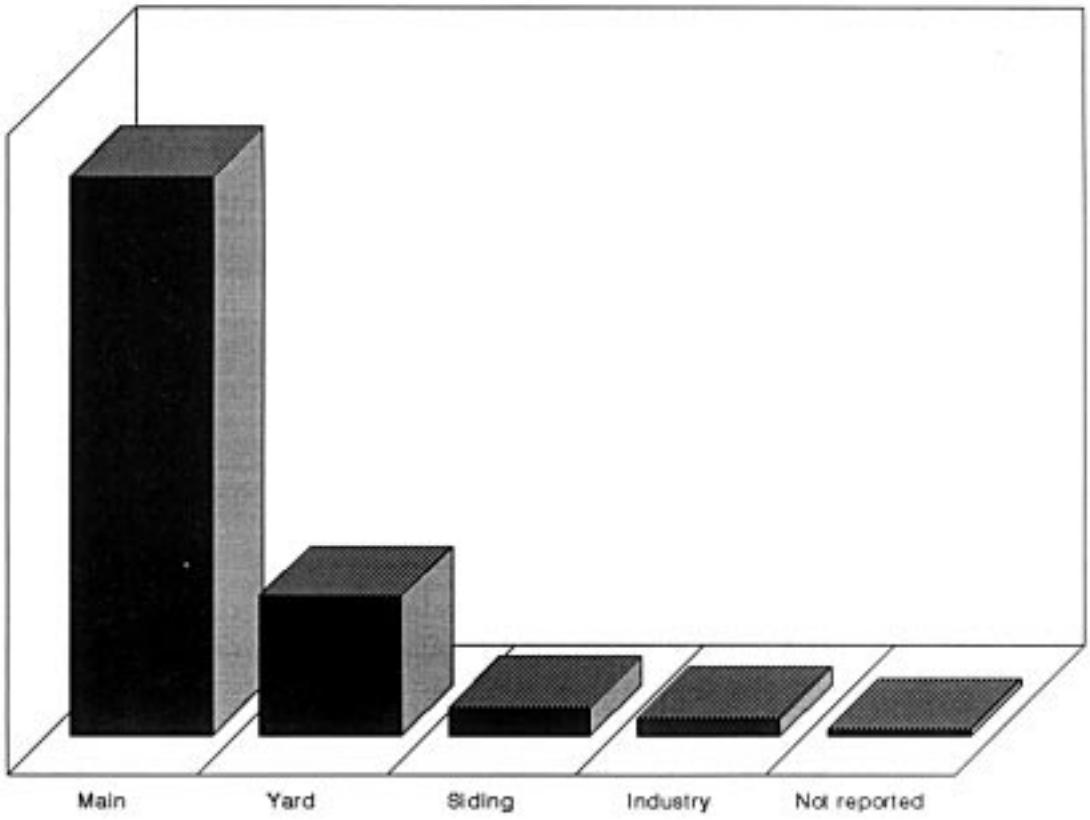
5-3 AVERAGE DAMAGE IN TRAIN ACCIDENTS BY SPEED, 1997



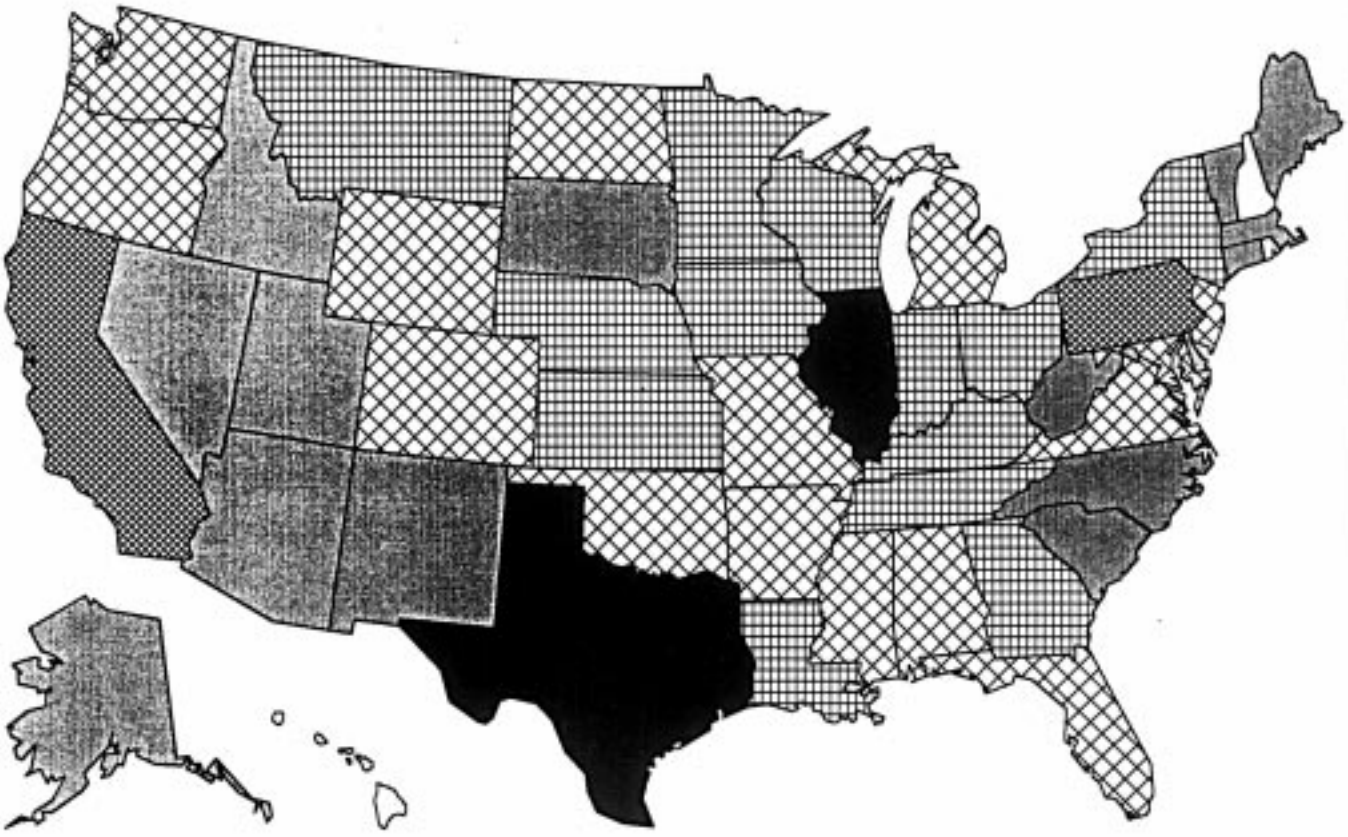
5-4 RAIL EQUIPMENT INVOLVED IN ACCIDENTS, 1997
By Type of Track



5-5 EQUIPMENT DAMAGE BY TYPE OF TRACK, 1997



5–6 TRAIN ACCIDENTS BY STATE, 1997



NUMBER
1-25
26-50
51-100
101-150
>= 151

TABLE 5-1 TRAIN ACCIDENTS BY RR, TYPE AND MAJOR CAUSE, 1997

RR	Total		Type of Accident				Reportable Damage		Casualty		Causes					
	Cnt	%	Coll	Der	HRC	Othr	Amount	%	Ftl	Nonf	Eqp	HRC	Hmn	Othr	Sig	Trk
ALS	4	.1	-	3	-	1	207,921	.1	0	-	1	-	3	-	-	-
ARR	7	.3	-	6	-	1	645,000	.3	-	-	-	-	2	2	-	3
ATK	109	4.0	3	51	25	30	16,032,994	7.1	7	143	8	25	12	30	-	34
BLE	1	-	-	1	-	-	50,800	-	-	-	1	-	-	-	-	-
BNSF	465	16.9	36	329	26	74	43,933,664	19.5	8	33	74	26	150	53	7	155
BRC	39	1.4	9	18	-	12	1,072,463	.5	-	-	1	-	10	6	2	20
BS	1	-	-	-	-	1	13,000	-	-	-	-	-	1	-	-	-
CR	190	6.9	22	153	3	12	14,380,377	6.4	1	6	31	3	77	28	1	50
CSX	289	1 .5	36	189	32	32	21,665,438	9.6	3	32	14	32	105	52	10	76
DH	6	.2	-	5	-	1	563,999	.2	-	1	1	-	2	1	-	2
DME	27	1.0	-	27	-	-	2,254,369	1.0	-	-	2	-	2	4	-	19
DMIR	10	.4	1	8	-	1	169,098	.1	-	-	1	-	5	-	-	4
DWP	1	-	-	1	-	-	21,000	-	-	-	-	-	1	-	-	-
EJE	12	.4	2	6	1	3	228,471	.1	-	-	-	1	4	1	-	6
FEC	14	.5	2	10	2	-	393,912	.2	-	3	3	2	2	1	-	6
GRP3	266	9.7	7	210	11	38	15,521,230	6.9	3	20	22	11	56	37	2	138
GRS	3	.1	-	3	-	-	74,684	-	-	-	1	-	1	-	-	1
GTW	25	.9	3	19	-	3	742,764	.3	1	-	-	-	13	5	-	7
GWWR	4	.1	-	2	-	2	51,450	-	-	-	-	-	3	-	-	1
HBT	12	.4	4	6	-	2	313,921	.1	-	-	1	-	8	1	-	2
IC	64	2.3	2	38	6	18	3,530,340	1.6	-	3	4	6	27	4	-	23
IHB	25	.9	3	22	-	-	615,862	.3	-	-	-	-	15	2	-	8
IMRL	20	.7	1	13	1	5	1,225,283	.5	-	1	3	1	9	2	-	5
KCS	77	2.8	4	47	6	20	4,898,808	2.2	2	3	3	6	29	14	-	25
LI	23	.8	1	11	1	10	1,840,823	.8	-	6	4	1	7	8	-	3
MBTA	1	-	-	-	-	1	170,000	.1	1	1	-	-	-	1	-	-
MNCW	21	.8	-	5	1	15	484,544	.2	-	-	1	1	1	4	-	14
MRL	39	1.4	3	23	-	13	2,425,061	1.1	-	-	3	-	30	-	-	6
NICD	5	.2	-	1	3	1	64,411	-	-	1	-	3	1	-	-	1
NIRC	6	.2	1	5	-	-	111,114	-	-	2	-	-	1	3	-	2
NJTR	16	.6	1	8	-	7	617,922	.3	1	3	1	-	7	6	-	2
NS	193	7.0	38	108	23	24	9,208,698	4.1	4	18	34	23	73	21	4	38
PAL	9	.3	-	6	2	1	268,300	.1	-	2	-	2	3	-	-	4
PTRA	11	.4	1	8	-	2	236,790	.1	-	-	1	-	3	2	-	5
SCAX	9	.3	-	1	6	2	355,663	.2	1	-	-	6	-	3	-	-
SEPA	17	.6	8	1	1	7	3,043,912	1.3	1	5	2	1	6	7	-	1
SOO	55	2.0	1	43	1	10	2,225,929	1.0	1	-	5	1	15	11	-	23
TM	3	.1	-	3	-	-	957,200	.4	-	-	-	-	-	1	-	2
TRRA	18	.7	-	16	-	2	673.548	.3	-	-	4	-	3	1	-	10
UP	612	22.2	29	446	31	106	71,729,961	31.8	16	50	60	31	218	62	14	227
URR	1	-	-	1	-	-	26,427	-	-	-	-	-	-	1	-	-
WC	38	1.4	-	19	2	17	2,369,031	1.0	1	6	1	2	16	6	-	13
WE	8	.3	-	7	1	-	306,972	.1	-	1	-	1	1	2	-	4

Type of accident

Coll = collision between on track equipment. Der = derailment. HRC = highway-rail crossing. Othr = other.

Causes

Eqp = equipment defect. HRC = highway-rail crossing. Hmn = Human factor. Sig = signal defect. Trk = track defect. Othr = other.

Cnt = count. Ftl = fatality.

TABLE 5-2 TRAIN ACCIDENTS BY STATE, TYPE AND MAJOR CAUSE, 1997

	Total		Type of Accident				Reportable Damage		Casualty		Causes					
	Accs	%	Coll	Der	HRC	Othr	Amount	%	Ftl	Nonf	Eqp	HRC	Hmn	Othr	Sig	Trk
AL	44	1.7	8	26	7	3	2,084,790	.9	3	3	4	7	13	7	2	11
AK	7	.3	-	6	-	1	645,000	.3	-	-	-	-	2	2	-	3
AZ	21	.8	1	17	-	3	11,617,225	5.1	1	54	-	-	7	7	-	7
AR	57	2.2	1	41	7	8	6,057,479	2.7	2	6	3	7	17	8	6	16
CA	120	4.7	7	81	15	17	12,037,456	5.3	4	39	13	15	38	20	2	32
CO	39	1.5	4	26	-	9	3,265,860	1.4	-	1	2	-	15	8	-	14
CT	12	.5	-	3	-	9	363,942	.2	-	-	-	-	1	1	-	10
DE	5	.2	-	2	-	3	67,462	-	-	-	2	-	3	-	-	-
DC	5	.2	-	3	-	2	87,936	-	-	-	-	-	-	4	-	1
FL	46	1.8	6	28	7	5	4,820,139	2.1	-	19	4	7	14	9	-	12
GA	72	2.8	11	42	8	11	8,178,427	3.6	-	15	4	8	27	10	6	17
ID	27	1.1	-	20	2	5	2,717,439	1.2	1	-	4	2	4	2	-	15
IL	254	9.9	27	176	3	48	14,118,028	6.3	2	11	24	3	98	32	3	94
IN	76	3.0	9	51	8	8	4,604,107	2.0	3	13	11	8	26	7	-	24
IA	95	3.7	3	62	6	24	7,830,242	3.5	-	7	12	6	26	8	-	43
KS	63	2.5	7	42	4	10	8,718,181	3.9	3	6	6	4	21	5	-	27
KY	61	2.4	7	44	5	5	2,591,176	1.1	-	8	4	5	19	6	1	26
LA	71	2.8	6	38	10	17	2,412,619	1.1	3	8	3	10	27	8	-	23
ME	4	.2	-	4	-	-	244,284	.1	-	1	2	-	1	-	-	1
MD	31	1.2	1	11	1	18	2,935,252	1.3	-	1	3	1	12	3	1	11
MA	11	.4	-	7	-	4	1,504,686	.7	1	1	2	-	1	6	-	2
MI	51	2.0	7	36	3	5	1,697,681	.8	2	2	1	3	22	8	1	16
MN	67	2.6	5	52	2	8	5,889,082	2.6	1	1	12	2	21	9	1	22
MS	51	2.0	-	34	9	8	3,946,837	1.7	2	5	4	9	17	4	-	17
MO	50	2.0	3	38	4	5	8,726,839	3.9	2	4	7	4	11	3	-	25
MT	54	2.1	3	36	-	15	3,460,361	1.5	-	1	7	-	33	3	-	11
NE	82	3.2	4	49	5	24	8,909,851	3.9	2	3	13	5	19	6	6	33
NV	8	.3	-	8	-	-	322,527	.1	-	-	-	-	7	-	-	1
NJ	29	1.1	4	18	1	6	2,547,301	1.1	1	-	2	1	14	8	-	4
NM	15	.6	1	12	-	2	3,103,679	1.4	-	1	4	-	7	3	-	1
NY	99	3.9	6	69	3	21	6,147,574	2.7	-	12	10	3	21	28	-	37
NC	26	1.0	3	14	5	4	3,109,419	1.4	-	17	4	5	7	3	-	7
ND	28	1.1	1	24	-	3	3,108,353	1.4	-	-	2	-	6	6	-	14
OH	77	3.0	10	56	6	5	5,945,348	2.6	-	6	13	6	32	8	2	16
OK	34	1.3	1	30	2	1	2,984,203	1.3	1	3	4	2	10	3	-	15
OR	41	1.6	2	28	1	10	4,483,173	2.0	-	-	5	1	12	3	-	20
PA	105	4.1	13	66	3	23	7,771,534	3.4	2	8	12	3	31	26	-	33
SC	28	1.1	2	18	6	2	1,144,912	.5	1	2	8	6	10	1	-	3
SD	24	.9	-	23	-	1	1,725,226	.8	-	-	1	-	3	2	-	18
TN	66	2.6	5	45	3	13	3,272,471	1.4	1	5	2	3	26	10	-	25
TX	240	9.4	17	171	17	35	27,959,554	12.4	10	32	25	17	84	22	3	89
UT	21	.8	1	19	-	1	608,109	.3	-	1	-	-	12	3	-	6
VT	4	.2	-	4	-	-	94,735	-	-	-	-	-	-	3	-	1
VA	51	2.0	5	32	5	9	2,905,143	1.3	-	11	4	5	14	12	3	13
WA	48	1.9	4	27	2	15	3,269,293	1.4	1	9	6	2	20	5	2	13
WV	25	1.0	3	20	2	-	3,122,959	1.4	1	5	4	2	5	3	-	11
WI	71	2.8	1	49	1	20	5,727,883	2.5	1	6	7	1	25	10	-	28
WY	44	1.7	3	33	-	8	6,837,377	3.0	-	13	11	-	14	8	-	11
--																
Tot	2,560	100	202	1,741	163	454	225,723,154	100	51	340	271	163	855	353	39	879

TABLE 5-3 TRAIN ACCIDENTS BY MONTH, TYPE AND MAJOR CAUSE, 1997

	Total		Type of Accident				Reportable Damage		Casualty		Causes					
	Cnt	%	Coll	Der	HRC	Othr	Amount	%	Ftl	Nonf	Eqp	HRC	Hmn	Othr	Sig	Trk
Jan	222	8.7	17	146	11	48	20,898,657	9.3	-	26	26	11	67	31	4	83
Feb	199	7.8	18	118	16	47	16,380,764	7.3	3	42	21	16	70	19	4	69
Mar	217	8.5	21	144	12	40	15,997,939	7.1	2	16	23	12	75	34	3	70
Apr	226	8.8	17	156	11	42	13,710,117	6.1	3	10	29	11	70	41	1	74
May	205	8.0	7	156	9	33	13,152,307	5.8	2	13	15	9	78	32	2	69
Jun	214	8.4	18	153	15	28	25,656,303	11.4	9	13	25	15	78	24	5	67
Jul	227	8.9	15	155	16	41	20,094,829	8.9	5	35	26	16	65	37	4	79
Aug	227	8.9	16	160	20	31	33,717,950	14.9	8	86	19	20	71	33	6	78
Sep	180	7.0	17	122	16	25	15,462,703	6.9	6	26	17	16	72	23	2	50
Oct	228	8.9	23	137	17	51	18,783,909	8.3	6	32	29	17	74	32	3	73
Nov	201	7.9	15	139	12	35	18,543,511	8.2	4	22	21	12	63	24	4	77
Dec	214	8.4	18	155	8	33	13,324,165	5.9	3	19	20	8	72	23	1	90
--																
Tot	2,560	100	202	1,741	163	454	225,723,154	100	51	340	271	163	855	353	39	879

TABLE 5-4 TRAIN ACCIDENTS BY DAY, TYPE AND MAJOR CAUSE, 1997

	Total		Type of Accident				Reportable Damage		Casualty		Causes					
	Cnt	%	Coll	Der	HRC	Othr	Amount	%	Ftl	Nonf	Eqp	HRC	Hmn	Othr	Sig	Trk
Sun	355	13.9	22	258	15	60	29,124,300	12.9	7	24	30	15	119	57	4	130
Mon	343	13.4	24	236	26	57	27,496,002	12.2	3	30	34	26	117	44	9	113
Tue	368	14.4	33	243	23	69	38,141,570	16.9	8	51	40	23	123	53	3	126
Wed	395	15.4	30	258	27	80	32,870,275	14.6	13	50	41	27	131	53	9	134
Thu	351	13.7	32	233	25	61	30,565,048	13.5	4	36	42	25	114	53	5	112
Fri	365	14.3	32	258	18	57	32,623,799	14.5	7	90	45	18	124	32	6	140
Sat	383	15.0	29	255	29	70	34,902,160	15.5	9	59	39	29	127	61	3	124
--																
Tot	2,560	100	202	1,741	163	454	225,723,154	100	51	340	271	163	855	353	39	879

Type of accident
Coll = collision between on track equipment. Der = derailment. HRC = highway-rail crossing. Othr = other.

Causes
Eqp = equipment defect. HRC = highway-rail crossing. Hmn = Human factor. Sig = signal defect. Trk = track defect. Othr = other.

Cnt = count. Ftl = fatality.

TABLE 5-5 TRAIN ACCIDENTS BY TIME OF DAY, TYPE AND MAJOR CAUSE, 1997

Time		Total		Type of Accident				Reportable Damage		Casualty		Causes					
		Cnt	%	Coll	Der	HRC	Othr	Amount	%	Ftl	Nonf	Eqp	HRC	Hmn	Othr	Sig	Trk
AM	1	107	4.2	3	80	2	22	9,900,727	4.4	-	6	12	2	33	17	-	43
	2	91	3.6	8	62	1	20	8,605,829	3.8	-	3	9	1	38	17	1	25
	3	91	3.6	9	65	1	16	7,108,080	3.1	-	4	4	1	41	10	2	33
	4	94	3.7	14	53	2	25	7,043,603	3.1	-	3	6	2	44	16	-	26
	5	94	3.7	9	67	2	16	14,387,900	6.4	3	63	11	2	36	10	1	34
	6	88	3.4	8	62	3	15	9,218,291	4.1	1	7	16	3	30	9	2	28
	7	88	3.4	7	58	11	12	11,029,834	4.9	1	24	8	11	26	9	1	33
	8	84	3.3	3	55	12	14	6,152,843	2.7	3	13	10	12	22	9	5	26
	9	116	4.5	7	78	12	19	8,284,017	3.7	1	20	10	12	37	12	6	39
	10	108	4.2	9	72	9	18	10,270,888	4.6	3	28	11	9	33	12	1	42
	11	142	5.5	12	82	20	28	15,563,595	6.9	7	14	17	20	45	22	1	37
	12	121	4.7	5	87	4	25	8,722,109	3.9	2	7	13	4	39	11	2	52
	Sub	1,224	47.8	94	821	79	230	116,287,716	51.5	21	192	127	79	424	154	22	418
PM	1	121	4.7	9	80	16	16	6,187,139	2.7	2	13	9	16	30	15	-	51
	2	131	5.1	12	89	10	20	12,489,449	5.5	2	17	17	10	37	19	-	48
	3	104	4.1	7	75	13	9	7,474,360	3.3	2	19	14	13	27	16	-	34
	4	128	5.0	7	87	10	24	7,176,290	3.2	3	23	14	10	33	17	5	49
	5	126	4.9	8	83	5	30	9,216,084	4.1	5	4	14	5	39	24	-	44
	6	119	4.6	10	86	5	18	9,630,648	4.3	1	11	11	5	44	18	2	39
	7	112	4.4	9	85	3	15	10,585,917	4.7	2	6	6	3	47	15	-	41
	8	116	4.5	9	86	4	17	8,781,904	3.9	-	15	20	4	37	18	2	35
	9	89	3.5	8	60	2	19	8,245,087	3.7	2	6	7	2	33	16	2	29
	10	89	3.5	11	58	2	18	7,057,638	3.1	1	11	12	2	36	14	2	23
	11	89	3.5	11	60	2	16	14,499,797	6.4	8	9	7	2	33	15	3	29
	12	112	4.4	7	71	12	22	8,091,125	3.6	2	14	13	12	35	12	1	39
	Sub	1,336	52.2	108	920	84	224	109,435,438	48.5	30	148	144	84	431	199	17	461
Total		2,560	100	202	1,741	163	454	225,723,154	100	51	340	271	163	855	353	39	879

Type of accident

Coll = collision between on track equipment. Der = derailment. HRC = highway-rail crossing. Othr = other.

Causes

Eqp = equipment defect. HRC = highway-rail crossing. Hmn = Human factor. Sig = signal defect. Trk = track defect. Othr = other.

Cnt = count. Ftl = fatality.

TABLE 5-6 TRAIN ACCIDENTS BY TYPE AND MAJOR CAUSE, 1997

	Total		Reportable Damage		Casualty		Causes					
	Cnt	%	Amount	%	Ftl	Nonf	Eqp	HRC	Hmn	Othr	Sig	Trk
Derailments	1,741	68.0	168,322,227	74.6	2	111	224	-	455	226	21	815
Head on collision	14	.5	14,577,698	6.5	7	25	1	-	10	3	-	-
Rear end collision	21	.8	4,439,883	2.0	2	14	-	-	17	4	-	-
Side collision	115	4.5	4,859,084	2.2	-	11	3	-	95	10	5	2
Raking collision	41	1.6	1,268,805	.6	-	-	3	-	29	6	1	2
Broken train coll.	6	.2	464,303	.2	-	1	3	-	2	1	-	-
Highway-rail Impact	163	6.4	14,993,810	6.6	33	155	-	163	-	-	-	-
RR crossing collision	5	.2	368,785	.2	1	4	-	-	3	2	-	-
Obstruction impact	61	2.4	2,697,378	1.2	2	5	1	-	20	37	1	2
Fire/violent rupture	15	.6	2,651,804	1.2	-	-	6	-	1	8	-	-
Other impacts	259	1 .1	7,647,895	3.4	3	13	15	-	173	41	11	19
Other events	119	4.6	3,431,482	1.5	1	1	15	-	50	15	-	39
-- Total	2,560	100	225,723,154	100	51	340	271	163	855	353	39	879

TABLE 5-7 TRAIN ACCIDENTS BY SUBCAUSE AND TYPE, 1997

	Total		Type of Accident				Reportable Damage		Casualty	
	Cnt	%	Coll	Der	HRC	Othr	Amount	%	Ftl	Nonf
Brakes	25	1.0	3	14	-	8	4,035,787	1.8	-	5
Trailer/Container on Flatcar	2	.1	-	1	-	1	288,904	.1	-	-
Body	22	.9	-	18	-	4	1,162,212	.5	-	-
Coupler & Draft System	31	1.2	3	20	-	8	2,153,374	1.0	-	1
Truck Components	45	1.8	-	44	-	1	2,762,635	1.2	-	-
Axles & Journal Bearings	59	2.3	-	58	-	1	12,996,641	5.8	-	2
Wheels	62	2.4	1	60	-	1	5,399,818	2.4	-	1
Locomotives	14	.5	1	6	-	7	1,354,798	.6	-	-
Doors	4	.2	2	1	-	1	124,676	.1	-	-
Other Mechanical	7	.3	-	2	-	5	3,760,746	1.7	-	5
Brakes, Use of	107	4.2	24	33	-	50	6,908,354	3.1	-	9
Employee Physical Condition	2	.1	1	1	-	-	621,613	.3	-	-
Flagging, Fixed, Hand & Radio	34	1.3	13	10	-	11	5,013,833	2.2	1	12
General Switching Rules	275	1 .7	50	126	-	99	7,340,179	3.3	-	10
Main Track Authority	38	1.5	15	3	-	20	2,006,994	.9	-	11
Train Handling/Makeup	110	4.3	3	94	-	13	7,784,287	3.4	-	1
Speed	76	3.0	22	35	-	19	6,449,127	2.9	-	16
Switches, Use of	191	7.5	24	138	-	29	7,723,545	3.4	-	8
Miscellaneous Human Factors	22	.9	4	15	-	3	1,604,344	.7	-	1
Environmental Conditions	42	1.6	2	30	-	10	4,849,264	2.1	-	5
Loading Procedures	37	1.4	4	30	-	3	5,260,330	2.3	1	3
Highway-Rail Incidents	164	6.4	1	-	163	-	15,006,310	6.6	33	157
Unusual Operational Situations	101	3.9	4	58	-	39	7,655,389	3.4	2	3
Other Miscellaneous Causes	172	6.7	15	108	-	49	24,671,021	1 .9	11	9
Signal Defects	39	1.5	6	21	-	12	1,172,732	.5	1	-
Roadbed	34	1.3	-	33	-	1	3,275,720	1.5	-	4
Track Geometry	303	11.8	1	294	-	8	19,792,128	8.8	-	5
Rail, Joint Bar & Anchors	302	11.8	1	297	-	4	48,128,656	21.3	1	15
Frogs, Switches, Appliances	204	8.0	1	182	-	21	7,806,571	3.5	-	3
Other Track Defects	36	1.4	1	9	-	26	8,613,166	3.8	1	54
-- Total	2,560	100	202	1,741	163	454	225,723,154	100	51	340

TABLE 5-8 TRAIN ACCIDENTS WITH CONTRIBUTING CAUSE, 1997

Contributing Cause	Total		Type of Accident				Type of Track				
	Cnt	%	Coll	Der	HRC	Othr	Main	Yard	Side	Ind.	Unk
Brakes	5	1.6	-	3	-	2	1	3	1	-	-
Body	2	.7	-	1	-	1	2	-	-	-	-
Truck Components	15	4.9	-	15	-	-	13	-	1	1	-
Axles & Journal Bearings	2	.7	-	2	-	-	2	-	-	-	-
Wheels	11	3.6	-	10	-	1	5	5	-	1	-
Locomotives	1	.3	-	-	-	1	1	-	-	-	-
Brakes, Use of	11	3.6	2	5	-	4	3	6	1	1	-
Employee Physical Condition	4	1.3	1	2	-	1	3	-	-	1	-
Flagging, Fixed, Hand & Radio	8	2.6	2	5	-	1	2	5	-	1	-
General Switching Rules	39	12.7	9	15	-	15	6	30	2	1	-
Main Track Authority	4	1.3	1	3	-	-	2	2	-	-	-
Train Handling/Makeup	21	6.8	1	18	-	2	7	13	-	1	-
Speed	10	3.3	2	7	-	1	4	5	-	-	1
Switches, Use of	27	8.8	2	21	-	4	5	18	2	2	-
Miscellaneous Human Factors	8	2.6	1	4	-	3	1	5	1	1	-
Environmental Conditions	3	1.0	-	3	-	-	1	1	1	-	-
Loading Procedures	10	3.3	1	8	-	1	7	1	-	2	-
Highway-Rail Incidents	8	2.6	-	-	8	-	8	-	-	-	-
Unusual Operational Situations	12	3.9	1	10	1	-	6	3	-	3	-
Other Miscellaneous Causes	21	6.8	3	11	-	7	10	10	-	1	-
Signal Defects	4	1.3	-	1	-	3	1	3	-	-	-
Roadbed	13	4.2	-	13	-	-	8	4	-	1	-
Track Geometry	36	11.7	-	35	-	1	18	10	4	3	1
Rail, Joint Bar & Anchors	13	4.2	-	13	-	-	9	3	1	-	-
Frogs, Switches, Appliances	17	5.5	-	15	-	2	5	9	1	2	-
Other Track Defects	2	.7	-	2	-	-	1	-	1	-	-
-- Total	307	100	26	222	9	50	131	136	16	22	2

Type of accident
Coll = collision between on track equipment. Der = derailment. HRC = highway-rail crossing. Othr = other.

Causes
Eqp = equipment defect. HRC = highway-rail crossing. Hmn = Human factor. Sig = signal defect. Trk = track defect. Othr = other.

Cnt = count. Ftl = fatality.

