# HIGHWAY-RAIL CROSSING ACCIDENT/INCIDENT AND INVENTORY BULLETIN

NO. 19 CALENDAR YEAR 1996

#### 

U.S. Department of Transportation Federal Railroad Administration

Office of Safety

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## TABLE OF CONTENTS

SECTION	
INTRODUCTION	
RESOURCE ALLO	CATION PROCEDURE CONSTANTS
TABLE-S.	Summary of Highway-Rail Crossing Accident Statistics for the Nation
HISTORICAL ACC FOR PUBLIC CR	CIDENT TRENDS OSSINGS ONLY
TABLE 1.	Summary of Accidents/Incidents and Casualties at Highway-Rail Public Crossings
TABLE 2.	Summary of Accidents/Incidents and Accident Rates at Highway-Rail Public Crossings Involving Motor Vehicles
CURRENT YEAR AT PUBLIC CRO	ACCIDENT DATA SSINGS ONLY
TABLE 3.	Accidents/Incidents at Highway-Rail Crossings by State
TABLE 4.	MV Accidents/Incidents at Highway-Rail Crossings by State
TABLE 5.	Accidents/Incidents at Highway-Rail by Type of Motor Vehicle
TABLE 6.	MV Accidents/Incidents at Highway-Rail Crossings by type of Consist
TABLE 7.	MV Accidents/Incidents at Highway-Rail Crossings by Warning Device by Railroad
TABLE 7A.	Accidents/Incidents at Highway-Rail by Railroad

TABLE 8.	MV Accidents/Incidents at Highway-Rail Crossings by Warning Device by State
TABLE 9.	Accidents/Incidents at Highway-Rail Crossings by Highway User
TABLE 10.	MV Accidents/Incidents at Highway-Rail Crossings by Circumstance
TABLE 11.	Accidents/Incidents at Highway-Rail Crossings by Type of Vehicle and Number of Occupants
TABLE 12.	MV Accidents/Incidents at Highway-Rail Crossings by Type of Vehicle, Circumstance And Visibility
TABLE 13.	Casualties at Highway Crossings by Type of Person Involved, Highway User, and Circumstance
TABLE 14.	MV Accidents/Incidents and Casualties at Highway-Rail Crossings by Speed of Vehicle, Circumstance, and Visibility
TABLE 15.	MV Accidents/Incidents and Casualties at Highway-Rail Crossings by Position and Type of Vehicle
TABLE 16.	MV Accidents/Incidents and Casualties at Highway-Rail Crossings by Speed of Train, Circumstance, and Visibility
TABLE 17.	MV Accidents/Incidents at Highway-Rail Crossings by Railroad Equipment Involved, Part of Train Struck, Circumstance and Visibility
TABLE 18.	MV Accidents/Incidents at Highway-Rail Crossings by Train Speed and Type of Train

TABLE 19.	MV Accidents/Incidents and Casualties at Highway-Rail Crossings by Number of Cars in Train and Type of Train
TABLE 20.	MV Accidents/Incidents and Casualties at Highway-Rail Crossings by Length of Consists and Visibility
TABLE 21.	MV Accidents/Incidents and Casualties at Highway-Rail Crossings by Type and Class of Track
TABLE 22.	MV Accidents/Incidents and Casualties at Highway-Rail Crossings by Warning Device and Motorist Action
TABLE 23.	MV Accidents/Incidents at Highway-Rail Crossings by Operational Status of Warning Device, Circumstance, and Visibility
TABLE 24.	MV Accidents/Incidents and Casualties at Highway-Rail Crossings During Dusk and Dark Hours by Illumination of Crossing and Circumstance
TABLE 25.	MV Accidents/Incidents and Casualties at Highway-Rail Crossings by Location and Type of Warning Device, Circumstance and Visibility
TABLE 26.	MV Accidents/Incidents and Casualties at Highway-Rail Crossings by Visibility and Circumstance
TABLE 27.	MV Accidents/Incidents at Highway-Rail Crossings by Visibility and Circumstance

<b>SECTION</b>			<b>PAGE</b>
	TABLE 28.	MV Accidents/Incidents and Casualties at Highway-Rail Crossings by Time of Day and Circumstance	•
	TABLE 29.	MV Accidents/Incidents and Casualties at Highway-Rail Crossings by Month and Circumstance	•
	TABLE 30.	MV Accidents/Incidents at Highway-Rail Crossings by Weather Conditions, Circumstance and Visibility	•
	TABLE 31.	MV Accidents/Incidents at Highway-Rail Crossings by Obstruction of Motorist View, Circumstance and Visibility	•
	TABLE 32.	MV Accidents/Incidents at Highway-Rail Crossings by Motorist Action and Type of Vehicle	•
HIGI		CROSSING INVENTORY	•
	TABLE 33.	Total Public and Private Crossings by State and Type	•
	TABLE 34.	Total Public and Private Crossings by Railroad and Type	
	TABLE 35.	Total Crossings by State and Location: Urban or Rural	•
	TABLE 36.	Total Crossings by Number of Main and Other Tracks	•
	TABLE 37.	Total Crossings by Number of Tracks and Warning Device Category	•

TABLE 38.	Total Crossings by Number of Tracks and Traffic Lanes
TABLE 39.	Total Crossings by Number of Tracks and State
TABLE 40.	Total Crossings by Type of Highway System and State
TABLE 41.	Total Crossings by Highway System Group and State
TABLE 42.	Total Crossings by Functional Classification of Road at Highway-Rail Crossings
TABLE 43.	Total Crossings by Number of Traffic Lanes and State
TABLE 44.	Total Crossings by Number of Traffic Lanes and Warning Device Category
TABLE 45.	Total Crossings by Warning Device Category and State
TABLE 46.	Total Crossings by Warning Device Category and Railroad
TABLE 47.	Total Crossings by Pavement Markings and State
TABLE 48.	Total Crossings by Railroad Advance Warning and State
TABLE 49.	Total Crossings Meeting the Manual on Uniform Traffic Control Devices' Standard for Crossbucks by State

TABLE 50.	Total Crossings by Total Number of Trains Per Day
TABLE 51.	Total Crossings by Number of Thru Trains and Switching Trains Per Day
TABLE 52.	Total Crossings by Number of Day and Night Trains Per Day
TABLE 53.	Total Crossings by Number of Trains Per Day and Warning Device Category
TABLE 54.	Total Crossings by Number of Trains Per Day and Annual Average Daily Traffic
TABLE 55.	Total Crossings by Maximum Timetable Speed
TABLE 56.	Total Crossings by Typical Train Speed Variation
TABLE 57.	Total Crossings by Annual Average Daily Traffic
TABLE 58.	Total Crossings by Annual Average Daily Traffic and Warning Device Category
TABLE 59.	Total Crossings by Truck Traffic as a Percentage of Annual Average Daily Traffic
TABLE 60.	Total Crossings by Crossing Surface
TABLE 61.	Total Crossings by Maximum Timetable Speed, Warning Device Category and Number of Tracks

SUMMARY OF ACCIDENT/INCIDENT AND INVENTORY DATA FOR PRIVATE CROSSINGS					
TABLE 62.	MV Accidents/Incidents at Private Highway-Rail Crossings by Type of Consist				
TABLE 63.	MV Accidents/Incidents at Private Highway-Rail Crossings by State and Warning Device				
TABLE 64.	Accidents/Incidents at Private Highway-Rail Crossings by Highway User				
TABLE 65.	MV Accidents/Incidents at Private Highway-Rail Crossings by Warning Device Category and Motorist Action				
TABLE 66.	MV Accidents/Incidents at Private Highway-Rail Crossings by Warning Device Category and Motorist Action				
TABLE 67.	MV Accidents/Incidents at Private Highway-Rail Crossings by Railroad and Warning Device Category				
TABLE 68.	Accidents/Incidents and Casualties at Private Highway-Rail Crossings by Railroad				
TABLE 69.	MV Accidents/Incidents and Casualties at Private Highway-Rail Crossings by Speed of Consist				
TABLE 70.	MV Accidents/Incidents and Casualties at Private Highway-Rail Crossings by Length of Consist				

<b>SECTION</b>		
	TABLE 71.	MV Accidents/Incidents at Private Highway- Rail Crossings by Operational Status of Warning Device, Circumstance and Visibility
	TABLE 72.	Private Crossings At-Grade by State and Type Development
	TABLE 73.	Private Crossings At-Grade by State and Type Warning Device
	TABLE 74.	Private Crossings At-Grade by Type Development and Warning Device
	TABLE 75.	Private Crossings At-Grade by Railroad and Type Development
	TABLE 76.	Private Crossings At-Grade by Railroad and Type Warning Device
		PORTING REQUIREMENTS
APPE	ENDIX B - REI	PORTING FORMS

#### LIST OF ABBREVIATIONS

ACC/INC - Accident/Incident

A/I - Accident/Incident

**CONT** - Contractor Employee

**ENOD** - **Employee Not On Duty** 

**EOD** - **Employee On Duty** 

FA - Federal Aid

HWY - Highway

INJ - Injury or Casualty

K - Thousands

KLD - Killed

LOCO(S) - Locomotive

**MUTCD** - Manual on Uniform Traffic Control Devices

MV - Motor Vehicle

NONT - Non-Trespasser

PSGR - Passenger

SIG - Signal

TRES - Trespasser

VEH REG - Vehicles Registered

#### INTRODUCTION

The nineteenth annual report, issued by the Federal Railroad Administration (FRA) Office of Safety, combines Highway-Rail Crossing Accident/Incident statistics with the National Highway-Rail Crossing Inventory. Accident/Incident data is compiled from monthly reports filed by railroads. The National Highway-Rail Crossing Inventory contains sight-survey data about individual crossings and is provided voluntarily by states and railroads.

The Federal Railroad Safety Act of 1970 (P.L. 91-458) and the Accident Reports Act (45 U.S.C. 38-34) require railroads to file accident/incident reports with the FRA. The National Highway-Rail Crossing Inventory was developed in response to the Federal Railroad Safety Act of 1970 and the Federal Highway Safety Acts of 1970 and 1973, which require the Secretary of Transportation to work towards improving safety at highway-rail crossings.

\* \* \* \* \* \* \*

Tables and figures retain the number identification used in prior years. Information on accidents/incidents and crossings is presented in the following sequence:

Historical data on highway-rail crossings accidents/incidents at public crossings.

Summary of 1996 accidents/incidents that occurred at public crossings sites.

Physical and operational statistics for all public at-grade highway-rail crossings as described in the inventory on July 19, 1997.

Summary of 1996 accidents/incidents occurring at <u>private</u> highway-rail crossings and tabulations of private crossings in the inventory.

The tables and figures in Sections 1,2,3,5, and Appendix C furnish data on public highway-rail crossings; although tables 33 and 34 in Section 4 include counts of the number of private crossings. The majority of the accident tables and charts shown in this bulletin provide information on motor vehicle accidents. Those tables and figures that do not refer to motor vehicle in their title contain data for all accidents/incidents.

## 1992/3 ACCIDENT PREDICTION AND RESOURCE ALLOCATION PROCEDURE CONSTANTS

The U.S. DOT Highway-Rail Crossing Resource Allocation Procedure, described in the <u>Rail-Highway Crossing Resource Allocation Procedure User's Guide, Third Edition, DOT/FRA/OS-87/10, August 1987, uses three "normalizing constants" in the accident prediction formulas, Formula A, Section 3.2.4, Page 17. These constants have been adjusted periodically in order to keep the formulas matched with current accident trends. The last readjustment was made for Calendar Year 1992 and was published in Bulletin No. 14.</u>

The process of determining the three (3) current normalizing constants for 1992 was performed so that the sum of the December 1991, predictions using only accident history data for Calendar Years 1986 to 1990 for the top 20 percent of each of the three classes of crossings (gates, flashing lights, passive) for the respective three formulas is made equal to the actual number of accidents that occurred for those same crossings in 1991. This process was performed for each of the three warning device groups, (1) passive, (2) flashing lights, and (3) gates.

These constants were redetermined for the "national" model using the crossings in the inventory as of December 31, 1991. Organizations using the "DOT Model" should update their models by replacing the old constants with the recalculated constants. The constants referenced here are located in the computer program ACPD.NEW as shown in the coding at the top of page A-4, Appendix A1 of the <u>User's Guide Third Edition</u> and in RESAL.NEW on page B-3, Appendix B1.

These constants will be used in fulfilling requests for accident prediction and resource allocation procedure listings. The table below lists the current and prior constants.

## ACCIDENT PREDICTION AND RESOURCE ALLOCATION PROCEDURE NORMALIZING CONSTANTS

	RNING DEVICE OUPS	CURRENT 1992	PRIOR YEARS 1990 1988 1986
(1)	Passive	.8239	.9417 .8778 .8644
<b>(2)</b>	Flashing Lights	.6935	.8345 .8013 .8887
(3)	Gates	.6714	.8901 .8911 .8131

The Resource Allocation Procedure is currently being reviewed and, if merited, may be revised. (This project is one of 55 actions identified within the Department of Transportation's recently released <u>Highway-Rail Crossing Safety Action Plan.</u>) As such, recalculation of the "normalizing constants" for the existing accident prediction formulas has been deferred until this review is complete. Users of the "DOT Model" should continue to use the 1992 constants detailed above.

TABLE-S. SUMMARY OF HIGHWAY-RAIL CROSSING ACCIDENT STATISTICS FOR THE NATION

YEAR	ACCI	TOTAL FATAL	INJ	MOTOR VEHICLE ACCI	FATAL	NON-MOTOI INJ	R VEHICLES ACCI	FATAL	INJ
<u>1991</u>									
PUBLIC PRIVATE	4,861 525	565 43	1,923 171	4,677 495	497 38	1,866 163	184 30	68 5	57 8
TOTAL	5,386	608	2,094	5,172	535	2,029	214	73	65
1992									
PUBLIC PRIVATE	4,465 445	536 43	1,830 145	4,269 415	466 40	1,752 139	196 30	70 3	78 6
TOTAL	4,910	579	1,975	4,684	506	1,891	226	73	84
1993									
PUBLIC	4,437	584	1,744	4,240	517	1,677	197	67	67
PRIVATE	455	42	93	421	37	83	34	5	10
TOTAL	4,892	626	1,837	4,661	554	1,760	231	72	77
<u>1994</u>									
PUBLIC	4,503	572	1,829	4,296	501	1,764	207	71	65
PRIVATE	476	43	132	450	41	121	26	2	11
TOTAL	4,979	615	1,961	4,746	542	1,885	233	73	76
<u>1995</u>									
PUBLIC	4,153	524	1,754	3,972	455	1,696	181	69	58
PRIVATE	480	55	140	444	53	129	36	2	11
TOTAL	4,633	579	1,894	4,416	508	1,825	217	71	69
<u>1996</u>									
PUBLIC PRIVATE	3,788 469	449 39	1,486 124	3,612 442	377 38	1,428 117	176 27	72 1	58 7
TOTAL	4,257	488	1,610	4,054	415	1,545	203	73	65

## ( **D A T A** )

## HISTORICAL ACCIDENT TRENDS

## **FOR**

## **PUBLIC CROSSINGS ONLY**

## TABLE 1. SUMMARY OF ACCIDENTS/INCIDENTS AND CASUALTIES AT HIGHWAY-RAIL PUBLIC CROSSINGS

YEAR	NUMBER OF ACCIDENTS		TOTAL	CCIDENT	CASUALTIES PER	
1991	4, 861	<b>56</b> 5	1, 923	2, 488	0. 51	
1992	4, 465	536	1, 830	2, 366	0. 52	
1993	4, 437	584	1, 744	2, 328	0. 52	
1994	4, 503	572	1, 829	2, 401	0. 53	
1995	4, 153	524	1, 754	2, 278	0. 55	
1996	3, 788	449	1, 486	1, 935	0. 51	

## TABLE 2. SUMMARY OF ACCIDENTS/INCIDENTS AND ACCIDENT RATES AT HIGHWAY-RAIL PUBLIC CROSSINGS INVOLVING MOTOR VEHICLES

YEAR	ACCIDENTS	MOTOR VEHICLES REGISTERED (000) <sup>1</sup>	ACCIDENTS PER MILLION VEHICLES	
1991	4, 677	191, 743	24. 39	
1992	4, 269	193, 430	22. 07	
1993	4, 240	197, 254	21. 49	
1994	4, 296	198, 045	21. 69	
1995	3, 972	200, 446	19. 81	
1996	3, 612	204, 482 <sup>2</sup>	17. 66	

Registration figures for Hawaii are omitted because it does not have any reporting railroads.