TABLE 5-9 TRAIN ACCIDENTS BY SPECIFIC CAUSE AND TYPE, 1997

MAJOR CAUSE= Human Factors

	Total		Type of Accident			Reportable Damage		Casualty	
	Cnt	%	Coll	Der	Othr	Amount	%	Ftl	Nonf
Bottling the Air	6	.2	-	4	2	3,282,206	1.5	-	4
Failure to secure engine- rr empl	6	.2	3	2	1	657,212	.3	-	2
Fail to secure car hnd brk -rr emp	27	1.1	5	7	15	792,305	.4	-	2
Fail to release hand brk - rr emp	2	.1	1	-	1	20,298	-	-	-
Fail to apply suff. hand brakes -rr emp	44	1.7	11	11	22	1,531,997	.7	-	1
Fail to apply car hnd brks -rr emp	11	.4	2	3	6	222,129	.1	-	-
Fail to secure equip - not rr emp	3	.1	1	1	1	28,856	-	-	-
Fail to ctrl car spd use hnd brk-r emp	5	.2	1	2	2	155,408	.1	-	-
Use of brakes, other	3	.1	-	3	-	217,943	.1	-	-
Employee asleep	2	.1	1	1	-	621,613	.3	-	-
Absence of fixed signal (Blue Signal)	1	-	1	-	-	2,200	-	-	-
Fixed signal, failure to comply	9	.4	4	2	3	1,501,418	.7	-	5
Flagging, improper or failure to flag	1	-	1	-	-	125,790	.1	-	1
Flagging signal, failure to comply	1	-	-	1	-	15,000	-	-	-
Hand signal, failure to comply	1	-	-	-	1	30,000	-	-	-
Hand signal, failure to give/receive	-	-	-	-	-	35,900	-	-	-
Radio communication, failure to comply	5	.2	1	2	2	143,257	.1	-	-
Radio communication, improper	2	.1	-	-	2	151,443	.1	-	-
Radio comm., failure to give/receive	2	.1	1	1	-	27,060	-	-	-
Block signal, failure to comply	8	.3	4	2	2	2,663,211	1.2	1	5
Interlocking signal, failure to comply	1	-	1	-	-	272,387	.1	-	1
Other signal causes	3	.1	-	2	1	46,167	-	-	-
Car(s) shoved out & left out of clear	6	.2	1	-	5	153,141	.1	-	-
Cars left foul	38	1.5	6	5	27	751,290	.3	-	-
Derail, failure to apply or remove	17	.7	-	16	1	521,723	.2	-	1
Hazmat regs, failure to comply	1	-	-	1	-	17,500	-	-	-
Instruction to trn/yd crew improper	9	.4	2	2	5	218,532	.1	-	-
Shoving movement, absence of man	86	3.4	21	45	20	2,592,758	1.1	-	6
Shoving movement, failure to control	43	1.7	17	16	10	1,697,534	.8	-	2
Failure to stretch cars before shoving	2	.1	-	-	2	36,074	-	-	-
Failure to couple	6	.2	2	1	3	135,658	.1	-	1
Moving cars-load ramp,etc, not in pos	3	.1	-	1	2	37,770	-	-	-
Passed couplers	26	1.0	-	20	6	404,784	.2	-	-
Retarder, improper manual operation	13	.5	-	7	6	194,944	.1	-	-
Retarder yard skate improperly applied	3	.1	-	2	1	32,650	-	-	-
Other general switching rules	22	.9	1	10	11	545,821	.2	-	-
Failure to stop train in clear	14	.5	6	-	8	541,257	.2	-	1
Motor car/on-trk rules, fail to comply	10	.4	5	-	5	427,445	.2	-	6
Movement without authority - rr emp	4	.2	1	-	3	198,700	.1	-	-
Fail to comply with trn order, etc.	5	.2	2	2	1	761,058	.3	-	4
Trn orders, trk warrants, written err	1	-	-	-	1	10,091	-	-	-
Other main track authority causes	4	.2	1	1	2	68,443	-	-	-
Improper train make-up at init term	5	.2	-	5	-	94,674	-	-	-
Improper placement of cars in train	1	-	-	-	1	163,000	.1	-	-
Buff/slack action excess, trn handling	36	1.4	1	33	2	4,626,130	2.0	-	-
Buff/slack action excess, trn make-up	16	.6	1	14	1	575,544	.3	-	-
Lat DB force on curve xcess trn hndlng	10	.4	-	10	-	397,640	.2	-	-
Lat DB force on curve excess, make-up	6	.2	-	6	-	672,683	.3	-	-
Lat drawbar force-short/long car combo	5	.2	-	5	-	62,632	-	-	-
Improper train make-up	2	.1	-	1	1	32,821	-	-	-
Improper train inspection	1	-	-	1	-	8,300	-	-	-
Automatic brake, insufficient	1	-	1	-	-	25,400	-	-	-
Automatic brake, excessive	3	.1	-	2	1	59,429	-	-	-
Automatic brake, other improper use	2	.1	-	1	1	213,750	.1	-	-

TABLE 5-9 TRAIN ACCIDENTS BY SPECIFIC CAUSE AND TYPE, 1997

MAJOR CAUSE= Human Factors

	Total		Type of Accident			Reportable Damage		Casualty	
	Cnt	%	Coll	Der	Othr	Amount	%	Ftl	Nonf
Dynamic brake, too rapid adjustment	1	-	-	1	-	74,300	-	-	-
Throttle (power), improper use	2	.1	-	1	1	50,160	-	-	-
Throttle (power), too rapid adjustment	2	.1	-	2	-	45,600	-	-	-
Excessive horsepower	2	.1	-	2	-	29,430	-	-	-
Independent brake, improper use	8	.3	-	4	4	175,836	.1	-	1
Failure to actuate off independent brk	1	-	-	1	-	36,400	-	-	-
Other train handling/makeup	6	.2	-	5	1	440,558	.2	-	-
Coupling speed excessive	22	.9	2	12	8	1,010,339	.4	-	2
Switch movement, excessive speed	3	.1	-	-	3	67,481	-	-	-
Train inside yard limits, excess speed	9	.4	3	4	2	881,429	.4	-	4
Train outside yd limits, excess speed	5	.2	1	4	-	1,219,119	.5	-	1
Failure to comply with restricted speed	20	.8	14	4	2	1,114,528	.5	-	5
Train outside yd limits(nonblk),exc spd	2	.1	-	2	-	165,267	.1	-	-
Speed, other	15	.6	2	9	4	1,990,964	.9	-	4
Spring Swtch not clear before reverse	6	.2	-	6	-	159,042	.1	-	-
Switch improperly lined	141	5.5	23	95	23	4,096,404	1.8	-	8
Switch not latched or locked	4	.2	-	4	-	104,765	-	-	-
Switch previously run through	35	1.4	1	31	3	3,198,229	1.4	-	-
Moveable point trk frog improper lined	1	-	-	-	1	25,000	-	-	-
Use of switches, other	4	.2	-	2	2	140,105	.1	-	-
Human factors - track	1	-	-	1	-	27,792	-	-	-
Human factors -motive power & equipment	3	.1	-	3	-	24,268	-	-	-
Other train operation/human factors	18	.7	4	11	3	1,552,284	.7	-	1
-- Total	855	33.4	156	455	244	45,452,276	2 .1	1	68

MAJOR CAUSE= Signal Defects

	Total		Type of Accident			Reportable Damage		Casualty	
	Cnt	%	Coll	Der	Othr	Amount	%	Ftl	Nonf
Classyard autocontrol sys switch fail	4	.2	1	1	2	94,379	-	-	-
Class yd auto ctrl sys retarder fail	8	.3	2	3	3	207,512	.1	-	-
Power switch failure	10	.4	-	9	1	442,503	.2	-	-
Radio communication equipment failure	2	.1	-	1	1	33,500	-	1	-
Other communication equipment failure	2	.1	-	1	1	192,929	.1	-	-
Other signal failures	13	.5	3	6	4	201,909	.1	-	-
-- Total	39	1.5	6	21	12	1,172,732	.5	1	-

TABLE 5-9 TRAIN ACCIDENTS BY SPECIFIC CAUSE AND TYPE, 1997

MAJOR CAUSE= Track Defects

	Total		Type of Accident			Reportable Damage		Casualty	
	Cnt	%	Coll	Der	Othr	Amount	%	Ftl	Nonf
Roadbed settled or soft	23	.9	-	23	-	1,879,847	.8	-	2
Washout/rain/slide/etc. dmg -track	7	.3	-	6	1	539,650	.2	-	-
Other roadbed defects	4	.2	-	4	-	856,223	.4	-	2
Cross level of track irregular(joints)	33	1.3	1	32	-	2,966,876	1.3	-	-
Cross level track irreg.(not at joints)	23	.9	-	23	-	1,276,501	.6	-	-
Deviate frm uniform top of rail profile	6	.2	-	6	-	764,700	.3	-	-
Insufficient ballast section	-	-	-	-	-	9,500	-	-	-
Superelevation improper, excessive,etc.	5	.2	-	5	-	1,628,670	.7	-	-
Superelevation runoff improper	1	-	-	1	-	18,000	-	-	-
Trk alignmnt irreg-not buckled/sunkink	11	.4	-	10	1	956,906	.4	-	-
Track alignment irreg(buckled/sunkink)	20	.8	-	20	-	3,418,210	1.5	-	1
Wide gage(defective/missing crossties)	148	5.8	-	143	5	5,908,477	2.6	-	3
Wide gage(spikes/other rail fasteners)	23	.9	-	22	1	1,368,331	.6	-	-
Wide gage(loose,broke, etc, gage rods)	6	.2	-	6	-	158,788	.1	-	-
Wide gage (due to worn rails)	12	.5	-	11	1	305,898	.1	-	1
Other track geometry defects	15	.6	-	15	-	1,011,271	.4	-	-
Bolt hole crack or break	5	.2	-	5	-	2,895,150	1.3	-	-
Broken base of rail	50	2.0	-	49	1	6,149,694	2.7	-	11
Broken weld (field)	2	.1	-	2	-	637,000	.3	-	-
Defective or missing crossties	19	.7	-	19	-	706,657	.3	-	-
Defect/missing spike-oth rail fastener	6	.2	-	6	-	254,366	.1	-	-
Detail fracture - shelling/head check	28	1.1	-	27	1	8,791,652	3.9	1	4
Head and web sep(outside jt bar limit)	34	1.3	1	33	-	2,917,658	1.3	-	-
Head & web separation-in jt bar limit	7	.3	-	7	-	1,296,288	.6	-	-
Horizontal split head	6	.2	-	6	-	567,474	.3	-	-
Joint bar broken (compromise)	2	.1	-	2	-	81,060	-	-	-
Joint bar broken (noninsulated)	7	.3	-	7	-	3,365,068	1.5	-	-
Joint bolts, broken, or missing	3	.1	-	3	-	772,070	.3	-	-
Mismatched rail-head contour	5	.2	-	5	-	118,697	.1	-	-
Transverse/compound fissure	52	2.0	-	52	-	6,609,465	2.9	-	-
Vertical split head	34	1.3	-	33	1	6,649,055	2.9	-	-
Worn rail	19	.7	-	19	-	2,245,565	1.0	-	-
Other rail and joint bar defects	23	.9	-	22	1	4,071,737	1.8	-	-
Expansion joint failed/malfunctioned	1	-	-	1	-	43,762	-	-	-
Guard rail loose/broken or mislocated	1	-	-	1	-	10,451	-	-	-
Railroad crossing frog, worn or broken	1	-	-	1	-	31,256	-	-	-
Retarder worn, broken, malfunctioning	12	.5	1	4	7	326,639	.1	-	-
Spring/power swtch mech. malfunction	3	.1	-	3	-	325,950	.1	-	-

(CONTINUED)

Type of accident
Coll = collision between on track equipment. Der = derailment. HRC = highway-rail crossing. Othr = other.

Causes
Eqp = equipment defect. HRC = highway-rail crossing. Hmn = Human factor. Sig = signal defect. Trk = track defect. Othr = other.

Cnt = count. Ftl = fatality.

TABLE 5-9 TRAIN ACCIDENTS BY SPECIFIC CAUSE AND TYPE, 1997

MAJOR CAUSE= Track Defects

	Total		Type of Accident			Reportable Damage		Casualty	
	Cnt	%	Coll	Der	Othr	Amount	%	Ftl	Nonf
Stock rail worn, broken, disconnected	4	.2	-	3	1	273,853	.1	-	-
Switch (hand op) stand mechanism defect	6	.2	-	6	-	369,086	.2	-	-
Swtch connect/operate rod broke/defect	1	-	-	1	-	29,000	-	-	-
Switch damaged or out of adjustment	34	1.3	-	31	3	1,396,430	.6	-	1
Switch lug/crank broken	2	.1	-	2	-	29,978	-	-	-
Switch out of adj. insuff. anchoring	3	.1	-	3	-	43,564	-	-	-
Switch point worn or broken	74	2.9	-	68	6	2,028,200	.9	-	2
Switch rod worn, bent, broken, etc.	1	-	-	1	-	50,500	-	-	-
Turnout frog (rigid) worn, or broken	4	.2	-	3	1	330,157	.1	-	-
Turnout frog(self guarded)-worn/broken	3	.1	-	3	-	38,895	-	-	-
Turnout frog (spring) worn, or broken	1	-	-	1	-	302,196	.1	-	-
Switch pt gap(btwn swt pt & stock rail)	37	1.4	-	35	2	1,511,500	.7	-	-
Oth frog, switch, trk appliance defect	16	.6	-	15	1	665,154	.3	-	-
Bridge misalignment or failure	5	.2	-	5	-	7,911,451	3.5	1	54
Flangeway clogged	3	.1	-	3	-	33,797	-	-	-
Other way and structure defect	28	1.1	1	1	26	667,918	.3	-	-
-- Total	879	34.3	4	815	60	87,616,241	38.8	2	81

MAJOR CAUSE= Mechanical/Electrical

	Total		Type of Accident			Reportable Damage		Casualty	
	Cnt	%	Coll	Der	Othr	Amount	%	Ftl	Nonf
Air hose uncoupled or burst	3	.1	-	3	-	541,591	.2	-	-
Air hose uncoupled or burst (LOCO)	-	-	-	-	-	7,500	-	-	-
Hydraulic hose uncoupled or burst	1	-	-	-	1	1,460,652	.6	-	-
Obstructed brake pipe (LOCO)	1	-	1	-	-	1,222,000	.5	-	4
Oth brk component dmg,worn,broke,etc.	3	.1	1	2	-	48,771	-	-	-
Brk valve malf. (undesired emergency)	2	.1	-	2	-	51,991	-	-	-
Brake valve malf. (stuck brake, etc.)	1	-	-	1	-	39,360	-	-	-
Rigging down or dragging	5	.2	-	4	1	411,299	.2	-	1
Hand brk broken or defective	1	-	1	-	-	20,400	-	-	-
Other brake defects, cars	2	.1	-	1	1	38,073	-	-	-
Other brake defects, (LOCOMOTIVE)	1	-	-	1	-	9,500	-	-	-
Hnd brk link and/or connect defect	4	.2	-	-	4	172,400	.1	-	-
Hnd brk linkage/connect defect-loco	1	-	-	-	1	12,250	-	-	-
Oth trailer/container on flt car def	2	.1	-	1	1	288,904	.1	-	-
Center sill broken or bent	6	.2	-	4	2	169,038	.1	-	-
Draft sill broken or bent	2	.1	-	2	-	98,267	-	-	-
Center plate broken or defective	2	.1	-	2	-	126,100	.1	-	-
Center plate broken/defective (LOCO)	1	-	-	1	-	47,617	-	-	-
Ctr plate disengaged from truck	6	.2	-	6	-	582,083	.3	-	-
Center plate attachment defective	1	-	-	1	-	33,857	-	-	-
Side sill broken	2	.1	-	1	1	69,500	-	-	-
Other body defects, (CAR)	2	.1	-	1	1	35,750	-	-	-
Knuckle broken or defective	2	.1	1	1	-	26,625	-	-	-
Coupler mismatch, high/low	2	.1	-	-	2	110,000	-	-	1
Coupler retainer pin/cross key missing	5	.2	-	5	-	657,400	.3	-	-
Draft gear/mechanism broke/defective	1	-	-	-	1	13,010	-	-	-
Draft gear/mechanism broke/defect-loco	2	.1	-	2	-	18,829	-	-	-
Coupler carrier broken or defective	2	.1	1	1	-	242,179	.1	-	-

(CONTINUED)

TABLE 5-9 TRAIN ACCIDENTS BY SPECIFIC CAUSE AND TYPE, 1997

MAJOR CAUSE= Mechanical/Electrical

	Total		Type of Accident			Reportable Damage		Casualty	
	Cnt	%	Coll	Der	Othr	Amount	%	Ftl	Nonf
Coupler shank broken/defective	-	-	-	-	-	9,975	-	-	-
Oth coupler/draft system defects-car	17	.7	1	11	5	1,075,356	.5	-	-
Side bearing clearance insufficient	10	.4	-	10	-	677,704	.3	-	-
Side bearing clearance excessive	6	.2	-	6	-	324,992	.1	-	-
Side bearing(s) broken	2	.1	-	2	-	29,308	-	-	-
Truck bolster broken	2	.1	-	1	1	126,064	.1	-	-
Side frame broken	3	.1	-	3	-	41,754	-	-	-
Truck bolster stiff	10	.4	-	10	-	1,081,335	.5	-	-
Truck bolster stiff (LOCO)	1	-	-	1	-	213,228	.1	-	-
Broken, missing, or defective springs	1	-	-	1	-	81,400	-	-	-
Other truck component defects, (CAR)	2	.1	-	2	-	58,750	-	-	-
Truck hunting	8	.3	-	8	-	128,100	.1	-	-
Broken/bent axle between wheel seats	6	.2	-	6	-	268,379	.1	-	-
Broke/bent axle btwn wheel seats-loco	3	.1	-	3	-	161,774	.1	-	-
Journal (plain) failure from overheat	11	.4	-	11	-	3,037,441	1.3	-	-
Journal (roller bearing) overheating	35	1.4	-	34	1	8,669,364	3.8	-	2
Journal-cold brk, previously overheated	1	-	-	1	-	38,600	-	-	-
Oth axle/journal bearing defect-car	2	.1	-	2	-	392,338	.2	-	-
Oth axle/journal bearing defect-loco	1	-	-	1	-	428,745	.2	-	-
Broken flange	3	.1	-	3	-	476,877	.2	-	-
Broken rim	8	.3	-	8	-	1,631,252	.7	-	1
Broken plate	8	.3	-	8	-	692,650	.3	-	-
Broken hub	2	.1	-	2	-	96,052	-	-	-
E642	1	-	-	1	-	8,261	-	-	-
Worn Flange	9	.4	-	9	-	295,263	.1	-	-
Worn flange (LOCOMOTIVE)	2	.1	-	2	-	347,123	.2	-	-
Damaged flange or tread (flat)	3	.1	-	3	-	169,500	.1	-	-
Damaged flange or tread (build up)	12	.5	-	12	-	270,512	.1	-	-
Loose wheel	3	.1	-	3	-	480,477	.2	-	-
Other wheel defects (CAR)	9	.4	1	7	1	876,351	.4	-	-
Other wheel defects (LOCOMOTIVE)	1	-	-	1	-	30,000	-	-	-
Thermal crack, flange or tread	1	-	-	1	-	25,500	-	-	-
Running gear failure (LOCOMOTIVE)	1	-	-	1	-	32,400	-	-	-
Traction motor failure (LOCOMOTIVE)	3	.1	-	3	-	1,038,638	.5	-	-
Oil or fuel fire (LOCOMOTIVE)	1	-	-	-	1	30,000	-	-	-
Electrically caused fire (LOCOMOTIVE)	2	.1	-	-	2	41,950	-	-	-
Other locomotive defects	7	.3	1	2	4	211,810	.1	-	-
Box car plug door open	1	-	1	-	-	83,850	-	-	-
Box car door, other than plug, open	1	-	1	-	-	9,095	-	-	-
Bottom outlet car door open	1	-	-	1	-	21,280	-	-	-
Other car door defects	1	-	-	-	1	10,451	-	-	-
Other mechanical/electrical failures	4	.2	-	1	3	219,115	.1	-	5
Other mechanical/electrical fail(LOCO)	3	.1	-	1	2	3,541,631	1.6	-	-
-- Total	271	1 .6	10	224	37	34,039,591	15.1	-	14

Type of accident
Coll = collision between on track equipment. Der = derailment. HRC = highway-rail crossing. Othr = other.

Causes
Eqp = equipment defect. HRC = highway-rail crossing. Hmn = Human factor. Sig = signal defect. Trk = track defect. Othr = other.

Cnt = count. Ftl = fatality.

TABLE 5-9 TRAIN ACCIDENTS BY SPECIFIC CAUSE AND TYPE, 1997

MAJOR CAUSE= Miscellaneous

	Total		Type of Accident				Reportable Damage		Casualty	
	Cnt	%	Coll	Der	HRC	Othr	Amount	%	Ftl	Nonf
Snow,ice,mud,gravel,coal,etc. on trk	25	1.0	1	21	-	3	612,691	.3	-	-
Extreme environmental - TORNADO	1	-	-	1	-	-	15,100	-	-	-
Extreme environmental - FLOOD .	2	.1	-	2	-	-	1,071,000	.5	-	-
Extreme wind velocity	7	.3	-	2	-	5	96,921	-	-	-
Other extreme environmental conditions	7	.3	1	4	-	2	3,053,552	1.4	-	5
Load shifted	13	.5	1	12	-	-	2,351,566	1.0	-	3
Load fell from car	1	-	-	1	-	-	8,000	-	-	-
Overloaded car	5	.2	1	4	-	-	396,020	.2	-	-
Improperly loaded car	11	.4	2	9	-	-	2,023,598	.9	-	-
Oversized load, misrouted	3	.1	-	1	-	2	385,296	.2	-	-
Trailer/container tiedown eqp improper	1	-	-	1	-	-	15,000	-	-	-
Improperly loaded contain/trail on car	1	-	-	1	-	-	17,500	-	-	-
Miscellaneous loading procedures	2	.1	-	1	-	1	63,350	-	1	-
Hwy user impairment-drug/alcohol use	1	-	-	-	1	-	10,000	-	1	-
Highway user inattentiveness	72	2.8	-	-	72	-	7,535,641	3.3	19	80
Hwy user misjudgement	26	1.0	-	-	26	-	964,850	.4	7	16
Highway user cited for violation	23	.9	1	-	22	-	2,281,874	1.0	2	25
Other causes (highway-rail collisions)	42	1.6	-	-	42	-	4,213,945	1.9	4	36
Emergency brke appl. to avoid accident	1	-	-	1	-	-	765,814	.3	-	-
Object/equipment (mtr veh) on track	16	.6	-	2	-	14	540,058	.2	1	2
Livestock on track	1	-	-	-	-	1	13,520	-	-	-
Obj/equip on/fouling track, other	19	.7	1	8	-	10	1,849,268	.8	1	1
Harmonic rock off, etc.	43	1.7	-	41	-	2	3,931,901	1.7	-	-
Fire, other than vandalism	4	.2	-	-	-	4	114,283	.1	-	-
Auto hump retarder failed to slow car	10	.4	-	3	-	7	188,239	.1	-	-
Yard skate slid and failed to stop car	4	.2	3	-	-	1	68,238	-	-	-
Lading chains/straps fouling switches	3	.1	-	3	-	-	184,068	.1	-	-
Interference(not vandals)with RR op.	14	.5	2	8	-	4	451,982	.2	1	-
Vandalism of on-track equipment	18	.7	1	9	-	8	1,814,556	.8	-	-
Vandalism of track or track appliances	25	1.0	1	16	-	8	1,149,935	.5	-	-
Fail by non-rr empto control spd of car	2	.1	-	2	-	-	36,147	-	-	-
Cause under investigation	42	1.6	4	31	-	7	14,751,186	6.5	8	7
Other miscellaneous causes	71	2.8	7	42	-	22	6,467,215	2.9	2	2
-- Total	516	2 .2	26	226	163	101	57,442,314	25.4	47	177

TABLE 5-10 TRAIN ACCIDENTS BY TYPE TRACK AND CLASS, 1997

Trk - Cls		Total		Type of Accident				Reportable Damage	Casualty		Causes					
		Cnt	%	Coll	Der	HRC	Othr	Amount	Ftl	Nonf	Eqp	HRC	Hmn	Othr	Sig	Trk
Main	1	162	6.3	10	136	1	15	11,364,218	-	10	15	1	35	30	-	81
	2	228	8.9	5	191	14	18	26,228,607	1	30	29	14	31	48	4	102
	3	236	9.2	19	160	31	26	47,096,089	7	47	60	31	37	34	1	73
	4	307	12.0	16	156	93	42	64,429,206	33	137	57	93	55	41	-	61
	5	51	2.0	-	24	17	10	17,701,698	5	77	13	17	5	8	-	8
	6	18	.7	-	-	2	16	1,857,361	-	1	5	2	-	2	-	9
	?	3	.1	1	1	-	1	71,740	-	1	-	-	1	1	-	1
	X	22	.9	-	18	2	2	605,146	-	-	2	2	5	3	-	10
	-Sub	1,027	4 .1	51	686	160	130	169,354,065	46	303	181	160	169	167	5	345
Yard	1	1,029	4 .2	112	686	1	230	34,105,523	4	22	51	1	499	124	27	327
	2	123	4.8	21	72	1	29	4,436,935	-	3	7	1	50	17	4	44
	3	8	.3	-	5	-	3	136,121	-	-	-	-	3	-	-	5
	4	24	.9	2	13	-	9	565,642	-	-	4	-	14	1	-	5
	5	2	.1	-	1	-	1	111,000	-	-	-	-	1	-	-	1
	?	7	.3	2	5	-	-	159,573	-	-	1	-	-	3	-	3
	X	32	1.3	1	18	-	13	848,636	-	-	3	-	15	4	2	8
	-Sub	1,225	47.9	138	800	2	285	40,363,430	4	25	66	2	582	149	33	393
Side	1	57	2.2	2	51	-	4	1,798,681	-	3	3	-	21	7	-	26
	2	21	.8	1	16	-	4	1,012,064	-	1	4	-	7	5	-	5
	3	8	.3	1	6	-	1	1,145,809	-	3	1	-	5	-	-	2
	4	9	.4	-	8	-	1	4,237,095	-	-	3	-	1	-	-	5
	5	2	.1	-	1	-	1	48,200	-	-	1	-	-	1	-	-
	?	2	.1	-	2	-	-	24,300	-	-	-	-	-	1	-	1
	X	7	.3	-	6	-	1	137,924	-	-	2	-	1	1	-	3
	-Sub	106	4.1	4	90	-	12	8,404,073	-	7	14	-	35	15	-	42
Ind.	1	129	5.0	7	104	1	17	3,546,759	-	1	4	1	47	14	1	62
	2	19	.7	1	15	-	3	511,307	-	-	-	-	5	2	-	12
	3	4	.2	-	4	-	-	268,813	-	-	1	-	1	-	-	2
	4	7	.3	-	7	-	-	229,055	-	-	-	-	2	2	-	3
	?	5	.2	-	4	-	1	143,718	1	-	-	-	-	1	-	4
	X	19	.7	-	15	-	4	488,601	-	-	2	-	6	3	-	8
	-Sub	183	7.1	8	149	1	25	5,188,253	1	1	7	1	61	22	1	91
Unk	1	1	-	-	1	-	-	27,000	-	-	-	-	1	-	-	-
	3	1	-	1	-	-	-	611,500	-	2	-	-	1	-	-	-
	?	17	.7	-	15	-	2	1,774,833	-	2	3	-	6	-	-	8
	-Sub	19	.7	1	16	-	2	2,413,333	-	4	3	-	8	-	-	8
Total		2,560	100	202	1,741	163	454	225,723,154	51	340	271	163	855	353	39	879

Type of accident

Coll = collision between on track equipment. Der = derailment. HRC = highway-rail crossing. Othr = other.

Causes

Eqp = equipment defect. HRC = highway-rail crossing. Hmn = Human factor. Sig = signal defect. Trk = track defect. Othr = other.

Ind = industry, Unk = unknown.

TABLE 5-11 TRAIN ACCIDENTS BY TYPE TRACK AND CONSIST SPEED, 1997

Trk - Spd Rng		Total		Type of Accident				Reportable Damage	Casualty		Causes					
		Cnt	%	Coll	Der	HRC	Othr	Amount	Ftl	Nonf	Eqp	HRC	Hmn	Othr	Sig	Trk
Main	?	14	.5	-	7	-	7	351,311	-	1	1	-	2	8	-	3
	1 - 9	215	8.4	8	172	6	29	11,153,131	-	18	20	6	69	31	-	89
	10-19	217	8.5	15	173	12	17	21,585,615	-	37	33	12	45	29	1	97
	20-29	187	7.3	12	152	13	10	30,327,660	3	22	40	13	26	38	4	66
	30-39	106	4.1	6	65	22	13	23,356,763	2	16	33	22	11	10	-	30
	40-49	159	6.2	4	81	56	18	45,839,050	23	56	32	56	8	24	-	39
	50-59	60	2.3	2	29	22	7	14,072,441	4	13	15	22	6	9	-	8
	60-69	24	.9	1	4	11	8	8,959,765	7	20	1	11	1	7	-	4
	>= 70	45	1.8	3	3	18	21	13,708,329	7	120	6	18	1	11	-	9
	-Sub	1,027	4 .1	51	686	160	130	169,354,065	46	303	181	160	169	167	5	345
Yard	?	29	1.1	1	16	-	12	1,326,592	2	1	1	-	11	7	-	10
	1 - 9	1,040	4 .6	118	685	1	236	30,332,559	1	9	53	1	506	117	28	335
	10-19	142	5.5	18	93	1	30	7,329,458	1	15	8	1	60	23	5	45
	20-29	9	.4	1	4	-	4	313,501	-	-	3	-	3	1	-	2
	30-39	1	-	-	1	-	-	24,515	-	-	1	-	-	-	-	-
	40-49	2	.1	-	1	-	1	1,017,705	-	-	-	-	-	1	-	1
	50-59	2	.1	-	-	-	2	19,100	-	-	-	-	2	-	-	-
	-Sub	1,225	47.9	138	800	2	285	40,363,430	4	25	66	2	582	149	33	393
Side	?	3	.1	-	1	-	2	111,300	-	-	1	-	1	1	-	-
	1 - 9	63	2.5	-	59	-	4	1,675,863	-	1	4	-	22	8	-	29
	10-19	28	1.1	2	22	-	4	1,734,012	-	3	5	-	8	3	-	12
	20-29	5	.2	1	3	-	1	684,279	-	2	3	-	1	1	-	-
	30-39	3	.1	1	2	-	-	673,069	-	1	-	-	2	-	-	1
	40-49	1	-	-	1	-	-	12,600	-	-	-	-	-	1	-	-
	50-59	1	-	-	1	-	-	32,000	-	-	-	-	1	-	-	-
	>= 70	2	.1	-	1	-	1	3,480,950	-	-	1	-	-	1	-	-
	-Sub	106	4.1	4	90	-	12	8,404,073	-	7	14	-	35	15	-	42
Ind.	?	2	.1	-	-	1	1	65,000	1	1	-	1	-	1	-	-
	1 - 9	155	6.1	7	126	-	22	3,984,646	-	-	4	-	54	17	1	79
	10-19	24	.9	1	22	-	1	942,252	-	-	1	-	7	4	-	12
	20-29	2	.1	-	1	-	1	196,355	-	-	2	-	-	-	-	-
	-Sub	183	7.1	8	149	1	25	5,188,253	1	1	7	1	61	22	1	91
Unk	?	1	-	-	1	-	-	8,438	-	-	-	-	-	-	-	1
	1 - 9	15	.6	-	13	-	2	480,022	-	-	2	-	6	-	-	7
	20-29	2	.1	1	1	-	-	1,411,873	-	2	1	-	1	-	-	-
	30-39	1	-	-	1	-	-	513,000	-	2	-	-	1	-	-	-
	-Sub	19	.7	1	16	-	2	2,413,333	-	4	3	-	8	-	-	8
Total		2,560	100	202	1,741	163	454	225,723,154	51	340	271	163	855	353	39	879

TABLE 5-12 TRAIN ACCIDENTS BY WEATHER CONDITION, 1997

		Total		Type of Accident				Reportable Damage	Casualty		Causes					
		Cnt	%	Coll	Der	HRC	Othr	Amount	Ftl	Nonf	Eqp	HRC	Hmn	Othr	Sig	Trk
Dawn	Clear	55	2.1	3	40	4	8	9,622,436	1	6	5	4	18	3	-	25
	Cloudy	35	1.4	-	23	-	12	3,507,137	-	-	7	-	14	5	-	9
	Rain	4	.2	-	4	-	-	1,199,592	1	54	-	-	-	1	1	2
	Fog	3	.1	-	2	1	-	1,399,000	-	10	-	1	-	-	-	2
	Snow	1	-	-	1	-	-	14,579	-	-	-	-	-	-	-	1
	-- Sub	98	3.8	3	70	5	20	15,742,744	2	70	12	5	32	9	1	39
Day	Clear	890	34.8	58	591	96	145	70,594,988	26	143	101	96	255	116	12	310
	Cloudy	313	12.2	24	212	29	48	25,358,704	6	33	31	29	91	46	4	112
	Rain	65	2.5	9	35	4	17	3,741,354	-	10	8	4	22	8	4	19
	Fog	6	.2	-	3	2	1	433,749	-	4	-	2	3	-	-	1
	Sleet	1	-	-	-	-	1	103,000	-	-	-	-	1	-	-	-
	Snow	19	.7	1	15	1	2	2,472,256	1	1	1	1	7	3	-	7
	-- Sub	1,294	5 .5	92	856	132	214	102,704,051	33	191	141	132	379	173	20	449
Dark	Clear	68	2.7	2	49	2	15	5,677,623	2	4	12	2	16	13	2	23
	Cloudy	28	1.1	1	20	2	5	801,287	1	3	6	2	5	2	-	13
	Rain	11	.4	-	10	-	1	370,920	-	-	1	-	4	2	-	4
	Snow	1	-	-	1	-	-	1,230,000	-	-	-	-	-	1	-	-
	-- Sub	108	4.2	3	80	4	21	8,079,830	3	7	19	4	25	18	2	40
Dusk	Clear	602	23.5	66	401	13	122	54,011,677	4	55	58	13	248	82	8	193
	Cloudy	292	11.4	22	228	4	38	30,212,324	7	8	27	4	109	36	4	112
	Rain	97	3.8	7	64	1	25	10,413,020	2	3	10	1	35	21	2	28
	Fog	16	.6	3	8	3	2	879,645	-	6	1	3	8	2	1	1
	Sleet	5	.2	1	4	-	-	595,225	-	-	-	-	2	-	-	3
	Snow	47	1.8	5	30	1	11	3,076,638	-	-	3	1	16	12	1	14
	Unk	1	-	-	-	-	1	8,000	-	-	-	-	1	-	-	-
	-- Sub	1,060	41.4	104	735	22	199	99,196,529	13	72	99	22	419	153	16	351
Total		2,560	100	202	1,741	163	454	225,723,154	51	340	271	163	855	353	39	879

Type of accident
Coll = collision between on track equipment. Der = derailment. HRC = highway-rail crossing. Othr = other.

Causes
Eqp = equipment defect. HRC = highway-rail crossing. Hmn = Human factor. Sig = signal defect. Trk = track defect. Othr = other.

TABLE 5-13 TRAIN ACCIDENTS BY CONSIST LENGTH, 1997

Length	Total		Type of Accident				Equipment Damage		Causes					
	Cnt	%	Coll	Der	HRC	Othr	Amount	%	Eqp	HRC	Hmn	Othr	Sig	Trk
???	2	.1	-	-	1	1	30,113	-	-	1	1	-	-	-
1	142	4.9	39	33	6	64	2,476,064	1.5	7	6	81	20	11	17
2-5	309	1 .7	77	102	21	109	7,619,994	4.6	16	21	156	56	10	50
6-10	237	8.2	31	100	14	92	7,145,015	4.3	17	14	99	46	3	58
11-15	156	5.4	22	74	18	42	6,518,829	4.0	10	18	65	23	3	37
16-20	145	5.0	25	90	6	24	11,419,943	6.9	7	6	60	25	-	47
21-25	122	4.2	18	72	7	25	3,408,794	2.1	7	7	55	14	4	35
26-30	131	4.5	19	93	4	15	4,824,412	2.9	15	4	45	18	3	46
31-35	128	4.4	13	92	8	15	3,159,302	1.9	11	8	46	16	-	47
36-40	112	3.9	13	73	8	18	3,197,764	1.9	2	8	44	15	3	40
41-45	108	3.7	9	75	3	21	3,443,075	2.1	11	3	36	12	1	45
46-50	101	3.5	9	79	3	10	4,895,301	3.0	11	3	31	11	3	42
51-60	177	6.1	18	138	7	14	8,372,396	5.1	15	7	64	17	5	69
61-70	173	6.0	14	131	11	17	8,959,958	5.4	21	11	56	15	-	70
71-80	152	5.3	13	119	11	9	19,703,871	12.0	24	11	42	21	-	54
81-90	144	5.0	14	100	10	20	13,454,745	8.2	17	10	42	22	2	51
91-100	120	4.2	4	102	8	6	10,772,299	6.5	17	8	32	8	2	53
101-110	146	5.1	12	120	8	6	17,723,038	1 .8	27	8	42	17	2	50
111-120	169	5.8	15	122	8	24	19,312,140	11.7	33	8	44	20	2	62
121-130	48	1.7	3	33	1	11	3,345,443	2.0	8	1	17	6	2	14
131-140	22	.8	3	17	1	1	1,614,770	1.0	3	1	8	2	-	8
141-150	21	.7	3	17	-	1	2,416,393	1.5	4	-	7	4	-	6
>= 151	25	.9	2	22	-	1	875,617	.5	5	-	10	6	-	4
-- Tot	2,890	100	376	1,804	164	546	164,689,276	100	288	164	1,083	394	56	905

Counts are higher since multiple consists may be involved.

TABLE 5-14 TRAIN ACCIDENTS BY TYPE TRACK AND CONSIST, 1997

Track - Equipment		Total		Avg	Type of Accident				Total Train Crew			
		Consists	%	Len.	Coll	Der	HRC	Othr	Engineers	Conductors	Brakemen	Firemen
Main	Freight Train	849	29.4	72	51	626	117	55	4,325	825	194	20
	Psgr Train	115	4.0	9	9	18	37	51	466	125	103	31
	Commuter Train	4	.1	6	-	2	-	2	21	4	4	-
	Work Train	9	.3	30	1	4	1	3	47	8	1	-
	Single Car	8	.3	1	4	1	1	2	37	2	-	-
	Cut of Cars	16	.6	64	7	8	-	1	26	5	4	1
	Yard/ Switch	50	1.7	36	4	38	1	7	223	48	33	2
	Light loco(s)	14	.5	10	8	1	1	4	66	11	6	1
	Maint/ Insp car	30	1.0	5	9	2	3	16	155	3	2	-
	-- Tot	1,095	37.9	60	93	700	161	141	5,366	1,031	347	55
Yard	Freight Train	470	16.3	66	53	369	1	47	2,309	448	164	13
	Psgr Train	24	.8	9	3	18	-	3	103	22	18	5
	Commuter Train	4	.1	7	-	3	-	1	20	5	1	-
	Work Train	4	.1	16	1	3	-	-	24	5	1	-
	Single Car	58	2.0	1	18	10	-	30	46	8	8	-
	Cut of Cars	141	4.9	18	20	52	-	69	173	34	23	-
	Yard/ Switch	693	24.0	36	145	358	-	190	2,677	637	495	9
	Light loco(s)	63	2.2	2	18	29	1	15	189	46	19	1
	Maint/ Insp car	2	.1	2	1	-	-	1	4	-	-	-
	-- Tot	1,459	5 .5	40	259	842	2	356	5,545	1,205	729	28
Side	Freight Train	78	2.7	59	2	73	-	3	425	75	24	-
	Psgr Train	5	.2	9	3	2	-	-	23	3	2	1
	Work Train	1	-	50	1	-	-	-	10	1	-	-
	Cut of Cars	3	.1	54	-	1	-	2	1	-	-	-
	Yard/ Switch	19	.7	24	-	14	-	5	88	19	10	-
	Light loco(s)	3	.1	2	2	-	-	1	9	1	-	-
	Maint/ Insp car	4	.1	1	-	1	-	3	26	1	1	-
	-- Tot	113	3.9	47	8	91	-	14	582	100	37	1
Ind.	Freight Train	114	3.9	56	9	95	1	9	604	112	68	1
	Work Train	1	-	15	-	1	-	-	5	1	-	-
	Single Car	5	.2	1	-	2	-	3	7	1	-	-
	Cut of Cars	17	.6	12	3	6	-	8	32	6	5	-
	Yard/ Switch	55	1.9	28	2	44	-	9	268	53	33	1
	Light loco(s)	5	.2	3	-	4	-	1	22	5	4	-
	Maint/ Insp car	2	.1	1	-	-	-	2	3	-	-	-
	-- Tot	199	6.9	41	14	152	1	32	941	178	110	2
Unk	Freight Train	18	.6	88	2	15	-	1	127	18	2	2
	Single Car	1	-	1	-	1	-	-	-	-	-	-
	Cut of Cars	2	.1	88	-	2	-	-	6	2	2	-
	Yard/ Switch	1	-	38	-	1	-	-	6	1	-	-
	Light loco(s)	2	.1	5	-	-	-	2	12	2	-	-
	-- Tot	24	.8	75	2	19	-	3	151	23	4	2
---Total		2,890	100	48	376	1,804	164	546	12,585	2,537	1,227	88

Counts are higher since multiple consists may be involved.

TABLE 5-15 TRAIN ACCIDENTS BY CONSIST LENGTH AND TYPE CONSIST, 1997

Length	Freight Train	Psgr Train	Commuter Train	Work Train	Single Car	Cut of Cars	Yard/ Switch	Light loco(s)	Maint/ Insp car
???	1	-	-	-	-	-	1	-	-
1	2	2	-	-	72	2	5	27	32
2-5	36	31	2	3	-	85	91	56	5
6-10	50	63	6	2	-	10	103	3	-
11-15	36	36	-	3	-	18	63	-	-
16-20	53	9	-	1	-	11	71	-	-
21-25	49	2	-	1	-	5	65	-	-
26-30	75	-	-	-	-	7	49	-	-
31-35	67	-	-	1	-	4	56	-	-
36-40	60	-	-	-	-	6	46	-	-
41-45	55	1	-	1	-	5	46	-	-
46-50	68	-	-	2	-	3	28	-	-
51-60	122	-	-	-	-	3	52	-	-
61-70	133	-	-	-	-	5	35	-	-
71-80	125	-	-	-	-	7	20	-	-
81-90	112	-	-	-	-	2	30	-	-
91-100	103	-	-	-	-	-	17	-	-
101-110	129	-	-	-	-	1	16	-	-
111-120	153	-	-	1	-	2	11	1	1
121-130	41	-	-	-	-	-	7	-	-
131-140	20	-	-	-	-	-	2	-	-
141-150	20	-	-	-	-	-	1	-	-
>= 151	19	-	-	-	-	3	3	-	-
-- Tot	1,529	144	8	15	72	179	818	87	38

Counts are higher since multiple consists may be involved.

TABLE 5-16 INVOLVEMENT IN TRAIN ACCIDENTS BY TYPE CONSIST, 1997

	Total		Type of Accident				Type of Track					Causes					
	Cnt	%	Coll	Der	HRC	Othr	Main	Yard	Side	Ind.	Unk	Eqp	HRC	Hmn	Othr	Sig	Trk
Freight Train	1,481	53.8	89	1,160	118	114	819	457	77	112	16	208	118	381	178	9	587
Psgr Train	139	5.1	12	38	37	52	112	23	4	-	-	12	37	12	41	-	37
Commuter Train	8	.3	-	5	-	3	4	4	-	-	-	1	-	1	4	-	2
Work Train	15	.5	3	8	1	3	9	4	1	1	-	2	1	8	3	-	1
Single Car	62	2.3	19	14	1	28	7	49	-	5	1	5	1	33	9	7	7
Cut of Cars	171	6.2	28	67	-	76	14	135	3	17	2	16	-	79	41	9	26
Yard/ Switch	762	27.7	111	450	1	200	50	638	19	54	1	37	1	403	81	22	218
Light loco(s)	84	3.1	26	34	2	22	13	63	2	5	1	1	2	53	8	-	20
Maint/ Insp car	29	1.1	6	3	3	17	22	2	3	2	-	-	3	18	7	-	1
-- Total	2,751	100	294	1,779	163	515	1,050	1,375	109	196	21	282	163	988	372	47	899

If more than one consist of same type in accident, then only one is counted. For example, a collision between two freight trains would be counted as one freight train.

TABLE 5-17 DAMAGE BY TRACK TYPE, 1997

	Total Damage		Equip Damage		Track Damage	
	Amount	Avg	Amount	Avg	Amount	Avg
Main	169,354,065	143,036	122,494,657	103,458	46,859,408	39,577
Yard	40,363,430	26,450	30,632,087	20,073	9,731,343	6,377
Side	8,404,073	68,886	6,195,549	50,783	2,208,524	18,103
Ind.	5,188,253	25,309	3,952,758	19,282	1,235,495	6,027
Unk	2,413,333	61,880	1,446,225	37,083	967,108	24,798
--						
Total	225,723,154	73,382	164,721,276	53,550	61,001,878	19,832

TABLE 5-18 DAMAGE BY CONSIST TYPE, 1997

	Total Damage		Equip Damage		Track Damage	
	Amount	Avg	Amount	Avg	Amount	Avg
Freight Train	166,281,495	108,752	119,877,003	78,402	46,404,492	30,350
Psgr Train	17,770,881	123,409	17,358,154	120,543	412,727	2,866
Commuter Train	277,534	34,692	207,061	25,883	70,473	8,809
Work Train	1,749,352	116,623	1,635,109	109,007	114,243	7,616
Single Car	1,125,551	15,633	1,025,746	14,246	99,805	1,386
Cut of Cars	5,709,885	31,899	4,887,076	27,302	822,809	4,597
Yard/ Switch	18,986,534	23,211	14,908,894	18,226	4,077,640	4,985
Light loco(s)	3,946,055	45,357	3,781,466	43,465	164,589	1,892
Maint/ Insp car	1,270,135	33,425	1,008,767	26,547	261,368	6,878
99	8,605,732	46,267	32,000	172	8,573,732	46,095
-- Total	225,723,154	73,382	164,721,276	53,550	61,001,878	19,832

CHAPTER 6

TRAIN ACCIDENTS INVOLVING CONSISTS TRANSPORTING HAZARDOUS MATERIAL

Hazardous Material is any substance or material, including a hazardous substance, which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, or property when transported in commerce, and which has been so designated.

An incident resulting in damage to cars transporting hazardous material, or causing a release of the hazardous material, is not of and by itself a basis for reporting to FRA under the accident/incident rules. First, the incident must satisfy the criteria for train accident reporting described in the previous chapter. Namely, there must be total reportable damage to the rail equipment and track above the threshold. In 1997 the threshold was $6,500.

All evacuations, including precautionary ones, in reponse to a potential release of hazardous material are required to be reported even if an actual release did not occur.

Additional information concerning any unintentional release of hazardous material during transportation by rail or other modes, is available through the Research and Special Programs Administration within the U. S. Department of Transportation.

CONTENTS

CHAPTER 6

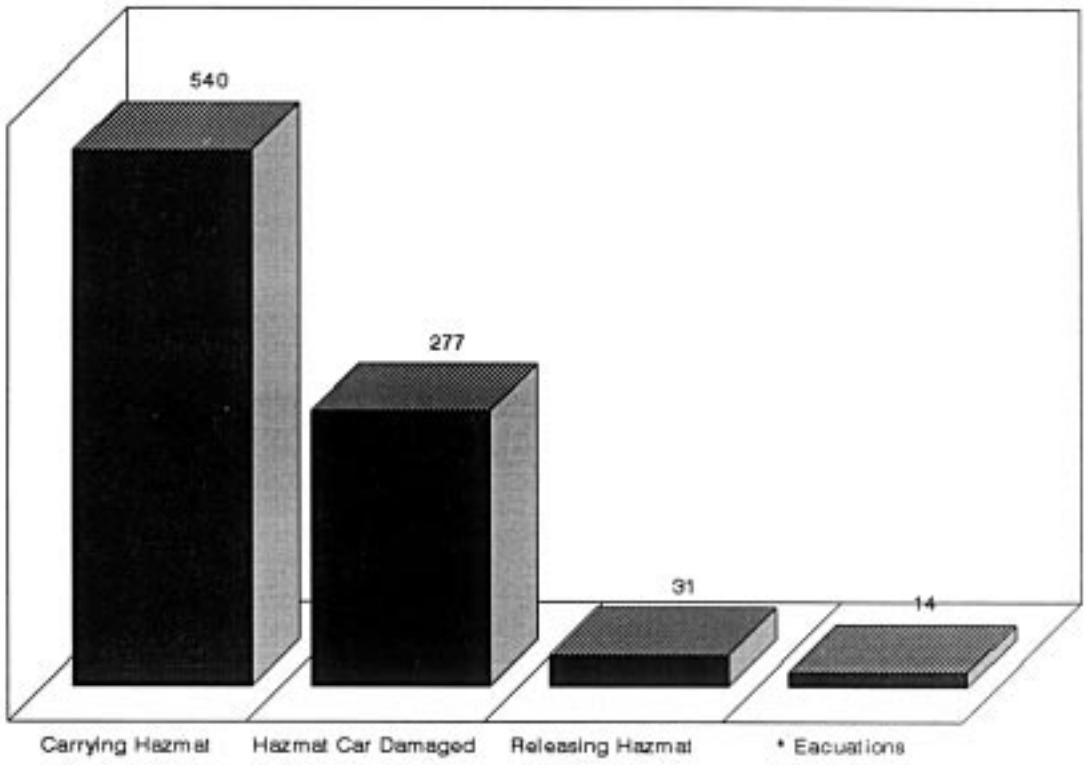
TRAIN ACCIDENTS/INVOLVING CONSISTS TRANSPORTING HAZARDOUS MATERIALS

Figures **Page**

Tables

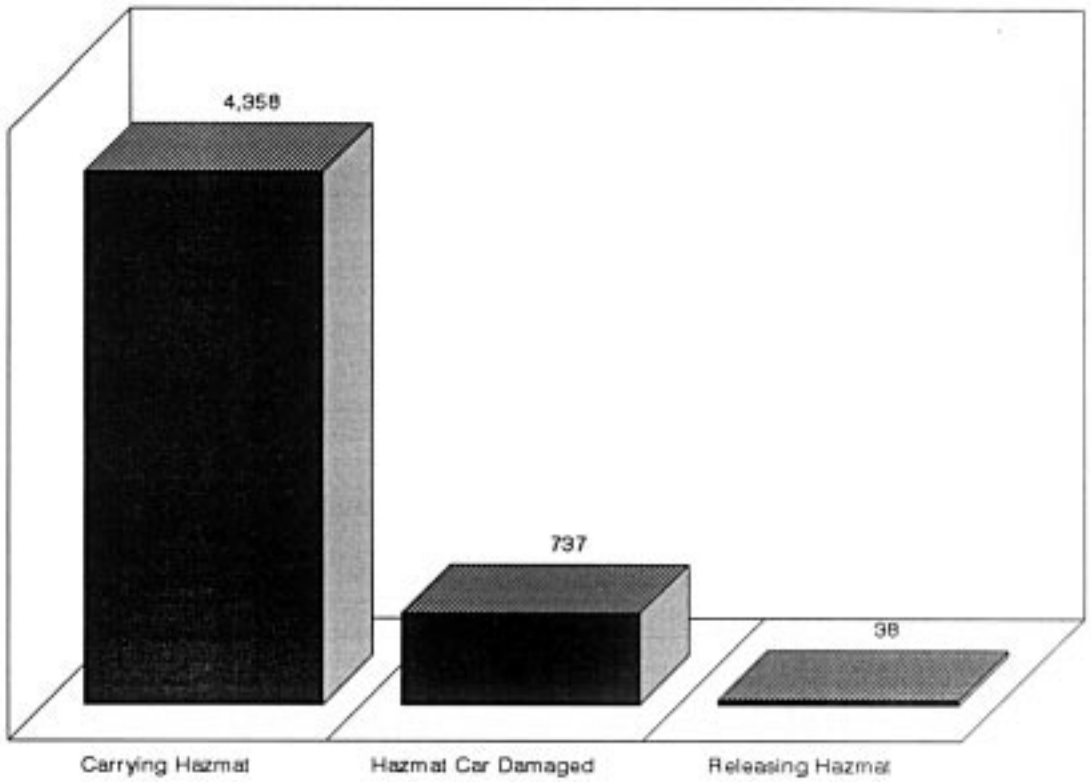
6-1 ACCIDENTS INVOLVING CONSISTS TRANSPORTING HAZMAT, 1997

NUMBER OF CONSISTS



* number of evacuations - 8,771 people evacuated

6-2 NUMBER OF CARS



There were 31,098 cars of all types in consists.

TABLE 6-1 CONSISTS TRANSPORTING HAZMAT, BY RAILROAD, 1997

	Hazmat Consists			Total Cars In Consist	Hazmat Cars			Evacuations	
	Cnt	Damaged	Release		Cnt	Damaged	Release	Cnt	People
ALS	1	1	-	50	7	7	-	-	-
ARR	1	1	-	79	68	6	-	-	-
ATK	-	-	-	-	-	-	-	-	-
BLE	-	-	-	-	-	-	-	-	-
BNSF	122	54	3	7,336	850	159	4	3	1,676
BRC	10	7	-	490	77	14	-	-	-
BS	-	-	-	-	-	-	-	-	-
CR	32	26	3	2,225	86	68	3	2	210
CSX	62	33	4	3,450	461	62	4	-	-
DH	-	-	-	-	-	-	-	-	-
DME	-	-	-	-	-	-	-	-	-
DMIR	-	-	-	-	-	-	-	-	-
DWP	1	1	-	42	1	1	-	-	-
EJE	2	-	-	9	2	-	-	-	-
FEC	4	1	-	295	14	2	-	-	-
GRP3	37	21	4	1,112	235	43	5	2	800
GRS	1	1	-	25	4	2	-	-	-
GTW	2	2	-	80	3	3	-	-	-
GWWR	1	1	1	2	1	1	1	1	1,669
HBT	1	1	-	33	14	3	-	-	-
IC	24	18	2	1,463	279	54	3	1	4,000
IHB	2	2	-	188	27	7	-	-	-
IMRL	8	3	-	599	32	7	-	-	-
KCS	12	4	2	751	115	20	2	-	-
LI	-	-	-	-	-	-	-	-	-
MBTA	-	-	-	-	-	-	-	-	-
MNCW	-	-	-	-	-	-	-	-	-
MRL	14	8	-	540	127	34	-	-	-
NICD	-	-	-	-	-	-	-	-	-
NIRC	-	-	-	-	-	-	-	-	-
NJTR	-	-	-	-	-	-	-	-	-
NS	39	23	4	2,441	349	52	5	2	372
PAL	4	3	1	104	49	5	1	-	-
PTRA	2	1	-	59	8	1	-	-	-
SCAX	-	-	-	-	-	-	-	-	-
SEPA	-	-	-	-	-	-	-	-	-
SOO	11	4	-	697	122	16	-	-	-
TM	2	1	1	185	9	1	1	-	-
TRRA	-	-	-	-	-	-	-	-	-
UP	135	59	6	9,325	1,385	168	9	3	85
URR	-	-	-	-	-	-	-	-	-
WC	10	1	-	689	33	1	-	-	-
WE	-	-	-	-	-	-	-	-	-
Tot	540	277	31	32,269	4,358	737	38	14	8,812

Cnt = count. A consist is a train, locomotive(s), cut of cars, or a single car.

TABLE 6-2 CONSISTS TRANSPORTING HAZMAT, BY STATE, 1997

	Hazmat Consists			Total Cars In Consist	Hazmat Cars			Evacuations	
	Cnt	Damaged	Release		Cnt	Damaged	Release	Cnt	People
AL	15	6	-	1,151	152	16	-	-	-
AK	1	1	-	79	68	6	-	-	-
AZ	10	6	2	595	114	13	3	1	300
AR	7	3	1	490	84	4	2	-	-
CA	24	10	-	1,243	161	25	-	-	-
CO	4	2	-	306	59	2	-	-	-
CT	1	1	1	33	1	1	1	-	-
DE	1	1	-	16	2	1	-	-	-
DC	-	-	-	-	-	-	-	-	-
FL	6	2	1	441	46	20	1	-	-
GA	12	5	-	834	59	7	-	-	-
ID	10	3	1	683	77	6	3	-	-
IL	52	31	3	2,914	448	76	3	3	1,769
IN	11	7	-	612	41	13	-	-	-
IA	23	11	1	1,322	127	22	1	-	-
KS	20	8	1	1,206	143	31	1	1	1,600
KY	18	13	1	897	160	35	1	-	-
LA	24	14	2	1,060	229	45	2	-	-
ME	2	2	-	56	14	3	-	1	500
MD	5	4	1	187	12	4	1	-	-
MA	3	1	1	130	15	4	1	-	-
MI	7	4	-	272	58	11	-	-	-
MN	11	3	-	861	52	9	-	-	-
MS	10	4	1	850	115	6	2	1	4,000
MO	12	9	-	638	75	20	-	-	-
MT	18	10	-	795	148	37	-	-	-
NE	8	1	-	629	50	1	-	-	-
NV	1	-	-	50	11	-	-	-	-
NJ	5	2	-	35	10	6	-	-	-
NM	7	3	-	427	52	7	-	-	-
NY	5	5	2	525	29	26	2	1	60
NC	6	3	1	345	58	5	2	-	-
ND	2	1	-	28	2	1	-	-	-
OH	16	11	1	1,068	73	26	1	1	150
OK	4	2	1	248	25	9	1	-	-
OR	11	4	-	915	81	14	-	-	-
PA	14	11	-	951	69	14	-	-	-
SC	4	1	-	196	9	1	-	-	-
SD	2	1	-	53	7	3	-	-	-
TN	23	13	2	1,414	305	36	2	1	322
TX	83	43	3	5,454	920	142	4	4	111
UT	6	5	1	315	13	11	1	-	-
VT	1	-	-	43	1	-	-	-	-
VA	5	3	1	235	32	3	1	-	-
WA	14	2	-	607	75	6	-	-	-
WV	2	1	1	155	30	5	1	-	-
WI	11	2	-	752	39	2	-	-	-
WY	3	2	1	153	7	2	1	-	-
Tot	540	277	31	32,269	4,358	737	38	14	8,812

TABLE 6-3 CONSISTS TRANSPORTING HAZMAT, BY SUBCAUSE, 1997

	Hazmat Consists			Total Cars In Consist	Hazmat Cars			Evacuations	
	Cnt	Damaged	Release		Cnt	Damaged	Release	Cnt	People
Brakes	6	-	-	341	33	-	-	1	10
Trailer/Container on Flatcar	-	-	-	-	-	-	-	-	-
Body	5	1	-	580	27	1	-	-	-
Coupler & Draft System	9	4	-	694	50	5	-	-	-
Truck Components	15	6	-	997	127	27	-	-	-
Axles & Journal Bearings	20	9	-	1,644	118	18	-	-	-
Wheels	14	4	1	1,012	178	27	1	2	822
Locomotives	-	-	-	-	-	-	-	-	-
Doors	-	-	-	-	-	-	-	-	-
Other Mechanical	-	-	-	-	-	-	-	-	-
Brakes, Use of	29	22	4	1,359	143	55	6	2	350
Employee Physical Condition	1	1	-	62	15	4	-	-	-
Flagging, Fixed, Hand & Radio	10	3	1	692	86	7	1	-	-
General Switching Rules	71	44	4	2,920	391	79	5	2	1,719
Main Track Authority	4	3	-	172	18	4	-	-	-
Train Handling/Makeup	33	15	1	2,659	274	44	1	1	150
Speed	19	8	1	1,016	131	17	3	-	-
Switches, Use of	30	15	1	1,648	208	29	1	-	-
Miscellaneous Human Factors	7	2	-	323	66	3	-	-	-
Environmental Conditions	6	2	-	240	33	4	-	-	-
Loading Procedures	15	8	2	942	146	28	2	-	-
Highway-Rail Incidents	19	3	-	1,006	141	12	-	-	-
Unusual Operational Situations	18	7	2	1,158	114	19	2	1	60
Other Miscellaneous Causes	23	13	3	1,438	231	55	3	-	-
Signal Defects	6	3	-	199	46	4	-	-	-
Roadbed	5	3	-	233	43	4	-	-	-
Track Geometry	73	45	3	4,233	764	141	4	2	4,010
Rail, Joint Bar & Anchors	60	36	7	4,012	559	97	8	2	1,625
Frogs, Switches, Appliances	41	20	1	2,662	415	53	1	1	66
Other Track Defects	1	-	-	27	1	-	-	-	-
Total	540	277	31	32,269	4,358	737	38	14	8,812

TABLE 6-4 CONSISTS TRANSPORTING HAZMAT, BY ACCIDENT TYPE, 1997

	Hazmat Consists			Total Cars In Consist	Hazmat Cars			Evacuations	
	Cnt	Damaged	Release		Cnt	Damaged	Release	Cnt	People
Derailments	388	214	25	24,794	3,360	594	31	12	8,752
Head on collision	6	1	-	421	72	14	-	1	10
Rear end collision	4	3	1	224	39	10	1	-	-
Side collision	35	14	1	1,806	267	40	1	1	50
Raking collision	10	6	1	522	33	8	1	-	-
Broken train coll.	3	2	-	236	29	4	-	-	-
Highway-rail Impact	19	3	-	1,006	141	12	-	-	-
RR crossing collision	3	-	-	161	14	-	-	-	-
Obstruction impact	4	1	-	254	20	1	-	-	-
Fire/violent rupture	1	-	-	33	1	-	-	-	-
Other impacts	56	29	3	2,278	341	49	4	-	-
Other events	11	4	-	534	41	5	-	-	-
-- Total	540	277	31	32,269	4,358	737	38	14	8,812

CHAPTER 7

HIGHWAY-RAIL INCIDENTS

Any impact, regardless of severity, between a railroad on-track equipment consist and any user of a public or private crossing site, is to be reported on Form FRA F 6180.57. The crossing site includes sidewalks and pathways at, or associated with, the crossing.

In addition, whenever a highway-rail grade crossing accident/incident results in reportable damages greater than the current reporting threshold used for Rail Equipment Accident/Incident reporting, a Form FRA F 6180.54 must be completed. The reporting threshold for accidents for 1997 was $6,500.

Highway users include but are not limited to: automobiles, buses, trucks, motorcycles, bicycles, recreational vehicles, farm vehicles, construction vehicles, roadway maintenance vehicles, and pedestrians.

Suicides or attempted suicides, as determined by a coroner or other public authority, at highway-rail crossing sites are not reportable. However, the event may be reportable under other criteria. For example, reportable conditions to others must be recorded on Form FRA F 6180.55a, e.g., the engineer sustained a fractured arm. Likewise, if the event caused reportable damage above the current monetary threshold for Rail Equipment Accidents/Incidents, a Form FRA F 6180.54 must be prepared. In these situations, the type of accident is coded as an "Obstruction".

Incidents involving highway users who have unsuccessfully attempted to avoid striking or being struck by a railroad consist at a crossing site are to be reported, regardless of where the actual impact between the consist and the highway user occurred.

Each reportable casualty resulting from a highway-rail crossing impact must also be reported on Form FRA F 6180.55a.

If the accident/incident satisfies the reporting requirements for rail equipment accidents (e.g., reportable railroad damage exceeds threshold), Form FRA F 6180.54 must also be completed by all railroads involved, including the railroad with track maintenance responsibility.