( D A T A )

**OVERVIEW** 

OF CURRENT

**YEAR** 

AT

**PUBLIC CROSSINGS** 

**ONLY** 

TABLE 3. ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY STATE, 1996

	No. Of	Ki l	1	T		Total	
State	No. UI Acc/Inc	K1 1 No.	1 ea %	Inj u No.	rea %	- Casual t No.	:1es %
	ACC/THC						
Al abama	142	17	3. 79	67	4. 51	84	4. 3
Al aska	5						
Ari zona	25	4	. 89	3	. 20	7	. 3
Arkansas	131	20	4. 45	36	2. 42	56	2. 8
Cal i forni a	172	20	4. 45	47	3. 16	67	3. 4
Col orado	25	2	. 45	11	. 74	13	. 6
Connecti cut	9			3	. 20	3	. 1
Del aware	4			2	. 13	2	. 1
Dist. of Columbia	2						
Fl ori da	93	14	3. 12	33	2. 22	47	2. 4
Georgi a	136	18	4. 01	37	2. 49	55	2. 8
[daho	43	6	1. 34	14	. 94	20	1. 0
Illinois	210	37	8. 24	83	5. 59	120	6. 2
Indi ana	211	28	6. 24	76	5. 11	104	5. 3
owa	114	6	1. 34	35	2. 36	41	2. 1
Kansas	101	13	2. 90	39	2. 62	52	2. 6
Kentucky	69	3	. 67	20	1. 35	23	1. 1
Loui si ana	213	29	6. 46	115	7. 74	144	7. 4
Maine	6		0. 40 	113	. 07	144	. (
Maryl and	9			7	. 47	7	. 3
Massachusetts	19			27	1. 82	27	1. 4
Ai chi gan	136	17	3. 79	85	5. 72	102	5. 2
Ai nnesota	132	13	2. 90	45	3. 03	58	3. (
Mississippi	120	15	3. 34	63	4. 24	78	3. ( 4. (
• •	107	17	3. 79	32	2. 15	49	2. 5
Missouri	23	2	3. 79 . 45	32 11	2. 13 . 74	49 13	<i>د.</i> د . (
Montana	23 54	8		20		28	
Vebraska	54 6	8 1	1. 78 . 22	20 4	1. 35 . 27	28 5	1. 4
Vevada Vew Hamshire	1		. && 		. 21		
New Jersey	27	2	. 45	8	. 54	10	. 5
New Mexico	23	7	1. 56	19	1. 28	26	1. 3
New York	31	4	. 89	13	. 87	17	. 8
North Carolina	112	9	2. 00	45	3. 03	54	2. 7
North Dakota	30	4	. 89	11	. 74	15	~. i
)hi o	174	13	2. 90	61	4. 10	74	3. 8
Okl ahoma	75	22	4. 90	34	2. 29	56	2. 8
	28	1	. 22	5	. 34	6	
Oregon	64	3	. 22 . 67	23	1. 55	26	1. 3
Rhode Island							
South Carolina	83	5	1. 11	39	2. 62	44	2. 2
South Dakota	20	2	. 45	9	. 61	11	. !
Tennessee	113	8	1. 78	26	1. 75	34	1. 7
Texas	391	50	11. 14	161	10. 83	211	10. 9
Jtah	31	11	2. 45	6	. 40	17	. 8
/ermont	3	1	. 22	3	. 20	4	. 2
/i rgi ni a	50	4	. 89	18	1. 21	22	1. 1
Nashi ngton	51	6	1. 34	16	1. 08	22	1. 1
West Virginia	17	2	. 45	5	. 34	7	
Wisconsin	144	5	1. 11	65	4. 37	70	3. 6
Wyomi ng	3		1. 11	3	. 20	3	. 1
Jnknown					. 20		
Total	3, 788	449	100. 00	1, 486	100. 00	1, 935	100. 0

TABLE 4. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY STATE, 1996

	No. Of		Casual ti es		<b>Vehi cles</b>	Per 10,000	Regist	ration-
State	Acc/Inc	KI d	Inj	Total	Registered	Acc/Inc	Kld	Inj
Al abama	138	15	66	81	3, 590, 761	. 38	. 04	. 18
Al aska	3				555, 103	. 05		
Ari zona	21	1	2	3	2, 942, 495	. 07		. 01
Arkansas	128	20	35	55	1, 630, 416	. 79	. 12	. 21
Cal i forni a	154	9	43	52	22, 963, 802	. 07		. 02
Col orado	24	2	11	13	2, 899, 910	. 08	. 01	. 04
Connecti cut	9		3	3	2, 671, 221	. 03		. 01
Del aware	4		2	2	601, 076	. 07		. 03
Dist. of Columbia	2				244, 318	. 08		
Fl ori da	85	11	29	40	10, 559, 507	. 08	. 01	. 03
Georgi a	135	17	37	54	6, 192, 515	. 22	. 03	. 06
I daho	40	5	14	19	1, 076, 563	. 37	. 05	. 13
Illi noi s	191	24	80	104	9, 157, 225	. 21	. 03	. 09
Indi ana	208	28	75	103	5, 168, 356	. 40	. 05	. 15
I owa	111	6	34	40	2, 925, 521	. 38	. 02	. 12
Kansas	98	11	36	47	2, 127, 628	. 46	. 05	. 17
Kentucky	66	2	19	21	2, 664, 392	. 25	. 01	. 07
Loui si ana	211	29	112	141	3, 322, 357	. 64	. 09	. 34
Mai ne	6		1	1	992, 817	. 06		. 01
Maryl and	9		7	7	3, 693, 032	. 02		. 02
Massachusetts	19		27	27	4, 576, 212	. 04		. 06
Mi chi gan	131	14	85	99	7, 801, 992	. 17	. 02	. 11
Mi nnesota	123	9	44	53	3, 999, 720	. 31	. 02	. 11
Mi ssi ssi ppi	118	15	62	77	2, 173, 189	. 54	. 07	. 29
Mi ssouri	102	15	26	41	4, 309, 962	. 24	. 03	. 06
Montana	22	2	11	13	989, 398	. 22	. 02	. 11
Nebraska	48	6	18	24	1, 485, 586	. 32	. 04	. 12
Nevada	5	1	4	5	1, 068, 898	. 05	. 01	. 04
New Hamshi re	1				1, 171, 473	. 01		
New Jersey	21		6	6	5, 994, 950	. 04		. 01
New Mexico	22	7	18	25	1, 514, 907	. 15	. 05	. 12
New York	23	2	9	11	10, 443, 715	. 02		. 01
North Carolina	108	6	44	50	5, 749, 462	. 19	. 01	. 08
North Dakota	25	3	9	12	711, 569	. 35	. 04	. 13
0hi o	166	10	60	70	10, 028, 772	. 17	. 01	. 06
0kl ahoma	72	21	34	55	2, 911, 559	. 25	. 07	. 12
0regon	24		5	5	2, 846, 208	. 08		. 02
Pennsyl vani a	62	1	23	24	8, 651, 861	. 07		. 03
Rhode Island					716, 189			
South Carolina	78	4	36	40	2, 867, 901	. 27	. 01	. 13
South Dakota	18	2	8	10	733, 797	. 25	. 03	. 11
Tennessee	109	7	26	33	5, 470, 351	. 20	. 01	. 05
Texas	386	50	159	209	13, 811, 852	. 28	. 04	. 12
Utah	30	10	6	16	1, 469, 037	. 20	. 07	. 04
Vermont	3	1	3	4	510, 372	. 06	. 02	. 06
Vi rgi ni a	46	2	16	18	5, 671, 332	. 08		. 03
Washi ngton	48	4	14	18	4, 598, 573	. 10	. 01	. 03
West Virginia	16	1	4	5	1, 443, 703	. 11	. 01	. 03
Wi sconsi n	140	4	62	66	4, 162, 265	. 34	. 01	. 15
Wyomi ng	3		3	3	617, 895	. 05	. 01	. 05
Unknown						. 03		
Total	3, 612	377	1, 428	1, 805	204, 481, 715	. 18	. 02	. 07

Note: Vehicle registration figures are for 1996 and were supplied by the Federal Highway Administration.

Registration figures for Hawaii are ommitted because it does not have any reporting railroads.

TABLE 5. ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY TYPE OF MOTOR VEHICLE, 1996

		Autor	mbi l e-		Truc	:k	- Tr	uck Tra	ailer-			Bus		Sch	ool Bu	ıs	- Motor	cycle
State	A/I	Kld	Inj	A/I	K1 d	Inj	A/I	Kld	Inj	A	/I K	ad I	nj .	A/I K	ld 1	inj A	/I K	lď Inj
Al abama	94	7	45	25	5	10	19	3	11									
Al aska	1			2														
Ari zona	12		2	8	1					1								
Arkansas	79	14	22	37	5	11	12	1	2									
Cal i forni a	95	7	33	40	2	8	19		2									
Col orado	17	2	7	7		4												
Connecti cut	8		3				1											
Del aware	4		2															
Dist. of Columbia	2																	
Fl ori da	54	9	13	19	2	13	11		2	1		1						
Georgi a	70	8	20	43	5	9	21	4	8							1		
I daho	22	4	7	13	1	6	5		1									
Illinois	133	17	55	49	7	23	9		2									
I ndi ana	144	19	55	49	8	17	13		3	1						1	1	
I owa	62	5	16	43	1	17	6		1									
Kansas	56	7	17	28	1	15	13	2	4							1	1	
Kentucky	34		10	23	2	9	9											
Loui si ana	129	23	67	56	5	30	23	1	11	1		1	1		2	1		1
Maine	5		1	1														
Maryl and	4		1	1			4		6									
Massachusetts	15		4	1		1	3		22									
Mi chi gan	94	10	60	27	4	22	9		2							1		1
Mi nnesota	72	5	28	38	4	13	13		3									
Mi ssi ssi ppi	85	15	47	20		13	13		2									
Mi ssouri	56	7	18	39	8	8	6									1		
Montana	14	1	7	6	1	3	2		1									
Nebraska	28	4	11	15	2	7	5											
Nevada	1		1	2	1		2		3									
New Hamshi re	1																	
New Jersey	18		6	2			1											
New Mexico	11		8	10	7	10	1											
New York	20	2	8	1			2		1									
North Carolina	74	4	31	20	2	10	14		3									
North Dakota	15	3	7	7		2	3											
0hi o	104	6	38	48	2	19	13	2	2							1		1
0kl ahoma	45	14	26	20	6	7	7	1	1									
Oregon	14		3	4		1	6		1									
Pennsyl vani a	39	1	18	12		3	11		2									
Rhode Island																		
South Carolina	52	3	27	14		5	10	1	2	1			1		2			
South Dakota	13	1	7	4	1	1	1											
Tennessee	77	5	20	19	2	4	10		2				1			2		
Texas	224	27	106	123	20	37	38	3	16	1								
Utah	21	8	3	7	2	3	2											
Vermont	1	1	14	1			1		3									
Vi rgi ni a	33	1	14	9	1	2	4	1		1								
Washington	30	1	9	14	2	5	3	1		1								
West Virginia	10		1	4	1	3	2											
Wi sconsi n	86	3	48	37	1	12	16		2				1					
Wyomi ng	1		3	2														
Total 2	, 279	244	935	950	112	363	363	19	121	7		2	4		4	9	2	3

TABLE 6. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY TYPE OF CONSIST, 1996

		Freig	ht	1	Passeng	er	- Yaı	rd Swit	chi ng		- Other	
State	A/I	КId	Inj	A/I	Klď	Inj	A/I	K1 d	Inj	A/I	K1 d	Inj
Al abama	119	13	58	3	2	2	11		4	5		2
Al aska	1						2					
Ari zona	11	1	1				1			9		1
Arkansas	101	17	25	6		2	11	1	3	10	2	5
Cal i forni a	100	5	34	22	4	3	17		2	15		4
Col orado	21	2	10	1						2		1
Connecti cut	2			4		3	1			2		
Del aware	3		1	1		1						
Dist. of Columbia	1			1								
	_			_								
Fl ori da	60	6	21	19	5	7	3			3		1
Georgi a	113	16	31	4	1		15		5	3		1
I daho	34	5	12	1		1	1			4		1
Illinois	140	21	58	26	3	19	10			15		3
I ndi ana	155	22	58	19	3	5	12		1	22	3	11
I owa	74	6	25	1			16		3	20		6
Kansas	76	10	30				11		3	11	1	3
Kentucky	56	1	16	1			4		2	5	1	1
Loui si ana	166	27	81	10	1	12	20	1	9	15		10
Maine	4		1	1						1		
Maryl and	6		2	1		4				2		1
Massachusetts	10		3	4		23	1		1	4		
	105	10	68	5	4	دء 5	14		8	7		4
Mi chi gan	92	9	36	2		1	18		4	11		3
	96	7	48	9	7	5	7		2	6	1	7
Mi ssi ssi ppi Mi ssouri	76	15	21	1		1	14		3	11		1
Montana	19	2	10				14			2		1
Nebraska	42	4	17	1	2	1	1			4		
Nevada	42	1	2	1		2						
New Hamshi re	1											
New Hallshift C	•											
New Jersey	8		4	7		2				6		
New Mexico	18	4	16	2	3	1	1		1	1		
New York	12		6	10	2	3				1		
North Carolina	94	6	36	5		2	5		4	4		2
North Dakota	20	3	9	1			3			1		
0hi o	145	9	47	6		1	3		3	12	1	9
0kl ahoma	63	19	29				5	1	1	4	1	4
0regon	18		5							6		
Pennsyl vani a	48	1	19	2		1	4		1	8		2
Rhode Island												
South Carolina	64	3	31	6	1	3	4			4		2
South Dakota	10	2	8				4			4		
Tennessee	86	4	23	2			3			18	3	3
Texas	317	48	128	8	1	5	32	1	17	29		9
Utah	24	9	5							6	1	1
Vermont				3	1	3						
Vi rgi ni a	38	2	13	2		1	3			3		2
Washi ngton	26	3	9	2	1	1	12		1	8		3
West Virginia	15	1	4							1		
Wi sconsi n	109	3	44	3		3	14	1	1	14		14
Wyomi ng	3		3									
Unknown												
Total	2, 806	317	1, 108	203	41	123	284	5	79	319	14	118

Note: "Other" includes mixed trains, work trains, light locomotives, single car or cut of cars

TABLE 7. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY WARNING DEVICE, 1996

Rai I road	Gates	Fl ashi ng Li ghts	Hwy Sig. Wigwags Bells	Special	Cross- Bucks	Stop Si gns	Other Signs	No Signs Or Signals	s Total
Alaska Railroad Corp.	1	1			1				3
Alton & Southern Railroad	1								1
Amtrak (Nat'l Railroad Passenger Corp.)	54	14	4		37	10		1	120
Bangor And Aroostook Railroad		1							1
Belt Railway Co. of Chicago									
Bessemer & Lake Erie Railroad Co.					2				2
Birmingham Southern Railroad Co.									
Burlington Northern Santa Fe	110	122	2	1	184	74		1	494
Chicago, Central & Pacific Railroad Co.	1	6	1		8				16
Consolidated Rail Corp.	68	47	6	1	63	10	3	7	205
CSX Transp.	93	117	2	10	153	56		3	434
Dakota, Minnesota & Eastern Railroad		4			5				9
Delaware And Hudson Railroad Co.	2	3		1					6
Denver And Rio Grande Western Railroad Co.	1	2	2	2	5	3			15
Duluth, Missabe & Iron Range Railway Co.	1	ĩ			1				3
Dul uth, Winni peg & Pacific Rail way		1				1			2
Elgin, Joliet And Eastern Railway Co.	3	1			1	1		1	7
Florida East Coast Railway Co.	21	1		1					23
Gateway Western Railway	1				6				7
Grand Trunk Western Railroad Co.	16	7			2	13		1	39
Guilford Railroad System	4	3	1		1				9
Houston Belt & Terminal Railway Co.	1				1	2			4
Illinois Central Railroad Co.	8	36	2	2	56	2			106
	8	3	<i>د</i> 	<i>د</i>	1				12
Indiana Harbor Belt Railroad Co.	8	3 44	8	1	98	2	1	1	163
Kansas City Southern Railway Co.	5	44			96				
Long Island Rail Road	-								5
Massachusettes Bay Transit Authority	1 2								1
Metro North Commuter Railroad Co.		3	1						6
Montana Rail Link	1				3	6		1	11
New Jersey Transit Rail Operations	7	1		1					9
Norfolk Southern Corp.	104	136	7	7	161	67		3	485
Northeast Illinois Regional Commuter Rail	11	4				1			16
Northern Indiana Commuter Trans.	2	3	2		1	1			9
Paducah & Louisville Railway Co.		3			1				4
Peninsular Commuter									
Port Authority Trans Hudson									
Port Terminal Railroad Assoc.	1	1			2				4
Soo Line Railroad Co.	13	15			37	7		1	73
Southeastern Pennsyl vani a Transp.		1							1
Southern California Regional Rail	8					1			9
Southern Pacific Transp. Co.	82	38	6	1	56	3		3	189
Southern Pacific, Chicago-St. Louis Corp.	2	1			1				4
St. Louis Southwestern Railway Co.	12	12		1	40		1		66
Terminal Railroad Assoc. of St. Louis					2				2
Union Pacific Railroad Co.	103	137	3	9	230	66	1	9	558
Union Railroad Company (Pittsburgh)									
Wheeling & Lake Erie Railway Co.		5		1	13				19
Wisconsin Central Ltd.	8	30		2	49	12			101
All Other Railroads	34	92	5	8	184	32	1	3	359
Total	798	896	52	49	1, 405	370	7	35	3, 612

Note: "Special" are crossings protected by watchmen or members of train crew.

The totals on this table are slightly higher than those shown on other tables. The reporting rules require that when an train is being operated by a crew of another railroad, both Amtrak and the operating carrier must make a report of accident/incident. In all other tables these accidents/incidents are only counted once.

Amtrak

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TABLE 7A. ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY RAILROAD, 1996

	Mo	tor Vehic	·le	Other	Hi chuay 1	Sers		Total -	
Railroad	Acc/Inc		Inj ured	Acc/Inc	Killed	Injured	Acc/Inc		Injured
Alaska Railroad Corp.	3			2			5		
Alton & Southern Railroad	1		1				1		1
Amtrak (Nat'l Railroad Passenger Corp.)	120	32	59	12	7	1	132	39	60
Bangor And Aroostook Railroad	1						1		
Belt Railway Co. of Chicago									
Bessemer & Lake Erie Railroad Co.	2						2		
Birmingham Southern Railroad Co.									
Burlington Northern Santa Fe	494	85	169	34	14	10	528	99	179
Chicago, Central & Pacific Railroad Co.	16		7	1			17		7
Consolidated Rail Corp.	205	19	85	13	6	2	218	25	87
CSX Transp.	434	33	186	12	5	3	446	38	189
Dakota, Minnesota & Eastern Railroad	9	1	6	1			10	1	6
Delaware And Hudson Railroad Co.	6		1				6		1
Denver And Rio Grande Western Railroad Co.	15	5	9				15	5	9
Duluth, Missabe & Iron Range Railway Co.	3		1				3		1
Duluth, Winnipeg & Pacific Railway	2		2				2		2
Elgin, Joliet And Eastern Railway Co.	7		2				7		2
Flori da East Coast Railway Co.	23	3	7	5	2	3	28	5	10
Gateway Western Railway	23 7	1					20 7	1	
3	39	6	20	4	3		43	9	20
Grand Trunk Western Railroad Co.	39 9		3				43 9		3
Guilford Railroad System									
Houston Belt & Terminal Railway Co.	4	10					4		
Illinois Central Railroad Co.	106	10	56	1		1	107	10	57
Indiana Harbor Belt Railroad Co.	12		4				12		4
Kansas City Southern Railway Co.	163	23	64	2	1		165	24	64
Long Island Rail Road	5	1	2	5	2	4	10	3	6
Massachusettes Bay Transit Authority	1		22				1		22
Metro North Commuter Railroad Co.	6	1	3	1			7	1	3
Montana Rail Link	11	1	3	1	1		12	2	3
New Jersey Transit Rail Operations	9		2	3	2		12	2	2
Norfolk Southern Corp.	485	42	161	15	5	6	500	47	167
Northeast Illinois Regional Commuter Rail	16	1	11	5	1	2	21	2	13
Northern Indiana Commuter Trans.	9	1	1				9	1	1
Paducah & Louisville Railway Co.	4						4		
Peninsular Commuter									
Port Authority Trans Hudson									
Port Terminal Railroad Assoc.	4		4				4		4
Soo Line Railroad Co.	73	4	27	4	1	1	77	5	28
Southeastern Pennsylvania Transp.	1		1				1		1
Southern California Regional Rail	9	2	1	1	1		10	3	1
Southern Pacific Transp. Co.	189	20	75	13	9	2	202	29	77
Southern Pacific, Chicago-St. Louis Corp.	4	1					4	1	
St. Louis Southwestern Railway Co.	66	12	30	1		1	67	12	31
Terminal Railroad Assoc. of St. Louis	2		2				2		2
Uni on Pacific Railroad Co.	558	59	210	25	10	15	583	69	225
Union Railroad Company (Pittsburgh)									
Wheeling & Lake Erie Railway Co.	19	1	10				19	1	10
Wisconsin Central Ltd.	101	2	42	4	1	3	105	3	45
All Other Railroads	359	11	139	11	1	4	370	12	143
Total	3, 612	377	1, 428	176	72	58	3, 788	449	1, 486

Note: A/I totals on this table are slightly higher than those shown on other tables. The reporting rules require that when an Amtrak train is being operated by a crew of another railroad, both Amtrak and the operating carrier must make a report of an accident/incident. In all other tables these accidents/incidents are only counted once.

TABLE 8. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, AT WARNING DEVICE BY STATE, 1996

State	Gates	Flashi ng Li ghts	Hwy Sig. Wigwags Bells	Special	Cross- Bucks	Stop Signs	Other Signs	No Signs Or Signals	Total
Al abama	9	28	1	2	 59	39			138
Al aska	1	1			1				3
Ari zona	4	14			2	1			21
Arkansas	12	38	1	1	67	9			128
Cal i forni a	88	22	5	2	22	11	1	3	154
Col orado	5	2	1	1	10	5			24
Connecticut	1	3	1		10	3			9
Del aware	1	3							4
Dist. of Columbia	1	1							2
Disc. of corumbia	1	1							۵
Fl ori da	50	10		1	19	5			85
Georgi a	43	13	4	3	40	30		2	135
I daho	1	10	1		9	18		1	40
Illinois	58	57		3	70	2		1	191
I ndi ana	49	72	5	1	52	26		3	208
I owa	19	34	1		50	6		1	111
Kansas	14	18		1	60	5			98
Kentucky	8	33		1	19	3		2	66
Loui si ana	15	71	7		110	6	1	1	211
Mai ne		4			2				6
Maryl and	3	2	1		3				9
Massachusetts	13	5	1						19
Mi chi gan	23	36		2	40	30			131
Mi nnesota	18	32			45	27		1	123
Mi ssi ssi ppi	1	32	6	2	63	13		1	118
Mi ssouri	9	26		4	50	12	1		102
Montana	3	3			8	7		1	22
Nebraska	14	1		1	24	7		1	48
Nevada	1				3			1	5
New Hamshire		1							1
New Jersey	11	5	2		1			2	21
New Mexico	8	4			10				22
New York	17	2	1	1	1	1			23
North Carolina	28	23	2		52	2		1	108
North Dakota	5	1			18	1			25
0hi o	39	34	2	2	81	7	1		166
0kl ahoma	6	22	~ 	1	37	6			72
Oregon	8	3			5	7		1	24
Pennsyl vani a	13	12	1	3	21	5	3	4	62
Rhode Island									
South Carolina	12	20		2	30	14			78
South Dakota	1	9			7	1			18
Tennessee	22	37	1	2	36	10		1	109
Texas	103	86	3	3	162	26		3	386
Utah	6	3	2	2	13	3		1	30
Vermont		1	~ 		2				3
Vi rgi ni a	20	8	1	3	14				46
Washi ngton	20 15	7	1	ა 1	14	8		2	48
•	15 7	4			14 4			1	48 16
West Virginia									
Wi sconsi n	13	41	1	4	67	14			140
Wyomi ng		2			1				3
Unknown									
Total	798	896	52	49	1, 405	370	7	35	3, 612

Note: "Special" are crossings protected by watchmen or members of train crew

TABLE 9. ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY HIGHWAY USER, 1996

	Ac	c/Inc	K	illed	In	j ured	Fatal	I nj ury
Type Of Vehicle	No.	%	No.	%	No.	%	Acc/Inc	Acc/Inc
Automobile	2, 279	60. 16	244	54. 34	935	62. 92	198	652
Truck	950	25.08	112	24. 94	363	24. 43	90	296
Truck-trailer	363	9. 58	19	4. 23	121	8. 14	18	72
Bus	7	. 18			2	. 13		2
School bus	4	. 11			4	. 27		2
Motorcycl e	9	. 24	2	. 45	3	. 20	2	3
Pedestri an	95	2. 51	60	13. 36	31	2. 09	60	28
0ther	81	2. 14	12	2. 67	27	1. 82	11	19
Total	3, 788	100.00	449	100. 00	1, 486	100. 00	379	1, 074

TABLE 10. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY CIRCUMSTANCE, 1996

	A	cc/Inc	]	Killed	I	nj ured	Fatal	Iņj ury
Circumstance	No.	%	No.	%	No.	%	Acc/Inc	Acc/Inc
Struck by consist	2, 713	75. 11	327	86. 74	1, 048	73. 39	261	739
Ran into consist.	899	24. 89	50	13. 26	380	26. 61	47	288
Total	3, 612	100. 00	377	100. 00	1, 428	100. 00	308	1, 027

TABLE 11. ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS BY TYPE OF VEHICLE AND NUMBER OF OCCUPANTS, 1996

	# of	# of	<b>Occupants</b>		Killed		Inj wred	Vehi cl e	Danage	
Vehi cl e	A/I	<b>Occupants</b>	Per A/I	Killed	Per A/I	Injured	Per A/I	Danage	Per A/I	
Automobile	2, 279	2, 811	1. 23	244	. 11	920	. 40	6, 557	, 617 2, 8	877
Truck	950	1, 069	1. 13	112	. 12	345	. 36	4, 890	, 908 5, 1	148
Truck-trailer	363	346	. 95	18	. 05	62	. 17	4, 025	, 113 11, (	088
Bus	7	29	4. 14	0	. 00	2	. 29	68	, 000 9, 7	714
School bus	4	14	3. 50	0	. 00	3	. 75	30	, 000 7, 5	500
Motorcycl e	9	8	. 89	2	. 22	3	. 33	7	, 000	778
Total	3, 612	4, 277	1. 18	376	. 10	1, 335	. 37	15, 578	, 638 4, 3	313

TABLE 12. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY CIRCUMSTANCE, 1996

		- Dawn-			<b>Day</b> -			Dusl	<u></u>		Dark	<u> </u>
Type Of Vehicle	A/I	K1 d	Inj	A/I	K1 d	Inj	A/I	K1 d	Inj	A/I	K1 d	Inj 
RAIL CONSI	ST	S T R	U C K	H I G	H W A	Y U S	SER					
Automobile	48	4	13	963	145	458	64	5	27	593	56	176
Truck	27	1	11	509	70	205	22	4	6	143	26	37
Truck-trailer	14	1	1	258	13	79	11		24	52	2	8
Bus				4		1				1		
School bus				3		2						
Motorcycl e										1		
Total	89	6	25	1, 737	228	745	97	9	57	790	84	221
HIGHWAY US	SER	S T R	U C K	RAI	L C	0 N S 1	ST					
Automobile	15		9	283	16	120	16		4	297	18	128
Truck	6	1		136	3	49	9	1	8	98	6	47
Truck-trailer				26	3	8				2		1
Bus				1			1		1			
School bus				1		2						
${\tt Motorcycl}e.\dots\dots$				5	2	1				3		2
Total	21	1	9	452	24	180	26	1	13	400	24	178
GRAND TOTA	A L											
Automobile	63	4	22	1, 246	161	578	80	5	31	890	74	304
Truck	33	2	11	645	73	254	31	5	14	241	32	84
Truck-trailer	14	1	1	284	16	87	11		24	<b>54</b>	2	9
Bus				5		1	1		1	1		
School bus				4		4						
Motorcycl e				5	2	1				4		2
Total	110	7	34	2, 189	252	925	123	10	<b>70</b> 1	1, 190	108	399

TABLE 13. ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY TYPE OF PERSON, 1996

	<b>]</b>	E <b>OD</b>	]	ENOD	P:	SGR	<b>N</b>	ONT	<b>T</b>	RES	C	ONT		Tota	1
Type Of Vehicle	Kl d	Inj	K1 d	Inj	K1 d	Inj	K1 d	Inj	K1 d	Inj	K1 d	Inj	K1 d	Inj 	A/1
RAIL CONSI	S T	STR	и с к	H I G	HWA	y us	E R								
Automobile		10		1		1	162	546	48	116			210	674	1, 668
Truck		15				2	67	210	34	32			101	259	701
Truck- trai l er	1	36				21	10	49	5	6			16	112	335
Bus								1						1	5
School bus								2						2	3
Motorcycle															1
Pedestri an				1			14	6	43	22			57	29	89
0ther		6					6	18	5	2			11	26	75
Total	1	67		2		24	259	832	135	178			395	1, 103	2, 877
HIGHWAY US	E R	STR	и с к	RAI	L C O	N S I	S T								
Automobile		3					28	198	6	60			34	261	611
Truck		4					8	85	3	15			11	104	249
Truck-trailer		2					3	4		3			3	9	28
Bus										1				1	2
School bus		1								1				2	1
Motorcycl e							2	2		1			2	3	8
Pedestri an							2	2	1				3	2	6
0ther							1	1					1	1	6
Total		10					44	292	10	81			54	383	911
GRAND TOTA	L														
Automobile		13		1		1	190	744	54	176			244	935	2, 279
Truck		19				2	75	295	37	47			112	363	950
Truck-trailer	1	38				21	13	53	5	9			19	121	363
Bus								1		1				2	7
School bus		1						2		1				4	4
Motorcycl e							2	2		1			2	3	9
Pedestri an				1			16	8	44	22			60	31	95
0ther		6					7	19	5	2			12	27	81
Total	1	77		2		24	303	1, 124	145	259			449	1, 486	3, 788

Note: EOD = Employee on duty

PSGR = Passenger on train

TRES = Trespasser

ENOD = Employee not on duty

NONT = Nontrespasser

CONT = Contractor employee

TABLE 14. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY VEHICLE SPEED, CIRCUMSTANCE, AND VISIBILITY, 1996

		- Dawn-			Day			Dusk-			Dark			- Total	l
Speed Of Vehicle	A/I	Kl d	Inj	A/I	Klď	Iņj	A/I	Kl d	Iņj	A/I	Kl d	Iņj	A/I		Iŋj
RAIL CONSI	S T	STR	U C K	HI G	H WAY	Y U S	E R								
Standi ng	28		4	539	20	169	39	1	28	390	14	42	996	35	243
1-9	27	3	5	401	44	175	15		6	105	17	32	548	64	218
10- 19	19	1	5	363	74	162	22	2	15	127	32	56	531	109	238
20- 29	5	1	3	192	35	104	8	2	2	51	4	33	256	42	142
30- 39	4		5	100	29	65	9	4	2	48	4	25	161	37	97
40- 49	3	1	1	43	11	26	1			19	3	8	66	15	35
50- 59	1		1	18	3	10				9	3	5	28	6	16
60 and over				6	2	3				3	2	2	9	4	- !
Unknown	2		1	75	10	31	3		4	38	5	18	118	15	54
Total	89	6	25	1, 737	228	745	97	9	57	790	84	221	2, 713	327	1, 048
HIGHWAY US	EK	SIK	UCK	RAI.	LU	NSI	3 1								
Standi ng															
1-9	4			108	1	20	9		4	52	1	12	173	2	36
10- 19	9		7	99	4	29	4		2	85		31	197	4	69
20- 29	2		1	72	4	31	9	1	5	74	3	27	157	8	64
30- 39	2	1		58	4	34	2		2	69	3	50	131	8	86
40- 49	1			35	2	22				27	2	21	63	4	43
50- 59				27	5	23	1			31	8	10	59	13	33
60 and over				13	3	5	1			9	3	3	23	6	8
Unknown	3		1	40	1	16				53	4	24	96	5	41
Total	21	1	9	452	24	180	26	1	13	400	24	178	899	50	380
GRAND TOTA	L														
Standi ng	28		4	539	20	169	39	1	28	390	14	42	996	35	243
1-9	31	3	5	509	45	195	24		10	157	18	44	721	66	254
10- 19	28	1	12	462	78	191	26	2	17	212	32	87	728	113	307
20- 29	7	1	4	264	39	135	17	3	7	125	7	60	413	50	206
30- 39	6	1	5	158	33	99	11	4	4	117	7	75	292	45	183
40- 49	4	1	1	78	13	48	1			46	5	29	129	19	78
50- 59	1		1	45	8	33	1			40	11	15	87	19	49
60 and over				19	5	8	1			12	5	5	32	10	13
	-		2	115	11	47	3		4	91	9	42	214	20	95
Unknown	5		2	113	11	47	3		4	91	9	42	214	20	0.0

TABLE 15. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY POSITION AND TYPE OF VEHICLE, 1996

			Po	sition	On Cr	ossi ng-			-
	<b>St</b> a	alled (	On	St	opped (	On	<b>M</b> bv	ing 0	ver
Vehi cl e	A/I	K1 d	Iŋj	A/I	K1 d	Iŋj	A/I	K1 d	l Inj
Automobile	224	7	16	463	20	144	1, 592	217	775
Truck	61	2	8	152	5	32	737	105	323
Truck-trailer	26		24	66	1	19	271	18	78
Bus				2			5		2
School bus	1						3		4
Motorcycl e	1						8	2	3
Total	313	9	48	683	26	195	2, 616	342	1, 185

TABLE 16. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY CONSIST SPEED, CIRCUMSTANCE, AND VISIBILITY, 1996

		- Dawn			Day-			- Dusk			Dark		'	Fotal -	
Speed Of Consist	A/I	K1 d	Inj	A/I	K1 d	Inj	A/I	K1 d	Inj	A/I	K1 d	Inj	A/I	KI d	Inj 
RAIL CONSI	<b>S T</b>	STR	и с к	HIG	H W A	y u s	SER								
Standi ng															
1-9	20		2	254		45	14			144	1	30	432	1	77
10-19	12		1	219	2	62	15		7	130	3	47	376	5	117
20- 29	10		4	280	7	121	12		7	146	6	55	448	13	187
30-39	17		10	323	33	155	16	1	9	114	6	27	470	40	201
40-49	14	3	3	401	86	231	19	1	6	140	33	41	574	123	281
50- 59	10	3	2	165	61	77	15	5	26	68	20	13	258	89	118
60-69	3		1	52	23	29	1			29	8	6	85	31	36
70- 79	3		2	42	16	25	5	2	2	19	7	2	69	25	31
80-89				1									1		
90 and over															
Unknown															
Total	89	6	25	1, 737	228	745	97	9	57	790	84	221	2, 713	327	1, 048
HIGHWAY US	ER	S T R	u c k	RAI	L C	ONSI	<b>S T</b>								
Standi ng	2		1	10		4				58	4	28	70	4	33
1-9	3		1	113	2	28	7		5	115	5	42	238	7	76
10-19	2			79	1	29	3			81	3	31	165	4	60
20- 29	6	1	4	80	7	39	6		2	61	2	34	153	10	79
30-39	2			65	5	30	3		2	35	4	15	105	9	47
40-49	4		3	73	8	32	3	1	3	39	2	27	119	11	65
50- 59	2			24	1	13	3			8	3	1	37	4	14
60-69				5		3				2	1		7	1	3
70-79				3		2	1		1	1			5		3
80-89															
90 and over															
Unknown															
Total	21	1	9	452	24	180	26	1	13	400	24	178	899	50	380
GRAND TOTA	L														
Standi ng	2		1	10		4				58	4	28	70	4	33
1-9	23		3	367	2	73	21		5	259	6	72	670	8	153
10- 19	14		1	298	3	91	18		7	211	6	78	541	9	177
20- 29	16	1	8	360	14	160	18		9	207	8	89	601	23	266
30-39	19		10	388	38	185	19	1	11	149	10	42	575	49	248
40- 49	18	3	6	474	94	263	22	2	9	179	35	68	693	134	346
50- 59	12	3	2	189	62	90	18	5	26	76	23	14	295	93	132
60-69	3		1	57	23	32	1			31	9	6	92	32	39
70- 79	3		2	45	16	32 27	6	2	3	20	7	2	74	25	34
80-89				1				~ 				<i>ـ</i> 	1		
90 and over															
Unknown															
Total	110	7	34	2, 189	252	925	123	10	70	1, 190	108	399	3, 612	377	1, 428

TABLE 17. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY RAILROAD EQUIPMENT INVOLVED, 1996

Vi cihilia	Consist Struck	Vehicle Struck				onsist Ster						
Type Consist	- Vehi cl e	Consist	Uni t	1	2	3	4	Unknown	Dawn	Day	Dusk	Dark
Train (Units Pulling).	2, 362	661	410	114	40	47	44	6	90	1, 884	105	944
Train (Units Pushing).	148	78	42	8	8	9	11		8	111	8	99
Train (Standing)		63	17	16	12	2	15	1	2	6		55
Cars (Moving)	37	22	22						2	55		2
Cars (Standing)		3	2				1			3		
Light Locos (Moving)	166	68	63			1	4		8	129	10	87
Light Locos (Standing)		4	3				1			1		3
0ther												
Total	2, 713	899	559	138	60	59	76	7	110	2. 189	123	1. 190

Note: The "Lead" unit is the first unit to occupy the crossing.