CONTENTS

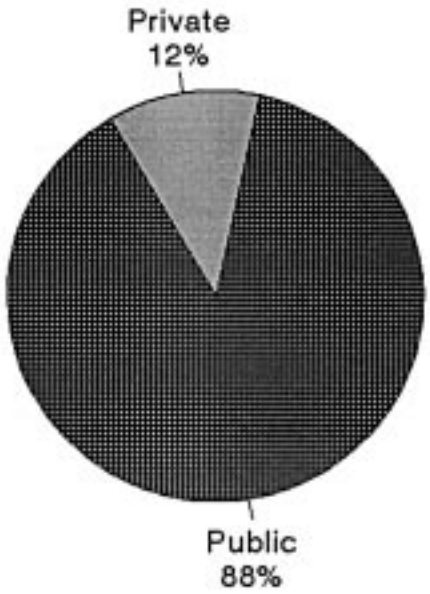
CHAPTER 7

HIGHWAY-RAIL INCIDENTS

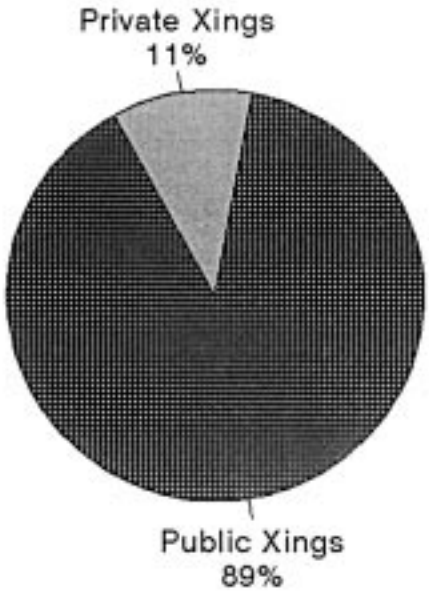
Figures **Page**

Tables

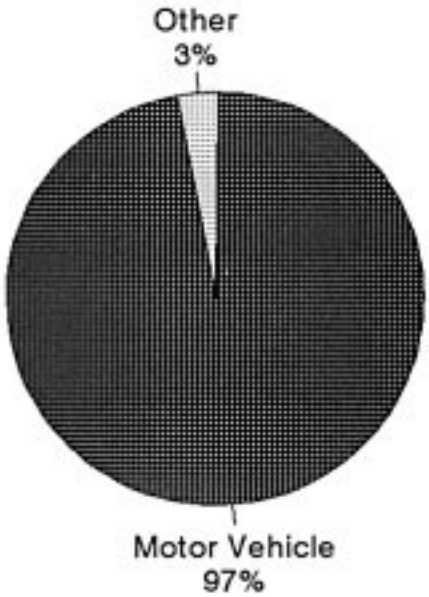
7-1 TOTAL HIGHWAY-RAIL INCIDENTS, 1997



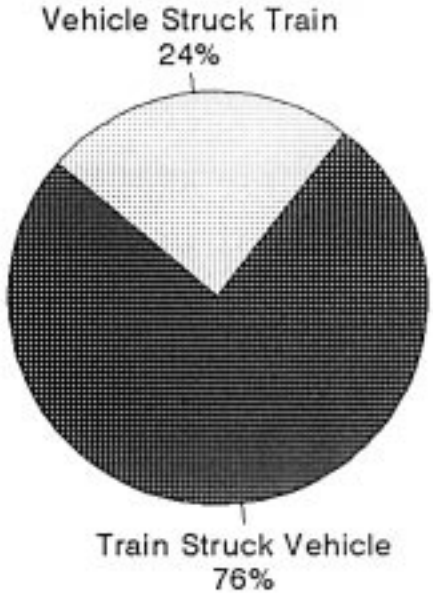
TYPE HIGHWAY



TOTAL KILLED AND INJURED

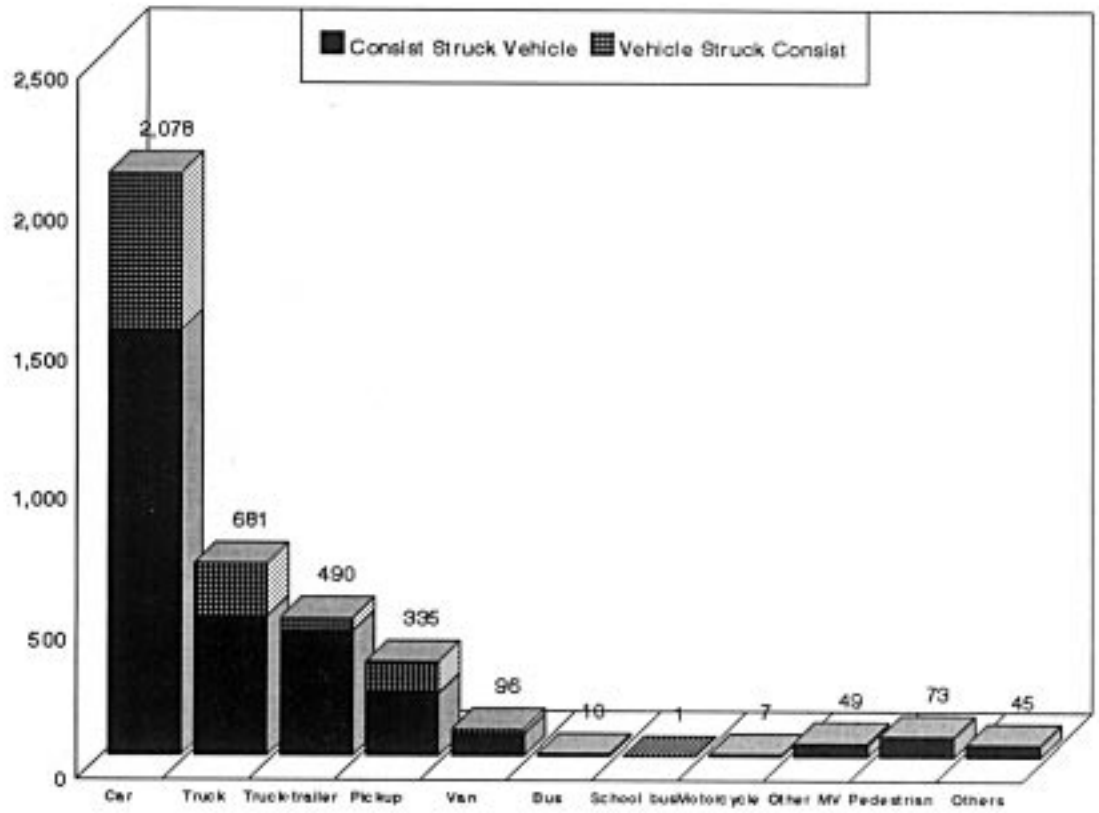


TYPE HIGHWAY USER

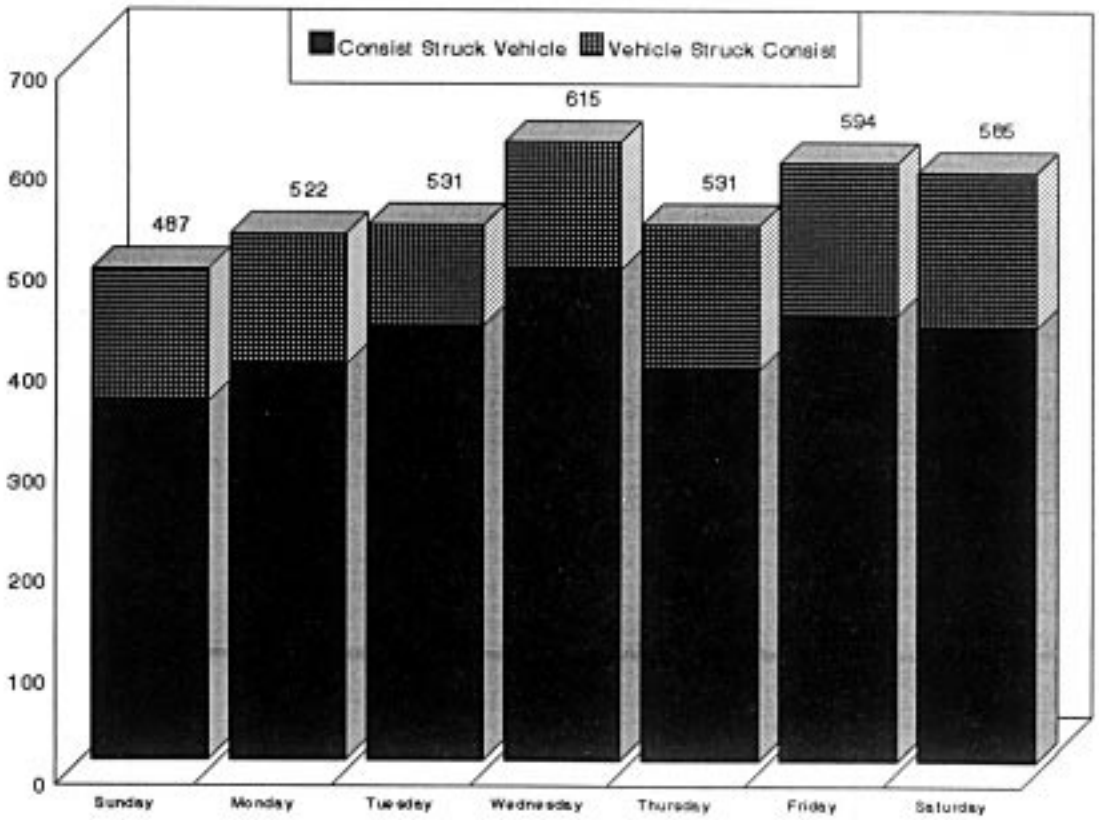


INCIDENTS

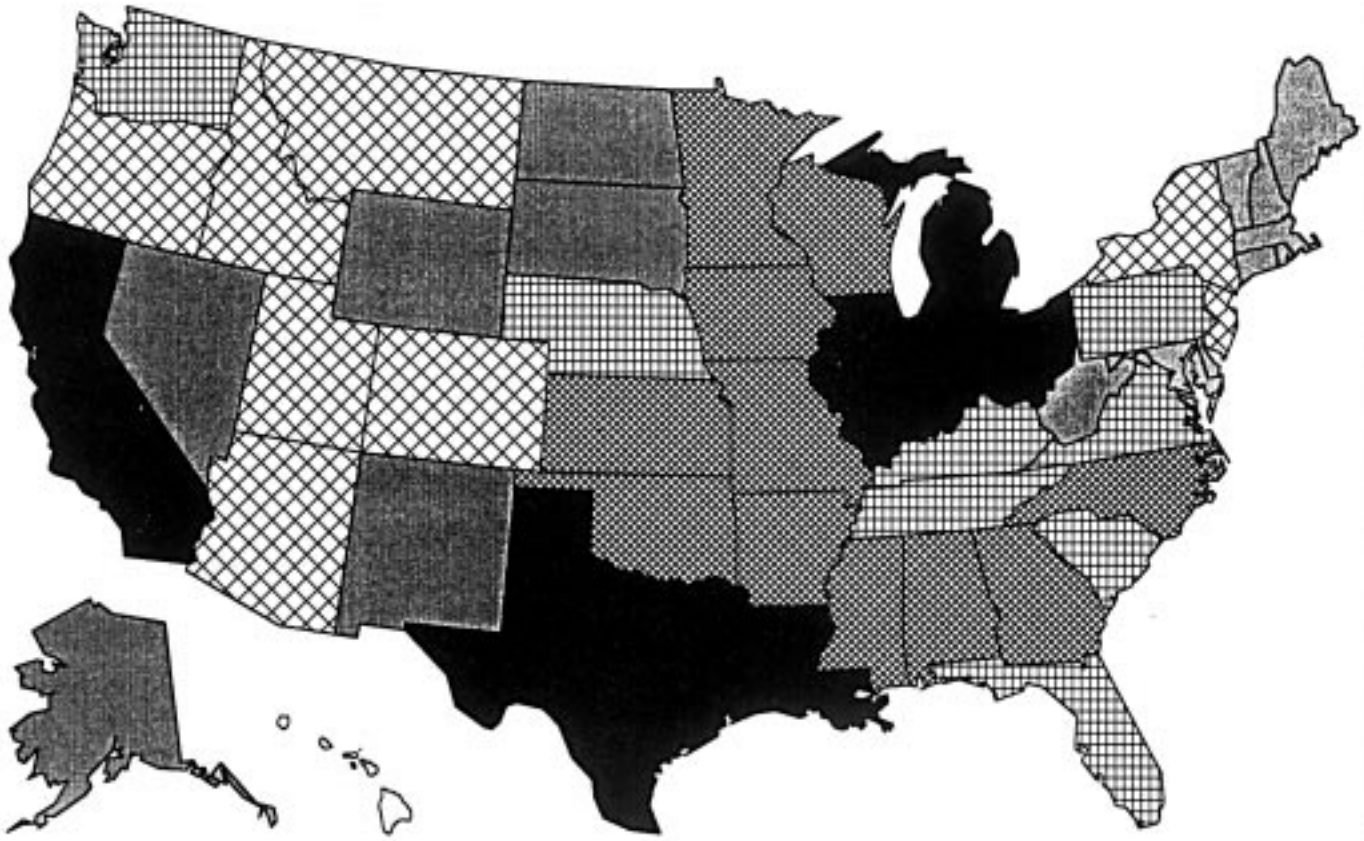
7-2 TYPE OF HIGHWAY USER INVOLVED, 1997



7-3 DAY OF WEEK, 1997



7–4 HIGHWAY–RAIL INCIDENTS BY STATE, 1997



NUMBER
1-25
26-50
51-100
101-150
>= 151

TABLE 7-1 TOTAL HIGHWAY-RAIL INCIDENTS BY RAILROAD, 1997

	Totals			At Public Crossing						At Private Crossing					
				Motor Vehicle			Other			Motor Vehicle			Other		
	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf
ARR	5	1	-	4	1	-	-	-	-	1	-	-	-	-	-
ATK	176	53	123	140	37	78	10	6	3	26	10	42	-	-	-
BAR	3	-	-	2	-	-	-	-	-	1	-	-	-	-	-
BLE	5	1	5	4	1	4	1	-	1	-	-	-	-	-	-
BNSF	611	85	209	520	74	182	17	4	7	72	6	20	2	1	-
BRC	2	1	2	2	1	2	-	-	-	-	-	-	-	-	-
BS	3	-	-	2	-	-	-	-	-	1	-	-	-	-	-
CR	187	23	58	170	21	51	3	2	1	14	-	6	-	-	-
CSX	469	59	213	413	49	178	19	7	12	36	3	23	1	-	-
DH	12	2	6	7	2	2	2	-	2	3	-	2	-	-	-
DME	21	-	1	19	-	1	-	-	-	2	-	-	-	-	-
DMIR	2	-	1	2	-	1	-	-	-	-	-	-	-	-	-
DWP	4	3	-	4	3	-	-	-	-	-	-	-	-	-	-
EJE	5	-	2	3	-	2	-	-	-	2	-	-	-	-	-
FEC	20	5	9	19	5	8	1	-	1	-	-	-	-	-	-
GRS	15	1	2	12	1	2	1	-	-	2	-	-	-	-	-
GTW	40	7	33	36	6	31	2	1	2	2	-	-	-	-	-
GWWR	6	-	4	6	-	4	-	-	-	-	-	-	-	-	-
HBT	2	-	1	2	-	1	-	-	-	-	-	-	-	-	-
IC	136	13	66	111	9	58	4	3	-	21	1	8	-	-	-
IHB	14	-	6	10	-	6	-	-	-	4	-	-	-	-	-
IMRL	20	2	8	15	2	4	1	-	2	4	-	2	-	-	-
KCS	187	22	82	166	20	79	5	2	1	13	-	2	3	-	-
LI	4	3	2	3	2	2	1	1	-	-	-	-	-	-	-
MBTA	5	1	1	3	-	1	1	1	-	1	-	-	-	-	-
MNCW	3	-	-	2	-	-	-	-	-	1	-	-	-	-	-
MRL	23	1	8	14	1	7	1	-	1	7	-	-	1	-	-
NICD	13	-	2	12	-	1	1	-	1	-	-	-	-	-	-
NIRC	16	2	9	12	-	7	3	1	2	1	1	-	-	-	-
NJTR	10	7	1	6	3	1	4	4	-	-	-	-	-	-	-
NS	508	46	187	439	38	161	7	3	4	61	5	22	1	-	-
OTHE	357	10	87	310	8	82	4	1	1	43	1	4	-	-	-
PAL	11	-	6	9	-	5	-	-	-	1	-	1	1	-	-
PTRA	5	-	3	4	-	2	-	-	-	1	-	1	-	-	-
SCAX	9	2	-	7	1	-	1	-	-	1	1	-	-	-	-
SEPA	1	1	3	1	1	3	-	-	-	-	-	-	-	-	-
SOO	55	2	26	47	2	24	2	-	1	6	-	1	-	-	-
TM	12	-	4	12	-	4	-	-	-	-	-	-	-	-	-
UP	783	103	325	669	85	290	11	5	1	102	13	34	1	-	-
URR	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-
WC	92	3	42	78	3	38	3	-	3	10	-	1	1	-	-
WE	12	2	3	11	2	2	-	-	-	1	-	1	-	-	-
--- Tot	3,865	461	1,540	3,309	378	1,324	105	41	46	440	41	170	11	1	-

Cnt = count, Ftl = Fatality, Nonf = Nonfatal injury/illness

TABLE 7-2 TOTAL HIGHWAY-RAIL INCIDENTS BY STATE, 1997

	Totals			At Public Crossing						At Private Crossing					
				Motor Vehicle			Other			Motor Vehicle			Other		
	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf
ST															
AK	5	1	-	4	1	-	-	-	-	1	-	-	-	-	-
AL	135	19	58	120	19	51	1	-	5	13	-	2	1	-	-
AR	118	10	45	99	7	42	1	-	-	17	3	3	1	-	-
AZ	27	5	12	23	4	12	2	1	-	2	-	-	-	-	-
CA	159	22	65	119	10	34	14	6	5	26	6	26	-	-	-
CO	28	2	6	24	2	5	-	-	-	4	-	1	-	-	-
CT	6	-	1	4	-	1	-	-	-	2	-	-	-	-	-
DE	4	1	2	4	1	2	-	-	-	-	-	-	-	-	-
FL	89	12	42	74	9	33	5	2	3	10	1	6	-	-	-
GA	138	12	57	122	9	48	2	2	-	14	1	9	-	-	-
IA	106	12	55	87	11	46	3	1	2	16	-	7	-	-	-
ID	30	6	6	27	6	6	-	-	-	3	-	-	-	-	-
IL	213	27	85	176	20	70	15	5	9	21	2	6	1	-	-
IN	227	23	112	206	21	101	4	2	1	16	-	10	1	-	-
KS	109	16	28	95	15	25	4	-	1	10	1	2	-	-	-
KY	65	5	26	47	5	20	2	-	1	15	-	5	1	-	-
LA	203	30	111	174	25	99	5	4	-	22	1	12	2	-	-
MA	18	2	1	13	1	1	1	1	-	4	-	-	-	-	-
MD	18	-	7	15	-	5	1	-	1	2	-	1	-	-	-
ME	12	-	2	10	-	2	-	-	-	2	-	-	-	-	-
MI	152	14	89	142	14	81	2	-	1	8	-	7	-	-	-
MN	116	7	32	108	6	30	2	1	1	6	-	1	-	-	-
MO	112	15	33	89	12	31	-	-	-	23	3	2	-	-	-
MS	148	19	61	130	15	55	3	1	1	14	3	5	1	-	-
MT	29	1	11	17	1	7	1	-	1	10	-	3	1	-	-
NC	114	6	50	100	3	42	3	1	1	11	2	7	-	-	-
ND	21	1	7	19	1	7	-	-	-	2	-	-	-	-	-
NE	68	9	13	62	9	13	-	-	-	6	-	-	-	-	-
NH	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-
NJ	34	9	14	29	5	13	4	4	-	1	-	1	-	-	-
NM	20	6	6	16	5	5	1	1	-	3	-	1	-	-	-
NV	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-
NY	37	7	14	23	3	10	4	1	2	10	3	2	-	-	-
OH	178	26	46	168	25	43	4	1	2	6	-	1	-	-	-
OK	117	24	56	108	23	55	1	1	-	8	-	1	-	-	-
OR	35	4	2	23	3	1	2	1	1	10	-	-	-	-	-
PA	67	5	26	56	5	20	2	-	2	9	-	4	-	-	-
RI	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-
SC	74	14	27	70	13	25	2	1	1	2	-	1	-	-	-
SD	23	-	8	22	-	8	-	-	-	1	-	-	-	-	-
TN	88	12	24	75	8	23	3	3	-	10	1	1	-	-	-
TX	421	54	197	364	46	173	4	-	1	53	8	23	-	-	-
UT	27	3	8	25	3	8	-	-	-	2	-	-	-	-	-
VA	56	2	15	37	1	3	-	-	-	18	1	12	1	-	-
VT	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-
WA	64	7	23	55	4	19	2	1	1	7	2	3	-	-	-
WI	117	6	53	101	6	47	5	-	3	11	-	3	-	-	-
WV	25	4	4	19	1	2	-	-	-	6	3	2	-	-	-
WY	7	1	-	4	-	-	-	-	-	2	-	-	1	1	-

Tot	3,865	461	1,540	3,309	378	1,324	105	41	46	440	41	170	11	1	-

TABLE 7-3 TOTAL HRC CASUALTIES BY STATE AND AGE GROUP, 1997

	Fatal				Total		Nonfatal Cases				Total	
	Age Group						Age Group					
	Unk	< 16	16-21	> 21	Cnt	%	Unk	< 16	16-21	> 21	Cnt	%
AL	1	5	3	10	19	4.1	1	2	14	41	58	3.8
AK	-	-	-	1	1	.2	-	-	-	-	-	-
AZ	1	-	-	4	5	1.1	7	-	-	5	12	.8
AR	3	-	-	7	10	2.2	4	1	9	30	44	2.9
CA	8	-	4	10	22	4.8	14	4	6	41	65	4.2
CO	-	-	-	2	2	.4	-	-	1	5	6	.4
CT	-	-	-	-	-	-	1	-	-	-	1	.1
DE	-	-	-	1	1	.2	-	-	-	2	2	.1
FL	4	-	-	8	12	2.6	4	3	7	28	42	2.7
GA	-	-	-	12	12	2.6	2	5	9	41	57	3.7
ID	-	-	1	5	6	1.3	2	-	2	2	6	.4
IL	2	1	3	21	27	5.9	5	3	8	69	85	5.5
IN	4	2	5	12	23	5.0	6	15	27	64	112	7.3
IA	1	1	4	6	12	2.6	4	7	8	36	55	3.6
KS	3	-	3	10	16	3.5	2	1	4	21	28	1.8
KY	-	-	1	4	5	1.1	4	-	6	16	26	1.7
LA	2	3	3	22	30	6.5	7	11	22	71	111	7.2
ME	-	-	-	-	-	-	-	1	-	1	2	.1
MD	-	-	-	-	-	-	-	-	1	6	7	.5
MA	-	-	-	2	2	.4	-	-	-	1	1	.1
MI	1	1	8	4	14	3.0	15	5	10	59	89	5.8
MN	-	-	2	5	7	1.5	1	-	8	23	32	2.1
MS	6	-	2	11	19	4.1	3	1	15	42	61	4.0
MO	2	-	3	10	15	3.3	4	4	9	16	33	2.1
MT	-	-	-	1	1	.2	1	-	-	10	11	.7
NE	-	-	3	6	9	2.0	-	-	3	10	13	.8
NJ	1	-	-	8	9	2.0	4	-	2	8	14	.9
NM	-	-	-	6	6	1.3	1	1	2	2	6	.4
NY	1	-	2	4	7	1.5	4	-	-	10	14	.9
NC	-	-	2	4	6	1.3	4	7	10	29	50	3.2
ND	-	-	1	-	1	.2	-	2	1	4	7	.5
OH	1	2	7	16	26	5.6	-	4	6	36	46	3.0
OK	-	2	7	15	24	5.2	5	4	20	27	56	3.6
OR	2	-	-	2	4	.9	-	-	-	2	2	.1
PA	-	-	2	3	5	1.1	2	1	3	20	26	1.7
SC	-	-	2	12	14	3.0	-	-	5	22	27	1.8
SD	-	-	-	-	-	-	-	-	-	8	8	.5
TN	-	1	2	9	12	2.6	-	2	7	15	24	1.6
TX	4	6	2	42	54	11.7	18	19	28	133	198	12.9
UT	2	-	1	-	3	.7	1	2	2	3	8	.5
VA	-	-	-	2	2	.4	1	-	1	13	15	1.0
WA	2	-	-	5	7	1.5	3	2	12	6	23	1.5
WV	-	-	1	3	4	.9	-	-	1	3	4	.3
WI	-	-	-	6	6	1.3	2	8	14	29	53	3.4
WY	-	-	-	1	1	.2	-	-	-	-	-	-
ALL	51	24	74	312	461	10 -	132	115	283	1,010	1,540	100

TABLE 7-4 TOTAL HIGHWAY-RAIL INCIDENTS BY MONTH, 1997

Month	Total Incidents		Total		At Public Crossing						At Private Crossing					
					Motor Vehicle			Other			Motor Vehicle			Other		
	Cnt	%	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf
Jan	443	11.46	33	199	399	28	185	4	-	1	39	5	13	1	-	-
Feb	312	8.07	31	135	271	26	117	9	2	5	30	3	13	2	-	-
Mar	305	7.89	49	108	266	42	90	11	7	2	28	-	16	-	-	-
Apr	303	7.84	39	117	253	28	101	12	7	3	36	3	13	2	1	-
May	303	7.84	36	118	259	31	101	10	2	5	33	3	12	1	-	-
Jun	269	6.96	32	102	226	26	92	11	6	4	32	-	6	-	-	-
Jul	335	8.67	50	117	263	37	90	7	3	4	64	10	23	1	-	-
Aug	330	8.54	34	151	268	24	117	9	3	3	52	7	31	1	-	-
Sep	299	7.74	37	135	272	36	125	3	1	1	23	-	9	1	-	-
Oct	326	8.43	44	138	265	32	114	11	6	4	50	6	20	-	-	-
Nov	329	8.51	35	111	285	33	91	13	-	13	30	2	7	1	-	-
Dec	311	8.05	41	109	282	35	101	5	4	1	23	2	7	1	-	-

Total	3865	100.0	461	1540	3,309	378	1324	105	41	46	440	41	170	11	1	-

TABLE 7-5 TOTAL HIGHWAY-RAIL INCIDENTS BY DAY, 1997

Type /	Day	Total Incidents		Total		At Public Crossing						At Private Crossing					
						Motor Vehicle			Other			Motor Vehicle			Other		
		Cnt	%	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf
Rail	Sunday	356	9.21	45	123	294	38	93	11	4	5	48	3	25	3	-	-
Equip	Monday	393	10.17	64	145	315	53	116	11	3	5	67	8	24	-	-	-
Struck	Tuesday	431	11.15	69	156	357	53	133	19	9	13	54	7	10	1	-	-
Highway	Wednesday	487	12.60	73	196	415	58	169	15	6	7	56	9	20	1	-	-
User	Thursday	389	10.06	40	173	326	31	145	16	9	2	46	-	26	1	-	-
	Friday	443	11.46	68	150	368	54	125	16	7	7	58	7	18	1	-	-
	Saturday	430	11.13	50	183	360	40	151	12	3	4	56	6	28	2	1	-

	Total	2929	75.78	409	1126	2,435	327	932	100	41	43	385	40	151	9	1	-
Highway	Sunday	131	3.39	14	62	126	14	61	2	-	1	3	-	-	-	-	-
User	Monday	129	3.34	5	75	118	5	68	-	-	-	11	-	7	-	-	-
Struck	Tuesday	100	2.59	7	24	97	7	24	-	-	-	3	-	-	-	-	-
Rail	Wednesday	128	3.31	6	58	118	5	51	-	-	-	10	1	7	-	-	-
Equip	Thursday	142	3.67	5	58	135	5	57	1	-	1	5	-	-	1	-	-
	Friday	151	3.91	7	64	141	7	63	1	-	-	8	-	1	1	-	-
	Saturday	155	4.01	8	73	139	8	68	1	-	1	15	-	4	-	-	-

	Total	936	24.22	52	414	874	51	392	5	-	3	55	1	19	2	-	-
---- Total		3865	100.0	461	1540	3,309	378	1324	105	41	46	440	41	170	11	1	-

TABLE 7-6 TOTAL HIGHWAY-RAIL INCIDENTS BY HOUR OF DAY, 1997

Hour of Day		Total Incidents		Total		At Public Crossing						At Private Crossing					
						Motor Vehicle			Other			Motor Vehicle			Other		
		Cnt	%	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf
AM	01	101	2.61	17	43	93	16	42	2	1	1	6	-	-	-	-	-
	02	97	2.51	6	30	79	5	25	2	-	2	16	1	3	-	-	-
	03	83	2.15	7	28	73	6	28	1	1	-	9	-	-	-	-	-
	04	47	1.22	5	24	39	2	20	1	1	-	6	2	4	1	-	-
	05	74	1.91	1	16	63	1	14	2	-	2	9	-	-	-	-	-
	06	107	2.77	11	45	86	8	39	5	1	2	15	2	4	1	-	-
	07	183	4.73	43	87	155	39	77	7	3	4	21	1	6	-	-	-
	08	211	5.46	31	71	180	26	62	3	1	-	27	4	9	1	-	-
	09	213	5.51	24	86	183	19	72	3	1	-	27	4	14	-	-	-
	10	217	5.61	20	90	184	18	62	5	-	1	28	2	27	-	-	-
	11	237	6.13	18	79	194	17	59	3	1	1	38	-	19	2	-	-
	12	98	2.54	14	39	86	12	35	3	1	1	9	1	3	-	-	-

	Total	1668	43.16	197	638	1,415	169	535	37	11	14	211	17	89	5	-	-
PM	01	236	6.11	21	103	197	9	91	11	7	3	28	5	9	-	-	-
	02	203	5.25	28	94	178	22	88	6	3	2	19	3	4	-	-	-
	03	251	6.49	37	94	216	33	79	4	1	1	30	3	14	1	-	-
	04	240	6.21	29	111	209	19	100	7	3	2	24	7	9	-	-	-
	05	220	5.69	32	82	195	25	74	6	1	5	19	6	3	-	-	-
	06	182	4.71	18	73	156	18	54	7	-	10	18	-	9	1	-	-
	07	142	3.67	16	50	127	14	47	1	1	-	12	-	3	2	1	-
	08	144	3.73	12	69	126	10	61	4	2	2	14	-	6	-	-	-
	09	125	3.23	11	33	107	7	28	10	4	4	8	-	1	-	-	-
	1	1	0.03	-	1	1	-	1	-	-	-	-	-	-	-	-	-
	10	124	3.21	21	68	107	19	60	4	2	2	13	-	6	-	-	-
	11	119	3.08	17	38	102	14	34	5	3	1	11	-	3	1	-	-
	12	210	5.43	22	86	173	19	72	3	3	-	33	-	14	1	-	-

	Total	2197	56.84	264	902	1,894	209	789	68	30	32	229	24	81	6	1	-
---- Total		3865	100.0	461	1540	3,309	378	1324	105	41	46	440	41	170	11	1	-

Cnt = count, Ftl = Fatality, Nonf = Nonfatal injury/illness

TABLE 7-7 TOTAL HIGHWAY-RAIL INCIDENTS BY TYPE HIGHWAY USER, 1997

Type & Highway User		Total Incidents		Total		At Public Crossing						At Private Crossing					
						Motor Vehicle			Other			Motor Vehicle			Other		
		Cnt	%	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf
Rail Equip	Unknown	2	0.05	-	2	2	-	2	-	-	-	-	-	-	-	-	-
Struck	Car	1522	39.38	217	546	1,363	199	499	-	-	-	159	18	47	-	-	-
Highway	Truck	496	12.83	76	199	418	67	173	-	-	-	78	9	26	-	-	-
User	Trk& Trail	445	11.51	18	200	333	16	129	-	-	-	112	2	71	-	-	-
	Pickup Trk	223	5.77	24	74	200	17	71	-	-	-	23	7	3	-	-	-
	Van	77	1.99	18	40	71	17	39	-	-	-	6	1	1	-	-	-
	Bus	9	0.23	-	10	8	-	9	-	-	-	1	-	1	-	-	-
	School Bus	1	0.03	1	-	1	1	-	-	-	-	-	-	-	-	-	-
	Motorcycle	3	0.08	-	-	3	-	-	-	-	-	-	-	-	-	-	-
	Oth Mtr V.	42	1.09	13	12	36	10	10	-	-	-	6	3	2	-	-	-
	Pedestrian	69	1.79	38	30	-	-	-	68	37	30	-	-	-	1	1	-
	Other	40	1.03	4	13	-	-	-	32	4	13	-	-	-	8	-	-
	---- Total	2929	75.78	409	1126	2,435	327	932	100	41	43	385	40	151	9	1	-
Highway	Car	556	14.39	30	249	530	29	237	-	-	-	26	1	12	-	-	-
User Struck	Truck	185	4.79	13	76	171	13	73	-	-	-	14	-	3	-	-	-
Rail Equip	Trk& Trail	45	1.16	3	32	39	3	32	-	-	-	6	-	-	-	-	-
	Pickup Trk	112	2.90	4	46	105	4	44	-	-	-	7	-	2	-	-	-
	Van	19	0.49	-	5	19	-	5	-	-	-	-	-	-	-	-	-
	Bus	1	0.03	-	-	1	-	-	-	-	-	-	-	-	-	-	-
	Motorcycle	4	0.10	2	-	4	2	-	-	-	-	-	-	-	-	-	-
	Oth Mtr V.	7	0.18	-	3	5	-	1	-	-	-	2	-	2	-	-	-
	Pedestrian	4	0.10	-	3	-	-	-	4	-	3	-	-	-	-	-	-
	Other	3	0.08	-	-	-	-	-	1	-	-	-	-	-	2	-	-
	---- Total	936	24.22	52	414	874	51	392	5	-	3	55	1	19	2	-	-
---- Total		3865	100.0	461	1540	3,309	378	1324	105	41	46	440	41	170	11	1	-

Cnt = count, Ftl = Fatality, Nonf = Nonfatal injury/illness

TABLE 7-8 HIGHWAY-RAIL INCIDENTS BY USERS, 1997

Type / Vehicle		Total		Freight Train	Psgr Train	Commute Train	Work Train	Single Car	Cut of Cars	Yard/ Switch	Light loco(s)	Maint Insp car
		Cnt	%									
Rail Equip	Unknown	2	0.1	2	-	-	-	-	-	-	-	-
Struck	Car	1,522	39.4	1,156	135	13	16	1	4	93	81	23
Highway	Truck	496	12.8	405	13	-	3	2	1	30	37	5
User	Trk& Trail	445	11.5	339	37	1	3	-	2	37	25	1
	Pickup Trk	223	5.8	161	25	-	4	2	3	14	11	3
	Van	77	2.0	56	5	2	-	-	-	7	6	1
	Bus	9	0.2	7	1	-	-	-	-	1	-	-
	School Bus	1	0.0	1	-	-	-	-	-	-	-	-
	Motorcycle	3	0.1	3	-	-	-	-	-	-	-	-
	Oth Mtr V.	42	1.1	32	5	-	-	-	-	2	3	-
	Pedestrian	69	1.8	46	18	1	-	-	-	1	3	-
	Other	40	1.0	35	2	-	-	-	-	3	-	-

	Sub Total	2,929	75.8	2,243	241	17	26	5	10	188	166	33
Highway	Car	556	14.4	406	14	-	9	-	3	65	47	12
User	Truck	185	4.8	142	2	1	2	1	-	21	7	9
Struck	Trk& Trail	45	1.2	29	-	-	-	-	-	8	6	2
Rail	Pickup Trk	112	2.9	88	4	-	3	1	1	7	7	1
Equip	Van	19	0.5	14	-	-	-	-	-	3	1	1
	Bus	1	0.0	1	-	-	-	-	-	-	-	-
	Motorcycle	4	0.1	2	1	-	-	-	-	1	-	-
	Oth Mtr V.	7	0.2	5	1	-	-	-	-	-	-	1
	Pedestrian	4	0.1	3	-	-	-	-	-	-	1	-
	Other	3	0.1	3	-	-	-	-	-	-	-	-

	Sub Total	936	24.2	693	22	1	14	2	4	105	69	26
Total		3,865	100.0	2,936	263	18	40	7	14	293	235	59

TABLE 7-9 TOTAL HIGHWAY-RAIL INCIDENTS BY WARNING DEVICE, 1997

Warning	Total Incidents		Total		At Public Crossing						At Private Crossing					
					Motor Vehicle			Other			Motor Vehicle			Other		
	Cnt	%	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf
Gates	791	20.47	112	274	716	80	242	61	31	23	13	-	9	1	1	-
Flashing lites	822	21.27	94	365	788	90	351	13	3	11	21	1	3	-	-	-
HWTS,WW,Bells	73	1.89	3	27	66	2	23	3	1	3	4	-	1	-	-	-
Watchman	65	1.68	2	17	51	2	15	-	-	-	14	-	2	-	-	-
Stop signs	450	11.64	77	196	332	61	128	3	-	1	114	16	67	1	-	-
Cross bucks	1510	39.07	164	636	1,323	142	564	25	6	8	158	16	64	4	-	-
Other	15	0.39	-	3	5	-	1	-	-	-	10	-	2	-	-	-
None	139	3.60	9	22	28	1	-	-	-	-	106	8	22	5	-	-
---- Total	3865	100.0	461	1540	3,309	378	1324	105	41	46	440	41	170	11	1	-

TABLE 7-10 TOTAL HIGHWAY-RAIL INCIDENTS BY WEATHER, 1997

Type / Weather		Total Incidents		Total		At Public Crossing						At Private Crossing					
						Motor Vehicle			Other			Motor Vehicle			Other		
		Cnt	%	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf	Cnt	Ftl	Nonf
Rail		2	0.05	-	1	2	-	1	-	-	-	-	-	-	-	-	-
Equip	Clear	1963	50.79	289	772	1,604	225	625	80	32	32	272	31	115	7	1	-
Struck	Cloudy	620	16.04	85	243	525	72	210	14	5	7	80	8	26	1	-	-
Highway	Rain	212	5.49	19	68	185	17	55	4	2	3	22	-	10	1	-	-
User	Fog	54	1.40	7	19	46	5	19	1	1	-	7	1	-	-	-	-
	Sleet	10	0.26	2	3	9	1	2	1	1	1	-	-	-	-	-	-
	Snow	68	1.76	7	20	64	7	20	-	-	-	4	-	-	-	-	-

	Total	2929	75.78	409	1126	2,435	327	932	100	41	43	385	40	151	9	1	-
Highway	Clear	569	14.72	36	250	529	36	237	3	-	2	36	-	11	1	-	-
User	Cloudy	192	4.97	9	86	178	8	79	2	-	1	11	1	6	1	-	-
Struck	Rain	80	2.07	2	34	77	2	33	-	-	-	3	-	1	-	-	-
Rail	Fog	34	0.88	3	20	34	3	20	-	-	-	-	-	-	-	-	-
Equip	Sleet	2	0.05	-	-	2	-	-	-	-	-	-	-	-	-	-	-
	Snow	59	1.53	2	24	54	2	23	-	-	-	5	-	1	-	-	-

	Total	936	24.22	52	414	874	51	392	5	-	3	55	1	19	2	-	-
---- Total		3865	100.0	461	1540	3,309	378	1324	105	41	46	440	41	170	11	1	-

Cnt = count, Ftl = Fatality, Nonf = Nonfatal injury/illness

CHAPTER 8

HIGHWAY-RAIL INCIDENTS AT PUBLIC CROSSINGS THAT INVOLVE MOTOR VEHICLES

FRA's reporting rules define any contact between a rail and highway user at a crossing site as a highway-rail incident. The following are situations that occur at or near crossing locations that do not qualify as highway-rail crossing incidents, but may require reporting under other provisions of the rule, e.g., train accident or casualty reporting.

Q1. A man driving a truck did not see a train occupying a highway-rail crossing and lost control of his vehicle when he slammed on the brakes to avoid a collision. His truck ended up in the ditch with considerable damage, and he broke his arm. What reports are required?

A1. Since an impact did not occur between a highway and a rail user, you do not need to prepare a highway-rail accident/incident report (form 6180.57). The motorist did sustain a reportable injury arising from the operation of a railroad. Therefore, an injury report (form 6180.55a) must be completed. If the motorist had struck the consist, a form 6180.57 would be required even if the impact did not occur on the crossing site.

Q2. A highway user hits a signal stand at a highway crossing and was injured, but there was no on-track equipment present, nor were railroad employees in the vicinity. Is this reportable?

A2. No. The regulation exempts the reporting of motor vehicle accidents at highway-rail crossing sites when they do not involve the presence of on-track equipment or railroad employees.

Q3. A motorist in an off-road vehicle was waiting behind several automobiles at a crossing site where the gates were down and a standing train was occupying the track. He apparently became impatient and drove his vehicle off the highway and parallel to the track to a point where he could cross over the track behind the train. His vehicle stalled on a parallel set of tracks, and he was unable to start it. He exited his truck just before a train on the adjacent track hit it. Should this be reported as a highway-rail accident/incident or any other type?

A3. An event such as this would not qualify as a highway-rail crossing collision since the motor vehicle operator had left the highway of his own choosing and his vehicle was struck at a location other than a designated crossing site. The event would be reportable as an obstruction accident on form 6180.54 if reportable damage was in excess of the threshold. If the motorist or employees were hurt in connection with this event, then an injury report (form 6180.55a) would need to be completed.