TABLE 18. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY TRAIN SPEED AND TYPE OF TRAIN, 1996

	I	rei ght	:	Pa	ssenge	r	- Yard S	Swi tchi n	g	Othe:	r		Total		
Speed Of Consist	A/I	КIď	Inj	A/I	Klď	Inj	A/I I	ad Inj	j A/I	K1 d	Inj	<b>A</b> /	I K1d	Inj	
Standi ng	49	3	22				15	1	10	6		1	70	4	33
1-9	319	5	69	10		2	199	2	49	142	1	33	670	8	153
10- 19	405	9	136	14		5	49		14	73		22	541	9	177
20-29	518	19	223	17	1	9	18	1	5	48	2	29	601	23	266
30-39	524	45	223	27	1	16	2		1	22	3	8	575	49	248
40-49	656	124	317	15	3	7				22	7	22	693	134	346
50- 59	264	85	95	26	7	36				5	1	1	295	93	132
60-69	60	21	21	30	10	16	1	1		1		2	92	32	39
70- 79	11	6	2	63	19	32							74	25	34
80-89				1									1		
90 and over															
Unknown															
Total	2, 806	317	1, 108	203	41	123	284	5	79	319	14	118	3, 612	377	1, 428

Note: "Other" includes mixed trains, work trains, light locomotives, single car or cut of cars

TABLE 19. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY LENGTH OF CONSIST, 1996

		Freig	ht	<b>P</b> a	assenge	er	- Yar	d Swit	chi ng		- Other			-Total	l
Number Of Cars	A/I	Klď	Iņj	A/I	KI d	Iņj	A/I	KI d	Iņj	A/I	Kl d	Iņj	A/I	KI d	Iņj
1-9	381	18	142	135	23	100	155	2	39	70	2	26	741	45	307
10- 19	313	22	112	53	16	18	61	2	13	6		1	433	40	144
20- 29	277	33	107	2		1	26	1	8	2		1	307	34	117
30-39	258	38	101	2	1		18		11	1		1	279	39	113
40-49	237	38	103				12		3	2			251	38	106
50- 59	224	29	92										224	29	92
60-69	225	31	97				3						228	31	97
70- 79	182	29	60				2		3				184	29	63
80-89	156	18	69				2						158	18	69
90-99	152	21	60										152	21	60
100-109	135	12	50										135	12	50
110-119	148	21	67				1						149	21	67
120-129	56	2	20										56	2	20
130-139	19	1	10										19	1	10
140-149	16	2	5										16	2	5
150 And over	17	2	3				1						18	2	3
Locomotives only.	10		10	11	1	4	3		2	238	12	89	262	13	105
Total	2, 806	317	1, 108	203	41	123	284	5	79	319	14	118	3, 612	377	1, 428

Note: "Other" includes mixed trains, work trains, light locomotives, single car or cut of cars

TABLE 20. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY LENGTH OF CONSIST AND VISIBILITY, 1996

		Dawn-			Day			Dusk-			Dark			- Total	
Nunber Of Cars	A/I	K1 d	Inj		Kl d	Inj	A/I	Kl d	Inj	A/I	KI d	Inj	A/I	Kl d	Inj
RAIL CONSI	S T	STR	иск	HIGI	H WAY	US	E R								
1-9	20	2	6	356	23	150	30	1	28	118	12	39	524	38	223
10- 19	13		2	217	27	88	8		4	92	11	11	330	39	105
20- 29	5		1	157	20	67	6	1	2	65	9	21	233	31	91
30- 39	7		2	127	18	59	4	1	3	69	11	23	207	30	87
40- 49	4		2	131	28	52	5	1	4	53	6	18	193	35	76
50- 59	6		1	107	15	51	1			61	6	12	175	23	64
60- 69	4			120	22	53	9		2	40	6	16	173	28	71
70- 79	4			82	20	34	7		1	49	8	14	142	28	49
80- 89	3		1	75	13	32	4		2	36	3	6	118	16	41
90- 99	3		1	85	10	38	2	2	1	36	8	9	126	20	49
100-109	4			62	5	32	2		1	43	2	8	111	7	41
110-119	5		4	67	17	33	4			36		10	112	17	47
120- 129	2		2	22	1	6	5	1	4	12			41	2	12
130-139				9	1	6	1		1	4			14	1	7
140- 149				7		1	1	2		4			12	2	1
150 And over	1			8	2	1	1			5		1	15	2	2
Locomotives only.	8		3	105	6	42	7		4	67	2	33	187	8	82
Total	89		25	1, 737	228	745	97	9	57	790	84	221	2, 713	327	1, 048
								3	37	730	04	221	۵, 713	321	1, 040
HIGHWAY US	ER	SIK		KAII		151	3 1								
1-9	4		3	133	3	52	4		5	76	4	24	217	7	84
10- 19				57		21	2		1	44	1	17	103	1	39
20- 29	2			34	3	9	4		2	34		15	74	3	26
30- 39	2	1		32	5	11	4			34	3	15	72	9	26
40- 49	2			26	1	16	4		2	26	2	12	58	3	30
50- 59	2		2	24	4	13	1		1	22	2	12	49	6	28
60- 69	2		1	26	2	9	1			26	1	16	55	3	26
70- 79	2		1	17		5				23	1	8	42	1	14
80-89	1		2	17	1	9	1			21	1	17	40	2	28
90- 99				9		3	1			16	1	8	26	1	11
100-109	2			10		2				12	5	7	24	5	9
110-119	1			15	1	9	1			20	3	11	37	4	20
120-129				9		7				6		1	15		8
130-139				3						2		3	5		3
140-149				1		2				3		2	4		4
150 And over										3		1	3		1
Locomotives only.	1			39	4	12	3	1	2	32		9	75	5	23
Total	21	1	9	452	24	180	26	1	13	400	24	178	899	50	380
G R A N D T O T A	L														
1-9	24	2	9	489	26	202	34	1	33	194	16	63	741	45	307
10- 19	13	1	2	274	27	109	10		5	136	12	28	433	40	144
20- 29	7		1	191	23	76	10	1	4	99	9	36	307	34	117
30- 39	9		2	159	23	70	8	1	3	103	14	38	279	39	113
40- 49	6		2	157	29	68	9	1	6	79	8	30	251	38	106
50- 59	8		3	131	19	64	2		1	83	8	24	224	29	92
60- 69	6		1	146	24	62	10		2	66	7	32	228	31	97
70- 79	6		1	99	20	39	7		1	72	9	22	184	29	63
80- 89	4		3	92	14	41	5		2	57	4	23	158	18	69
90- 99	3		1	94	10	41	3	2	1	52	9	17	152	21	60
100-109	6				5		2		1		7				
110-119	6		4	72 82		34 42	2 5			55 56	3	15 21	135	12 21	50 67
	2		2	82 31	18 1		5 5	1	4				149 56	21	67 20
120- 129			ے 	12	1	13 6	3 1		1	18 6		1 3	56 19	1	20
															10
140-149				8		3	1	2		7		2	16	2	5
150 And over	1 9		 2	8 144	2	1 54	1 10	1	6	8 99		2 42	18 262	2 13	105
Locomotives only.			3	144	10	54		1		99	2		262	13	105
Total	110	7	34	2, 189	252	925	123	10	70	1, 190	108	399	3, 612	377	1, 428

(MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, TABLE 21. BY TYPE AND CLASS OF TRACK, 1996

		Main	1		Yard	l		-Sidi	ıg	<b>I</b> 1	ndustry			Unknov	<b>v</b> n		Total	
Track Class	A/I	K1 d	Inj	A/I	K1 d	Inj	A/I	K1 d	Inj	A/I	KI d	Iŋj	A/I	K1 d	Iŋj	A/I	K1 d	Inj
1	269	7	92	148	1	39	20	2	3	126	4	28				563	14	162
2	579	18	217	18		6	2		4	15		2				614	18	229
3	874	68	429	7		1	3			3		1				887	68	431
<b>4</b> 1	1, 309	231	529	4			2			1						1, 316	231	529
5	173	45	59													173	45	59
6	1															1		
Unknown	32		12	17		2	1			8	1	4				58	1	18
Total 3	3, 237	369 1	, 338	194	1	48	28	2	7	153	5	35				3, 612	377	1, 428

TABLE 22. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY WARNING DEVICE AND MOTORIST ACTION, 1996

		rove Ar Thru G			topped . en Proc		- Di d	Not S	top		· - Othe	r		Unknow	n		- Tota	1
Warning Device	A/I	K1 d	Inj	A/I	K1 d	Inj	A/I	Kld	İŋj	A/I	Kld	Inj	A/I	K1 d	Inj	A/I	K1 d	Inj
Gates	412	76	158	2			15		5	363	11	79	6	1	1	798	88	243
Cantilever flshrs				21	1	3	213	21	105	68	2	12	1		1	303	24	121
Standard flashers				43	2	9	407	47	203	137	3	28	6	1	2	593	53	242
Hwy Sig, W W, Bells				5		1	32	3	15	13		1	2		1	52	3	18
Special Devices				7			36		17	6		1				49		18
Crossbucks				65	4	22	997	149	476	330	10	110	13		11	1, 405	163	619
Stopsigns				54	9	19	213	30	110	96	7	29	7		2	370	46	160
Other Signs							4		1	3		1				7		2
No Signs Or Signl				2			20		3	12		2	1			35		5
Total	412	76	158	199	16	54	1, 937	250	935	1, 028	33	263	36	2	18	3, 612	377	1, 428

Note: "Special" are crossings protected by watchmen or members of train crew. "Hwy Sig" = Highway signals, W W = Wigwags.

TABLE 23. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS,
BY OPERATIONAL STATUS OF WARNING DEVICE, CIRCUMSTANCE,
AND VISIBILITY, 1996

			-			H	i ghway 🛚	User			
	- Dev	ice Wo	rki ng		Struck					Consis	
Warning Device	Yes	No	N/A	Daw	n Day	Dusk	Dark	Dawn	Day	Dusk	Dark
Gates	778	6	14	23	315	28	283	4	62	4	79
Cantilever flshrs	301		2	7	134	8	63	2	43	1	45
Standard flashers	580	3	10	12	270	5	117	4	100	5	80
Hwy Sig, W W, Bells	52			1	22	4	9		6		10
Special Devices			49	1	16		10	1	8		13
Crossbucks			1, 405	36	741	39	241	9	185	13	141
Stopsi gns			370	8	222	11	57	1	41	2	28
Other Signs			7		3	1	1		1		1
No Signs Or Signl			35	1	14	1	9		6	1	3
Total	1, 711	9	1, 892	89	1, 737	97	790	21	452	26	400

Note: If a rail consist is intentionally grounded to prevent activation of the warning device, these are reported  $$\rm as\ "N/A.\ "$ 

TABLE 24. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, DURING
DUSK AND DARK HOURS BY ILLUMINATION OF CROSSING AND CIRCUMSTANCE, 1996

	Struck	By Co	nsist	Ran	Into C	onsi st		- Total	
	A/I	K1 d	Inj	A/I	K1 d	Inj	A/I	Kl d	Inj
Li ghted	539	47	193	200	11	81	739	58	274
Not Lighted	1, 586	205	628	529	28	233	2, 115	233	861
Not Reported	573	72	225	167	11	66	740	83	291
Total	2, 713	327	1, 048	899	50	380	3, 612	377	1, 428

TABLE 25. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY CROSSING PROTECTION, 1996

		Dawn-			<b>Day</b> -			Dusk			Dark-				l
Warning Device	A/I	K1 d	Inj	A/I	Kld	Inj	A/I	KI d	Inj	A/I	Kl d	Inj	A/I	KI d	Inj
RAIL CONSIST STR	иск	ні	GНW	AY U	SER										
Automatic, Both Sides	42	4	10	722	80	248	44	3	37	464	49	121	1, 272	136	416
Automatic, Side Of Approach.				16	2	5				8		2	24	2	7
Automatic, Opposite Side				3		1							3		1
Automatic, Side Not Reported	1						1						2		
Manual, Both Sides	1			14		1				7			22		1
Manual, Side Of Approach										2			2		
Manual, Opposite Side				1		2				1			2		2
Manual, Side Not Reported				1									1		
Other, Both Sides	44	2	15	929	143	474	47	6	20	291	35	95	1, 311	186	604
Other, Side Of Approach				26	3	9	3			6		1	35	3	10
Other, Opposite Side				6		1							6		1
Other, Side Not Reported				5			1			2		1	8		1
No Signs Or Signals	1			14		4	1			9		1	25		5
Total	89	6	25	1, 737	228	745	97	9	57	790	84	221	2, 713	327	1, 048
HIGHWAY USER STR	иск	R A	I L C	ONS	I S T										
Automatic, Both Sides	10	1	1	208	15	99	10		4	207	13	89	435	29	193
Automatic, Side Of Approach.				3		2				4		1	7		3
Automatic, Opposite Side										1		1	1		1
Automatic, Side Not Reported										2	1	3	2	1	3
Manual, Both Sides	1			6		3				11		6	18		9
Manual, Side Of Approach				1		1				1		4	2		5
Manual, Opposite Side				1									1		
Manual, Side Not Reported										1		1	1		1
Other, Both Sides	10		8	217	9	73	15	1	9	163	9	69	405	19	159
Other, Side Of Approach				6		1				7	1	4	13	1	5
Other, Opposite Side				3		1							3		1
Other, Side Not Reported				1									1		
No Signs Or Signals				6			1			3			10		
Total	21	1	9	452	24	180	26	1	13	400	24	178	899	50	380
GRAND TOTAL															
Automatic, Both Sides	52	5	11	930	95	347	54	3	41	671	62	210	1, 707	165	609
Automatic, Side Of Approach.				19	2	7				12		3	31	2	10
Automatic, Opposite Side				3		1				1		1	4		2
Automatic, Side Not Reported	1						1			2	1	3	4	1	3
Manual, Both Sides	2			20		4				18		6	40		10
Manual, Side Of Approach				1		1				3		4	4		5
Manual, Opposite Side				2		2				1			3		2
Manual, Side Not Reported				1						1		1	2		1
Other, Both Sides	54	2	23	1, 146	152	547	62	7	29	454	44	164	1, 716	205	763
Other, Side Of Approach				32	3	10	3			13	1	5	48	4	15
Other, Opposite Side				9		2							9		2
Other, Side Not Reported				6			1			2		1	9		1
No Signs Or Signals	1			20		4	2			12		1	35		5
Total	110	7	34	2, 189	252	925	123	10	70	1. 190	108	399	3, 612	377	1, 428

Note: Automatic devices include gates, flashing lights, and other devices which are activated by the approach of a rail Manual devices include "Watchmen" and "Flagged by crew". "Other" devices include crossbucks, stop signs, etc.

consist.