CONTENTS

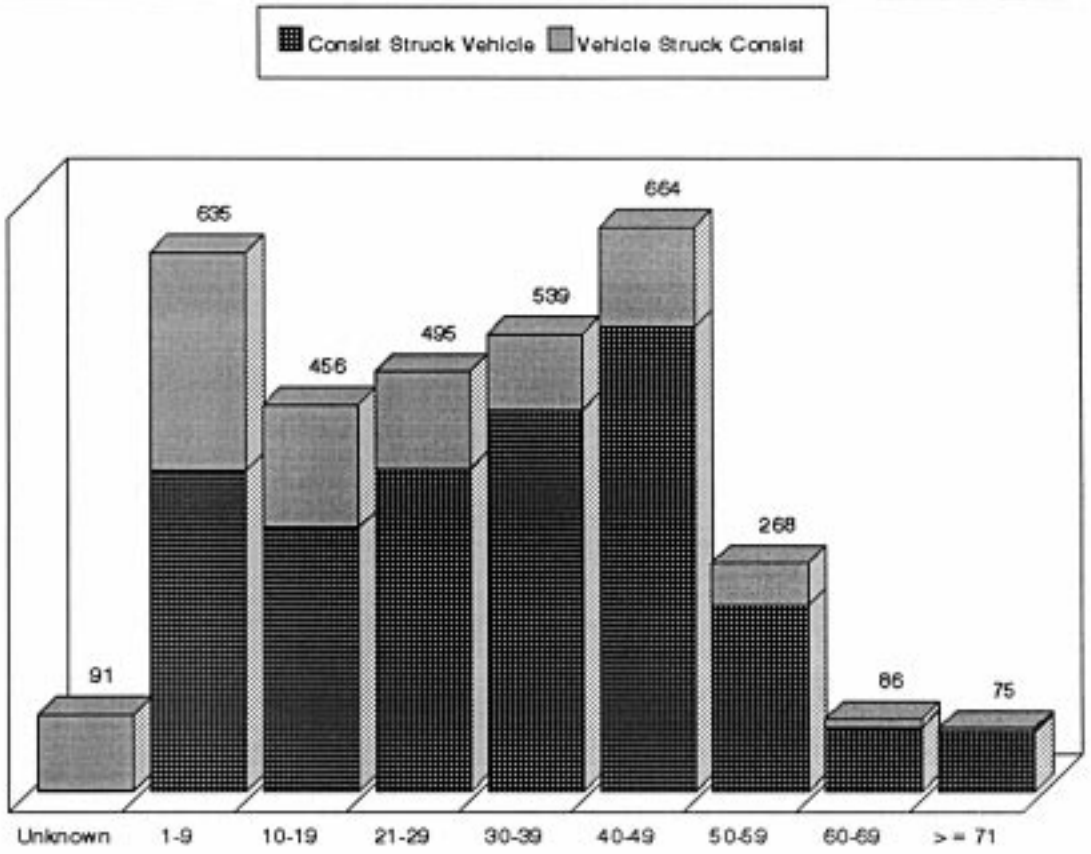
CHAPTER 8

HIGHWAY-RAIL INCIDENTS AT PUBLIC CROSSINGS THAT INVOLVE MOTOR VEHICLES

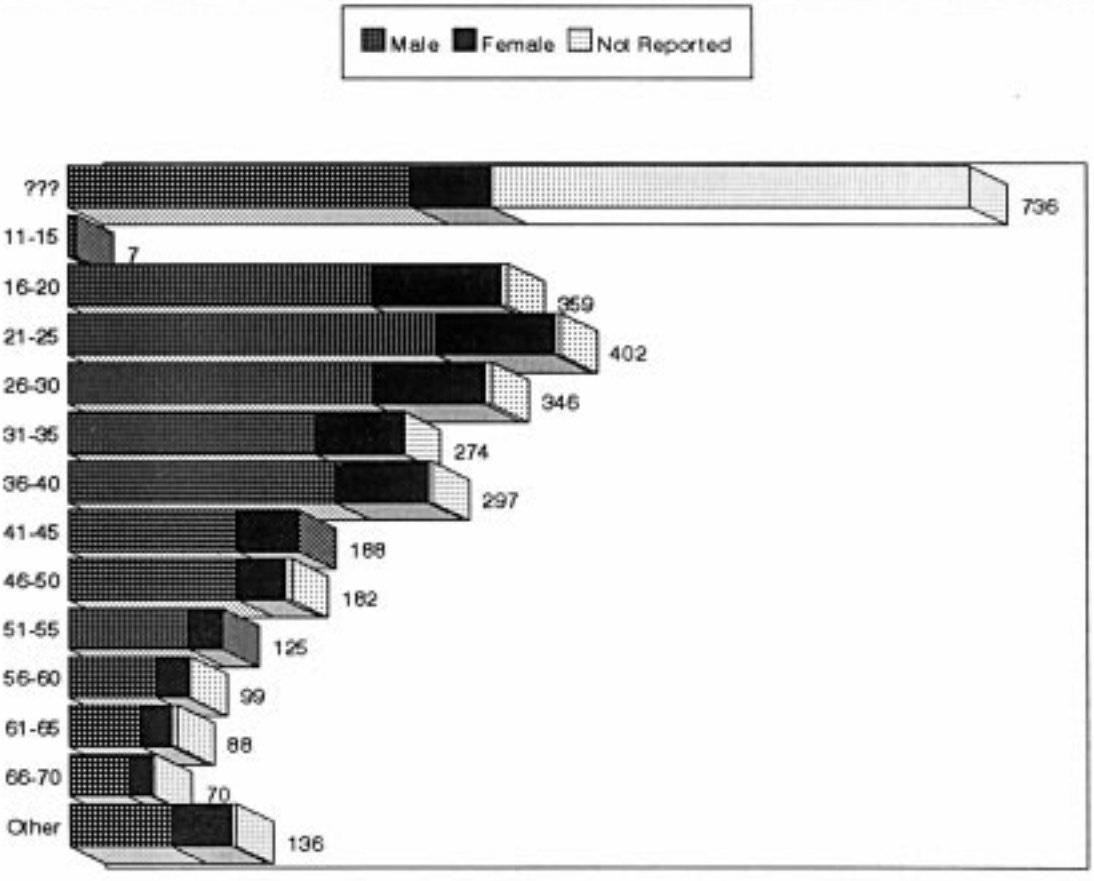
Figures **Page**

Tables

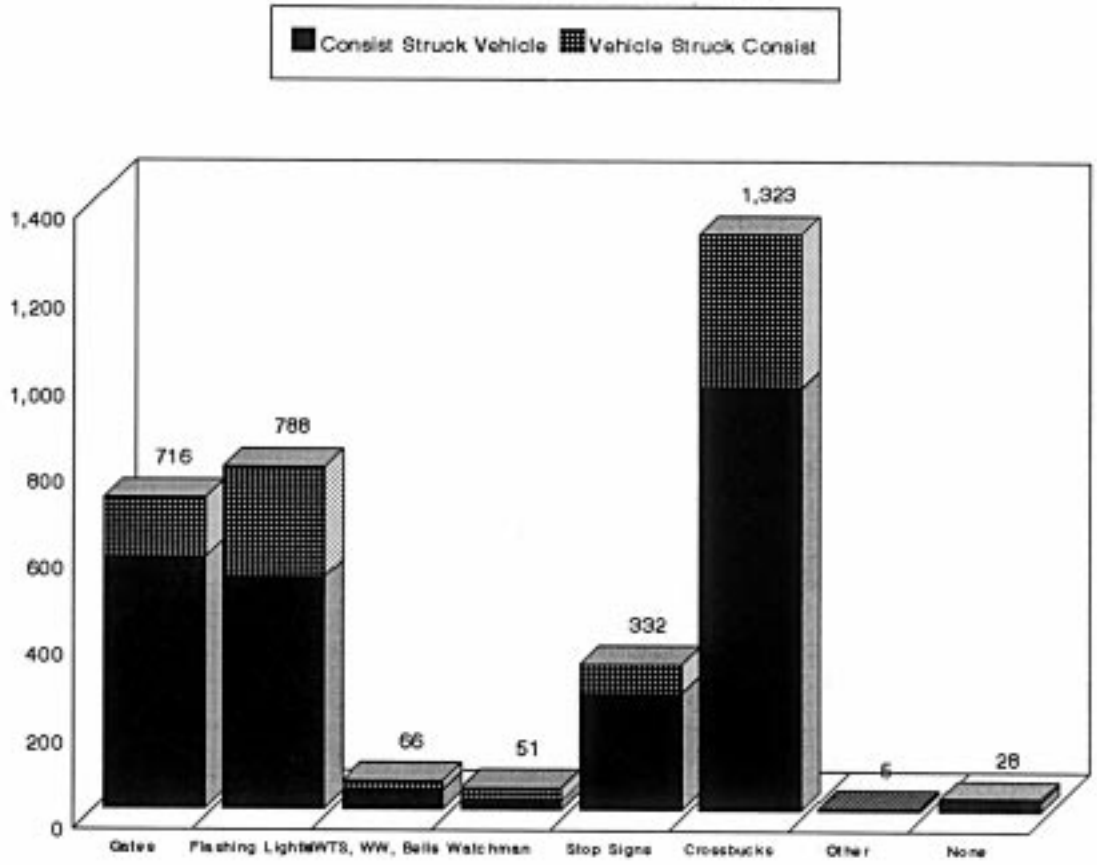
8-1 MOTOR VEHICLES AT PUBLIC CROSSING, 1997
BY CONSIST SPEED AND TYPE



8-2 BY DRIVER AGE AND GENDER



8-3 WARNING DEVICES



HWTS - Highway traffic signals, WW - Wigwags

9-1 NUMBER AND TYPE OF CROSSINGS BY STATE

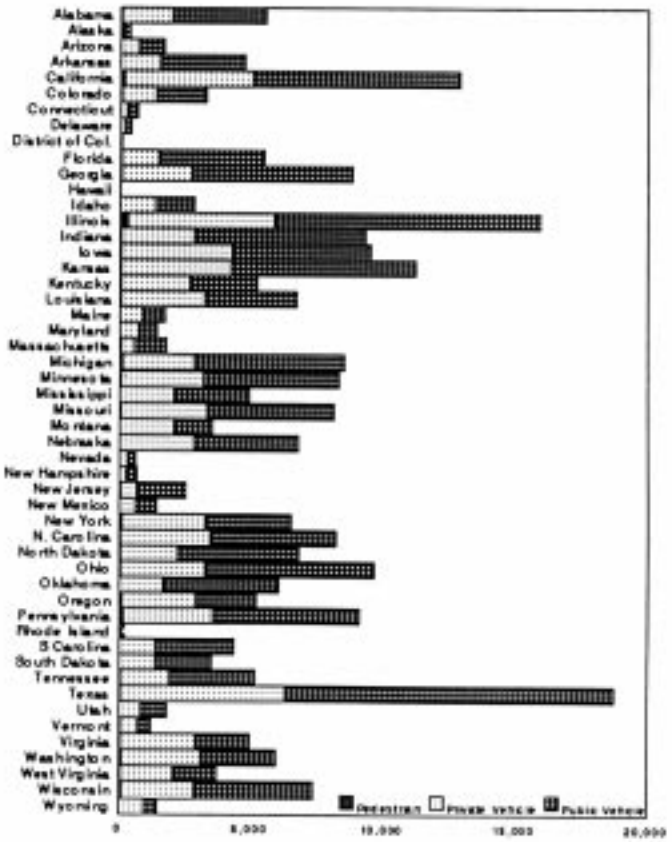


TABLE 8-1 RATES FOR MOTOR VEHICLE INCIDENTS AT PUBLIC CROSSINGS, 1997 BY STATE

	Accidents				Fatalities				Nonfatal			
	Cnt	Per 100 Xings	Per 100K Vehicles	Per 100K AADT	Cnt	Per 100 Xings	Per 100K Vehicles	Per 100K AADT	Cnt	Per 100 Xings	Per 100K Vehicles	Per 100K AADT
AL	120	3.39	3.57	1.78	19	.54	.57	.28	51	1.44	15.18	.08
AK	4	1.78	.74	.87	1	.44	.18	.22	.	.	.	.
AZ	23	2.44	.75	.80	4	.43	.13	.14	12	1.28	3.93	.04
AR	99	3.10	6.00	2.58	7	.22	.42	.18	42	1.31	25.46	.11
CA	119	1.51	.46	.29	10	.13	.04	.02	34	.43	1.32	.01
CO	24	1.24	.68	.61	2	.10	.06	.05	5	.26	1.42	.01
CT	4	1.08	.15	.32	.	.	.	.	1	.27	.38	.01
DE	4	1.35	.66	.40	1	.34	.17	.10	2	.67	3.32	.02
DC	.	.	.	.	.	.	.	.	.	.	.	.
FL	74	1.84	.67	.38	9	.22	.08	.05	33	.82	2.98	.02
GA	122	1.99	1.92	1.35	9	.15	.14	.10	48	.78	7.55	.05
HI	.	.	.	.	.	.	.	.	.	.	.	.
ID	27	1.82	2.47	1.46	6	.40	.55	.32	6	.40	5.48	.03
IL	176	1.74	1.96	.82	20	.20	.22	.09	70	.69	7.79	.03
IN	206	3.16	3.88	1.50	21	.32	.40	.15	101	1.55	19.01	.07
IA	87	1.66	2.90	1.59	11	.21	.37	.20	46	.88	15.33	.08
KS	95	1.35	4.40	1.84	15	.21	.69	.29	25	.36	11.58	.05
KY	47	1.83	1.72	1.16	5	.19	.18	.12	20	.78	7.32	.05
LA	174	4.93	5.19	2.42	25	.71	.75	.35	99	2.81	29.51	.14
ME	10	1.19	1.01	.52	.	.	.	.	2	.24	2.03	.01
MD	15	2.22	.41	.66	.	.	.	.	5	.74	1.36	.02
MA	13	1.09	.27	.30	1	.08	.02	.02	1	.08	.21	.00
MI	142	2.49	1.74	.96	14	.25	.17	.09	81	1.42	9.93	.05
MN	108	2.10	2.72	1.75	6	.12	.15	.10	30	.58	7.54	.05
MS	130	4.57	5.88	3.06	15	.53	.68	.35	55	1.93	24.87	.13
MO	89	1.85	2.02	1.75	12	.25	.27	.24	31	.64	7.04	.06
MT	17	1.17	1.71	1.32	1	.07	.10	.08	7	.48	7.04	.05
NE	62	1.57	4.14	2.49	9	.23	.60	.36	13	.33	8.68	.05
NV	.	.	.	.	.	.	.	.	.	.	.	.
NH	2	.50	.17	.20	.	.	.	.	.	.	.	.
NJ	29	1.56	.49	.26	5	.27	.08	.05	13	.70	2.20	.01
NM	16	1.98	1.02	1.71	5	.62	.32	.53	5	.62	3.17	.05
NY	23	.71	.21	.30	3	.09	.03	.04	10	.31	.93	.01
NC	100	2.10	1.72	1.05	3	.06	.05	.03	42	.88	7.21	.04
ND	19	.41	2.73	1.48	1	.02	.14	.08	7	.15	10.07	.05
OH	168	2.63	1.68	1.25	25	.39	.25	.19	43	.67	4.30	.03
OK	108	2.45	3.44	2.26	23	.52	.73	.48	55	1.25	17.51	.11
OR	23	1.00	.79	.51	3	.13	.10	.07	1	.04	.34	.00
PA	56	1.00	.64	.34	5	.09	.06	.03	20	.36	2.27	.01
RI	1	.78	.14	.16	.	.	.	.	.	.	.	.
SC	70	2.30	2.47	1.31	13	.43	.46	.24	25	.82	8.83	.05
SD	22	1.03	2.84	1.79	.	.	.	.	8	.37	10.31	.06
TN	75	2.31	1.53	1.11	8	.25	.16	.12	23	.71	4.68	.03
TX	364	2.92	2.67	1.26	46	.37	.34	.16	173	1.39	12.69	.06
UT	25	2.48	1.70	1.38	3	.30	.20	.17	8	.79	5.45	.04
VT	1	.20	.19	.14	.	.	.	.	.	.	.	.
VA	37	1.79	.66	.61	1	.05	.02	.02	3	.15	.53	.00
WA	55	1.92	1.17	1.04	4	.14	.08	.08	19	.66	4.04	.04
WV	19	1.15	1.34	1.04	1	.06	.07	.05	2	.12	1.41	.01
WI	101	2.24	2.44	1.06	6	.13	.14	.06	47	1.04	11.35	.05
WY	4	.78	.69	.81	.	.	.	.	.	.	.	.
96	3,309	2.06	1.58	1.00	378	.24	.18	.11	1,324	.83	6.32	.04

TABLE 8-2 RATES FOR MOTOR VEHICLE INCIDENTS AT PUBLIC CROSSINGS, 1997 BY WARNING DEVICE

	Accidents			Fatalities			Nonfatal			
	Cnt	Per 100 Xings	Per 100K AADT	Cnt	Per 100 Xings	Per 100K AADT	Cnt	Per 100 Xings	Per 100K AADT	Number of Crossings
Unknown	28	.49	.34	1	.02	.01	.	.	.	5,682
Other	5	.97	.85	.	.	.	1	.19	.17	514
Cross bucks	1,323	1.71	2.46	142	.18	.26	564	.73	1.05	77,331
Stop signs	332	3.07	5.01	61	.56	.92	128	1.19	1.93	10,800
Special warning	51	1.13	.33	2	.04	.01	15	.33	.10	4,503
HWTS,WW,Bells	66	4.36	1.09	2	.13	.03	23	1.52	.38	1,515
Flashing lights	788	2.78	.75	90	.32	.09	351	1.24	.33	28,354
Gates	716	2.26	.53	80	.25	.06	242	.76	.18	31,696
Total	3,309	2.06	1.00	378	.24	.11	1,324	.83	.40	160,395

Cnt = count, Xings = highway-rail crossings, AADT = average annual daily traffic.

TABLES 8-3 MOTOR VEHICLE HRC INCIDENTS AT PUBLIC CROSSINGS, 1997 BY RAILROAD AND TYPE WARNING

	Type of Warning								Type Incident	
	Gates	Flashing lites	HWTS,WW,Bells	Watchman	Stop signs	Cross bucks	Other	None	Rail Equip Struck Highway User	Highway User Struck Rail Equip
ARR	-	-	1	-	2	1	-	-	3	1
ATK	73	19	3	-	12	33	-	-	133	7
BAR	-	2	-	-	-	-	-	-	-	2
BLE	1	-	-	-	-	3	-	-	3	1
BNSF	111	111	9	9	41	236	-	3	383	137
BRC	1	1	-	-	-	-	-	-	1	1
BS	-	-	1	1	-	-	-	-	1	1
CR	42	46	3	3	15	51	2	8	116	54
CSX	79	114	10	3	60	146	1	-	311	102
DH	1	2	-	1	-	3	-	-	6	1
DME	-	7	-	1	4	7	-	-	11	8
DMIR	-	-	-	-	-	2	-	-	1	1
DWP	1	2	-	-	1	-	-	-	3	1
EJE	1	1	-	-	-	1	-	-	3	-
FEC	19	-	-	-	-	-	-	-	13	6
GRS	2	6	1	2	-	1	-	-	5	7
GTW	11	11	-	-	12	2	-	-	28	8
GWWR	-	2	1	-	-	3	-	-	5	1
HBT	1	1	-	-	-	-	-	-	1	1
IC	9	35	-	4	4	58	-	1	78	33
IHB	5	5	-	-	-	-	-	-	7	3
IMRL	3	3	-	1	-	8	-	-	15	-
KCS	9	31	2	-	1	123	-	-	123	43
LI	3	-	-	-	-	-	-	-	3	-
MBTA	3	-	-	-	-	-	-	-	2	1
MNCW	1	1	-	-	-	-	-	-	2	-
MRL	1	2	-	1	5	5	-	-	11	3
NICD	5	4	2	-	1	-	-	-	11	1
NIRC	12	-	-	-	-	-	-	-	12	-
NJTR	5	-	-	-	-	-	1	-	6	-
NS	99	113	7	5	69	140	-	6	358	81
OTHE	24	76	10	10	25	162	1	2	170	140
PAL	1	8	-	-	-	-	-	-	5	4
PTRA	1	2	-	-	-	1	-	-	1	3
SCAX	7	-	-	-	-	-	-	-	7	-
SEPA	-	-	1	-	-	-	-	-	1	-
SOO	8	8	-	-	9	22	-	-	34	13
TM	1	3	-	2	1	5	-	-	11	1
UP	168	139	13	8	58	275	-	8	497	172
URR	1	-	-	-	-	-	-	-	1	-
WC	7	31	2	-	12	26	-	-	48	30
WE	-	2	-	-	-	9	-	-	5	6
	716	788	66	51	332	1,323	5	28	2,435	874

HWTS = highway traffic signals, WW = wigwags

TABLE 8-4 MOTOR VEHICLE HRC INCIDENTS AT PUBLIC CROSSING, 1997 BY TYPE CONSIST AND CONSIST SPEED

Type	Consist Speed	Total	Freight Train	Psgr Comm Trn	Work Train	Car(s)	Yard Switch	Light loco(s)	Whistle Ban? Unk	Yes	No
Rail	Unknown	2	-	1	-	-	-	1	2	-	-
Equip	1-9	379	188	7	7	22	115	40	90	18	271
Struck	10-19	310	222	11	4	11	28	34	52	21	237
Highway	21-29	380	333	21	3	3	6	14	66	24	290
User	30-39	450	415	17	2	2	4	10	81	33	336
	40-49	548	499	22	3	1	1	22	142	22	384
	50-59	219	184	21	3	2	1	8	83	6	130
	60-69	76	40	35	-	-	-	1	34	1	41
	>= 71	71	2	69	-	-	-	-	54	-	17

	Sub Total	2,435	1,883	204	22	41	155	130	604	125	1,706
Highway	Unknown	89	65	-	3	5	13	3	19	1	69
User	1-9	256	131	4	5	20	63	33	54	12	190
Struck	10-19	146	110	5	3	5	14	9	31	8	107
Rail	21-29	115	99	2	1	-	2	11	21	6	88
Equip	30-39	89	86	2	-	-	-	1	15	4	70
	40-49	116	107	4	2	-	1	2	33	1	82
	50-59	49	46	1	-	-	1	1	8	-	41
	60-69	10	8	2	-	-	-	-	4	-	6
	>= 71	4	2	2	-	-	-	-	4	-	-

	Sub Total	874	654	22	14	30	94	60	189	32	653
Total		3,309	2,537	226	36	71	249	190	793	157	2,359

Psgr = passenger, Comm = commuter, Trn = train, Unk = unknown

TABLE 8-5 MOTOR VEHICLE HRC INCIDENTS AT PUBLIC CROSSINGS, 1997 BY TYPE WARNING, MOTORIST ACTION, AND WARNING LOCATION

Type Warning		Total		Motorist					Warning Location			
		Cnt	%	Drove around thru gate	Stopped then proceed	Did not stop	Other	Unknown	Not repo-rted	Both sides	Veh Apr	Opp. Veh Apr
Rail Equip	Gates	577	17.4	203	11	33	268	62	1	564	12	-
Struck Highway	Flashing lites	530	16.0	-	44	319	152	15	1	514	15	-
User	HWTS,WW,Bells	46	1.4	-	3	19	21	3	1	41	4	-
	Watchman	21	0.6	-	4	13	4	-	1	14	5	1
	Stop signs	266	8.0	-	41	135	82	8	2	256	6	2
	Cross bucks	970	29.3	-	49	643	242	36	10	923	32	5
	Other	5	0.2	-	-	4	1	-	1	4	-	-
	None	20	0.6	-	3	10	5	2	20	-	-	-
	-Sub Total	2,435	73.6	203	155	1,176	775	126	37	2,316	74	8
Highway User	Gates	139	4.2	90	3	41	2	3	1	133	5	-
Struck Rail	Flashing lites	258	7.8	1	17	230	3	7	1	249	6	2
Equip	HWTS,WW,Bells	20	0.6	-	2	17	1	-	-	20	-	-
	Watchman	30	0.9	-	3	26	-	1	4	21	4	1
	Stop signs	66	2.0	-	3	60	1	2	-	63	3	-
	Cross bucks	353	10.7	-	14	329	4	6	2	330	19	2
	None	8	0.2	-	-	8	-	-	7	1	-	-
	-Sub Total	874	26.4	91	42	711	11	19	15	817	37	5
Total		3,309	100.0	294	197	1,887	786	145	52	3,133	111	13

Cnt = count, Veh = vehicle, Apr = approach, Opp. = opposite

TABLE 8-6 MOTOR VEHICLE HRC INCIDENTS AT PUBLIC CROSSING BY TYPE VEHICLE, VEHICLE SPEED AND DRIVER GENDER

Type	Vehicle Speed	Total	Unknown	Car	Trucks	Trk& Trail	Van	Buses	Oth Mtr V.	Vehicle Driver		
										Unk	M	F
Rail	Unknown	150	-	87	33	16	11	-	3	10	104	36
Equip	Stopped	805	1	490	175	107	18	6	8	109	508	188
Struck	1-9	521	-	252	133	106	13	1	16	66	339	116
Highway	10-19	516	1	278	145	66	13	2	11	77	324	115
User	21-29	230	-	134	67	23	5	-	1	30	136	64
	30-39	139	-	86	40	4	9	-	-	12	88	39
	40-49	43	-	24	12	6	1	-	-	1	30	12
	50-59	24	-	11	9	3	1	-	-	2	15	7
	60-69	5	-	-	4	1	-	-	-	-	5	-
	>= 71	2	-	1	-	1	-	-	-	-	1	1

	Sub Total	2,435	2	1,363	618	333	71	9	39	307	1,550	578
Highway	Unknown	55	-	38	12	-	4	-	1	5	36	14
User	Stopped	5	-	2	1	1	1	-	-	2	3	-
Struck	1-9	197	-	128	58	8	3	-	-	36	121	40
Rail	10-19	206	-	129	65	9	2	-	1	34	124	48
Equip	21-29	168	-	94	64	5	1	-	4	14	126	28
	30-39	103	-	60	32	5	3	1	2	12	69	22
	40-49	66	-	39	19	5	3	-	-	8	47	11
	50-59	45	-	24	16	5	-	-	-	2	38	5
	60-69	21	-	10	7	1	2	-	1	3	16	2
	>= 71	8	-	6	2	-	-	-	-	1	5	2

	Sub Total	874	-	530	276	39	19	1	9	117	585	172
Total		3,309	2	1,893	894	372	90	10	48	424	2,135	750

Trk = truck, trail = trailer, Oth Mtr V. = other motor vehicle, Unk = unknown

TABLE 8-7 MOTOR VEHICLE HRC INCIDENTS AT PUBLIC CROSSINGS, 1997 BY VEHICLE SPEED, WEATHER AND CONDITION OF DRIVER

Type	Vehicle Speed	Total		Clear	Cloudy	Rain	Fog	Sleet	Snow	Driver			
										Unk	Ftl	Nonf	OK
Rail	Unknown	150	2	81	37	18	2	-	10	1	6	35	108
Equip	Stopped	805	-	521	162	71	23	6	22	3	31	98	673
Struck	1-9	521	-	363	109	34	7	-	8	2	55	142	322
Highway	10-19	516	-	354	127	20	5	-	10	-	71	158	287
User	21-29	230	-	148	50	20	3	2	7	-	32	92	106
	30-39	139	-	87	27	17	2	1	5	-	20	57	62
	40-49	43	-	33	7	2	1	-	-	1	9	12	21
	50-59	24	-	13	6	1	2	-	2	-	3	8	13
	60-69	5	-	2	-	2	1	-	-	-	1	1	3
	>= 71	2	-	2	-	-	-	-	-	-	-	-	2

	Sub Total	2,435	2	1,604	525	185	46	9	64	7	228	603	1,597
Highway	Unknown	55	-	32	12	3	3	-	5	-	1	18	36
User	Stopped	5	-	3	1	1	-	-	-	-	-	-	5
Struck	1-9	197	-	121	43	15	5	-	13	1	6	28	162
Rail	10-19	206	-	118	39	23	9	-	17	-	4	55	147
Equip	21-29	168	-	100	35	16	5	-	12	-	3	56	109
	30-39	103	-	65	25	8	3	-	2	-	3	38	62
	40-49	66	-	41	7	8	5	2	3	-	6	28	32
	50-59	45	-	31	6	3	4	-	1	-	4	22	19
	60-69	21	-	13	7	-	-	-	1	-	4	13	4
	>= 71	8	-	5	3	-	-	-	-	-	1	3	4

	Sub Total	874	-	529	178	77	34	2	54	1	32	261	580
Total		3,309	2	2,133	703	262	80	11	118	8	260	864	2,177

Unk = unknown, Ftl = fatality, Nonf = nonfatal, OK = driver was not hurt

TABLE 8-8 MOTOR VEHICLE HRC INCIDENTS AT PUBLIC CROSSINGS, 1997 BY DRIVER AGE, GENDER, AND TYPE VEHICLE

Age	Total		Type Vehicle										Vehicle Driver		
	Cnt	%	Unkn-own	Car	Truck	Trk& Trail	Pick-up Trk	Van	Bus	Scho-ol Bus	Moto-rcyc-le	Oth Mtr V.	Unk	M	F
Unknown	736	22.2	-	452	113	83	63	5	3	-	-	17	390	281	65
11-15	7	0.2	-	5	-	1	1	-	-	-	-	-	-	5	2
16-20	359	10.8	1	254	55	6	31	9	-	-	1	2	5	247	107
21-25	402	12.1	-	252	78	32	28	7	-	-	-	5	4	300	98
26-30	346	10.5	-	182	77	39	35	10	-	-	1	2	6	248	92
31-35	274	8.3	1	127	62	35	32	14	-	-	1	2	1	201	72
36-40	297	9.0	-	142	53	59	27	10	1	1	1	3	3	217	77
41-45	188	5.7	-	100	32	27	19	5	1	-	2	2	-	138	50
46-50	182	5.5	-	81	40	30	21	8	1	-	-	1	5	138	39
51-55	125	3.8	-	55	20	31	8	8	-	-	1	2	-	98	27
56-60	99	3.0	-	40	24	10	16	5	2	-	-	2	1	72	26
61-65	88	2.7	-	53	9	13	5	5	1	-	-	2	4	59	25
66-70	70	2.1	-	42	13	5	8	2	-	-	-	-	2	48	20
Other	136	4.1	-	108	13	1	11	2	-	-	-	1	3	83	50
Total	3,309	100.0	2	1,893	589	372	305	90	9	1	7	41	424	2,135	750

TABLE 8-9 MOTOR VEHICLES THAT STRUCK CONSIST AT PUBLIC CROSSINGS, 1997 BY CONSIST LENGTH, PORTION OF TRAIN STRUCK AND WARNING TYPE

Consist Length	Total	Position of Consist Struck						Type of Warning						
		Unk	1st car/ loco	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Gates	Flashi-ng lites	HWTS,W-W,Bells	Watchm-an	Stop signs	Cross bucks	None
???	4	-	3	1	-	-	-	-	-	-	1	-	3	-
1	59	-	58	1	-	-	-	13	19	2	2	2	21	-
2-5	123	-	102	-	4	3	14	14	38	2	14	8	46	1
6-10	90	-	69	4	5	5	7	12	18	6	6	5	42	1
11-15	68	-	44	6	6	6	6	6	21	-	3	5	31	2
16-20	41	-	23	4	5	4	5	4	11	-	2	3	21	-
21-25	31	-	22	4	3	1	1	8	6	-	-	6	11	-
26-30	25	-	16	5	4	-	-	2	6	1	-	7	9	-
31-35	30	-	20	2	2	3	3	5	16	1	-	-	7	1
36-40	31	-	14	6	3	3	5	6	11	-	-	1	12	1
41-45	28	-	14	5	3	5	1	7	6	1	-	-	14	-
46-50	21	-	6	7	2	2	4	5	7	-	-	1	8	-
51-60	54	-	33	14	2	-	5	9	14	2	-	4	25	-
61-70	49	-	26	14	3	3	3	9	20	2	-	3	15	-
71-80	44	-	26	11	4	2	1	8	15	1	-	4	16	-
81-90	39	1	21	7	3	2	5	5	13	-	-	3	17	1
91-100	30	-	14	6	1	2	7	5	10	-	-	5	10	-
101-110	43	-	15	10	4	8	6	5	12	-	-	3	22	1
111-120	45	-	24	10	5	4	2	12	10	1	2	3	17	-
>= 121	19	-	6	3	4	2	4	4	5	1	-	3	6	-
-Total	874	1	556	120	63	55	79	139	258	20	30	66	353	8

TABLE 8-10 MOTOR VEHICLE HRC INCIDENTS AT PUBLIC CROSSINGS, 1997 BY CONSIST LENGTH, TYPE CONSIST, AND DRIVER GENDER

Type	Consist Length	Total	Freight Train	Psgr Comm Trn	Work Train	Car(s)	Yard Switch	Light loco(s)	Vehicle Driver		
									Unk	M	F
Rail	1	111	2	1	3	33	5	67	19	68	24
Equip	2-5	268	90	59	5	6	50	58	25	180	63
Struck	6-10	216	103	72	2	-	34	5	29	120	67
Highway	11-15	198	118	57	2	2	19	-	30	124	44
User	16-20	120	95	12	1	-	12	-	12	80	28
	21-25	91	81	1	2	-	7	-	10	56	25
	26-30	86	79	-	2	-	5	-	9	59	18
	31-35	100	95	-	1	-	4	-	12	65	23
	36-40	99	92	-	1	-	6	-	9	62	28
	41-45	111	104	1	1	-	5	-	10	71	30
	46-50	90	88	1	-	-	1	-	15	58	17
	51-60	152	148	-	-	-	4	-	33	85	34
	61-70	124	122	-	1	-	1	-	15	76	33
	71-80	141	140	-	-	-	1	-	23	90	28
	81-90	131	130	-	-	-	1	-	16	85	30
	91-100	103	103	-	-	-	-	-	6	68	29
	101-110	98	98	-	-	-	-	-	9	74	15
	111-120	104	103	-	1	-	-	-	20	64	20
	>= 121	92	92	-	-	-	-	-	5	65	22
	-Sub Total	2,435	1,883	204	22	41	155	130	307	1,550	578
Highway	???	4	1	-	-	3	-	-	-	4	-
User	1	59	1	-	2	23	1	32	12	37	10
Struck	2-5	123	56	10	3	3	23	28	18	78	27
Rail	6-10	90	54	6	3	1	26	-	8	63	19
Equip	11-15	68	48	4	1	-	15	-	8	53	7
	16-20	41	32	1	-	-	8	-	2	27	12
	21-25	31	28	-	-	-	3	-	5	19	7
	26-30	25	23	-	-	-	2	-	3	12	10
	31-35	30	24	-	-	-	6	-	2	23	5
	36-40	31	27	-	-	-	4	-	-	26	5
	41-45	28	25	-	1	-	2	-	3	15	10
	46-50	21	18	-	1	-	2	-	5	15	1
	51-60	54	54	-	-	-	-	-	12	31	11
	61-70	49	47	-	1	-	1	-	8	31	10
	71-80	44	43	-	-	-	1	-	14	24	6
	81-90	39	38	1	-	-	-	-	2	28	9
	91-100	30	28	-	2	-	-	-	2	19	9
	101-110	43	43	-	-	-	-	-	5	34	4
	111-120	45	45	-	-	-	-	-	7	30	8
	>= 121	19	19	-	-	-	-	-	1	16	2
	-Sub Total	874	654	22	14	30	94	60	117	585	172
Total		3,309	2,537	226	36	71	249	190	424	2,135	750

TABLE 8-11 MOTOR VEHICLE HRC INCIDENTS AT PUBLIC CROSSINGS, 1997 BY TYPE CONSIST, NUMBER OF PEOPLE ON TRAIN, AND TYPE PERSON HURT

Consist	People on Train		Total		Hwy User		RR Employees		Others	
	Total	Avg	Ftl	Nonf	Ftl	Nonf	Ftl	Nonf	Ftl	Nonf
Freight Train	6,065	2	304	1,031	304	983	-	27	-	21
Psgr Train	26,025	125	49	100	48	59	-	3	1	38
Commute Train	3,916	230	-	5	-	4	-	-	-	1
Work Train	84	2	6	19	6	18	-	1	-	-
Single Car	7	1	1	3	1	2	-	1	-	-
Cut of Cars	34	3	1	8	1	7	-	1	-	-
Yard/ Switch	675	3	7	63	7	62	-	1	-	-
Light loco(s)	483	3	10	74	10	73	-	1	-	-
Maint Insp car	62	1	-	21	-	17	-	3	-	1
Total	37,351	11	378	1,324	377	1,225	-	38	1	61

TABLE 8-12 MOTOR VEHICLE HRC INCIDENTS AT PUBLIC CROSSINGS, 1997 BY TYPE VEHICLE, NUMBER OF OCCUPANTS, AND VEHICLE DAMAGE

Vehicle	People in Vehicles		Reported Vehicle Damage		Total		Hwy User		RR Employees		Others	
	Total	Avg	Total	Avg	Ftl	Nonf	Ftl	Nonf	Ftl	Nonf	Ftl	Nonf
Unknown	3	2	9,000	4,500	-	2	-	2	-	-	-	-
Car	2,438	1	5,391,009	2,848	228	736	227	728	-	10	1	-
Truck	698	1	3,259,675	5,534	80	246	80	233	-	10	-	3
Trk& Trail	365	1	4,625,029	12,466	19	161	19	84	-	17	-	60
Pickup Trk	390	1	1,142,595	3,746	21	115	21	114	-	1	-	-
Van	129	1	385,850	4,287	17	44	17	44	-	-	-	-
Bus	27	3	64,450	7,161	-	9	-	9	-	-	-	-
School Bus	1	1	-	-	1	-	1	-	-	-	-	-
Motorcycle	6	1	7,000	1,000	2	-	2	-	-	-	-	-
Oth Mtr V.	44	1	672,672	16,407	10	11	10	11	-	-	-	-
Total	4,101	1	15,557,280	4,703	378	1,324	377	1,225	-	38	1	61

Avg = average, Ftl = fatality, Nonf = nonfatal, Hwy = highway.

TABLE 8-13 MOTOR VEHICLE HRC INCIDENTS AT PUBLIC CROSSINGS, 1997 BY TYPE WARNING. POSITION ON CROSSING AND IF HAZMAT WAS RELEASED

Type| Warning		Total		Position on Crossing				Hazmat Released By			
		Cnt	%	Stalled	Stopped	Moving	Trapped	Hwy User	Rail User	Both	Neit-her
Rail Equip	Gates	577	17.4	95	184	249	49	4	73	2	498
Struck Highway	Flashing lites	530	16.0	32	124	372	2	5	81	1	443
User	HWTS,WW,Bells	46	1.4	6	16	23	1	-	6	-	40
	Watchman	21	0.6	-	3	18	-	-	1	-	20
	Stop signs	266	8.0	19	65	181	1	2	36	-	228
	Cross bucks	970	29.3	58	195	715	2	8	151	2	809
	Other	5	0.2	1	-	4	-	-	1	-	4
	None	20	0.6	1	6	13	-	-	2	-	18
	-Sub Total	2,435	73.6	212	593	1,575	55	19	351	5	2,060
Highway User	Gates	139	4.2	1	1	137	-	1	17	-	121
Struck Rail	Flashing lites	258	7.8	-	-	258	-	1	50	2	205
Equip	HWTS,WW,Bells	20	0.6	-	-	20	-	-	-	-	20
	Watchman	30	0.9	-	-	30	-	-	-	1	29
	Stop signs	66	2.0	-	1	65	-	-	8	-	58
	Cross bucks	353	10.7	-	2	351	-	3	60	-	290
	None	8	0.2	-	-	8	-	-	-	-	8
	-Sub Total	874	26.4	1	4	869	-	5	135	3	731
Total		3,309	100.0	213	597	2,444	55	24	486	8	2,791

TABLE 8-14 MOTOR VEHICLE HRC INCIDENTS AT PUBLIC CROSSINGS, 1997 BY TYPE VEHICLE AND WARNING

Type| Vehicle		Total		Gates	Flashi-ng lites	HWTS,W-W,Bells	Watchm-an	Stop signs	Cross bucks	Other	None
		Cnt	%								
Rail Equip	Unknown	2	0.1	1	-	-	-	-	1	-	-
Struck	Car	1,363	41.2	373	323	27	14	134	483	1	8
Highway User	Truck	418	12.6	64	82	8	5	66	186	3	4
	Trk& Trail	333	10.1	78	65	7	1	29	151	1	1
	Pickup Trk	200	6.0	34	36	3	-	30	93	-	4
	Van	71	2.1	18	15	-	-	5	31	-	2
	Bus	8	0.2	4	2	-	1	-	1	-	-
	School Bus	1	0.0	1	-	-	-	-	-	-	-
	Motorcycle	3	0.1	1	1	-	-	1	-	-	-
	Oth Mtr V.	36	1.1	3	6	1	-	1	24	-	1
	-Sub Total	2,435	73.6	577	530	46	21	266	970	5	20
Highway User	Car	530	16.0	92	164	12	17	36	206	-	3
Struck Rail	Truck	171	5.2	26	46	3	6	13	74	-	3
Equip	Trk& Trail	39	1.2	4	15	4	3	2	10	-	1
	Pickup Trk	105	3.2	11	28	-	2	9	54	-	1
	Van	19	0.6	4	3	1	2	4	5	-	-
	Bus	1	0.0	-	-	-	-	1	-	-	-
	Motorcycle	4	0.1	2	2	-	-	-	-	-	-
	Oth Mtr V.	5	0.2	-	-	-	-	1	4	-	-
	-Sub Total	874	26.4	139	258	20	30	66	353	-	8
Total		3,309	100.0	716	788	66	51	332	1,323	5	28

TABLE 8-15 MOTOR VEHICLE HRC INCIDENTS AT PUBLIC CROSSING, 1997 BY WARNING STATUS FOR ACCIDENTS OCCURING AT CROSSINGS WITH TRAIN ACTIVATED DEVICES BY TYPE VEHICLE

Type| Vehicle			Status of Warning System							
		Total	Unknown	Provided Minimum 20 Secs.	Alleged > 60 Secs.	Alleged < 20 Secs.	Alleged No Warning	Confirm > 60 Secs.	Confirm < 20 Secs.	Confirm No Warning
Rail	Unknown	1	-	1	-	-	-	-	-	-
Equip	Car	723	6	638	63	4	2	5	1	4
Struck	Truck	154	2	129	22	-	1	-	-	-
Highway	Trk& Trail	150	1	138	7	-	-	3	-	1
User	Pickup Trk	73	-	61	7	2	-	-	2	1
	Van	33	1	29	2	-	-	-	-	1
	Bus	6	-	5	-	-	-	1	-	-
	School Bus	1	-	1	-	-	-	-	-	-
	Motorcycle	2	-	2	-	-	-	-	-	-
	Oth Mtr V.	10	1	9	-	-	-	-	-	-
	-Sub Total	1,153	11	1,013	101	6	3	9	3	7
Highway	Car	268	8	219	31	1	-	2	-	7
User	Truck	75	3	59	9	-	-	1	1	2
Struck	Trk& Trail	23	-	20	2	-	-	-	-	1
Rail	Pickup Trk	39	1	33	4	1	-	-	-	-
Equip	Van	8	-	7	1	-	-	-	-	-
	Motorcycle	4	-	4	-	-	-	-	-	-
	-Sub Total	417	12	342	47	2	-	3	1	10
Total		1,570	23	1,355	148	8	3	12	4	17

CHAPTER 9

HIGHWAY-RAIL CROSSING INVENTORY

The Federal-Aid Highway Act of 1973 (Section 203) required that each State highway agency maintain an inventory of all crossings. According to the implementing instructions contained in the Federal-Aid Policy Guide, maintaining the National Inventory will satisfy the legislative requirement for a State Inventory. A primary purpose of the National Inventory is to provide for the existence of a uniform inventory data base which can be merged with accident/incident files and used to analyze information for planning and implementation of crossing improvement programs.

Railroads, with direction and guidance from the Association of American Railroads and the American Short Line Association, were assigned the responsibility for making a site-specific inventory of each highway-rail crossing and for installing a unique identifying number at each location. The railroads were also identified as being responsible for periodic updating of certain inventory information and maintenance of the crossing number.

The State highway-departments assisted in the project by providing site-specific highway location and use data. State public utility commissions and other State and local governmental agencies also participated in the project. The responsibility for the updating of certain highway information data items was determined to be the responsibility of the State and/or local governmental agencies.

The Inventory Data File is a record of grade crossing location, physical, and operational characteristics to provide information for the administration and statistical analysis of crossings. This information is reported on a voluntary basis to the FRA on the U.S. DOT-AAR Crossing Inventory Form.

The information contained on highway-rail incident reports is routinely merged with inventory data and the consolidated file is used for the development of Federal programs, funding alternatives for crossing improvement, studies related to railroad safety programs, effectiveness of warning devise, and for other safety programs and issues.

Although the inventory contains information on grade separated crossings, the counts appearing in this section are only for at-grade crossings, i.e., the locations where the potential exists for an impact between a rail and a highway user.

CONTENTS

CHAPTER 9

HIGHWAY-RAIL CROSSING INVENTORY

Figures **Page**

Tables

9-1 NUMBER AND TYPE OF CROSSINGS BY STATE

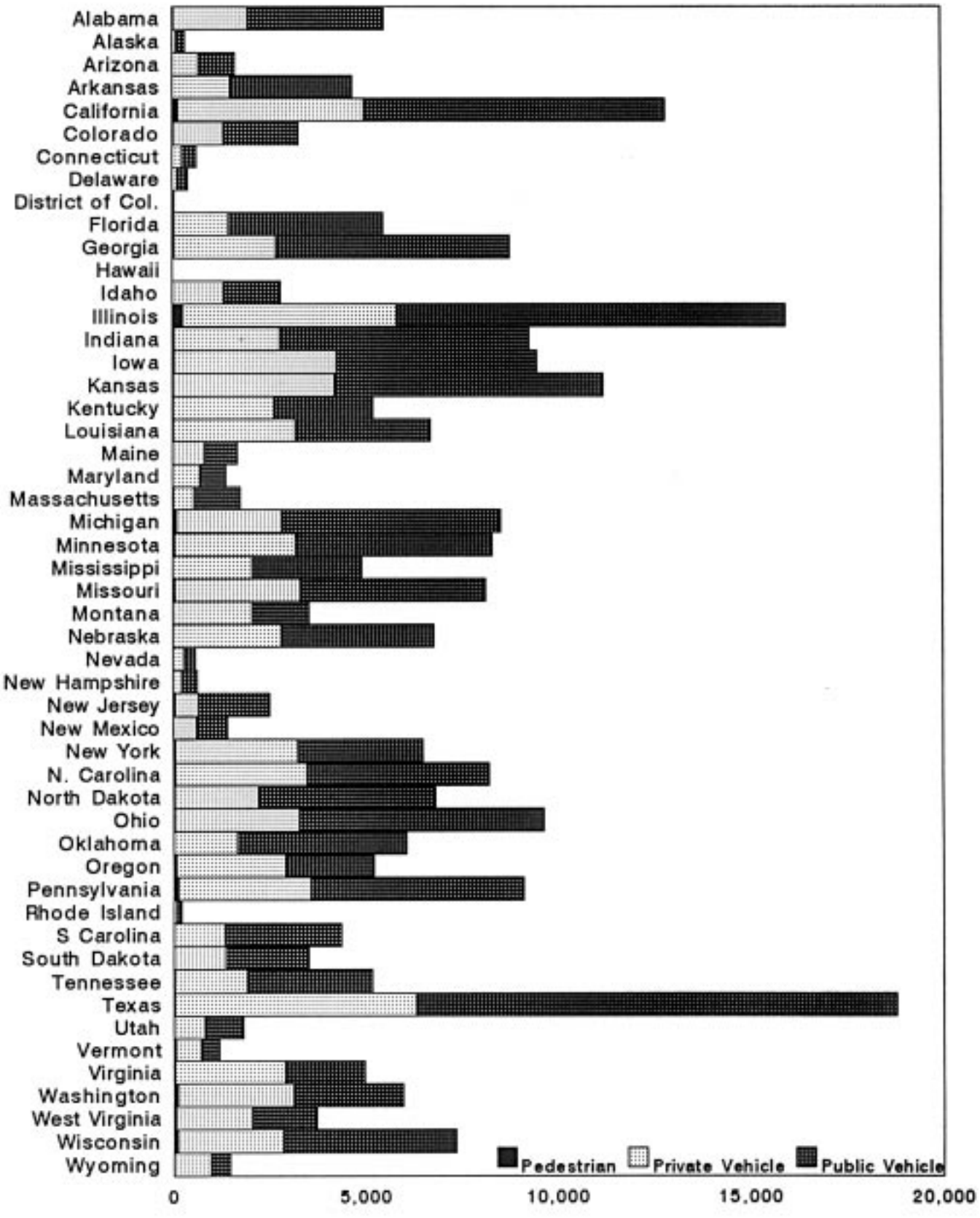


TABLE 9-1 AT-GRADE HIGHWAY-RAIL CROSSINGS BY RAILROAD

	Total		Pedestrian		Private Vehicle		Public Vehicle	
	Cnt	%	Cnt	%	Cnt	%	Cnt	%
ALS	48	.0	.	.	27	.0	21	.0
ARR	333	.1	8	.0	104	.0	221	.1
ATK	327	.1	14	.0	68	.0	245	.1
BAR	506	.2	5	.0	341	.1	160	.1
BLE	238	.1	2	.0	96	.0	140	.1
BNSF	40,920	15.5	306	.1	15,850	6.0	24,764	9.4
BRC	114	.0	.	.	76	.0	38	.0
BS	83	.0	.	.	36	.0	47	.0
CR	18,868	7.1	163	.1	6,622	2.5	12,083	4.6
CSX	27,460	10.4	302	.1	9,738	3.7	17,420	6.6
DH	773	.3	16	.0	446	.2	311	.1
DME	1,362	.5	2	.0	556	.2	804	.3
DMIR	270	.1	1	.0	129	.0	140	.1
DWP	101	.0	.	.	20	.0	81	.0
EJE	266	.1	3	.0	74	.0	189	.1
FEC	851	.3	12	.0	110	.0	729	.3
GRP3	63,043	23.9	447	.2	25,755	9.7	36,841	13.9
GRS	1,799	.7	13	.0	614	.2	1,172	.4
GTW	1,211	.5	12	.0	299	.1	900	.3
GWWR	386	.1	2	.0	156	.1	228	.1
HBT	204	.1	4	.0	43	.0	157	.1
IC	6,090	2.3	77	.0	2,373	.9	3,640	1.4
IHB	122	.0	2	.0	43	.0	77	.0
IMRL	429	.2	3	.0	155	.1	271	.1
KCS	4,644	1.8	11	.0	1,839	.7	2,794	1.1
LI	395	.1	9	.0	82	.0	304	.1
MNCW	122	.0	.	.	60	.0	62	.0
MRL	1,112	.4	3	.0	681	.3	428	.2
NICD	155	.1	7	.0	25	.0	123	.0
NIRC	84	.0	.	.	10	.0	74	.0
NJTR	466	.2	22	.0	98	.0	346	.1
NS	26,751	10.1	91	.0	10,450	4.0	16,210	6.1
PAL	446	.2	3	.0	186	.1	257	.1
PATH	2	.0	.	.	2	.0	.	.
PTRA	165	.1	1	.0	98	.0	66	.0
SCAX	299	.1	11	.0	39	.0	249	.1
SEPA	326	.1	10	.0	53	.0	263	.1
SOO	5,221	2.0	58	.0	1,965	.7	3,198	1.2
TM	435	.2	.	.	195	.1	240	.1
TRRA	153	.1	.	.	12	.0	141	.1
UP	52,498	19.9	334	.1	20,346	7.7	31,818	12.0
URR	59	.0	6	.0	39	.0	14	.0
WC	4,189	1.6	54	.0	1,572	.6	2,563	1.0
WE	965	.4	9	.0	390	.1	566	.2
	264,291	100.0	2,023	.8	101,873	38.5	160,395	60.7

Cnt = count, % = percent of total.

TABLE 9-2 AT-GRADE HIGHWAY-RAIL CROSSINGS BY STATE

	Total		Pedestrian		Private Vehicle		Public Vehicle	
	Cnt	%	Cnt	%	Cnt	%	Cnt	%
Alabama	5,502	2.1	20	.0	1,941	.7	3,541	1.3
Alaska	337	.1	8	.0	104	.0	225	.1
Arizona	1,630	.6	7	.0	682	.3	941	.4
Arkansas	4,691	1.8	9	.0	1,484	.6	3,198	1.2
California	12,848	4.9	153	.1	4,831	1.8	7,864	3.0
Colorado	3,270	1.2	21	.0	1,307	.5	1,942	.7
Connecticut	633	.2	.	.	261	.1	372	.1
Delaware	416	.2	1	.0	118	.0	297	.1
Dist Of Columbia	42	.0	11	.0	8	.0	23	.0
Florida	5,476	2.1	60	.0	1,404	.5	4,012	1.5
Georgia	8,796	3.3	42	.0	2,636	1.0	6,118	2.3
Hawaii	6	.0	.	.	.	.	6	.0
Idaho	2,812	1.1	12	.0	1,318	.5	1,482	.6
Illinois	15,942	6.0	291	.1	5,551	2.1	10,100	3.8
Indiana	9,289	3.5	64	.0	2,714	1.0	6,511	2.5
Iowa	9,491	3.6	48	.0	4,212	1.6	5,231	2.0
Kansas	11,220	4.2	32	.0	4,167	1.6	7,021	2.7
Kentucky	5,195	2.0	41	.0	2,584	1.0	2,570	1.0
Louisiana	6,715	2.5	34	.0	3,154	1.2	3,527	1.3
Maine	1,680	.6	8	.0	834	.3	838	.3
Maryland	1,374	.5	6	.0	692	.3	676	.3
Massachusetts	1,748	.7	18	.0	538	.2	1,192	.5
Michigan	8,526	3.2	107	.0	2,714	1.0	5,705	2.2
Minnesota	8,315	3.1	52	.0	3,116	1.2	5,147	1.9
Mississippi	4,905	1.9	15	.0	2,045	.8	2,845	1.1
Missouri	8,133	3.1	60	.0	3,253	1.2	4,820	1.8
Montana	3,521	1.3	15	.0	2,050	.8	1,456	.6
Nebraska	6,771	2.6	14	.0	2,804	1.1	3,953	1.5
Nevada	569	.2	3	.0	265	.1	301	.1
New Hampshire	622	.2	6	.0	214	.1	402	.2
New Jersey	2,504	.9	45	.0	599	.2	1,860	.7
New Mexico	1,400	.5	2	.0	591	.2	807	.3
New York	6,494	2.5	66	.0	3,166	1.2	3,262	1.2
N. Carolina	8,211	3.1	54	.0	3,404	1.3	4,753	1.8
North Dakota	6,808	2.6	19	.0	2,174	.8	4,615	1.7
Ohio	9,639	3.6	30	.0	3,225	1.2	6,384	2.4
Oklahoma	6,065	2.3	13	.0	1,640	.6	4,412	1.7
Oregon	5,213	2.0	89	.0	2,814	1.1	2,310	.9
Pennsylvania	9,118	3.4	123	.0	3,421	1.3	5,574	2.1
Rhode Island	199	.1	.	.	71	.0	128	.0
S Carolina	4,357	1.6	11	.0	1,309	.5	3,037	1.1
South Dakota	3,503	1.3	5	.0	1,361	.5	2,137	.8
Tennessee	5,145	1.9	22	.0	1,877	.7	3,246	1.2
Texas	18,755	7.1	31	.0	6,277	2.4	12,447	4.7
Utah	1,802	.7	4	.0	789	.3	1,009	.4
Vermont	1,192	.5	46	.0	650	.2	496	.2
Virginia	4,953	1.9	41	.0	2,847	1.1	2,065	.8
Washington	5,964	2.3	95	.0	3,011	1.1	2,858	1.1
West Virginia	3,698	1.4	62	.0	1,977	.7	1,659	.6
Wisconsin	7,336	2.8	106	.0	2,725	1.0	4,505	1.7
Wyoming	1,460	.6	1	.0	944	.4	515	.2
	264,291	100.0	2,023	.8	101,873	38.5	160,395	60.7

Cnt = count, % = percent of total.

TABLE 9-3 PUBLIC AT GRADE BY WARNING DEVICE AND RAILROAD, 1997

	Total		Unknown	Other	Cross bucks	Stop signs	Special warning	HWTS,WW-,Bells	Flashing lights	Gates
	Cnt	%								
ALS	21	.01	1	.	6	.	1	.	7	6
ARR	221	.14	8	.	99	26	7	.	35	46
ATK	245	.15	7	4	10	6	5	.	9	204
BAR	160	.10	.	.	56	5	8	.	86	5
BLE	140	.09	2	.	70	.	2	.	29	37
BNSF	24,764	15.44	464	20	14,497	1,117	498	149	3,232	4,787
BRC	38	.02	1	.	18	.	1	.	8	10
BS	47	.03	1	.	15	5	.	.	23	3
CR	12,083	7.53	670	226	3,459	426	1,017	165	3,158	2,962
CSX	17,420	10.86	645	29	6,083	1,387	457	78	3,687	5,054
DH	311	.19	2	5	71	3	1	3	83	143
DME	804	.50	30	.	601	48	.	3	108	14
DMIR	140	.09	.	2	74	32	2	.	20	10
DWP	81	.05	.	.	43	15	1	.	10	12
EJE	189	.12	.	.	31	4	9	2	63	80
FEC	729	.45	9	.	46	3	27	.	30	614
GRP3	36,841	22.97	1,286	169	21,511	2,998	1,202	466	6,261	2,948
GRS	1,172	.73	47	2	281	43	194	19	348	238
GTW	900	.56	2	.	87	187	35	4	208	377
GWWR	228	.14	4	.	142	7	.	19	47	9
HBT	157	.10	15	.	53	2	.	1	28	58
IC	3,640	2.27	194	4	1,571	406	89	25	872	479
IHB	77	.05	3	.	10	.	16	.	23	25
IMRL	271	.17	3	.	162	41	11	.	50	4
KCS	2,794	1.74	135	2	1,659	184	3	6	505	300
LI	304	.19	.	.	6	.	.	.	.	298
MNCW	62	.04	3	.	3	.	1	1	35	19
MRL	428	.27	6	.	253	46	.	1	62	60
NICD	123	.08	1	.	5	27	.	7	42	41
NIRC	74	.05	1	.	.	1	1	1	5	65
NJTR	346	.22	7	.	29	1	10	1	80	218
NS	16,210	10.11	518	8	6,742	1,443	435	69	2,909	4,086
PAL	257	.16	3	.	118	10	.	3	103	20
PTRA	66	.04	6	.	27	1	.	.	11	21
SCAX	249	.16	.	.	8	1	.	.	1	239
SEPA	263	.16	45	2	32	17	19	21	77	50
SOO	3,198	1.99	169	.	1,876	247	39	17	400	450
TM	240	.15	8	.	150	6	11	.	63	2
TRRA	141	.09	3	.	20	3	56	.	14	45
UP	31,818	19.84	1,350	41	15,810	1,797	316	409	4,745	7,350
URR	14	.01	.	.	.	.	.	10	1	3
WC	2,563	1.60	23	.	1,307	232	27	32	728	214
WE	566	.35	10	.	290	23	2	3	148	90
	160,395	100.0	5,682	514	77,331	10,800	4,503	1,515	28,354	31,696

Cnt = count, % = percent of total, HWTS = highway traffic signals, WW = wigwags. Special warning devices include non-train-activated devices other than signs including manually operated gates, train crews flagging a crossing, watchmen, and flood lights.

TABLE 9-4 PUBLIC AT GRADE BY WARNING DEVICE AND STATE

	Total		Unknown	Other	Cross bucks	Stop signs	Special warning	HWTS,WW-,Bells	Flashing lights	Gates	AADT
	Cnt	%									
AK	225	.14	9	.	102	26	7	.	35	46	461,644
AL	3,541	2.21	165	17	1,546	761	26	11	625	390	6,755,507
AR	3,198	1.99	135	.	2,001	193	69	24	447	329	3,836,057
AZ	941	.59	26	.	328	93	53	4	72	365	2,888,911
CA	7,864	4.90	173	14	2,816	321	115	284	968	3,173	41,098,616
CO	1,942	1.21	62	3	904	253	56	37	249	378	3,938,224
CT	372	.23	19	.	32	50	24	5	140	102	1,256,800
DC	23	.01	2	.	1	2	12	2	4	.	179,150
DE	297	.19	16	.	56	3	15	.	159	48	998,955
FL	4,012	2.50	63	8	925	143	92	11	599	2,171	19,258,425
GA	6,118	3.81	197	7	2,729	1,046	160	20	326	1,633	9,054,274
HI	6	.00	.	.	5	1	.	.	.	.	8,000
IA	5,231	3.26	76	1	3,014	408	46	30	1,017	639	5,457,478
ID	1,482	.92	31	.	573	558	6	6	189	119	1,851,453
IL	10,100	6.30	365	2	4,485	76	209	122	2,633	2,208	21,380,713
IN	6,511	4.06	117	7	2,439	833	174	97	1,605	1,239	13,750,241
KS	7,021	4.38	140	14	4,797	246	180	53	633	958	5,162,156
KY	2,570	1.60	137	.	1,133	49	50	14	793	394	4,035,755
LA	3,527	2.20	221	12	1,789	250	40	29	675	511	7,200,895
MA	1,192	.74	51	3	230	5	212	31	463	197	4,364,201
MD	676	.42	28	4	252	35	27	22	202	106	2,260,447
ME	838	.52	1	.	281	14	75	.	395	72	1,935,389
MI	5,705	3.56	69	4	2,287	886	122	41	1,444	852	14,797,897
MN	5,147	3.21	101	2	3,103	683	19	9	616	614	6,163,104
MO	4,820	3.01	226	1	2,800	129	94	67	978	525	5,092,095
MS	2,845	1.77	198	10	1,182	681	52	9	529	184	4,247,567
MT	1,456	.91	26	.	970	99	11	5	166	179	1,284,113
NC	4,753	2.96	247	7	2,215	55	201	19	715	1,294	9,483,100
ND	4,615	2.88	168	.	3,905	78	1	1	124	338	1,285,169
NE	3,953	2.46	114	.	2,679	267	14	12	301	566	2,487,060
NH	402	.25	2	3	110	40	80	11	126	30	996,253
NJ	1,860	1.16	121	2	398	19	236	17	656	411	11,014,700
NM	807	.50	21	5	466	12	8	5	93	197	936,927
NV	301	.19	8	.	134	6	4	1	23	125	1,549,065
NY	3,262	2.03	73	21	812	17	243	63	635	1,398	7,767,018
OH	6,384	3.98	71	5	2,850	170	76	32	1,223	1,957	13,431,738
OK	4,412	2.75	60	7	2,904	129	112	23	687	490	4,784,184
OR	2,310	1.44	121	44	873	435	90	44	136	567	4,538,576
PA	5,574	3.48	459	275	1,902	143	649	109	1,292	745	16,644,547
RI	128	.08	22	.	9	5	22	22	33	15	606,675
SC	3,037	1.89	19	.	1,213	443	156	.	519	687	5,348,723
SD	2,137	1.33	76	.	1,839	28	.	2	174	18	1,231,769
TN	3,246	2.02	288	2	1,603	165	182	18	652	336	6,743,038
TX	12,447	7.76	524	15	6,859	301	102	64	1,855	2,727	28,980,380
UT	1,009	.63	76	5	441	58	87	5	166	171	1,812,049
VA	2,065	1.29	60	.	566	16	69	15	497	842	6,103,208
VT	496	.31	2	.	199	25	44	3	196	27	702,703
WA	2,858	1.78	264	2	1,514	100	50	29	409	490	5,296,570
WI	4,505	2.81	69	.	2,072	381	112	76	1,301	494	9,499,410
WV	1,659	1.03	144	12	762	31	18	6	458	228	1,833,569
WY	515	.32	19	.	226	32	1	5	121	111	496,775
	160,395	100.0	5,682	514	77,331	10,800	4,503	1,515	28,354	31,696	332,291,273

TABLE 9-5 PRIVATE/PEDESTRIAN AT GRADE BY DEVELOPMENT AND RAILROAD, 1997

	Total		Not reported	Farm	Residential	Recreational	Industrial
	Cnt	%					
ALS	27	.03	.	8	5	.	14
ARR	104	.10	.	4	14	5	81
ATK	68	.07	1	35	13	3	16
BAR	341	.33	.	148	33	45	115
BLE	96	.09	.	38	12	2	44
BNSF	15,857	15.56	3	11,220	1,169	149	3,316
BRC	76	.07	.	.	.	.	76
BS	36	.04	.	.	.	.	36
CR	6,622	6.50	1	3,641	820	208	1,952
CSX	9,740	9.56	745	4,626	1,759	151	2,459
DH	446	.44	.	305	49	37	55
DME	556	.55	.	480	8	1	67
DMIR	129	.13	.	24	17	1	87
DWP	20	.02	.	4	4	7	5
EJE	74	.07	.	39	1	.	34
FEC	112	.11	85	4	3	.	20
GRP3	25,763	25.28	156	15,822	3,255	530	6,000
GRS	615	.60	.	207	65	21	322
GTW	299	.29	.	207	19	5	68
GWWR	156	.15	.	135	1	1	19
HBT	43	.04	.	.	1	.	42
IC	2,373	2.33	.	1,636	238	13	486
IHB	43	.04	.	.	2	.	41
IMRL	155	.15	.	88	39	6	22
KCS	1,839	1.80	.	1,203	256	11	369
LI	82	.08	.	67	4	3	8
MNCW	60	.06	.	12	8	7	33
MRL	681	.67	.	466	62	15	138
NICD	25	.02	.	8	2	.	15
NIRC	10	.01	.	3	3	1	3
NJTR	98	.10	.	43	16	5	34
NS	10,450	10.26	919	5,734	1,907	79	1,811
PAL	186	.18	.	118	30	1	37
PATH	2	.00	.	1	.	.	1
PTRA	98	.10	.	1	.	.	97
SCAX	39	.04	.	13	6	3	17
SEPA	53	.05	.	22	12	2	17
SOO	1,965	1.93	.	1,505	115	23	322
TM	195	.19	1	117	18	2	57
TRRA	12	.01	.	3	.	.	9
UP	20,347	19.97	188	13,144	1,623	227	5,165
URR	39	.04	.	.	.	.	39
WC	1,573	1.54	.	938	151	38	446
WE	390	.38	.	216	36	5	133
	101,895	100.0	2,099	62,285	11,776	1,607	24,128

TABLE 9-6 PRIVATE/PEDESTRIAN AT GRADE BY TYPE DEVELOPMENT AND STATE, 1997

	Total		Not reported	Farm	Residential	Recreational	Industrial
	Cnt	%					
AK	104	.10	.	4	14	5	81
AL	1,941	1.90	.	1,251	226	14	450
AR	1,484	1.46	.	983	217	17	267
AZ	682	.67	.	392	24	13	253
CA	4,832	4.74	9	2,130	341	123	2,229
CO	1,307	1.28	2	781	249	19	256
CT	261	.26	1	49	30	32	149
DC	8	.01	.	.	.	.	8
DE	118	.12	.	61	34	4	19
FL	1,415	1.39	360	386	188	30	451
GA	2,636	2.59	.	1,428	623	32	553
IA	4,212	4.13	1	3,149	328	48	686
ID	1,318	1.29	.	829	61	11	417
IL	5,552	5.45	.	3,655	487	74	1,336
IN	2,713	2.66	3	1,788	314	30	578
KS	4,167	4.09	.	3,544	201	8	414
KY	2,584	2.54	.	1,467	713	18	386
LA	3,154	3.10	.	1,705	493	21	935
MA	538	.53	.	169	68	39	262
MD	692	.68	.	393	76	15	208
ME	834	.82	.	348	112	73	301
MI	2,715	2.66	.	1,324	397	129	865
MN	3,117	3.06	.	2,243	238	50	586
MO	3,253	3.19	1	2,321	333	26	572
MS	2,045	2.01	.	1,368	402	5	270
MT	2,051	2.01	.	1,619	107	24	301
NC	3,404	3.34	1	1,668	851	31	853
ND	2,174	2.13	.	1,949	26	10	189
NE	2,805	2.75	.	2,474	83	12	236
NH	215	.21	.	111	28	20	56
NJ	599	.59	1	198	63	12	325
NM	591	.58	.	445	32	4	110
NV	265	.26	191	28	3	7	36
NY	3,166	3.11	.	2,144	336	99	587
OH	3,225	3.17	.	2,120	284	38	783
OK	1,640	1.61	.	1,235	150	10	245
OR	2,816	2.76	.	1,353	335	41	1,087
PA	3,421	3.36	.	1,456	519	158	1,288
RI	71	.07	.	7	18	9	37
SC	1,309	1.28	.	676	295	17	321
SD	1,361	1.34	.	1,143	81	3	134
TN	1,877	1.84	.	1,101	376	24	376
TX	6,277	6.16	3	4,190	506	35	1,543
UT	789	.77	.	524	46	10	209
VA	2,847	2.79	1,525	800	191	16	315
VT	650	.64	.	450	62	29	109
WA	3,013	2.96	.	1,447	401	56	1,109
WI	2,726	2.68	.	1,789	211	62	664
WV	1,977	1.94	1	802	587	43	544
WY	944	.93	.	788	16	1	139
	101,895	100.0	2,099	62,285	11,776	1,607	24,128

CHAPTER 10

TRESPASSERS, NOT AT HIGHWAY-RAIL CROSSINGS

A "trespasser" is defined as any person who is on that part of railroad property used in railroad operation and whose presence is prohibited, forbidden, or unlawful. Employees who are trespassing on railroad property are to be reported as "Trespassers" (Class E).