TABLE 26. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY VISIBILTY AND CIRCUMSTANCE, 1996

	Struck By Consist			Ran	Into Co	onsist	Total			
Visibilty	A/I	K1 d	Inj	A/I	K1 d	Inj	A/I	K1 d	Inj	
Dawn	89	6	25	21	1	9	110	7	34	
Day				452	24	180	2, 189	252	925	
Dusk	97	9	57	26	1	13	123	10	70	
Dark	790	84	221	400	24	178	1, 190	108	399	
Total	2, 713	327 1	1, 048	899	50	380	3, 612	377	1, 428	

TABLE 27. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY TEMPERATURE AND VISIBILITY, 1996

		Struck By Consist				Ran Into Consist				Total			
Tenperature	Dawn	Day	Dusk	Dark	Dawn	Day	Dusk	Dark	Dawn	Day	Dusk	Dark	
0ver 100		4				2		1		6		- 1	
80 To 100	6	494	16	50		95	4	22	6	589	20	72	
60 To 79	33	583	43	263	8	152	6	117	41	735	49	380	
40 To 59	24	347	25	261	7	91	10	120	31	438	35	381	
20 To 39	18	239	10	173	6	77	6	102	24	316	16	275	
0 To 19	8	70	3	43		35		38	8	105	3	81	
- 20 To - 1													
Under - 20													
Not Reported													
Total	89	1, 737	97	790	21	452	26	400	110	2, 189	123	1, 190	

TABLE 28. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY TIME OF DAY, 1996

	Struck By Consist		Ran	Into Co	nsist	Total			
TIME	A/I	Kľd	Inj	A/I	Kl d	Inj	A/I	KI d	Inj
MID TO 12:59 AM.	62	3	16	36	2	11	98	5	27
1 TO 1:59 AM	44	6	14	47	4	24	91	10	38
2 TO 2:59 AM	62	6	17	37	6	18	99	12	35
3 TO 3:59 AM	49	4	9	22		12	71	4	21
4 TO 4:59 AM	45	1	4	16	1	8	61	2	12
5 TO 5:59 AM	46	6	9	15		5	61	6	14
6 TO 6:59 AM	85	8	23	34	2	9	119	10	32
7 TO 7:59 AM	124	21	51	36	2	14	160	23	65
8 TO 8:59 AM	138	17	56	35	1	15	173	18	71
9 TO 9:59 AM	157	17	55	29	3	8	186	20	63
10 TO 10:59 AM.	138	15	46	50	4	18	188	19	64
11 TO 11:59 AM.	163	14	66	39	1	20	202	15	86
NOON TO 12:59 PM	135	19	58	34	3	15	169	22	73
1 TO 1:59 PM	156	19	76	37	3	12	193	22	88
2 TO 2:59 PM	174	30	72	41	2	13	215	32	85
3 TO 3:59 PM	162	29	69	54	1	26	216	30	95
4 TO 4:59 PM	167	19	76	41	2	21	208	21	97
5 TO 5:59 PM	170	24	99	45	2	18	215	26	117
6 TO 6:59 PM	158	16	70	56		23	214	16	93
7 TO 7:59 PM	128	13	43	37		19	165	13	62
8 TO 8:59 PM	108	14	32	36	1	17	144	15	49
9 TO 9:59 PM	85	5	38	41	4	15	126	9	53
10 TO 10:59 PM	73	10	27	48	2	20	121	12	47
11 TO 11:59 PM	84	11	22	33	4	19	117	15	41
Unknown									
Total	2, 713	327	1, 048	899	50	380	3, 612	377	1, 428

TABLE 29. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY MONTH AND CIRCUMSTANCE, 1996

	Struck By Consist			Ran	Into C	onsist		Total		
Month	A/I	K1 d	Inj	A/I	Kl d	Inj	A/I	KI d	Inj	
January	274	20	108	105	1	38	379	21	146	
February	234	24	117	90	5	49	324	29	166	
March	233	36	104	95	7	34	328	43	138	
Apri 1	193	30	64	69	5	23	262	35	87	
May	194	25	55	64	2	25	258	27	80	
June	199	20	102	53	4	11	252	24	113	
Jul y	193	16	71	67	8	32	260	24	103	
August	229	29	88	69	2	32	298	31	120	
September	229	35	88	56	7	26	285	42	114	
October	264	35	92	69	4	38	333	39	130	
November	240	31	68	76	2	34	316	33	102	
December	231	26	91	86	3	38	317	29	129	
Total	2. 713	327	1. 048	899	50	380	3. 612	377	1. 428	

TABLE 30. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY WEATHER, CIRCUMSTANCE AND VISIBILITY, 1996

		Struck B	y Consi	st	R	an Int	o Consi	st		Tota	al	
Weather	Dawn	<b>Day</b>	Dusk	Dark	Dawn	Day	Dusk	Dark	Dawn	Day	Dusk	Dark
Clear	54	1, 278	56	489	10	314	15	226	64	1, 592	71	715
Cl oudy	22	345	27	168	7	95	6	85	29	440	33	253
Rai n	2	68	11	74	2	18	3	50	4	86	14	124
Fog	7	14	1	27		7		16	7	21	1	43
Sleet		2	1	4		1		7		3	1	11
Snow	4	30	1	28	2	17	2	16	6	47	3	44
Not Reported												
Total	89	1, 737	97	790	21	452	26	400	110	2, 189	123	1, 190

TABLE 31. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS,
BY OBSTRUCTION OF MOTORIST VIEW, CIRCUMSTANCE AND VISIBILITY, 1996

	<b>S</b>	truck B	y Consis	st	<b>R</b> a	n Into	Consis	t		<b>To</b> 1	tal	
Type Obstruction	Dawn	Day	Dusk	Dark	Dawn	Day	Dusk	Dark	Dawn	Day	Dusk	Dark
Permanent structure	2	41	2	12		7	1	5	2	48	3	17
Standing RR Equipment.		11		2						11		2
Passing Train		8		3		1		2		9		5
Topography	1	21	1	10		3		1	1	24	1	11
Vegetation	2	31	4	2		9	1	2	2	40	5	4
Highway Vehicle	1	2		1		1		1	1	3		2
0ther	1	14		3		2		5	1	16		8
Not Obstructed	82	1,609	90	757	21	429	24	384	103	2, 038	114	1, 141
Unknown												
Total	89	1, 737	97	790	21	452	26	400	110	2, 189	123	1, 190

TABLE 32. (MV) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY MOTORIST ACTION AND TYPE OF VEHICLE, 1996

Type Of Vehicle	Strucl Yes	v	ond Train Unknown	Passe Yes	d Standiı No	ng Vehicle Unknown
Automobile	24	2, 223	32	79	2, 016	184
Truck	10	931	9	20	877	53
Truck-trailer	7	353	3	6	341	16
Bus		6	1	1	5	1
School bus		4			4	
Motorcycle		9		1	8	
Total	41	3, 526	45	107	3, 251	254

( **D A T A** )

HIGHWAY-RAIL

**CROSSING** 

**INVENTORY** 

TABLE 33. TOTAL PUBLIC AND PRIVATE CROSSINGS BY STATE AND TYPE, 1996

	Public At	<b>Publi</b> c	Public	Pri vate at	Pri vate Grade	Pedestrian at	Pedestri an Grade	
State	Grade	RR Under	RR Over	Grade	Separated	Grade	Separated	Total
Al abama	3, 579	491	170	1, 990	20	23	4	6, 277
Al aska	225	14	6	104	1	8	4	362
Ari zona	941	88	83	682	106	7	2	1, 909
Arkansas	3, 232	177	118	1, 508	68	10	7	5, 120
Cal i forni a	7, 925	943	567	4, 849	198	158	90	14, 730
Col orado	1, 942	204	126	1, 309	15	21	6	3, 623
Connecti cut	370	323	252	261	37	0	31	1, 274
Del aware	287	47	55	119	2	1	4	515
Dist Of Columbia	23	30	37	8	0	11	2	111
Fl ori da	4, 048	235	57	1, 451	1	66	5	5, 863
Georgi a	6, 151	570	263	2, 742	10	42	11	9, 789
Hawai i	6	0	0	0	0	0	0	6
I daho	1, 482	92	69	1, 318	11	12	2	2, 986
Illinois	10, 144	920	1, 902	5, 620	172	294	84	19, 136
I ndi ana	6, 568	442	552	2, 815	85	64	13	10, 539
I owa	5, 231	469	327	4, 213	45	48	11	10, 344
Kansas	7, 828	349	208	4, 214	32	32	0	12, 663
Kentucky	2, 604	440	442	2, 690	106	43	23	6, 348
Loui si ana	3, 587	228	112	3, 204	20	34	7	7, 192
Mai ne	882	128	78	934	15	11	3	2, 051
Maryl and	685	312	202	708	24	8	16	1, 955
Massachusetts	1, 192	795	436	537	52	18	84	3, 115
Mi chi gan	5, 756	327	403	2, 698	22	108	20	9, 334
Mi nnesota	5, 151	457	341	3, 116	17	52	24	9, 158
Mi ssi ssi ppi	2, 867	221	109	2, 041	13	15	2	5, 268
Mi ssouri	4, 864	638	411	3, 292	72	61	35	9, 373
Montana	1, 456	131	82	2, 051	111	15	5	3, 851
Nebraska	3, 964	215	131	2, 805	39	14	4	7, 172
Nevada	289	64	42	265	11	3	1	675
New Hampshire	503	118	52	344	21	7	6	1, 051
New Jersey	1, 860	534	728	599	57	45	83	3, 906
New Mexico	810	70	79	591	45	2	2	1, 599
New York	3, 274	1, 350	1, 096	3, 178	191	66	232	9, 387
North Carolina	4, 748	489	284	3, 501	17	53	20	9, 112
North Dakota	4, 624	79	83	2, 181	16	19	4	7, 006
Ohi o	6, 389	982	1, 028	3, 246	179	31	48	11, 903
0kl ahoma	4, 439	255	193	1, 661	55	13	2	6, 618
Oregon	2, 301	288	170	2, 810	114	89	12	5, 784
Pennsyl vani a	5, 574	1, 541	1, 861	3, 416	235	123	197	12, 956
Rhode Island	128	107	38	71	7	0	5	356
South Carolina	3, 044	370	124	1, 330	4	13	4	4, 889
South Dakota	2, 137	89	46	1, 361	53	5	1	3, 692
Tennessee	3, 351	500	456	1, 890	52	22	11	6, 282
Texas	12, 444	861	786	6, 301	137	34	16	20, 579
Utah	1, 009	116	48	789	2	4	3	1, 971
Vermont	496	85	83	650	44	46	4	1, 408
Vi rgi ni a	2, 110	602	445	2, 864	109	45	20	6, 195
Washi ngton	2, 854	367	304	3, 014	104	95	20	6, 758
West Virginia	1, 855	256	339	2, 193	106	72	19	4, 840
Wi sconsi n	4, 646	403	306	2, 827	83	105	38	8, 408
Wyomi ng	527	113	46	932	78	1	7	1, 704
FINAL TOTALS	162, 426	18, 925	16, 176	103, 295	3, 014	2, 069	1, 254	307, 169

TABLE 34. TOTAL PUBLIC AND PRIVATE CROSSINGS BY RAILROAD AND TYPE, 1996

	Public At	Public	Public	Private at	Private Grade	Pedestri at	an Pedestria Grade	ın
Rai l road	Grade	RR Under	RR Over	Grade	Separated	Grade	Separated	Total
Alaska Railroad Corporation	221	14	6	104	1	8	4	358
Alton & Southern Railroad	21	7	1	27	0	0	0	56
Amtrak (National Railroad Passenger Corpora	244	574	520	68	26	14	77	1, 523
Bangor & Aroostook Railroad	165	12	23	385	0	7	0	592
Belt Railway Company Of Chicago	38	8	62	76	3	0	1	188
Bessemer & Lake Erie Railroad Company	140	35	49	96	3	2	0	325
Birmingham Southern Railroad Company	46	18	7	36	0	0	0	107
Burlington Northern Santa Fe	24, 944	2, 115	1, 726	15, 849	546	305	80	45, 565
Chicago, Central & Pacific Railroad Company	890	90	79	702	49	15	12	1, 837
Consolidated Rail Corporation	12, 286	3, 094	3, 370	6, 748	365	168	254	26, 285
CSX Transportation	17, 817	2, 501	1, 776	10, 261	300	319	123	33, 097
Dakota, Minnesota & Eastern Railroad	803	21	33	556	38	2	0	1, 453
Delaware & Hudson Railway Company	311	81	93	446	30	16	9	986
Denver & Rio Grande Western Railroad Compan	784	135	74	611	4	2	3	1, 613
Duluth, Missabe & Iron Range Railway Compan	140	25	28	129	4	1	0	327
Duluth, Winnipeg & Pacific Railway	81	8	3	20	0	0	0	112
Elgin, Joliet & Eastern Railway Company	189	30	28	74	2	3	0	326
Florida East Coast Railway Company	718	33	6	113	0	13	0	883
Gateway Western Railway	228	24	23	156	1	2	Õ	434
Grand Trunk Western Railroad Incorporated	908	90	162	297	4	13	11	1, 485
Guilford Rail System	1, 320	505	237	720	59	14	39	2, 894
Houston Belt & Terminal Railway Company	157	23	16	43	0	4	1	244
Illinois Central Railroad Company	2, 597	324	328	1, 588	42	63	22	4, 964
Indiana Harbor Belt Railroad Company	76	31	28	43	0	2	4	184
Kansas City Southern Railway Company	2, 851	313	187	1, 857	38	12	7	5, 265
Long Island Rail Road	304	294	105	82	0	8	80	873
Metro North Commuter Railroad Company	62	12	16	60	2	0	3	155
Montana Rail Link	428	52	21	681	10	3	1	1. 196
New Jersey Transit Rail Operations	346	199	297	97	13	22	45	1, 019
Norfolk Southern Corporation	16, 817	1. 971	1, 644	10, 987	231	101	46	31, 797
Northeast Illinois Regional Comuter Rail Co	62	7	69	10, 387	0	0	0	148
Northern Indiana Commuter Transportation Di	113	13	17	25	5	7	1	181
Paducah & Louisville Railway Company	257	53	49	185	7	3	0	554
Port Authority Trans Hudson	0	0	0	2	0	0	0	2
Soo Line Railroad Company	4, 251	361	363	2, 758	45	70	25	7, 873
Southeastern Pennsylvania Transportation Au	263	114	174	2, 738 53	22	10	40	676
Southern Pacific Transportation Company	7. 503	824	475	4, 525	203	105	52	13, 687
Southern Pacific, Chicago-St. Louis Corpora	7, 303 267	19	27	78	3	20	1	415
St. Louis Southwestern Railway Company	2, 009	114	77	763	29	20	0	2, 994
ŭ <b>.</b> ŭ	2, 009 141	40	26	12	1	0	0	2, 994
Terminal Railroad Association Of St. Louis								
Union Pacific Railroad Company	21, 479	1, 981	1, 589	14, 344	305	215	111	40, 024
Union Railroad Company (Pittsburgh)	14	20	30	39	7	6	7	129
Wheeling & Lake Erie Railway Company	566	76	157	390	28	9	6	1, 232
Wisconsin Central Ltd. (also Railway)	1, 902	97	84	1, 162	7	32	6	3, 290
All Other Railroads	37, 667	2, 567	2, 091	26, 037	581	471	183	69, 601
FINAL TOTALS	162, 426	18, 925	16, 176	103, 295	3, 014	2, 069	1, 254	307, 169

TABLE 35. TOTAL OF CROSSINGS BY STATE AND LOCATION: URBAN OR RURAL, 1996

State	Urban	Rural	Total
Al abama	1, 652	1, 927	3, 579
Al aska	87	138	225
Ari zona	508	433	941
Arkansas	1, 228	2,004	3, 232
Cal i forni a	5, 750	2, 175	7, 925
Col orado	654	1, 288	1, 942
Connecti cut	239	131	370
Del aware	86	201	287
Dist of Columbia.	23		23
Fl ori da	2, 352	1, 696	4, 048
Georgi a	2, 182	3, 969	6, 151
Hawai i		6	6
I daho	249	1, 233	1, 482
Illinois	3, 873	6, 271	10, 144
I ndi ana	2, 856	3, 712	6, 568
I owa	1, 601	3, 630	5, 231
Kansas	1, 384	6, 444	7, 828
Kentucky	699	1, 905	2, 604
Loui si ana	1, 592	1, 995	3, 587
Mai ne	236	646	882
Maryl and	516	169	685
Massachusetts	843	349	1, 192
Mi chi gan	2, 337	3, 419	5, 756
Mi nnesota	1, 383	3, 768	5, 151
Mi ssi ssi ppi	1, 056	1, 811	2, 867
Mi ssouri	1, 577	3, 287	4, 864
Montana	241	1, 215	1, 456
Nebraska	480	3, 484	3, 964
Nevada	90	199	289
New Hampshire	221	282	503
New Jersey	1, 329	531	1, 860
New Mexico	237	573	810
New York	1, 512	1, 762	3, 274
North Carolina	1, 942	2, 806	4, 748
North Dakota	252 3, 031	4, 372 3, 358	4, 624
Ohi o	303		6, 389
Okl ahoma	1, 004	4, 136 1, 297	4, 439 2, 301
Oregon	2, 910	2, 664	5, 574
Rhode Island	123	5	128
South Carolina	1, 030	2, 014	3, 044
South Dakota	261	1, 876	2, 137
Tennessee	1, 517	1, 834	3, 351
Texas	6, 585	5, 859	12, 444
Utah	543	466	1, 009
Vermont	165	331	496
Vi rgi ni a	868	1, 242	2, 110
Washi ngton	1, 354	1, 500	2, 854
West Virginia	410	1, 445	1, 855
Wi sconsi n	1, 839	2, 807	4, 646
Wyomi ng	84	443	527
Puerto Rico		24	24
Unknown			
Total	63, 294	99, 132	162, 426