A person on a highway-rail crossing should not be classified as a trespasser unless the crossing is protected by gates, or other similar barriers that were closed when the person went on the crossing, or unless the person attempted to pass over, under, or between cars or locomotives of a consist occupying the crossing. Although these individuals are identified as "trespassers" on form FRA F 6180.55a, they are excluded from this chapter because the incident is defined as a highway-rail incident. These casualties can be found in Chapters 7 and 8 that summarize highway-rail crossing incidents.

CONTENTS

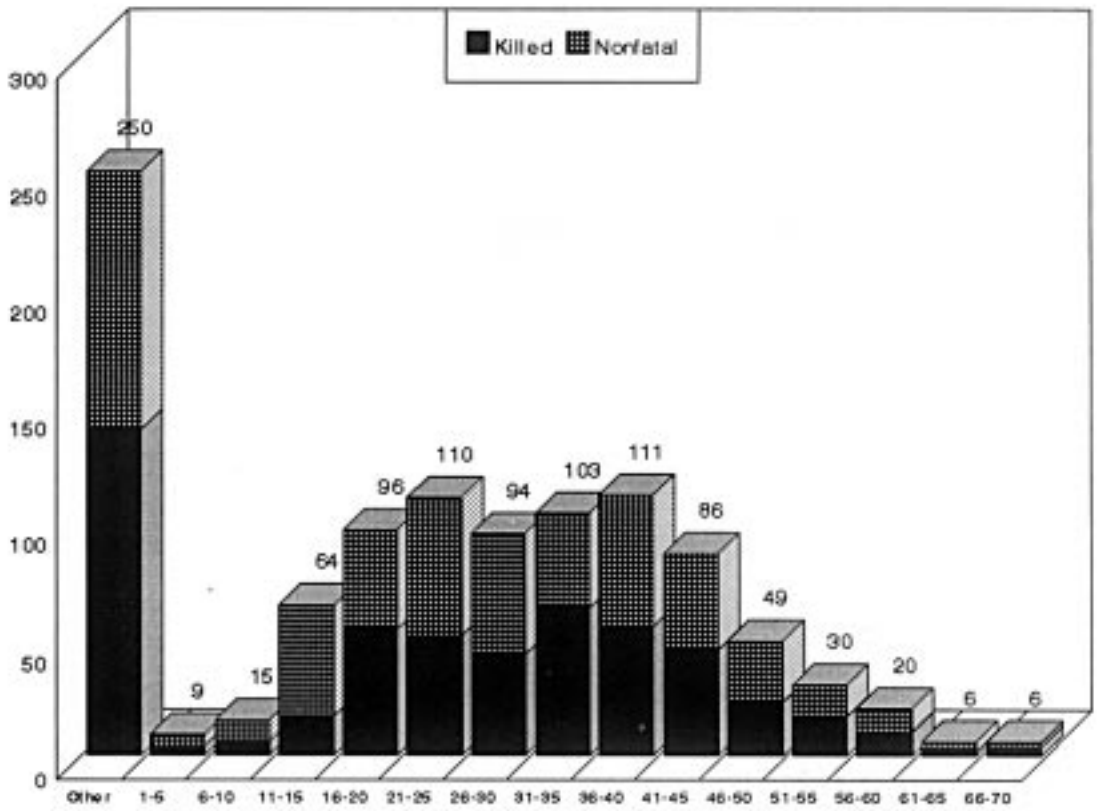
CHAPTER 10

TRESPASSERS, NOT AT HIGHWAY-RAIL CROSSINGS

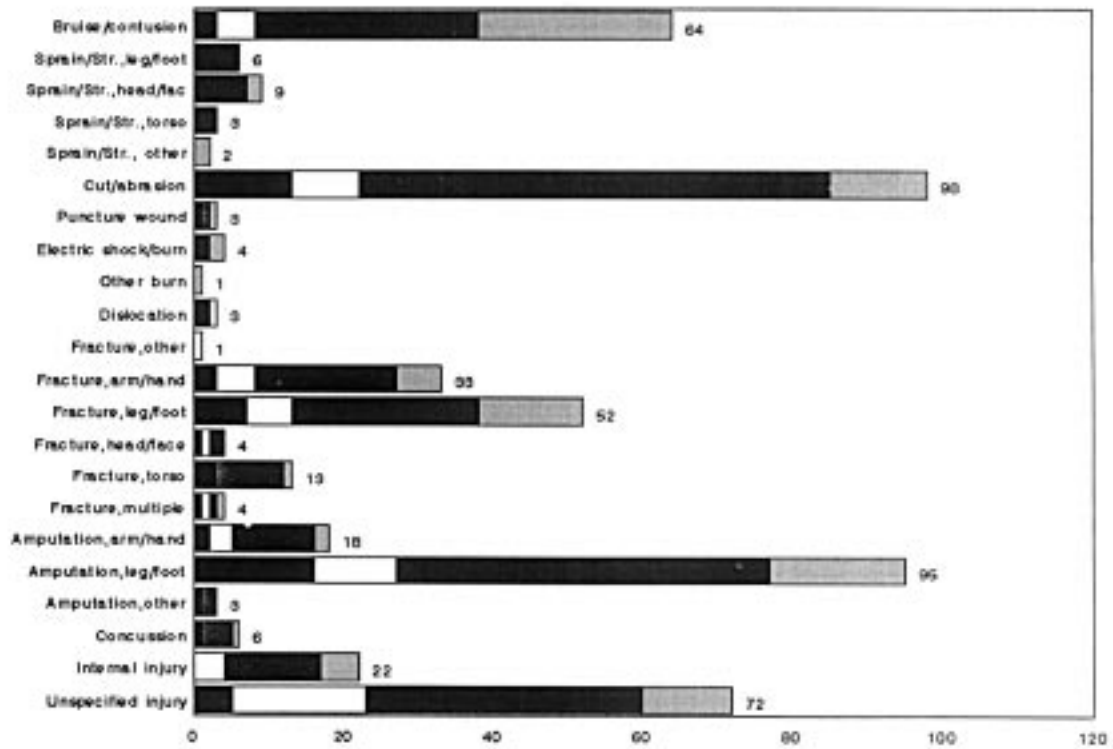
Figures **Page**

Tables

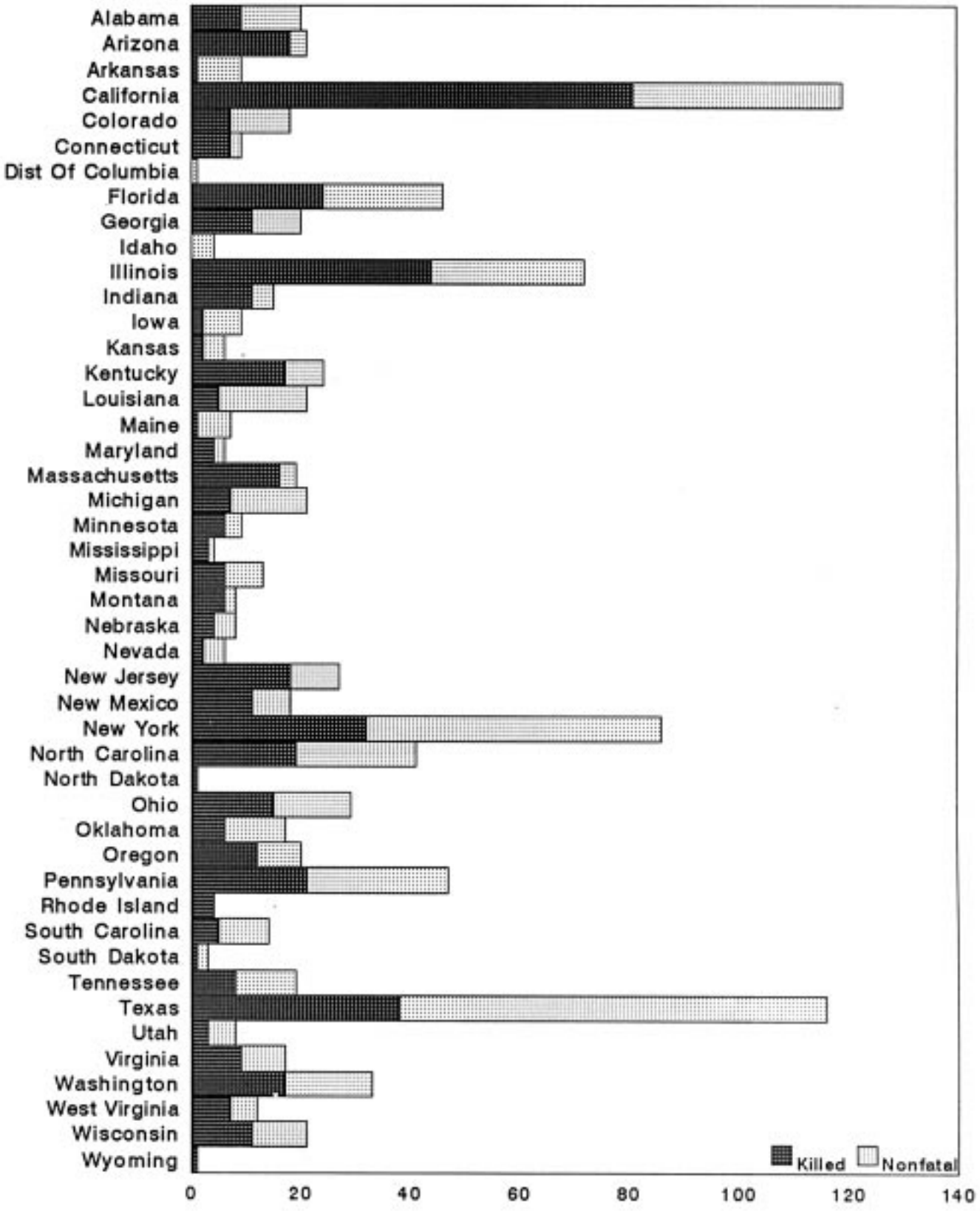
10-1 TRESPASSER CASUALTIES BY AGE, 1997



10-2 NONFATAL TRESPASSER CASUALTIES BY AGE, 1997



10-3 TRESPASSERS CASUALTIES BY STATE, 1997



Not at highway-rail crossings.

TABLE 10-1 REPORTABLE CONDITIONS TO TRESPASSERS NOT AT HRC, 1997

Condition	Total		Age of Trespasser														
	Cnt	%	Oth-er	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70
Bruise/contusion	64	6.1	27	1	-	2	3	7	4	4	5	8	2	-	1	-	-
Sprain/Str.,leg/foot	6	0.6	-	-	-	-	-	2	1	-	-	3	-	-	-	-	-
Sprain/Str.,head/fac	9	0.9	2	-	-	-	-	-	3	-	1	3	-	-	-	-	-
Sprain/Str.,torso	3	0.3	-	-	-	-	-	1	-	-	-	1	-	-	1	-	-
Sprain/Str., other	2	0.2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cut/abrasion	98	9.3	15	1	2	10	5	11	8	11	11	8	10	4	2	-	-
Puncture wound	3	0.3	1	-	-	1	-	-	1	-	-	-	-	-	-	-	-
Electric shock/burn	4	0.4	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Other burn	1	0.1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dislocation	3	0.3	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-
Fracture,other	1	0.1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Fracture,arm/hand	33	3.1	7	1	-	2	2	4	3	4	2	2	2	3	1	-	-
Fracture,leg/foot	52	5.0	14	-	2	5	5	5	5	2	6	3	3	1	-	1	-
Fracture,head/face	4	0.4	-	-	-	1	1	-	-	-	1	-	-	-	-	1	-
Fracture,torso	13	1.2	1	-	-	3	-	-	3	3	2	1	-	-	-	-	-
Fracture,multiple	4	0.4	1	-	-	1	-	1	-	-	1	-	-	-	-	-	-
Amputation,arm/hand	18	1.7	2	1	-	1	2	3	3	2	-	2	1	1	-	-	-
Amputation,leg/foot	95	9.1	18	-	4	12	9	12	10	8	11	5	2	-	3	1	-
Amputation,other	3	0.3	-	-	1	-	-	-	-	-	2	-	-	-	-	-	-
Fatality	533	51	139	4	6	17	54	51	43	63	55	45	23	17	10	2	4
Concussion	6	0.6	1	-	-	1	-	-	-	1	2	-	1	-	-	-	-
Internal injury	22	2.1	5	-	-	-	2	4	3	1	4	1	-	-	-	1	1
Unspecified injury	72	6.9	12	1	-	4	11	9	7	4	8	4	5	4	2	-	1
ALL	1049	100	250	9	15	64	96	110	94	103	111	86	49	30	20	6	6

TABLE 10-2 TRESPASSERS FATALITIES, BY RAILROAD AND AGE, NOT AT HRC, 1997

RR	Cnt	%	Age of Trespasser														
			Oth-er	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70
ATK	57	10.7	47	-	1	-	1	1	3	-	1	2	-	1	-	-	-
BNSF	85	15.9	3	1	1	2	16	19	12	8	7	9	4	-	2	-	1
CR	33	6.2	2	-	-	5	7	1	4	6	3	2	1	-	1	-	1
CSX	47	8.8	-	-	-	3	2	11	5	6	10	6	1	1	1	-	1
DH	2	0.4	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-
DME	1	0.2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
FEC	14	2.6	-	-	-	-	1	1	1	4	4	1	-	1	-	-	1
GRP3	10	1.9	1	-	-	-	-	-	-	-	3	1	4	1	-	-	-
GRS	3	0.6	-	-	-	-	2	-	-	-	-	1	-	-	-	-	-
GTW	2	0.4	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-
GWWR	1	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
IC	4	0.8	1	-	-	-	-	-	-	2	1	-	-	-	-	-	-
IHB	2	0.4	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-
KCS	4	0.8	1	-	-	-	-	-	1	1	1	-	-	-	-	-	-
LI	14	2.6	4	-	-	1	2	2	1	3	-	1	-	-	-	-	-
MBTA	9	1.7	5	-	-	-	-	-	1	-	1	1	1	-	-	-	-
MNCW	6	1.1	3	-	1	-	-	-	-	2	-	-	-	-	-	-	-
MRL	3	0.6	-	-	-	-	2	-	-	-	1	-	-	-	-	-	-
NICD	1	0.2	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
NIRC	5	0.9	1	-	-	-	-	-	-	-	2	1	-	-	1	-	-
NJTR	15	2.8	4	-	-	-	-	2	1	4	1	2	-	1	-	-	-
NS	54	10.1	1	-	-	3	9	5	3	12	8	4	2	5	2	-	-
PCMZ	6	1.1	4	-	-	-	-	-	-	-	-	1	1	-	-	-	-
SCAX	6	1.1	-	2	-	-	1	-	1	1	-	-	-	-	1	-	-
SEPA	4	0.8	-	-	-	-	-	-	-	2	-	2	-	-	-	-	-
SOO	3	0.6	-	-	-	-	-	1	1	-	1	-	-	-	-	-	-
UP	139	26.1	62	1	3	2	8	7	7	11	10	11	9	5	2	1	-
WC	3	0.6	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-
ALL	533	100	139	4	6	17	54	51	43	63	55	45	23	17	10	2	4

TABLE 10-3 TRESPASSERS FATALITIES, BY STATE AND AGE, NOT AT HRC, 1997

ST	Cnt	%	Age of Trespasser														
			Oth-er	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70
AL	9	1.7	-	-	-	-	-	1	1	2	2	1	2	-	-	-	-
AZ	18	3.4	6	-	-	1	2	4	1	1	2	-	1	-	-	-	-
AR	1	0.2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA	81	15.2	36	2	-	1	7	8	4	5	4	4	7	1	2	-	-
CO	7	1.3	-	-	-	2	-	-	1	1	2	1	-	-	-	-	-
CT	7	1.3	3	-	-	-	-	-	2	1	1	-	-	-	-	-	-
FL	24	4.5	2	-	-	-	1	4	2	6	4	1	-	3	-	-	1
GA	11	2.1	-	-	-	-	1	1	-	4	3	1	-	1	-	-	-
IL	44	8.3	17	-	-	-	4	5	1	-	4	9	1	2	1	-	-
IN	11	2.1	-	-	-	2	1	-	-	2	2	-	1	2	1	-	-
IA	2	0.4	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-
KS	2	0.4	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-
KY	17	3.2	-	-	-	-	1	3	3	2	4	1	-	2	-	-	1
LA	5	0.9	1	-	-	-	-	-	-	2	-	1	-	1	-	-	-
ME	1	0.2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
MD	4	0.8	-	-	-	1	-	1	-	1	-	1	-	-	-	-	-
MA	16	3.0	6	-	-	-	3	-	1	-	2	2	2	-	-	-	-
MI	7	1.3	-	-	-	-	4	-	1	-	1	-	1	-	-	-	-
MN	6	1.1	-	-	1	-	4	-	-	-	-	1	-	-	-	-	-
MS	3	0.6	-	-	-	-	-	1	-	1	1	-	-	-	-	-	-
MO	6	1.1	1	-	-	-	-	1	1	1	-	-	-	-	1	1	-
MT	6	1.1	-	-	-	-	2	-	-	-	3	-	-	-	-	-	1
NE	4	0.8	-	-	-	-	-	-	1	-	1	-	1	-	1	-	-
NV	2	0.4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NJ	18	3.4	3	-	-	-	1	2	1	5	3	2	-	1	-	-	-
NM	11	2.1	2	-	-	-	1	1	4	1	-	1	1	-	-	-	-
NY	32	6.0	14	-	1	2	3	3	1	6	-	2	-	-	-	-	-
NC	19	3.6	9	-	-	1	-	-	1	3	2	1	1	-	1	-	-
ND	1	0.2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
OH	15	2.8	1	-	-	1	5	1	1	-	2	2	-	1	1	-	-
OK	6	1.1	1	-	1	-	1	1	-	1	1	-	-	-	-	-	-
OR	12	2.3	4	-	-	-	-	2	-	4	-	2	-	-	-	-	-
PA	21	3.9	1	-	-	5	1	-	4	4	2	3	-	-	-	-	1
RI	4	0.8	3	-	-	-	-	-	1	-	-	-	-	-	-	-	-
SC	5	0.9	2	-	-	-	-	2	-	-	1	-	-	-	-	-	-
SD	1	0.2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
TN	8	1.5	-	-	-	-	2	-	-	2	1	2	1	-	-	-	-
TX	38	7.1	18	1	1	-	2	4	3	2	1	3	1	2	-	-	-
UT	3	0.6	-	-	2	-	-	-	-	-	-	-	1	-	-	-	-
VA	9	1.7	-	-	-	-	3	1	1	1	2	-	-	-	1	-	-
WA	17	3.2	2	1	-	-	1	2	4	3	1	1	2	-	-	-	-
WV	7	1.3	3	-	-	-	-	2	-	-	-	1	-	1	-	-	-
WI	11	2.1	1	-	-	1	3	1	2	1	-	1	-	-	-	1	-
WY	1	0.2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
ALL	533	100	139	4	6	17	54	51	43	63	55	45	23	17	10	2	4

TABLE 10-4 TRESPASSERS INJURED, BY RAILROAD AND AGE, NOT AT HRC, 1997

RR	Cnt	%	Age of Trespasser														
			Oth-er	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70
ATK	32	6.2	26	-	-	1	-	3	1	-	1	-	-	-	-	-	-
BNSF	68	13.2	-	-	1	8	8	12	8	11	8	5	4	1	1	1	-
CR	38	7.4	1	-	2	6	3	2	7	5	5	2	4	-	1	-	-
CSX	47	9.1	1	-	1	9	7	10	2	3	7	6	1	-	-	-	-
DH	2	0.4	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-
DME	2	0.4	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-
FEC	13	2.5	-	-	-	2	1	2	1	-	3	1	-	2	-	1	-
GRP3	11	2.1	-	-	1	3	1	1	1	1	1	1	1	-	-	-	-
GRS	6	1.2	-	-	1	-	-	1	1	2	-	1	-	-	-	-	-
GTW	1	0.2	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
GWWR	1	0.2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
IC	7	1.4	-	-	-	1	2	-	1	1	-	-	1	1	-	-	-
IHB	2	0.4	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-
KCS	6	1.2	-	-	-	-	1	1	-	-	4	-	-	-	-	-	-
LI	37	7.2	10	-	-	2	1	3	5	3	3	5	2	1	1	1	-
MNCW	3	0.6	1	-	-	-	-	-	-	-	-	-	1	-	-	1	-
MRL	1	0.2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
NICD	1	0.2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
NIRC	2	0.4	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-
NJTR	5	1.0	1	-	-	-	-	-	3	-	-	-	-	-	1	-	-
NS	56	10.9	-	2	-	6	6	3	8	6	8	8	3	2	2	-	2
PAL	1	0.2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PATH	1	0.2	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
PCMZ	1	0.2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PTRA	1	0.2	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
SCAX	1	0.2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
SEPA	6	1.2	2	2	1	-	-	-	-	-	-	-	-	-	1	-	-
SOO	1	0.2	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
TM	1	0.2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
UP	155	30.0	66	-	2	7	9	17	10	5	12	11	7	6	3	-	-
WC	7	1.4	1	1	-	-	1	-	1	1	2	-	-	-	-	-	-
ALL	516	100	111	5	9	47	42	59	51	40	56	41	26	13	10	4	2

TABLE 10-5 TRESPASSERS INJURED, BY STATE AND AGE, NOT AT HRC, 1997

ST	Cnt	%	Age of Trespasser															
			Oth-er	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70
AL	11	2.1	-	-	-	2	1	1	2	1	2	1	1	-	-	-	-
AZ	3	0.6	-	-	-	1	-	1	-	-	-	1	-	-	-	-	-
AR	8	1.6	3	-	-	-	1	2	-	-	2	-	-	-	-	-	-
CA	38	7.4	13	-	-	2	3	3	3	-	5	2	6	-	1	-	-
CO	11	2.1	1	-	1	1	1	-	1	2	2	2	-	-	-	-	-
CT	2	0.4	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-
DC	1	0.2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FL	22	4.3	2	-	-	2	2	5	1	2	3	2	-	2	-	1	-
GA	9	1.7	-	-	-	1	1	3	1	1	-	1	-	1	-	-	-
ID	4	0.8	2	-	1	-	-	-	-	-	-	1	-	-	-	-	-
IL	28	5.4	5	-	-	4	2	4	1	3	4	1	1	3	-	-	-
IN	4	0.8	-	-	-	-	1	1	-	-	2	-	-	-	-	-	-
IA	7	1.4	1	-	-	3	2	-	-	-	1	-	-	-	-	-	-
KS	4	0.8	-	-	-	-	-	1	-	-	2	-	-	1	-	-	-
KY	7	1.4	1	-	-	1	1	-	-	2	2	-	-	-	-	-	-
LA	16	3.1	3	-	-	1	2	3	1	2	1	1	1	-	1	-	-
ME	6	1.2	-	-	1	1	1	-	1	2	-	-	-	-	-	-	-
MD	2	0.4	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-
MA	3	0.6	-	-	-	1	-	1	-	-	-	1	-	-	-	-	-
MI	14	2.7	-	-	1	4	3	-	1	1	2	1	1	-	-	-	-
MN	3	0.6	2	-	-	-	-	-	-	-	-	-	-	1	-	-	-
MS	1	0.2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
MO	7	1.4	1	-	-	1	1	1	-	2	1	-	-	-	-	-	-
MT	2	0.4	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-
NE	4	0.8	-	-	-	1	-	-	-	1	-	-	-	1	1	-	-
NV	4	0.8	2	-	-	-	-	-	-	1	1	-	-	-	-	-	-
NJ	9	1.7	1	-	-	2	-	-	3	-	2	-	-	-	1	-	-
NM	7	1.4	1	-	-	-	1	1	1	2	1	-	-	-	-	-	-
NY	54	10.5	11	-	1	2	5	5	6	6	5	8	2	1	1	1	-
NC	22	4.3	3	1	-	-	1	3	1	2	5	5	-	-	1	-	-
OH	14	2.7	-	-	1	2	3	-	3	-	1	2	1	-	1	-	-
OK	11	2.1	1	-	-	1	1	3	1	2	1	-	1	-	-	-	-
OR	8	1.6	2	-	-	1	-	-	1	-	3	1	-	-	-	-	-
PA	26	5.0	7	2	2	5	-	-	5	1	-	1	2	-	1	-	-
SC	9	1.7	4	-	-	1	-	1	2	-	1	-	-	-	-	-	-
SD	2	0.4	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-
TN	11	2.1	-	-	-	1	2	-	1	-	-	1	5	-	-	-	1
TX	78	15.1	36	-	1	1	1	14	11	1	3	7	1	1	1	-	-
UT	5	1.0	4	-	-	-	-	-	-	-	-	-	1	-	-	-	-
VA	8	1.6	-	-	-	1	-	2	1	-	1	1	-	-	1	-	1
WA	16	3.1	2	-	-	2	4	3	-	3	-	-	1	-	-	1	-
WV	5	1.0	-	1	-	-	-	1	-	1	-	1	-	1	-	-	-
WI	10	1.9	2	1	-	1	-	-	1	1	3	-	-	1	-	-	-
ALL	516	100	111	5	9	47	42	59	51	40	56	41	26	13	10	4	2

TABLE 10-6 TRESPASSERS NOT AT HRC BY STATE AND AGE GROUP, 1997

	Fatalities						Nonfatal Cases					
	Age Group				Total		Age Group				Total	
	Unk	< 16	16-21	> 21	Cnt	%	Unk	< 16	16-21	> 21	Cnt	%
AL	-	-	-	9	9	1.7	-	2	2	7	11	2.1
AZ	5	1	3	9	18	3.4	-	1	-	2	3	0.6
AR	1	-	-	-	1	0.2	3	-	1	4	8	1.6
CA	36	3	9	33	81	15.2	12	2	5	19	38	7.4
CO	-	2	-	5	7	1.3	1	2	1	7	11	2.1
CT	3	-	-	4	7	1.3	-	-	-	2	2	0.4
DC	-	-	-	-	0	-	1	-	-	-	1	0.2
FL	2	-	4	18	24	4.5	2	2	6	12	22	4.3
GA	-	-	1	10	11	2.1	-	1	3	5	9	1.7
ID	-	-	-	-	0	-	2	1	-	1	4	0.8
IL	13	-	4	27	44	8.3	4	4	5	15	28	5.4
IN	-	2	1	8	11	2.1	-	-	2	2	4	0.8
IA	-	-	-	2	2	0.4	1	3	2	1	7	1.4
KS	-	-	-	2	2	0.4	-	-	-	4	4	0.8
KY	-	-	4	13	17	3.2	1	1	1	4	7	1.4
LA	1	-	-	4	5	0.9	3	1	2	10	16	3.1
ME	-	-	1	-	1	0.2	-	2	1	3	6	1.2
MD	-	1	-	3	4	0.8	-	-	-	2	2	0.4
MA	6	-	3	7	16	3.0	-	1	-	2	3	0.6
MI	-	-	4	3	7	1.3	-	5	3	6	14	2.7
MN	-	1	4	1	6	1.1	1	-	-	2	3	0.6
MS	-	-	1	2	3	0.6	-	-	-	1	1	0.2
MO	1	-	-	5	6	1.1	1	1	2	3	7	1.4
MT	-	-	2	4	6	1.1	-	1	1	-	2	0.4
NE	-	-	-	4	4	0.8	-	1	-	3	4	0.8
NV	2	-	-	-	2	0.4	2	-	-	2	4	0.8
NJ	3	-	2	13	18	3.4	1	2	-	6	9	1.7
NM	2	-	1	8	11	2.1	1	-	1	5	7	1.4
NY	11	3	5	13	32	6.0	11	3	7	33	54	10.5
NC	8	1	-	10	19	3.6	3	1	4	14	22	4.3
ND	-	-	-	1	1	0.2	-	-	-	-	0	-
OH	1	1	5	8	15	2.8	-	3	3	8	14	2.7
OK	1	1	1	3	6	1.1	1	1	1	8	11	2.1
OR	4	-	1	7	12	2.3	2	1	-	5	8	1.6
PA	1	5	1	14	21	3.9	6	9	-	11	26	5.0
RI	3	-	-	1	4	0.8	-	-	-	-	0	-
SC	2	-	2	1	5	0.9	4	1	-	4	9	1.7
SD	-	-	-	1	1	0.2	-	-	1	1	2	0.4
TN	-	-	2	6	8	1.5	-	1	2	8	11	2.1
TX	17	2	3	16	38	7.1	36	2	3	37	78	15.1
UT	-	2	-	1	3	0.6	4	-	-	1	5	1.0
VA	-	-	3	6	9	1.7	-	1	1	6	8	1.6
WA	2	1	1	13	17	3.2	2	2	5	7	16	3.1
WV	3	-	1	3	7	1.3	-	1	-	4	5	1.0
WI	1	1	4	5	11	2.1	2	2	-	6	10	1.9
WY	-	-	-	1	1	0.2	-	-	-	-	0	-
ALL	129	27	73	304	533	100.0	107	61	65	283	516	100.0

TABLE 10-7 TRESPASSERS CASUALTIES, BY MONTH AND DAY, NOT AT HRC, 1997

Cond	Month	Total		Day Of The Week							Age of Person			
		Cnt	%	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Unk	< 16	16-21	> 21
Kld	Jan	29	2.8	5	5	3	6	4	1	5	8	-	6	15
	Feb	38	3.6	9	1	3	3	3	8	11	4	4	6	24
	Mar	34	3.2	7	5	4	3	5	3	7	13	-	2	19
	Apr	45	4.3	7	7	3	9	9	3	7	15	-	6	24
	May	48	4.6	6	8	11	6	2	11	4	11	1	8	28
	Jun	66	6.3	12	10	5	9	11	5	14	14	6	8	38
	Jul	60	5.7	7	3	11	10	8	6	15	11	2	12	35
	Aug	56	5.3	6	8	4	7	10	15	6	20	4	6	26
	Sep	56	5.3	10	10	8	6	10	9	3	7	5	6	38
	Oct	41	3.9	7	8	4	10	5	4	3	10	2	8	21
	Nov	36	3.4	3	6	6	7	5	6	3	8	3	4	21
	Dec	24	2.3	2	2	3	4	1	6	6	8	-	1	15
	Total	533	50.8	81	73	65	80	73	77	84	129	27	73	304
Nonf	Jan	28	2.7	4	1	1	4	4	5	9	4	6	2	16
	Feb	48	4.6	7	8	7	8	7	6	5	9	3	3	33
	Mar	53	5.1	7	9	11	14	5	2	5	15	2	8	28
	Apr	44	4.2	6	8	4	12	4	5	5	8	9	4	23
	May	51	4.9	11	8	2	8	6	7	9	9	2	9	31
	Jun	59	5.6	11	8	7	12	5	11	5	10	10	13	26
	Jul	43	4.1	8	2	2	4	11	8	8	7	8	6	22
	Aug	53	5.1	5	8	4	6	8	13	9	14	10	-	29
	Sep	42	4.0	9	8	5	6	8	3	3	13	4	3	22
	Oct	46	4.4	7	3	10	10	8	5	3	9	4	7	26
	Nov	30	2.9	1	2	7	3	3	5	9	7	2	6	15
	Dec	19	1.8	-	2	1	7	1	2	6	2	1	4	12
	Total	516	49.2	76	67	61	94	70	72	76	107	61	65	283
Total		1049	100	157	140	126	174	143	149	160	236	88	138	587

Ftl = fatality. Nonf = Nonfatal.