TABLE 36. TOTAL CROSSINGS BY NUMBER OF MAIN AND OTHER TRACKS, 1996

Other				Nunb	er of main	tracks		
Tracks	0	1	2	3	4	5	>5	Total
0	5	98, 155	9, 616	299	69	5	5	108, 154
1	15, 463	20, 896	2, 488	71	15			38, 933
2	3, 404	6, 159	927	49	13	1	1	10, 554
3	920	1, 778	289	28	14			3, 029
4	263	560	125	12	7	3	1	971
5	117	217	63	5	1	1	1	405
>5	96	217	62	2	3			380
Total	20, 268	127, 982	13, 570	466	122	10	8	162, 426

TABLE 37. CROSSINGS BY NUMBER OF TRACKS AND WARNING DEVICE, 1996

Number of Tracks							
Warning device	1	2	3	4	5	>5	Total
Gates	15, 006	10, 337	3, 470	1, 189	431	380	30, 813
Flashing lights	20, 981	5, 198	1, 621	504	160	150	28, 614
Hwy. signals, wigwags, bells	983	364	136	42	18	14	1, 557
Special warning devices	3, 258	934	296	114	36	45	4, 683
Stop signs	7, 983	2, 089	512	164	48	36	10, 832
Crossbucks	60, 444	13, 869	3, 529	1, 006	307	221	79, 376
Other signs	361	93	29	14	1	3	501
No signs or signals	4, 602	1, 032	273	75	34	34	6, 050
Total	113, 618	33, 916	9, 866	3, 108	1, 035	883	162, 426

TABLE 38. CROSSINGS BY TRACKS AND TRAFFIC LANES, 1996

Traffic				N	lunber of t	racks	
Lanes	1	2	3	4	5	>5	Total
1	19, 292	3, 948	645	148	32	35	24, 100
2	86, 962	27, 326	8, 374	2, 680	907	746	126, 995
3	779	345	97	28	9	12	1, 270
4	5, 677	2, 038	683	237	84	82	8, 801
5	430	119	34	7	1	4	595
>5	478	140	33	8	2	4	665
Total	113, 618	33, 916	9, 866	3, 108	1, 035	883	162, 426

TABLE 39. TOTAL CROSSINGS BY NUMBER OF TRACKS AND STATE, 1996

#### **Number of Tracks**

State	1	2	3	4	5	>5	Total
Al abama	2, 578	636	250	62	26	27	3, 579
Al aska	184	34	6	1			225
Ari zona	700	165	57	15	3	1	941
Arkansas	2, 228	695	210	62	21	16	3, 232
Cal i forni a	5, 435	1, 585	551	185	86	83	7, 925
Col orado	1, 417	380	99	30	9	7	1, 942
Connecti cut	299	59	10		2		370
Del aware	251	29	6		1		287
Dist of Columbia.	21	2					23
Fl ori da	2, 604	1, 007	283	75	39	40	4, 048
Georgi a	4, 578	1, 117	299	103	20	34	6, 151
Hawai i	6						6
I daho	1, 035	294	102	36	9	6	1, 482
Illinois	6, 379	2, 649	736	244	82	54	10, 144
I ndi ana	4, 694	1, 438	302	85	30	19	6, 568
I owa	3, 468	1, 145	416	133	36	33	5, 231
Kansas	5, 402	1, 609	528	183	58	48	7, 828
Kentucky	1, 778	614	143	47	9	13	2, 604
Loui si ana	2, 708	627	170	48	13	21	3, 587
Mai ne	724	123	24	9	1	1	882
Maryl and	518	129	19	12	4	3	685
Massachusetts	941	187	41	15	4	4	1, 192
Mi chi gan	4, 114	1, 192	273	104	36	37	5, 756
Mi nnesota	3, 662	980	332	114	30	33	5, 151
Mi ssi ssi ppi	2, 069	552	160	48	20	18	2, 867
Mi ssouri	2, 875	1, 311	468	131	41	38	4, 864
Montana	969	319	118	25	12	13	1, 456
Nebraska	2, 592	936	290	86	36	24	3, 964
Nevada	205	65	12	4	1	2	289
New Hampshire	427	66	7	2	1		503
New Jersey	1, 358	386	82	17	8	9	1, 860
New Mexico	567	172	44	16	4	7	810
New York	2, 310	731	160	47	13	13	3, 274
North Carolina	3, 521	822	260	82	31	32	4, 748
North Dakota	3, 698	678	194	40	13	1	4, 624
0hi o	3, 910	1, 812	449	140	47	31	6, 389
0kl ahoma	2, 940	994	314	124	41	26	4, 439
Oregon	1, 655	441	161	31	12	1	2, 301
Pennsyl vani a	3, 675	1, 337	351	135	41	35	5, 574
Rhode Island	86	36	6				128
South Carolina	2, 446	483	81	17	9	8	3, 044
South Dakota	1, 685	288	116	35	6	7	2, 137
Tennessee	2, 272	754	213	69	22	21	3, 351
Texas	8, 954	2, 385	698	258	81	68	12, 444
Utah	683	213	71	17	18	7	1, 009
Vermont	403	71	16	4		2	496
Vi rgi ni a	1, 392	507	156	38	11	6	2, 110
Washington	1, 862	605	260	85	22	20	2, 854
West Virginia	1, 344	381	102	16	5	7	1, 855
Wi sconsi n	3, 629	755	180	59	17	6	4, 646
Wyomi ng	348	115	40	19	4	1	527
Puerto Rico	19	5					24
Unknown	110 010				1 005		100 400
Total	113, 618	33, 916	9, 866	3, 108	1, 035	883	162, 426

TABLE 40. TOTAL CROSSINGS BY TYPE OF HIGHWAY SYSTEM AND STATE, 1996

#### Highway System

State	01	02	03	08	Total
Al abama		161	649	2, 769	3, 579
Al aska	6	10	34	175	225
Ari zona	9	71	252	609	941
Arkansas	1	133	1, 126	1, 972	3, 232
Cal i forni a		912	1, 627	5, 386	7, 925
Col orado		75	418	1, 449	1, 942
Connecti cut		25	133	212	370
Del aware		31	119	137	287
Dist of Columbia.		3	1	19	23
Fl ori da	1	272	857	2, 918	4, 048
Georgi a		371	949	4, 830	6, 150
Hawai i				6	6
I daho		43	245	1, 194	1, 482
Illinois	1	612	2, 159	7, 372	10, 144
Indi ana		234	1, 568	4, 766	6, 568
I owa	3	284	1, 179	3, 765	5, 231
Kansas		304	1, 460	6, 064	7, 828
Kentucky	2	74	472	2, 056	2, 604
Loui si ana	5	138	661	2, 783	3, 587
Mai ne		72	120	690	882
Maryl and		15	33	637	685
Massachusetts		116	437	639	1, 192
Mi chi gan	9	231	1, 549	3, 967	5, 756
Mi nnesota	1	180	940	4, 030	5, 151
				*	,
Mi ssi ssi ppi	3	129	688	2, 050	2, 867
Mi ssouri		93	813	3, 955	4, 864
Montana		58	164	1, 234	1, 456
Nebraska		197	691	3, 076	3, 964
Nevada		17	26	246	289
New Hampshire		7	191	305	503
New Jersey		77	349	1, 434	1, 860
New Mexico		21	116	673	810
New York		198	588	2, 488	3, 274
North Carolina		109	551	4, 088	4, 748
North Dakota	3	178	561	3, 882	4, 624
0hi o		256	1, 546	4, 587	6, 389
0kl ahoma		136	655	3, 648	4, 439
Oregon		133	532	1, 636	2, 301
Pennsyl vani a	128	551	1, 813	3, 082	5, 574
Rhode Island		6	58	64	128
South Carolina	1	186	754	2, 103	3, 044
South Dakota		98	342	1, 697	2, 137
Tennessee		103	584	2, 664	3, 351
Texas	81	95	182	12, 086	12, 444
Utah	1	15	138	854	1, 008
Vermont		36	91	369	496
Vi rgi ni a		88	651	1, 371	2, 110
Washi ngton		93	558	2, 203	2, 854
West Virginia		112	367	1, 376	1, 855
Wi sconsi n		290	1, 119	3, 237	4, 646
Wyomi ng		27	75	425	527
Puerto Rico		6	2	16	24
Unknown					
Total	255	7, 682	31, 193	123, 294	162, 424

#### HIGHWAY SYSTEM CODES

CODE SYSTEM	CODE SYSTEM
01 Interstate	02 Other NHS

01 Interstate 02 Other NHS
03 Other Fed-Aid Non NHS 08 Non Fed-Aid

TABLE 41. TOTAL CROSSINGS BY HIGHWAY SYSTEM GROUP AND STATE, 1996

State	On- State	Off-State	Total
Al abama	243	3, 336	3, 579
Al aska	56	169	225
Ari zona	52	889	941
Arkansas	539	2, 693	3, 232
Cal i forni a	324	7, 601	7, 925
Col orado	204	1, 738	1, 942
Connecti cut	83	287	370
Del aware	253	34	287
Dist of Columbia.	10	13	23
Fl ori da	451	3, 597	4, 048
Georgi a	716	5, 435	6, 151
Hawai i		6	6
I daho	101	1, 381	1, 482
Illinois	1, 276	8, 868	10, 144
Indi ana	602	5, 966	6, 568
I owa	289	4, 942	5, 231
Kansas	416	7, 412	7, 828
Kentucky	762	1, 842	2, 604
Loui si ana	828	2, 759	3, 587
Mai ne	171	711	882
Maryl and	114	571	685
Massachusetts	45	1, 147	1, 192
Mi chi gan	334	5, 422	5, 756
Mi nnesota	277	4, 874	5, 151
Mi ssi ssi ppi	371	2, 496	2, 867
Mi ssouri	705	4, 159	4, 864
Montana	217	1, 239	1, 456
Nebraska	303	3, 661	3, 964
Nevada	43	246	289
New Hampshire	112	391	503
New Jersey	175	1, 685	1, 860
New Mexi co	180	630	810
New York	346	2, 928	3, 274
North Carolina	3, 047	1, 701	4, 748
North Dakota	219	4, 405	4, 624
0hi o	851	5, 538	6, 389
0kl ahoma	345	4, 094	4, 439
0regon	142	2, 159	2, 301
Pennsyl vani a	1, 785	3, 789	5, 574
Rhode Island	46	82	128
South Carolina	2, 196	848	3, 044
South Dakota	146	1, 991	2, 137
Tennessee	296	3, 055	3, 351
Texas	2, 021	10, 423	12, 444
Utah	108	901	1, 009
Vermont	111	385	496
Vi rgi ni a	1, 412	698	2, 110
Washi ngton	157	2, 697	2, 854
West Virginia	1, 124	731	1, 855
Wi sconsi n	357	4, 289	4, 646
Wyomi ng	72	455	527
Puerto Rico	19	5	24
Unknown			
Total	25, 052	137, 374	162, 426

TABLE 42. CROSSINGS BY FUNCTIONAL CLASSIFICATION OF ROAD, 1996

Rural	Crossings Urban		Crossings
Interstate	37	Interstate	145
Other principal arterial	1, 188	Other freeway/expressway	364
Minor arterial	3, 713	Other principal arterial	5, 725
Major collector	11, 091	Minor arterial	10, 336
Minor collector	9, 282	Collector	10, 665
Local	73, 819	Local	36, 059
Total	99, 130	Total	63, 294

TABLE 43. TOTAL CROSSINGS BY NUMBER OF TRAFFIC LANES AND STATE, 1996

**Number of Lanes** 

State	1	2	3	4	5	>5	Total
Al abama	679	2, 691	33	160	6	10	3, 579
Al aska	12	193	1	17	2		225
Ari zona	11	759	15	107	25	24	941
Arkansas	702	2, 445	15	64	25 5	1	3, 232
Cal i forni a	405		194	1, 524	148	206	
		5, 448 1, 598	21	1, 324	9	206 9	7, 925 1, 942
Col orado	168				2		
Connecti cut	5	330	16	17			370
Del aware	15	252	4	14		2	287
Dist of Columbia.		16	2	2	1	2	23
Fl ori da	160	3, 328	83	369	34	74	4, 048
Georgi a	1, 168	4, 722	27	213	12	9	6, 151
Hawai i		6					6
I daho	251	1, 177	7	43	1	3	1, 482
Illinois	2, 025	7, 382	57	642	16	22	10, 144
I ndi ana	853	5, 346	57	280	18	14	6, 568
I owa	608	4, 402	36	179	5	1	5, 231
Kansas	1, 852	5, 666	17	288	3	2	7, 828
Kentucky	809	1, 745	6	43		1	2, 604
Loui si ana	532	2, 817	20	192	14	12	3, 587
Mai ne	44	820	2	15	1		882
Maryl and	69	557	8	44	3	4	685
Massachusetts	43	1, 084	8	56	1		1, 192
Mi chi gan	347	4, 798	74	453	51	33	5, 756
Mi nnesota	855	4, 031	14	247	3	1	5, 151
Mi ssi ssi ppi	361	2, 403	9	88	2	4	2, 867
Mi ssouri	1, 205	3, 521	11	119	5	3	4, 864
Montana	143	1, 287	3	20	2	1	1, 456
Nebraska	851	3, 056	4	52	1		3, 964
Nevada	67	180	1	39	1	1	289
New Hampshire	32	449	2	17	2	1	503
New Jersey	88	1, 621	15	129	1	6	1, 860
New Mexico	261	502	1	39	3	4	810
New York	304	2, 836	19	110	2	3	3, 274
North Carolina	263	4, 246	35	184	11	9	4, 748
North Dakota	1, 041	3, 558	1	23	1		4, 624
0hi o	650	5, 422	46	255	9	7	6, 389
0kl ahoma	883	3, 296	6	249	2	3	4, 439
Oregon	265	1, 883	46	81	24	2	2, 301
Pennsyl vani a	849	4, 403	118	176	2	26	5, 574
Rhode Island	2	102		24		<b>20</b> 	128
South Carolina	318	2, 498	36	158	23	11	3, 044
South Dakota	641	1, 450	30	39	4	3	2, 137
	439	2, 693	31		31	6	3, 351
Tennessee		2, 093 9, 021	67	151			
Texas	2, 109	,		1, 079	64	104	12, 444
Utah	183	749	1	71	1	4	1, 009
Vermont	108	376	5	7			496
Vi rgi ni a	25	1, 955	24	87	10	9	2, 110
Washi ngton	251	2, 275	55	233	32	8	2, 854
West Virginia	871	965	7	10	1	1	1, 855
Wi sconsi n	169	4, 224	8	225	1	19	4, 646
Wyomi ng	107	388	2	30			527
Puerto Rico	1	23					24
Unknown							
Total	24, 100	126, 995	1, 270	8, 801	595	665	162, 426

TABLE 44. CROSSINGS BY NUMBER OF TRAFFIC LANES AND WARNING DEVICE, 1996

Warning device	1	2	3	4	5	>5	Total
Gates	865	25, 199	492	3, 628	306	323	30, 813
Flashing lights	795	24, 101	355	2, 946	208	209	28, 614
Hwy. signals, wigwags, bells	121	1, 158	63	167	17	31	1, 557
Special warning devices	311	3, 850	108	362	26	26	4, 683
Stop signs	1, 756	8, 920	29	119	2	6	10, 832
Crossbucks	18, 653	59, 144	175	1, 315	29	60	79, 376
Other signs	123	365	2	11			501
No signs or signals	1, 476	4, 258	46	253	7	10	6, 050
Total	24, 100	126, 995	1, 270	8, 801	595	665	162, 426

TABLE 45. TOTAL CROSSINGS BY WARNING DEVICE CATEGORY AND STATE, 1996

Warning Device Category Hwy. Sig. No Signs Fl ashi ng **Other** Wi gwags Stop Crossor Lights **Bucks** Total State Gates Bells Special Si gns Si gns Signals Al abama...... 1, 595 3, 579 Al aska..... ---Ari zona. . . . . . . . . . ---2.049 3. 232 Arkansas...... ---Cal i forni a. . . . . . . 3, 177 2,828 7, 925 1.942 Col orado. . . . . . . . . Connecti cut. . . . . - - -Del aware..... ------Dist of Columbia. Fl ori da. . . . . . . . . . . . 2, 112 4,048 1,576 Georgi a. . . . . . . . . . 1.070 2.733 6, 151 Hawai i . . . . . . . . . . . . . ---I daho. . . . . . . . . . . . . 1, 482 Illinois..... 2, 177 2,629 4, 554 10, 144 Indi ana..... 1.208 1.636 2.492 6.568 I owa. . . . . . . . . . . . . . . . 1,014 3,018 5, 231 Kansas..... 5, 581 7, 828 2,604 Kentucky..... 1. 154 Loui si ana. . . . . . . . 1.864 3.587 Maine..... Maryl and..... 1, 192 Massachusetts... Mi chi gan..... 1, 451 2.359 5, 756 5, 151 Mi nnesota..... 3, 118 2, 867 Mi ssi ssi ppi . . . . . . 1.178 4, 864 Mi ssouri...... 2,842 Montana...... ---1, 456 Nebraska..... 2,688 3,964 Nevada. . . . . . . . . . . ---New Hampshire.... New Jersey..... 1,860 New Mexico..... New York..... 1.396 3. 274 North Carolina... 1, 161 2, 273 4,748 3, 914 4,624 North Dakota.... 0hi o. . . . . . . . . . . . . . 1,939 1, 230 2.865 6, 389 0kl ahoma..... 4. 439 2.948 0regon. . . . . . . . . . . . 2.301 1, 286 1, 905 5, 574 Pennsyl vani a. . . . . Rhode Island.... ---South Carolina... ---1, 256 ---3,044 South Dakota.... 1,840 2, 137 Tennessee..... 1,613 3, 351 2.671 1.869 Texas..... 6.905 12. 444 1,009 Utah..... Vermont..... 2, 110 Vi rgi ni a. . . . . . . . . 1.526 Washi ngton. . . . . . . 2.854 West Virginia.... 1,855 Wi sconsi n. . . . . . . 1, 335 2, 223 4,646 Womi ng..... ---Puerto Rico..... \_ \_ \_ ------\_ \_ \_ Unknown...... 162, 426 Total . . . . . . . . 30, 813 28, 614 1,557 4,683 10, 832 79, 376 6,050

TABLE 46. TOTAL CROSSINGS BY WARNING DEVICE CATEGORY AND RAILROAD, 1996

		Hwy. Sig.							No Signs			
			Fl ashi ng	Wi gwag	s	Stop		Other	0r			
	Rai l road	Gates	Li ghts	Bells	Special	l Sign	s Bucks	Signs	Signals	Total		
ARR	Alaska Railroad Corporation	46	35	0	7	26	99	0	8	221		
ALS	Alton & Southern Railroad	6	7	0	1	0	6	0	1	21		
ATK	Amtrak (National Railroad Passenger Corpora	201	9	0	5	6	12	4	7	244		
BAR	Bangor & Aroostook Railroad	4	89	0	8	11	53	0	0	165		
BRC	Belt Railway Company Of Chicago	10	8	0	1	0	18	0	1	38		
BLE	Bessemer & Lake Erie Railroad Company	37	29	0	2	0	70	0	2	140		
BS	Birmingham Southern Railroad Company	3	22	0	0	5	15	0	1	46		
BNSF	Burlington Northern Santa Fe	4, 719	3, 269	151	498	1, 118	14, 709	20	460	24, 944		
CC	Chicago, Central & Pacific Railroad Company	69	266	10	30	40	451	0	24	890		
CR	Consolidated Rail Corporation	2, 973	3, 210	166	1, 017	425	3, 548	257	690	12, 286		
CSX	CSX Transportation	4, 802	3, 784	77	508	1, 438	6, 472	22	714	17, 817		
DME	Dakota, Minnesota & Eastern Railroad	14	106	3	0	48	602	0	30	803		
DH	Delaware & Hudson Railway Company	143	83	3	1	3	71	5	2	311		
DRGW	Denver & Rio Grande Western Railroad Compan	154	140	4	16	85	358	3	24	784		
DMI R	Duluth, Missabe & Iron Range Railway Compan	10	20	0	2	32	74	2	0	140		
DWP	Duluth, Winnipeg & Pacific Railway	12	10	0	1	15 4	43	0	0	81		
EJE FEC	Elgin, Joliet & Eastern Railway Company	80 603	63 30	2 0	9	_	31 46	0 0	0 9	189		
GWWR	Florida East Coast Railway Company	603 8	30 47	20	27 0	3 7	46 142	0	9 4	718 228		
GTW	Gateway Western Railway	374	47 211		37	193	142 87	0	2	228 908		
GRS	Grand Trunk Western Railroad Incorporated	238	390	4 18	220	193 45	357	4	2 48	1, 320		
HBT	Guilford Rail System  Houston Belt & Terminal Railway Company	236 58	28	10	0	2	53	0	46 15	1, 320		
IC	Illinois Central Railroad Company	406	579	16	60	363	1. 000	4	169	2. 597		
I HB	Indiana Harbor Belt Railroad Company	25	22	0	16	0	1, 000	0	3	2, 337 76		
KCS	Kansas City Southern Railway Company	248	499	4	3	217	1, 718	4	158	2, 851		
LI	Long Island Rail Road	298	0	0	0	0	6	0	0	304		
MNCW	Metro North Commuter Railroad Company	19	35	1	1	0	3	0	3	62		
MRL	Montana Rail Link	60	62	1	0	46	253	0	6	428		
NJTR	New Jersey Transit Rail Operations	218	80	1	10	1	29	0	7	346		
NS	Norfolk Southern Corporation	3, 857	2. 936	76	485	1. 535	7. 162	11	755	16, 817		
NI RC	Northeast Illinois Regional Comuter Rail Co	53	5	1	1	1	0	0	1	62		
NI CD	Northern Indiana Commuter Transportation Di	41	37	7	0	27	1	0	0	113		
PAL	Paducah & Louisville Railway Company	20	103	3	0	10	118	0	3	257		
S00	Soo Line Railroad Company	515	576	25	48	359	2, 530	1	197	4, 251		
SEPA	Southeastern Pennsylvania Transportation Au	50	77	21	19	17	32	2	45	263		
SP	Southern Pacific Transportation Company	2, 715	862	214	34	358	2, 951	10	359	7, 503		
SSWN	Southern Pacific, Chicago-St. Louis Corpora	108	86	2	11	0	57	0	3	267		
SSW	St. Louis Southwestern Railway Company	304	252	8	10	121	1, 206	0	108	2,009		
TRRA	Terminal Railroad Association Of St. Louis	45	14	0	56	3	20	0	3	141		
UP	Union Pacific Railroad Company	3, 900	3, 445	199	246	1, 215	11, 573	25	876	21, 479		
URR	Union Railroad Company (Pittsburgh)	3	1	10	0	0	0	0	0	14		
WE	Wheeling & Lake Erie Railway Company	90	148	3	2	23	290	0	10	566		
WC	Wisconsin Central Ltd. (also Railway)	153	500	13	18	159	1, 043	0	16	1, 902		
	All Other Railroads	3, 121	6, 439	493	1, 273	2, 871	22, 057	127	1, 286	37, 667		
FINA	IL TOTALS	30, 813	28, 614	1, 557	4, 683	10, 832	79, 376	501	6, 050	162, 426		

TABLE 47. TOTAL CROSSINGS BY PAVEMENT MARKINGS AND STATE, 1996

	Stop	RR X-ing		None					
State	Lines	Symbol	Both	Paved	Unpaved	Total			
41 1	4.5	700			0.40	0 570			
Al abama	45	502	424	1, 960	648	3, 579			
Al aska	8	9	55	65	88	225			
Ari zona	25	27	413	246	230	941			
Arkansas	58	109	333	1, 603	1, 129	3, 232			
California	967	199	4, 745	1, 718	296	7, 925			
Col orado	20	22	383	829	688	1, 942			
Connecticut	12	13	254	90	1	370			
Del aware	43	29	90	122	3	287			
Dist of Columbia.			9	14		23			
Fl ori da	265	374	1, 827	1, 140	442	4, 048			
Georgi a	64	112	2, 789	1, 639	1, 546	6, 150			
Hawai i	2			4		6			
I daho	9	5	267	656	545	1, 482			
Illi noi s	78	171	1, 258	4, 284	4, 353	10, 144			
I ndi ana	77	261	1, 364	4, 007	859	6, 568			
I owa	53	153	539	1, 982	2, 504	5, 231			
Kansas	7	24	904	2, 030	4, 863	7, 828			
Kentucky	49	325	733	889	608	2, 604			
Loui si ana	52	190	619	1, 887	839	3, 587			
Mai ne	3	3	569	228	79	882			
Maryl and	10	25	253	355	42	685			
Massachusetts	55	45	125	933	34	1, 192			
Mi chi gan	70	277	1, 357	2, 629	1, 423	5, 756			
Mi nnesota	126	177	493	1, 808	2, 547	5, 151			
Mi ssi ssi ppi	28	<b>54</b>	499	1, 481	805	2, 867			
Mi ssouri	65	110	561	2, 066	2, 062	4, 864			
Montana	5	32	158	352	909	1, 456			
Nebraska	36	314	189	941	2, 484	3, 964			
Nevada	11	11	129	54	84	289			
New Hampshire	10	28	59	354	52	503			
New Jersey	38	229	261	1, 244	88	1, 860			
New Mexico	5	29	47	338	391	810			
New York	126	216	453	2, 202	277	3, 274			
North Carolina	46	32	3, 534	546	590	4, 748			
North Dakota	17	29	137	595	3, 846	4, 624			
0hi o	213	636	3, 562	1, 638	340	6, 389			
0kl ahoma	31	92	423	1, 976	1, 917	4, 439			
Oregon	348	884	151	489	429	2, 301			
Pennsyl vani a	67	353	162	4, 386	606	5, 574			
Rhode Island			80	48		128			
South Carolina	91	109	1, 199	1, 250	395	3, 044			
South Dakota	30	12	132	540	1, 423	2, 137			
Tennessee	20	115	914	1, 777	525	3, 351			
Texas	11	18	6, 312	3, 003	3, 100	12, 444			
Utah	22	33	195	534	3, 100 224	1, 008			
Vermont	36	10	88	214	148	496			
	93		942	700	225				
Vi rgi ni a		150				2, 110			
Washington	122	68	546	1, 554	564	2, 854			
West Virginia	18	11	84	1, 149	593	1, 855			
Wi sconsi n	68	28	771	3, 298	481	4, 646			
Wyomi ng	7	21	53	157	289	527			
Puerto Rico	3	7		12	2	24			
Unknown									
Total	3, 665	6, 683	41, 444	64, 016	46, 616	162, 424			

NOTE: The Manual On Uniform Traffic Control Devices does not require pavement markings at all crossings.

TABLE 48. CROSSINGS BY RAILROAD ADVANCE WARNING AND STATE, 1996

State	Yes	No	Total
Alahama	1 799	1 957	2 570
Al abama Al aska	1, 722 150	1, <b>8</b> 57	3, 579 225
Ari zona	582	359	941
Arkansas	911	2, 321	3, 232
Cal i forni a	6, 387	1, 538	7, 925
Colorado	1, 123	819	1, 942
Connecticut	326	44	370
Del aware	242	45	287
Dist of Columbia.	6	17	23
Fl ori da	2, 533	1, 515	4, 048
Georgi a	3, 176	2, 975	6, 151
Hawai i	1	5	6
I daho	882	600	1, 482
Illinois	5, 259	4, 885	10, 144
I ndi ana	5, 654	914	6, 568
I owa	3, 586	1, 645	5, 231
Kansas	4, 271	3, 557	7, 828
Kentucky	1, 515	1, 089	2, 604
Loui si ana	2, 393	1, 194	3, 587
Maine	870	12	882
Maryl and	445	240	685
Massachusetts	882	310	1, 192
Mi chi gan	4, 707	1, 049	5, 756
Mi nnesota	3, 403	1, 748	5, 151
Mi ssi ssi ppi	845	2, 022	2, 867
Mi ssouri	1, 448	3, 416	4, 864
Montana	997	459	1, 456
Nebraska	2, 924	1, 040	3, 964
Nevada	225	64	289
New Hampshire	297	206	503
New Merrica	962 179	898 631	1, 860
New Mexico New York	2, 593	681	810 3, 274
North Carolina	3, 692	1, 056	4, 748
North Dakota	1, 703	2, 921	4, 624
0hi o	5, 166	1, 223	6, 389
0kl ahoma	1, 720	2, 719	4, 439
Oregon	1, 005	1, 296	2, 301
Pennsyl vani a	2, 069	3, 505	5, 574
Rhode Island	81	47	128
South Carolina	2, 270	774	3, 044
South Dakota	1, 407	730	2, 137
Tennessee	2, 079	1, 272	3, 351
Texas	9, 882	2, 562	12, 444
Utah	591	418	1, 009
Vermont	409	87	496
Vi rgi ni a	1, 629	481	2, 110
Washi ngton	2, 061	793	2, 854
West Virginia	454	1, 401	1, 855
Wi sconsi n	3, 244	1, 402	4, 646
Wyomi ng	291	236	527
Puerto Rico	17	7	24
Unknown			
Total	101, 266	61, 160	162, 426

NOTE: The Manual On Uniform Traffic Control Devices does not require pavement markings at all crossings.

TABLE 49. CROSSINGS MEETING THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' STANDARD FOR CROSSBUCKS BY STATE, 1996

	Active	X- buck meet	t standards	
State	Warni ng	Yes	No No	Total
	_			
	000	4 000	0.47	0 500
Al abama	999	1, 933	647	3, 579
Al aska	81	106	38	225
Ari zona	441	392	108	941
Arkansas	797	1, 733	702	3, 232
Cal i forni a	4, 463	1, 590	1, 872	7, 925
Col orado	661	1, 035	246	1, 942
Connecti cut	244	88	38	370
Del aware	201	60	26	287
Dist of Columbia.	6	12	5	23
Flori da	2, 760	935	353	4, 048
Georgi a	1, 932	3, 553	666	6, 151
Hawai i		4	2	6
I daho	309	991	182	1, 482
Illinois	4, 929	4, 104	1, 111	10, 144
Indi ana	2, 940	3, 054	574	6, 568
I owa	1, 680	2, 728	823	5, 231
Kansas	1, 676	2, 866	3, 286	7, 828
Kentucky	1, 204	1, 100	300	2, 604
Loui si ana	1, 207	1, 915	465	3, 587
Mai ne	459	410	13	882
Maryl and	326	190	169	685
Massachusetts	689	296	207	1, 192
Mi chi gan	2, 321	3, 101	334	5, 756
Mi nnesota	1, 224	3, 628	299	5, 151
Mi ssi ssi ppi	675	1, 449	743	2, 867
Mi ssouri	1, 555	1, 772	1, 537	4, 864
Montana	349	824	283	1, 456
Nebraska	879	2, 703	382	3, 964
Nevada	143	93	53	289
New Hampshire	188	210	105	503
New Jersey	1, 082	323	455	1, 860
New Mexico	297	289	224	810
New York	2, 108	824	342	3, 274
North Carolina	1, 890	1, 627	1, 231	4, 748
North Dakota	461	2, 850	1, 313	4, 624
0hi o	3, 202	2, 364	823	6, 389
0kl ahoma	1, 179	2, 208	1, 052	4, 439
Oregon	739	1, 075	487	2, 301
Pennsyl vani a	2, 143	1, 240	2, 191	5, 574
Rhode Island	67	2	59	128
South Carolina	1, 160	1, 774	110	3, 044
South Dakota	193	1, 762	182	2, 137
Tennessee	975	1, 149	1, 227	3, 351
Texas	4, 605	3, 850	3, 989	12, 444
Utah	342	469	198	1, 009
Vermont	226	254	16	496
Vi rgi ni a	1, 247	596	267	2, 110
Washi ngton	911	1, 125	818	2, 854
West Virginia	677	696	482	1, 855
Wi sconsi n	1, 897	2, 407	342	4, 646
Wyomi ng	239	182	106	527
Puerto Rico	6	6	12	24
Unknown				
Total	60, 984	69, 947	31, 495	162, 426

NOTE: The manual requires two reflectorized crossbucks to be placed at all crossings.

For crossings with active warning devices, a determination has not been made as to whether crossbucks which are part of the device meet the MUTCD standard.