CORRECTION 11/4/98

TABLE 10-8 TRESPASSERS CASUALTIES, BY TIME AND DAY, NOT AT HRC, 1997

Time		Total	Day Of The Week													
			Sun		Mon		Tue		Wed		Thu		Fri		Sat	
		Cnt	Ftl	Nonf	Ftl	Nonf	Ftl	Nonf	Ftl	Nonf	Ftl	Nonf	Ftl	Nonf	Ftl	Nonf
AM	1	55	6	9	2	6	2	4	4	5	1	2	5	3	3	3
	2	51	10	3	1	3	-	2	7	3	4	5	3	3	4	3
	3	37	5	2	5	5	3	1	1	1	4	-	4	2	1	3
	4	27	-	3	2	2	1	1	2	1	1	2	2	3	4	3
	5	29	2	1	1	1	2	4	1	-	5	4	1	1	5	1
	6	23	1	2	2	5	3	-	2	1	1	-	-	-	4	2
	7	34	3	1	2	4	3	1	2	4	2	2	4	4	2	-
	8	43	3	1	3	3	3	-	8	3	6	3	3	-	3	4
	9	33	1	3	3	1	4	2	2	2	4	2	2	1	5	1
	10	35	6	3	5	1	1	-	1	4	2	3	1	3	1	4
	11	35	-	1	1	2	4	1	7	1	1	4	5	1	2	5
	12	66	7	5	8	1	6	4	4	7	4	2	5	2	5	6
	Total	468	44	34	35	34	32	20	41	32	35	29	35	23	39	35
PM	1	34	1	1	4	-	1	3	3	4	2	3	2	2	5	3
	2	51	3	2	5	4	1	3	6	8	4	1	3	3	3	5
	3	56	4	2	2	5	2	5	1	7	1	2	8	13	-	4
	4	42	-	4	1	4	5	6	2	2	1	3	5	1	4	4
	5	64	3	5	2	5	5	5	5	11	3	2	4	2	6	6
	6	43	7	5	1	-	4	-	1	7	1	3	1	4	5	4
	7	60	2	4	3	4	2	4	6	2	6	7	2	4	8	6
	8	53	1	4	6	-	6	6	2	4	5	3	4	4	5	3
	9	36	3	5	2	1	2	1	2	3	3	7	-	5	-	2
	10	55	3	4	3	2	2	3	7	6	7	2	4	5	5	2
	11	54	8	3	5	4	3	2	4	2	5	5	7	2	2	2
	12	33	2	3	4	4	-	3	-	6	-	3	2	4	2	-
	Total	581	37	42	38	33	33	41	39	62	38	41	42	49	45	41
Total		1,049	81	76	73	67	65	61	80	94	73	70	77	72	84	76

Ftl = fatality. Nonf = Nonfatal.

TABLE 10-9 TRESPASSERS INJURED, BY LOCATION, NOT AT HRC, 1997

Location	Total		Fatalities		Nonfatal		Age of Person			
	Cnt	%	Cnt	%	Cnt	%	Unk	< 16	16-21	> 21
Alongside of on-track equipmen	47	4.5	13	2.4	34	6.6	7	8	6	26
Beside track	215	20.5	92	17.3	123	23.8	29	20	27	139
Between tracks	207	19.7	141	26.5	66	12.8	59	4	27	117
Between cars/locomotives	37	3.5	8	1.5	29	5.6	4	6	7	20
In car	8	0.8	4	0.8	4	0.8	2	-	1	5
In/operating vehicle	19	1.8	-	-	19	3.7	6	1	2	10
In tunnel	3	0.3	1	0.2	2	0.4	1	1	-	1
On bridge/trestle	52	5.0	27	5.1	25	4.8	4	12	14	22
On highway-rail crossing	13	1.2	5	0.9	8	1.6	2	-	2	9
On other rail crossing	2	0.2	1	0.2	1	0.2	-	-	1	1
On side of car	23	2.2	4	0.8	19	3.7	1	8	5	9
On track	367	35.0	220	41.3	147	28.5	109	19	41	198
On end of car	6	0.6	2	0.4	4	0.8	-	1	-	5
On platform	5	0.5	1	0.2	4	0.8	2	1	-	2
On stairs	2	0.2	-	-	2	0.4	-	-	-	2
On ladder	1	0.1	-	-	1	0.2	-	1	-	-
Other location on locomotive	1	0.1	-	-	1	0.2	-	-	-	1
Under car	32	3.1	12	2.3	20	3.9	10	4	3	15
Under locomotive	2	0.2	1	0.2	1	0.2	-	-	-	2
Other location	7	0.7	1	0.2	6	1.2	-	2	2	3
ALL	1049	100	533	100	516	100	236	88	138	587

TABLE 10-10 TRESPASSERS INJURED, BY EVENT, NOT AT HRC, 1997

Location	Total		Fatalities		Nonfatal		Age of Person			
	Cnt	%	Cnt	%	Cnt	%	Unk	< 16	16-21	> 21
Assaulted by other	2	0.2	1	0.2	1	0.2	-	-	-	2
Bodily function/sudden movement, e.g.,sneezing,t	1	0.1	-	-	1	0.2	-	-	-	1
Caught in/compressed by other machinery	2	0.2	1	0.2	1	0.2	-	-	-	2
Caught in/crushed by materials	2	0.2	1	0.2	1	0.2	-	-	-	2
Climatic conditions, other (e.g., high winds)	3	0.3	2	0.4	1	0.2	1	-	-	2
Collision - between on track equipment	5	0.5	3	0.6	2	0.4	2	-	1	2
Collision/impact - auto, truck, bus, van, etc.	41	3.9	9	1.7	32	6.2	3	2	2	34
Committing vandalism/theft	1	0.1	-	-	1	0.2	-	-	-	1
Derailment	2	0.2	1	0.2	1	0.2	-	1	1	-
Electrical shock due to contact with 3rd rail, c	4	0.4	1	0.2	3	0.6	1	2	-	1
Highway-rail collision/impact	8	0.8	7	1.3	1	0.2	1	-	2	5
Horseplay, practical joke, etc.	17	1.6	2	0.4	15	2.9	2	3	5	7
Lost balance	43	4.1	6	1.1	37	7.2	8	4	4	27
Missed handhold, grabiron, step, etc.	2	0.2	-	-	2	0.4	-	-	-	2
Needle puncture/prick/stick	1	0.1	-	-	1	0.2	-	-	-	1
Other impacts - on track equipment	6	0.6	2	0.4	4	0.8	2	-	1	3
Pushed/shoved into/against	1	0.1	1	0.2	-	-	-	-	-	1
Ran into on-track equipment	5	0.5	2	0.4	3	0.6	3	1	-	1
Ran into object/equipment	3	0.3	1	0.2	2	0.4	2	-	-	1
Shot	1	0.1	-	-	1	0.2	-	-	-	1
Slack action, draft, compressive buff/coupling	10	1.0	1	0.2	9	1.7	2	1	2	5
Slipped,fell,stumbled,etc. due to irregular surf	11	1.0	2	0.4	9	1.7	-	3	3	5
Slipped, fell, stumbled, etc. due to climatic co	2	0.2	1	0.2	1	0.2	-	1	-	1
Slipped,fell,stumbled,etc. on oil, grease,etc.	2	0.2	-	-	2	0.4	1	1	-	-
Slipped,fell,stumbled,etc. due to object,ballast	20	1.9	2	0.4	18	3.5	2	1	2	15
Stepped on object	6	0.6	-	-	6	1.2	3	-	-	3
Struck by thrown or propelled object	3	0.3	1	0.2	2	0.4	2	-	1	-
Struck by object	23	2.2	4	0.8	19	3.7	14	1	-	8
Struck by on-track equipment	746	71.1	458	85.9	288	55.8	180	53	98	415
Struck by falling object	1	0.1	-	-	1	0.2	1	-	-	-
Struck against object	9	0.9	4	0.8	5	1.0	1	-	-	8
Sudden/unexpected movement of on-track equipmen	11	1.0	3	0.6	8	1.6	-	2	4	5
Sudden/unexpected movement of vehicle	1	0.1	-	-	1	0.2	-	-	-	1
Sustained viewing	1	0.1	1	0.2	-	-	1	-	-	-
Thrill seeking	20	1.9	3	0.6	17	3.3	2	7	5	6
Other (describe in narrative)	33	3.1	13	2.4	20	3.9	2	5	7	19
ALL	1049	100	533	100	516	100	236	88	138	587

APPENDIX A

ABBREVIATIONS

%	Percent of total
AADT	Average annual daily traffic
Acc	Accident, events reported on form 6180-54 (Chapter 6)
Avg	Average
Chg	Change
Cls	Class
Cnt	Count
Coll	Collision between ontrack equipment
Comm	Commuter
Der	Derailment
EOD	Railroad employee on duty
Eqp	Equipment
Exp	Exposure
Ftl	Fatality
HRC	Highway-rail crossing
HWTS	Highway traffic signals
Hmn	Human factor
Incs	Incidents
Len	Length
Loco	Locomotive
Mtr V	Motor vehicle
Nonf	Nonfatal cases (injuries and occupational illnesses)
Othr	Other
Psgr	Passenger on train
RR	Railroad
Rng	Range
Sig	Signal
Spd	Speed
Term	Terminated
Trans	Transferred
Tres	Trespasser
Trk	Track
Trn	Train
Unk	Unknown
Veh	Vehicle
WW	Wiwags
w/o	Without

APPENDIX B

RAILROAD SYSTEMS

There have been many consolidations of railroads over the years. In addition some railroads have reported under different codes. The following is a list of railroads that are often associated with larger systems, or whose reports are filed by a single reporting officer.

---------- System=Ann Arbor Railroad ----------

RR Code	Name
AA	Ann Arbor Railroad
MIRR	Michigan Interstate Railroad

---------- System=Aberdeen & Rockfish Railroad Company ----------

RR Code	Name
AR	Aberdeen & Rockfish Railroad Company
DER	Dunn-Erwin Railway Corporation
PDRR	Pee Dee River Railway Corporation

---------- System=Amtrak (National Railroad Passenger Corporati ----------

RR Code	Name
ATK	Amtrak (National Railroad Passenger Corporati
ATKC	Amtrak (Natl RR Pass Corp-NEC)
WATC	WASHINGTON TERMINAL COMPANY

---------- System=BURLINGTON NORTHERN SANTA FE CORPORATION ----------

RR Code	Name
ATSF	Atchison, Topeka & Santa Fe Railway Company
BN	Burlington Northern Railroad Company
BNSF	BURLINGTON NORTHERN SANTA FE CORPORATION
CS	COLORADO AND SOUTHERN RAILWAY
FWD	FORT WORTH AND DENVER RAILWAY COMPANY
SLSF	ST. LOUIS-SAN FRANCISCO RAILWAY

APPENDIX B

RAILROAD SYSTEMS

---------- System=CSX Transportation ----------

RR Code	Name
AWP	ATLANTA AND WEST POINT RAILROAD COMPANY
BO	BALTIMORE AND OHIO RAILROAD COMPANY
BOCT	Baltimore & Ohio Chicago Terminal Railroad Co
CARR	Carrollton Railroad (CSX)
CCO	CLINCHFIELD RAILROAD
CNL	COLUMBIA, NEWBERRY AND LAURENS RAILROAD COMPA
CO	CHESAPEAKE AND OHIO RAILWAY COMPANY
CSRR	CHESSIE SYSTEM RAILROADS
CSX	CSX Transportation
DS	DURHAM AND SOUTHERN RAILWAY COMPANY
GA	GEORGIA RAILROAD
GM	GAINESVILLE MIDLAND RAILROAD COMPANY
LN	LOUISVILLE AND NASHVILLE RAILROAD COMPANY
POV	PITTSBURGH & OHIO VALLEY RAILROAD (BOUGHT BY
RFP	Richmond, Fredericksburg & Potomac Railway
SBD	SEABOARD SYSTEM RAILROAD, INCORPORATED
SCL	SEABOARD COAST LINE RAILROAD
WA	WESTERN RAILWAY OF ALABAMA
WM	WESTERN MARYLAND RAILWAY

---------- System=GREAT NORTHERN TRANSPORTATION SYSTEM ----------

RR Code	Name
CSE	COLORADO SPRINGS & EASTERN RAILROAD CO.
DTMR	Denver Terminal Railroad Company
DXZE	DIXIE RIVER RAILROAD CO.
FRY	FORE RIVER RR CORP (CEASED OPERATIONS IN 1992
ISR	IOWA SOUTHERN RAILROAD COMPANY (CEASED OPERAT
OCR	OKLAHOMA CENTRAL RAILROAD CO.
OTT	OTTUMWA TERMINAL RAILROAD COMPANY (OUT OF BUS

APPENDIX B

RAILROAD SYSTEMS

---------- System=GUILFORD RAILROAD SYSTEM ----------

RR Code	Name
BM	Boston & Maine Corporation
GRS	GUILFORD RAILROAD SYSTEM
GUIL	GUILFORD TRANSPORTATION INDUSTRIES, INC
MEC	Maine Central Railroad Company
PTM	Portland Terminal Company
ST	Springfield Terminal Railway Company (Vermont

---------- System=Grand Trunk Western Railroad Incorporated ----------

RR Code	Name
DTI	DETROIT, TOLEDO AND IRONTON RAILROAD COMPANY
GTW	Grand Trunk Western Railroad Incorporated

---------- System=Illinois Central Railroad Company ----------

RR Code	Name
CC	Chicago, Central & Pacific Railroad Company
CEDR	Cedar River Railroad Company
CVAR	Cedar Valley Railroad
IC	Illinois Central Railroad Company
ICG	ILLINOIS CENTRAL GULF RAILROAD COMPANY

---------- System=Indiana Hi-Rail Corporation ----------

RR Code	Name
IHRC	Indiana Hi-Rail Corporation
WAER	WABASH & ERIE RAILROAD (OUT OF OPERATION)
WOHO	WABASH & OHIO RAILROAD (OUT OF OPERATION)

APPENDIX B

RAILROAD SYSTEMS

---------- System=Kansas City Southern Railway Company ----------

RR Code	Name
ARW	Arkansas Western Railway Company
FSVB	Fort Smith & Van Buren Railway Company
KCS	Kansas City Southern Railway Company
LA	Louisiana & Arkansas Railway Company
MDR	MIDLOUISIANA RAIL CORPORATION (USE CODE KCS)
MSRC	Midsouth Railroad Corporation (USE CODE KCS)
NLG	North Louisiana & Gulf Railroad Company
SR	Southrail Corporation (USE CODE KCS)
TNR	TENNRAIL CORPORATION (USE CODE KCS)

---------- System=NEW ENGLAND CENTRAL RAILROAD ----------

RR Code	Name
CV	CENTRAL VERMONT RAILWAY (OUT OF OPERATION)
NECR	NEW ENGLAND CENTRAL RAILROAD

--------- System=Northern Indiana Commuter Transportation Dist ---------

RR Code	Name
CSS	Chicago Southshore & South Bend Railroad
NICD	Northern Indiana Commuter Transportation Dist

APPENDIX B

RAILROAD SYSTEMS

---------- System=Norfolk Southern Corporation ----------

RR Code	Name
AEC	Atlantic & East Carolina Railway
AGS	Alabama Great Southern Railroad (NSX)
CGA	Central of Georgia Railroad Company (NSX)
CHW	Chesapeake Western Railway
CNTP	Cincinnati, New Orleans & Texas Pacific Railw
CPLJ	Camp Lejeune Railroad Company
CRN	CAROLINA AND NORTHWESTERN RAILWAY COMPANY
GANO	Georgia Northern Railway Company (NSX)
GSF	Georgia Southern & Florida Company (NSX)
INT	Interstate Railroad Company
LPSG	Live Oak, Perry, South Georgia Railway Compan
LSO	LOUISIANA SOUTHERN RAILWAY COMPANY
NOT	New Orleans Terminal Company
NS	Norfolk Southern Corporation
NSX	NORFOLK SOUTHERN CORPORATION
NW	Norfolk & Western Railway Company
SJRT	St. John's River Terminal Company
SOU	Southern Railway Company (NSX)
STRX	STATE UNIVERSITY RAILROAD
TAG	Tennessee, Alabama & Georgia Railway Company
TENN	Tennessee Railroad Company (NSX)

--------- System=New York, Susquehanna & Western Railroad Comp ---------

RR Code	Name
CACV	Cooperstown & Charlotte Valley Railway Corpor
CNYK	Central New York Railroad Corporation
DOS	DELAWARE OTSEGO CORPORATION
FJG	Fonda, Johnstown & Gloversville Railroad Comp
LASB	LACKAWAXEN AND STOURBRIDGE RAILROAD CORPORATI
NYSW	New York, Susquehanna & Western Railroad Comp
RV	Rahway Valley Railroad Company
SIRC	STATEN ISLAND RAILROAD CORPORATION

---------- System=R. J. Corman Railroad ----------

RR Code	Name
RJCL	R. J. Corman Railroad Company/Cleveland Line
RJCM	R. J. Corman Railroad Company/Memphis Line
RJCR	R. J. Corman Railroad

APPENDIX B

RAILROAD SYSTEMS

---------- System=SOUTHERN ELECTRIC RAILROAD ----------

RR Code	Name
SEGX	Southern Electric Generating Company
SERX	SOUTHERN ELECTRIC RAILROAD

---------- System=Soo Line Railroad Company ----------

RR Code	Name
MILW	CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RAILRO
SOO	Soo Line Railroad Company

---------- System=Tri-County Commuter Rail Authority ----------

RR Code	Name
TCCX	Tri-County Commuter Rail Authority
TCRO	THREE COUNTY COMMUTER RAIL ORGAN. (USE CODE T
TSI	Traffic Services Inc.
UTSZ	UTDC TRANSIT SERVICES, INC. (USE CODE TCCX)

---------- System=THREE RIVERS RAILWAY COMPANY (OUT OF OPERATIO ----------

RR Code	Name
PLE	PITTSBURGH & LAKE ERIE RAILROAD COMPANY (OUT
TRRX	THREE RIVERS RAILWAY COMPANY (OUT OF OPERATIO

APPENDIX B

RAILROAD SYSTEMS

---------- System=Union Pacific Railroad Company ----------

RR Code	Name
CEI	CHICAGO AND EASTERN ILLINOIS
CHTT	Chicago Heights Terminal Transfer Railroad Co
CNW	Chicago and North Western Railway Company
DKS	Doniphan, Kensett & Searcy Railway
DRGW	Denver & Rio Grande Western Railroad Company
GHH	Galveston, Houston & Henderson Railroad Compa
HI	HOLTON INTER-URBAN RAILWAY COMPANY
MI	MISSOURI-ILLINOIS RAILROAD
MKT	Missouri-Kansas-Texas Railroad Company
MP	Missouri Pacific Railroad Company
NWP	Northwestern Pacific Railroad Company
OKKT	OKLAHOMA KANSAS & TEXAS RAILROAD COMPANY
OKT	OKLAHOMA KANSAS & TEXAS RAILROAD COMPANY
PSR	PETALUMA AND SANTA ROSA RAILROAD COMPANY
SI	SPOKANE INTERNATIONAL RAILROAD COMPANY
SP	Southern Pacific Transportation Company
SSW	ST. LOUIS SOUTHWESTERN RAILWAY CO. (MERGED WI
SSWN	SOUTHERN PACIFIC, CHICAGO-ST. LOUIS CORP.(MER
SUN	Sunset Railway Company
TP	TEXAS AND PACIFIC RAILWAY
UP	Union Pacific Railroad Company
VE	Visalia Electric Railroad Company
WMWN	WEATHERFORD, MINERAL WELLS & NORTHWESTERN RAI
WP	WESTERN PACIFIC RAILROAD COMPANY

---------- System=Wisconsin Central Ltd. (also Railway) ----------

RR Code	Name
FRVR	FOX RIVER VALLEY RAILROAD CORP. (**USE CODE F
FVW	Fox Valley & Western Ltd.
GBW	GREEN BAY & WESTERN RAILROAD COMPANY (**USE C
WC	Wisconsin Central Ltd. (also Railway)

---------- System=Wisconsin & Southern Railroad Company ----------

RR Code	Name
WICT	Wisconsin Calumet Railroad
WSOR	Wisconsin & Southern Railroad Company
WSRC	WISCONSIN AND SOUTHERN RAILWAY COMPANY

APPENDIX C

ACCIDENT PREDICTION AND RESOURCE ALLOCATION PROCEDURE NORMALIZING CONSTANTS

The U.S. DOT Highway-Rail Crossing Resource Allocation Procedure, as described in the *Rail-Highway Crossing Resource Allocation Procedure User's Guide, Third Edition,* August 1987, DOT/FRA/OS-87/10, uses three "normalizing constants" in the accident prediction formula, Formula A, Section 3.2.4, Page 17. These constants need to be adjusted periodically in order to keep the procedure matched with the current accident trends. The last recalculation and adjustment was made for Calendar Year 1992 and published in Bulletins No. 14 through 19.

The process of determining the three (3) new "normalizing constants" for 1998 is performed such that the 1997 accident prediction sum of the top 20 percent of the crossings is made to equal the sum of the *observed* number of accidents that occurred for those same 20 percent of crossings using the accident data for Calendar Years 1992 to 1996 (to predict 1997). The *observed* accidents are those accident records that are in the data file. Because of inaccurate reporting which results in some mismatched data records, the number of *observed* accidents normally will not be equal to the actual number of accidents which have occurred and as reported in the yearly Bulletin. This process is performed for each of the respective three formulae for the three types of warning device groups, (1) passive, (2) flashing lights, and (3) gates. This process normalizes the calculated prediction for the current trend in accident data (downward) and relative to each of the three types of warning devices.

These constants were redetermined for the "national" model using the crossings in the National Inventory File as of December 1997. Those using the "DOT Model" should update their models by replacing the old constants with the new recalculated values. These "normalizing constants" are located in the computer program ACPD.NEW as shown in the *User's Guide Third Edition* at the top of Page A-4, Appendix A1 and in RESAL.NEW on Page B-3, Appendix B1.

As of August 1998, these new constants will be in the computer program used to fulfill requests for accident prediction and resource allocation listings, as well as in the new 1998 PCAPS Computer Program containing 1997 data. The table below lists the new and prior constants.

ACCIDENT PREDICTION AND RESOURCE ALLOCATION PROCEDURE NORMALIZING CONSTANTS

WARNING DEVICE GROUPS	NEW	PRIOR YEARS			
	1998	1992	1990	1988	1986
(1) Passive	**.7159**	.8239	.9417	.8778	.8644
(2) Flashing Lights	**.5292**	.6935	.8345	.8013	.8887
(3) Gates	**.4921**	.6714	.8901	.8911	.8131

APPENDIX D

ACCIDENT/INCIDENT FORMS

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

RAILROAD INJURY AND ILLNESS SUMMARY

OMB Approval No 2130-0500

1 Name of Reporting Railroad	2. Alphabetic Code	3. Report Month & Year	4. State Alphabetic Code	5 County

6 Name of Reporting Officer	7. Official Title

8. Address	9. Telephone *(Area Code) (Number)*

10.

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 in attached hardcopy forms or magnetic media or electronic submission 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 im-

[L.S]

pression seal) _____ _____
(Notary Public) *(Signature of affiant)*

OPERATIONAL DATA & ACCIDENT/INCIDENT COUNTS FOR REPORT MONTH

11. Freight Train Miles	12. Passenger Train Miles	13. Yard Switching Train Miles	14. Other Train Miles

15 Railroad Worker Hours	16. Passenger Miles Operated	17. Number of Passengers Transported

18. REPORTED CASUALTIES

Type of Person	Fatal	Nonfatal
Worker on duty - employee		
Employees not on duty		
Passengers on trains		
Nontrespassers/on railroad property		
Trespassers		
Worker on duty - contractor		
Contractor - other		
Worker on duty - volunteer		
Volunteer - other		
Nontrespassers/off railroad property		
Grand total		

19. NUMBER OF FRA FORMS ATTACHED

FRA Form Number	Number Attached
6180.54	
6180.55a	
6180.56	
6180.57	
6180.81	

20. Remarks Section. Please describe operational, environmental, or other circumstances that account for unusual fluctuations in train miles operated, employee hours, or passenger counts.

FORM FRA F 6180.55

This report is required by law (49 USC 20901). Failure to report can result in the imposition of civil penalties.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

RAILROAD INJURY AND ILLNESS SUMMARY

(Continuation Sheet)

SHEET ____ OF ____
OMB Approval No 2130-0500

1. Name of Reporting Railroad	2. Alphabetic Code	3. Report Month	4. Report Year

5a. Accident/Injury Number	5b. Day	5c. Time of Day	5d. County	5e. State	5f. Type Person/ Job Code	5g. Age

5h. Drug/ Alcohol Test	5i. Injury Illness Code	5j. Physical Act	5k. Location	5l. Event	5m. Result	5n. Cause	5o. Number of Days Away From Work	5p Number of Days Restricted	5q. Exposure to Hazmat	5r. Termination or Permanent Transfer? (y/n)

5s. Narrative (Up to 250 Characters)

5a. Accident/Injury Number	5b. Day	5c. Time of Day	5d. County	5e. State	5f. Type Person/ Job Code	5g. Age

5h. Drug/ Alcohol Test	5i. Injury Illness Code	5j. Physical Act	5k. Location	5l. Event	5m. Result	5n. Cause	5o. Number of Days Away From Work	5p Number of Days Restricted	5q. Exposure to Hazmat	5r. Termination or Permanent Transfer? (y/n)

5s. Narrative (Up to 250 Characters)

5a. Accident/Injury Number	5b. Day	5c. Time of Day	5d. County	5e. State	5f. Type Person/ Job Code	5g. Age

5h. Drug/ Alcohol Test	5i. Injury Illness Code	5j. Physical Act	5k. Location	5l. Event	5m. Result	5n. Cause	5o. Number of Days Away From Work	5p Number of Days Restricted	5q. Exposure to Hazmat	5r. Termination or Permanent Transfer? (y/n)

5s. Narrative (Up to 250 Characters)

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

RAIL EQUIPMENT ACCIDENT/INCIDENT REPORT

OMB Approval No 2130-0500

1. Name of Reporting Railroad	1a. Alphabetic Code	1b. Railroad Accident/Incident No
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 *(single entry in code box)*: 1. Derailment; 2. Head on collision; 3. Rear end collision; 4. Side collision; 5. Raking collision; 6. Broken train collision; 7. Hwy-rail crossing; 8. RR grade crossing; 9. Obstruction; 10. Explosion-detonation; 11. Fire/violent rupture; 12. Other impacts; 13. Other *(describe in narrative)*; Code

8. Cars Carrying HAZMAT	9. HAZMAT Cars Damaged/ Derailed	10. Cars Releasing HAZMAT	11. People Evacuated	12. Division
13. Nearest City/ Town	14. Milepost *(to nearest tenth)*	15. State Abbr. / Code	16. County	
17. Temperature (F) *(specify if minus)* ° F	18. Visibility *(single entry)* 1. Dawn 2. Day 3. Dusk 4. Dark / Code	19. Weather *(single entry)* 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow / Code	20. Type of Track 1. Main 2. Yard 3. Siding 4. Industry / Code	
21. Track Name/ Number	22. FRA Track Class (1-6, X) / Code	23. Annual Track Density *(gross tons in millions)*	24. Time Table Direction 1. North 2. South 3. East 4. West / Code	
25. Type of Equipment Consist *(single entry)* 1. Freight train 2. Passenger train 3. Commuter train 4. Work train 5. Single car 6. Cut of cars 7. Yard/switching 8. Light loco(s). 9. Maint./inspect. car / Code	26. Was Equipment Attended? 1. Yes 2. No / Code	27. Train Number/Symbol		

28. Speed *(recorded speed, if available)* R - Recorded E - Estimated MPH / Code

29. Trailing Tons *(gross tonnage, excluding power units)*

30. Method(s) of Operation *(enter code(s) that apply)*: a. ATCS; b. Auto train control; c. Auto train stop; d. Cab signals; e. Traffic control; f. Interlocking; g. Automatic block; h. Current of traffic; i. Time table/train orders; j. Track warrant control; k. Direct traffic control; l. Yard limits; m. Special instructions; n. Other than main track rules; o. Other *(specify in narrative)*

Code(s)

	a. Initial and Number	b. Position in Train	c. Loaded *(yes/no)*
(1) First Involved *(derailed, struck, etc.)*			
(2) Causing *(if mechanical, cause reported)*			

32. If any railroad employees tested for drug or alcohol impairment, enter codes from reporting manual. Code(s)

33. Was this consist transporting passengers? (y/n)

34. Locomotive Units	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					

35. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist					
(2) Total Derailed					

36. Equipment Damage This Consist

37. Track, Signal, Way, & Structure Damage

38. Primary Cause Code

39. Contributing Cause Code

Number of Crew Members

40. Engineers/ Operators	41. Firemen	42. Conductors	43. Brakemen

Length of Time on Duty

44. Engineer/Operator	45. Conductor
Hrs: Mins:	Hrs: Mins:

Casualties to:	46. Railroad Employees	47. Train Passengers	48. Others	49. Special Study Block
Fatal				
Nonfatal				

50. Narrative Description *(Be specific, and continue on separate sheet if*

51. Typed/Printed Name & Title of Preparer	52. Signature	53. Date

FORM FRA F 6180.54

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

HIGHWAY-RAIL GRADE CROSSING ACCIDENT/INCIDENT REPORT

OMB Approval No 2130-0500

1 Name of Reporting Railroad	1a. Alphabetic Code	1b Railroad Accident/Incident No
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 Nearest Railroad Station	8. Division	9. County	10. State Abbr / Code
11 City *(if in a city)*	12. Highway Name or Number Public ☐ Private ☐		

Highway User Involved

13 Type — Code
A. Auto; B. Truck; C Truck-trailer; D Pick-up truck; E. Van; F. Bus; G. School bus; H. Motorcycle; J. Other motor vehicle; K. Pedestrian; M. Other *(specify)*

14 Vehicle Speed *(est. mph at impact)*

15. Direction *(geographical)* — Code
1. North 2. South 3. East 4. West

16 Position — Code
1 Stalled on crossing 2 Stopped on crossing 3 Moving over crossing 4. Trapped

20a Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? — Code
1. Highway user 2. Rail equipment 3. Both 4. Neither

Rail Equipment Involved

17. Equipment — Code
1. Train *(units pulling)*; 2. Train *(units pushing)*; 3. Train *(standing)*; 4. Car(s) *(moving)*; 5. Car(s) *(standing)*; 6. Light loco(s) *(moving)*; 7. Light loco(s) *(standing)*; 8. Other *(specify)*

18. Position of Car Unit in Train

19. Circumstance — Code
1. Rail equipment struck highway user 2. Rail equipment struck by highway user

20b. Was there a hazardous materials release by — Code
1. Highway user 2. Rail equipment 3. Both 4. Neither

20c State here the name and quantity of the hazardous material released, if any.

21 Temperature *(specify if minus)* °F	22. Visibility *(single entry)* — Code 1. Dawn 2. Day 3. Dusk 4. Dark	23. Weather *(single entry)* — Code 1. Clear 2. Cloudy 3. Rain 4. Fog 5. Sleet 6. Snow

24 Type of Equipment Consist *(single entry)* — Code 1 Freight train; 2 Passenger train; 3 Commuter train; 4 Work train; 5 Single car; 6 Cut of cars; 7 Yard/switching; 8 Light loco(s); 9 Maint./inspect. car	25. Track Type Used by Rail Equipment Involved — Code 1. Main 2. Yard 3. Siding 4. Industry	26. Track Number or Name

27 FRA Track Class (1-6, X)	28. Number of Locomotive Units	29 Number of Cars	30. Consist Speed *(Recorded if available)* — Code R - Recorded; E - Estimated; MPH	31. Time Table Direction — Code 1. North 2. South 3. East 4. West

32 Type of Crossing Warning — Code(s) 1 Gates; 2 Cantilever FLS; 3 Standard FLS; 4 Wig wags; 5 Hwy. traffic signals; 6 Audible; 7 Crossbucks; 8 Stop signs; 9 Watchman; 10 Flagged by crew; 11 Other *(specify)*; 12. None	33. Signaled Crossing Warning — Code *(See reverse side for*	34. Whistle Ban — Code 1 Yes 2 No 3 Unknown

35 Location of Warning — Code 1 Both sides; 2 Side of vehicle approach; 3 Opposite side of vehicle approach	36. Crossing Warning Interconnected with Highway Signals — Code 1. Yes 2. No 3. Unknown	37. Crossing Illuminated by Street Lights or Special Lights — Code 1. Yes 2. No 3. Unknown

38 Driver's Age	39. Driver's Gender — Code 1 Male 2 Female	40. Driver Drove Behind or in Front of Train and Struck or was Struck by Second Train — Code 1. Yes 2. No 3. Unknown	41. Driver — Code 1. Drove around or thru the gate; 2. Stopped and then proceeded; 3. Did not stop; 4. Stopped on crossing; 5. Other *(specify)*

42 Driver Passed Standing Highway Vehicle — Code 1 Yes 2. No 3. Unknown	43. 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

Casualties to:	Killed	Injured
46 Highway-Rail Crossing Users		
49 Railroad Employees		
52 Passengers on Train		

44. Driver was — Code 1. Killed 2. Injured 3. Uninjured	45. Was Driver in the Vehicle? — Code 1. Yes 2. No
47 Highway Vehicle Property Damage *(est. dollar damage)*	48. Total Number of Highway-Rail Crossing Users *(include driver)*
50. Total Number of People on Train *(include passengers and train crew)*	51. Is a Rail Equipment Accident/ Incident Report Being Filed? — Code 1. Yes 2. No

53a Special Study Block	53b. Special Study Block

54 Narrative Description *(Be specific, and continue on*

55 Typed Name and Title	56. Signature	57. Date

FORM FRA F 6180.57

* NOTE THAT ALL CASUALTIES MUST BE REPORTED ON FORM FRA F 6180.55A

INSTRUCTIONS FOR COMPLETING BLOCK 33

Only if Types 1 - 6, Item 32 are indicated, mark in Block 33 the status of the warning devices at the crossing at the time of the accident, using the following codes:

1. Provided minimum 20-second warning.

2. Alleged warning time greater than 60 seconds.

3. Alleged warning time less than 20 seconds.

4. Alleged no warning.

5. Confirmed warning time greater than 60 seconds.

6. Confirmed warning time less than 20 seconds.

7. Confirmed no warning.

If status code 5, 6, or 7 was entered, also enter a letter code explanation from the list below:

A. Insulated rail vehicle.

B. Storm/lightning damage.

C. Vandalism.

D. No power/batteries dead.

E. Devices down for repair.

F. Devices out of service.

G. Warning time greater than 60 seconds attributed to accident-involved train stopping short of the crossing, but within track circuit limits, while warning devices remain continuously active with no other in-motion train present.

H. Warning time greater than 60 seconds attributed to track circuit failure (e.g., insulated rail joint or rail bonding failure, track or ballast fouled, etc.).

J. Warning time greater than 60 seconds attributed to other train/equipment within track circuit limits.

K. Warning time less than 20 seconds attributed to signals timing out before train's arrival at the crossing/island circuit.

L. Warning time less than 20 seconds attributed to train operating counter to track circuit design direction.

M. Warning time less than 20 seconds attributed to train speed in excess of track circuit's design speed.

N. Warning time less than 20 seconds attributed to signal system's failure to detect train approach.

P. Warning time less than 20 seconds attributed to violation of special train operating instructions.

R. No warning attributed to signal system's failure to detect the train.

S. Other cause(s). Explain in Narrative Description.