TABLE 50. TOTAL CROSSINGS BY TOTAL NUMBER OF TRAINS PER DAY, 1996

Trains	Crossings
<1	24, 521
1-5	68, 962
6- 10	26, 925
11- 15	11, 722
16-20	10, 701
21-25	6, 519
26-30	3, 958
31-35	2, 449
36-40	1, 544
41-45	751
46- 50	854
51-55	855
56-60	950
61-65	347
66- 70	213
71-75	275
76-80	283
81-85	50
86-90	23
91-95	168
96- 100	56
>100	300
Total	162, 426

TABLE 51. TOTAL CROSSINGS BY NUMBER OF THRU TRAINS AND SWITCHING TRAINS PER DAY, 1996

Swi tchi ng	Through trains									
Trains	<1	1-2	3-5	6-10	11-15	16-20	21-25	>25	Total	
<1	24, 521	24, 115	10, 857	10, 966	5, 087	4, 867	2, 959	4, 307	87, 679	
1-2	16, 829	9, 059	5, 831	6, 367	2, 394	2, 774	971	3, 040	47, 265	
2-3	5, 387	1, 527	2, 077	2, 628	1, 514	892	326	1, 603	15, 954	
6- 10	2, 404	698	724	1, 308	686	798	365	800	7, 783	
11-15	393	107	110	229	105	74	74	674	1, 766	
16-20	417	99	85	126	139	72	89	91	1, 118	
21-25	98	25	22	37	34	17	23	41	297	
>25	177	53	37	68	62	44	31	92	564	
Total	50, 226	35, 683	19, 743	21, 729	10, 021	9, 538	4, 838	10, 648	162, 426	

TABLE 52. TOTAL CROSSINGS BY NUMBER OF DAY AND NIGHT TRAINS PER DAY, 1996

Day		Night trains										
Trains	<1	1-2	3-5	6- 10	11-15	16-20	21-25	>25	Total			
<1	24, 521	6. 322	880	162	6	8	4	5	31, 908			
1-2	25, 663	25, 363	2, 676	345	21	10	1	3	54, 082			
2-3	4, 357	8, 971	15, 092	1, 732	134	35	36	2	30, 359			
6- 10	1, 390	1, 903	5, 733	14, 121	1, 635	91	38	15	24, 926			
11-15	198	225	630	3, 324	5, 541	548	25	20	10, 511			
16- 20	98	37	181	795	1, 225	2,059	181	36	4, 612			
21-25	17	29	10	228	496	299	736	169	1, 984			
>25	69	12	56	142	272	291	794	2, 408	4, 044			
Total	56, 313	42, 862	25, 258	20, 849	9, 330	3, 341	1, 815	2, 658	162, 426			

TABLE 53. CROSSINGS BY NUMBER OF TRAINS PER DAY AND WARNING DEVICE, 1996

Number of Trains Per Day

Warning device	<1	1-2	3-5	6- 10	11-15	16- 20	21-25	>25	Total
Gates	1. 075	2, 638	3, 357	5. 524	3. 661	4. 225	3. 239	7. 094	30, 813
Flashing lights	3, 275	6, 918	5, 269	6, 176	2, 467	2, 059	963	1, 487	28, 614
Hwy. signals, wigwags, bells	214	393	283	274	127	94	38	134	1, 557
Special warning devices	1, 812	1, 538	555	387	119	108	37	127	4, 683
Stop signs	925	2, 778	2, 118	2, 154	717	845	385	910	10, 832
Crossbucks	14, 930	26, 319	13, 822	11, 745	4, 411	3, 223	1, 791	3, 135	79, 376
Other signs	150	167	81	56	12	16	1	18	501
No signs or signals	2, 140	1, 963	763	609	208	131	65	171	6, 050
Total	24, 521	42, 714	26, 248	26, 925	11, 722	10, 701	6, 519	13, 076	162, 426

TABLE 54. TOTAL CROSSINGS BY NUMBER OF TRAINS PER DAY AND ANNUAL AVERAGE DAILY TRAFFIC, 1996

				Avera	ge annual	daily traf	ffic
	1-	251-	<b>501</b> -	1, 001-	5, 001-	>	
Trains	250	500	1,000	5, 000	10, 000	10, 000	Total
<1	10, 430	2, 922	2, 766	5, 420	1, 780	1, 203	24, 521
1-2	20, 768	4, 994	4, 577	8, 239	2, 435	1, 701	42, 714
2-3	11, 725	3, 186	2, 903	5, 412	1, 680	1, 342	26, 248
6- 10	11, 744	3, 290	3, 134	5, 728	1, 713	1, 316	26, 925
11-15	5, 092	1, 307	1, 297	2, 666	754	606	11, 722
16- 20	4, 390	1, 283	1, 276	2, 412	804	536	10, 701
21-25	2, 586	735	748	1, 565	487	398	6, 519
>25	5, 318	1, 377	1, 375	2, 965	1, 122	919	13, 076
Total	72, 053	19, 094	18, 076	34, 407	10, 775	8, 021	162, 426

TABLE 55. CROSSINGS BY MAXIMUM TIMETABLE SPEED, 1996

Tinetable	
Speed	Crossings
1-5	5, 189
6- 10	29, 917
11-15	8, 277
16-20	12, 642
21-25	21, 115
26-30	15, 582
31-35	9, 885
36-40	16, 911
41-45	3, 325
46-50	13, 532
51-55	3, 046
56-60	10, 638
61-65	1, 147
66-70	4, 488
71-75	639
76-80	5, 568
81-85	1
86-90	466
91-95	1
96-100	8
>100	49
Total	162, 426

TABLE 56. TOTAL CROSSINGS BY TYPICAL TRAIN SPEED VARIATION, 1996

Speed Variation	Crossings
	40.474
<1	13, 474
1-5	41, 150
6- 10	35, 733
11-15	17, 079
16-20	16, 468
21-25	9, 902
26-30	8, 809
31-35	4, 661
36-40	4, 443
41-45	2, 365
46-50	3, 292
51-55	784
56-60	1, 939
61-65	656
66-70	346
71-75	580
76-80	682
81-85	9
86-90	2
91-95	
96-100	
>100	52
Total	162, 426
10041	102, 720

TABLE 57. TOTAL CROSSINGS BY ANNUAL AVERAGE DAILY TRAFFIC, 1996

AADT	Crossi ngs
1- 100	50, 443
101-200	15, 039
201-300	11, 402
301-400	7, 228
401-500	7, 035
501-600	4, 551
601-700	3, 474
701-800	3, 889
801-900	2, 597
901-1,000	3, 565
1, 001-2, 000	15, 724
2, 001-3, 000	8, 637
3, 001-4, 000	5, 413
4, 001-5, 000	4, 633
5, 001-6, 000	3, 002
6, 001-7, 000	2, 291
7, 001-8, 000	2, 189
8, 001-9, 000	1, 591
9, 001-10, 000	1, 702
10, 001-20, 000	6, 072
>20, 000	1, 949
Total	162, 426

TABLE 58. TOTAL CROSSINGS BY ANNUAL AVERAGE DAILY TRAFFIC AND WARNING DEVICE CATEGORY, 1996

Annual Average Daily Traffic

		251-	<b>501</b> -	1, 001-	5, 001-	>	
Warning device	1-250	500	1,000	5, 000	10, 000	10, 000	Total
Gates	4, 430	3, 301	4, 079	10, 914	4, 347	3, 742	30, 813
Flashing lights	3, 956	3, 355	4, 341	10, 574	3, 634	2, 754	28, 614
Hwy. signals, wigwags, bells	404	176	194	423	186	174	1, 557
Special warning devices	961	587	624	1, 540	551	420	4, 683
Stop signs	6, 410	1, 736	1, 215	1, 269	143	59	10, 832
Crossbucks	52, 586	9, 084	6, 885	8, 481	1, 606	734	79, 376
Other signs	205	88	81	97	22	8	501
No signs or signals	3, 101	767	657	1, 109	286	130	6, 050
Total	72, 053	19, 094	18, 076	34, 407	10, 775	8, 021	162, 426

TABLE 59. TOTAL CROSSINGS BY TRUCK TRAFFIC AS A PERCENTAGE OF ANNUAL AVERAGE DAILY TRAFFIC, 1996

%	Crossings
<1	5, 832
1-5	74, 592
6- 10	48, 943
11-15	15, 286
16-20	8, 198
21-25	2, 084
26-30	4, 550
31-35	490
36-40	959
41-45	102
46-50	898
51-55	19
56-60	160
61-65	9
66-70	49
71-75	105
76-80	70
81-85	10
86-90	47
91-95	6
96-99	17
Total	162, 426

TABLE 60. PUBLIC CROSSINGS BY CROSSING SURFACE, 1996

State	Section Timber	Full Wood Plank	Asphalt	Concrete Slab	Concrete Pavenent	Rubber	Metal Sections	Other Metal	Unconsol - i dated	Other
Al abama	124	160	2, 997	7	1	51	1	1	235	2
Al aska	11	92	52	6	0	59	0	0	1	4
Ari zona	175	185	381	4	1	132	0	0	61	2
Arkansas	920	210	1, 379	198	8	9	2	2	499	5
Cal i forni a	795	1, 226	5, 386	167	30	145	0	0	128	48
Col orado	834	219	503	84	1	169	4	6	120	2
Connecti cut	109	0	115	2	0	142	2	0	0	0
Del aware	3	0	216	19	1	47	0	0	1	0
Dist Of Columbia	6	4	10	0	1	2	0	0	0	0
Fl ori da	1, 196	50	2, 063	304	33	241	9	1	111	40
Georgi a	121	122	5, 371	15	18	16	1	1	482	3
Hawai i	0	0	6	0	0	0	0	0	0	0
Idaho	276	619	398	95	Ö	31	0	0	56	7
Illinois	1, 831	1, 505	4, 729	72	39	871	7	7	1, 064	19
Indi ana	804	98	5, 022	28	13	389	9	ó	200	5
Iowa	118	1, 201	2, 138	13	10	340	1	2	1, 306	102
Kansas	2, 295	2, 236	1, 076	166	38	126	7	1	1, 867	16
Kentucky	2, 293	306	1, 070	100	6	87	1	3	463	0
Loui si ana	673	475	1, 440	200	8	437	1	4	357	1
	53	215	1, 431 598	200	0	437	0	0	337 7	0
Maine										
Maryl and	196	70	332	1	5	63	0	0	15	3
Massachusetts	64	29	992	8	0	84	0	0	15	0
Mi chi gan	1, 384	419	3, 016	11	11	438	90	1	368	18
Minnesota	261	2, 545	1, 721	19	10	298	1	1	283	12
Mi ssi ssi ppi	153	294	1, 527	45	3	181	2	1	658	3
Mi ssouri	1, 506	750	1, 598	23	3	80	2	1	883	18
Montana	25	1, 107	208	29	2	72	0	3	7	3
Nebraska	830	727	636	165	40	54	2	1	1, 495	14
Nevada	19	59	65	66	0	44	1	0	20	15
New Hampshi re	12	57	419	1	0	7	0	0	6	1
New Jersey	153	8	1, 428	13	16	84	0	57	66	35
New Mexico	444	184	49	1	2	34	0	0	96	0
New York	416	156	2, 283	8	15	287	0	2	91	16
North Carolina	22	47	4, 340	5	12	32	1	0	283	6
North Dakota	126	3, 546	476	19	2	39	0	2	410	4
0hi o	1, 069	72	4, 774	16	12	291	1	2	117	35
0kl ahoma	1, 745	597	922	182	15	53	0	5	895	25
0regon	472	118	1, 314	25	23	60	0	0	41	248
Pennsyl vani a	944	77	3, 776	60	240	101	1	16	355	4
Rhode Island	1	1	79	0	10	36	0	1	0	0
South Carolina	18	1	2, 923	21	2	10	0	1	64	4
South Dakota	13	1, 424	444	1	1	118	0	0	86	50
Tennessee	105	236	2, 677	5	4	107	3	0	208	6
Texas	4, 673	1, 221	3, 993	535	106	306	5	14	1, 555	36
Utah	219	230	382	51	5	29	3	2	83	4
Vermont	34	43	331	0	1	11	0	0	75	1
Vi rgi ni a	226	54	1. 660	3	2	19	4	8	118	16
Washi ngton	120	1, 134	1, 297	84	12	174	0	0	30	3
West Virginia	789	1, 134	713	2	3	19	0	1	315	3
Wi sconsi n	53	345	3. 625	26	14	358	0	1	223	1
Wyomi ng	40	197	137	20	14	29	0	0	115	6
FINAL TOTALS	26, 773	24, 681	83, 470	2, 808	780	6, 821	161	148	15, 936	846

TABLE 61. TOTAL CROSSINGS BY MAXIMUM TIME TABLE SPEED,
WARNING DEVICE CATEGORY AND NUMBER OF TRACKS, 1996

SINGLE TRACK VARNING DEVICES	00- 10	11- 20	21-30	31-40	MAX 41-50	IMUM TIM 51-60	E TABLE 61-70		81-90	91- 100	101-110	>110	TOTAL
GATES	1364	1844	2662	2546	2165	2000	1188	1166	66	4	1	0	15006
FLASHING LIGHTS	4520	3028	5358	3611	2300	1512	299	342	14	0	0	0	20984
HWY. SI GNALS, WI GWAGS, BELLS	371	171	194	122	51	53	11	8	1	0	1	0	983
SPECIAL WARNING DEVICES	2266	528	252	80	58	27	12	21	12	2	0	0	3258
STOP SIGNS	1200	827	1860	1648	1025	822	250	348	3	0	0	0	7983
CROSSBUCKS	12713	6969	16529	11528	6015	4520	885	1149	137	0	1	0	60446
OTHER SIGNS	176	93	59	15	12	0	3	3	0	0	0	0	361
NO SIGNS OR SIGNALS	2421	901	701	295	118	101	35	29	1	0	0	0	4602
TOTAL	25031	14361	27615	19845	11744	9035	2683	3066	234	6	3	0	113623
MULTIPLE TRACKS					MAX	IMIM TIM	TARIF	SPFFD					
WARNING DEVICES	00- 10	11-20	21-30	31-40			61 - 70	71-80	81-90	91-100	101-110	>110	TOTAL
······													
GATES	998	1530	2376	2401	2277	2259	1863	1976	123	2	2	0	15807
FLASHING LIGHTS	1727	1135	1722	1276	798	630	168	168	6	0	0	0	7630
HWY. SI GNALS, WI GWAGS, BELLS	162	111	120	71	33	30	27	16	4	0	0	0	574
SPECIAL WARNING DEVICES	931	232	141	46	26	27	6	12	3	1	0	0	1425
STOP SIGNS	500	361	500	455	334	294	183	219	3	0	0	0	2849
CROSSBUCKS	4948	2842	4056	2623	1584	1368	688	727	94	0	0	0	18930
OTHER SIGNS	53	32	22	16	15	1	1	0	0	0	0	0	140
NO SIGNS OR SIGNALS	800	315	145	63	46	40	16	23	0	0	0	0	1448
TOTAL	10119	6558	9082	6951	5113	4649	2952	3141	233	3	2	0	48803
ALL CROSSINGS					MAX	IMM TIM	TABLE	SPEED					
WARNING DEVICES	00-10	11-20	21-30	31-40	41-50	<b>51-60</b>	61-70	71-80	81-90	91-100	101-110	>110	TOTAL
GATES	2362	3374	5038	4947	4442	4259	3051	3142	189	6	3	0	30813
FLASHING LIGHTS	6247	4163	7080	4887	3098	2142	467	510	20	0	0	0	28614
HWY. SI GNALS, WI GWAGS, BELLS	533	282	314	193	84	83	38	24	5	0	1	0	1557
SPECIAL WARNING DEVICES		760	393	126	84	54	18	33	15	3	0	0	4683
STOP SIGNS		1188	2360	2103	1359	1116	433	567	6	0	0	0	10832
CROSSBUCKS		9811	20585	14151	7599	5888	1573	1876	231	0	1	0	79376
OTHER SIGNS		125	81	31	27	1	4	3	0	0	0	0	501
NO SIGNS OR SIGNALS		1216	846	358	164	141	51	52	1	0	0	0	6050
TOTAL	35150	20919	36697	26796	16857	13684	5635	6207	467	9	5	0	162426

# ( D A T A )

## SUMMARY OF ACCIDENT/INCIDENT

### **AND**

## **INVENTORY**

## **FOR**

PRIVATE CROSSINGS

TABLE 62. (M/) ACCIDENTS/INCIDENTS AT PRIVATE HIGHWAY-RAIL CROSSINGS, BY TYPE OF CONSIST, 1996

	Freight			1	Passeng	*0 **	Van	d Swit	chi na	Other			
State	A/I	Kld	Inj	A/I	KI d	Inj	A/I	Kld	Inj	A/I	Kl d	Inj	
Al abama	8	1	2				5			1			
Al aska													
Ari zona	3		2				1			1			
Arkansas	11		3				2			1			
Cal i forni a	19	3	7	4	1	2	5			1			
Col orado	7	3	1							1		1	
Connecti cut				2						1			
Del aware													
Dist. of Columbia													
Fl ori da	7	2	2	1		1				1			
Georgi a	13	1	6				4		1	1			
I daho	2		1							4			
Illinois	8	2	3	2			8		2	4			
Indi ana	9		4				2		1	1			
I owa	5	1	2				3		1				
Kansas	9		1				1			1			
Kentucky	7		4				1						
Loui si ana	13	1	4				1			2	1		
Mai ne	1		1				1						
Maryl and							1						
Massachusetts	1									2			
Mi chi gan	5						1						
Mi nnesota	11	1	1	3		1	1			6		1	
Mi ssi ssi ppi	3		1	2			3		4	2			
Mi ssouri	17	2	4	1						1			
Montana	8	1	3				2						
Nebraska	7	1	1							1			
Nevada	1		1										
New Hamshire	1	1											
New Jersey	1		6				1			2		1	
New Mexico	3												
New York	3		1	1			1						
North Carolina	8		6	1		2				1			
North Dakota	2		1	1		1							
0hi o	9	1					2						
0kl ahoma	4		3										
Oregon	6						1			8			
Pennsyl vani a Rhode Island	3		1	1			1			3			
South Carolina	3			1	1								
South Dakota													
Tennessee	4	1					4			2			
Texas	33	11	10	2			5		2	1		1	
Utah	3		1				1						
Vermont	1			1		2	1						
Vi rgi ni a	13		3				2			4		1	
Washi ngton	8		1	1			4		1	4			
West Virginia	4		1							1			
Wi sconsi n	3						2		1	1			
Wyomi ng	4	2	1							1			
Unknown													
Total	291	35	89	24	2	9	67		13	60	1	6	
10(41	₩J1	33	99	<b>~</b> ⁴	~	9	37		13	00	1	O	

Note: "Other" includes mixed trains, work trains, light locomotives, single car or cut of cars

TABLE 63. (M/) ACCIDENTS/INCIDENTS AT PUBLIC HIGHWAY-RAIL CROSSINGS, BY STATE AND WARNING DEVICE, 1996

State	Gates	Fl ashi ng Li ghts	Hwy Sig. Wigwags Bells	Special	Cross- Bucks	Stop Signs	Other Signs	No Signs Or Signals	Total
	uales				DUCKS			Signals	
Al abama		1		1	3	4		5	14
Al aska									
Ari zona					1	3		1	5
Arkansas				1	6	3	1	3	14
Cal i forni a	1		2	2	6	11	1	6	29
Col orado				1	3	3		1	8
Connecti cut					1	2			3
Del aware									
Dist. of Columbia									
Fl ori da				1	7	1			9
Georgi a		1		3	8	2	1	3	18
I daho				1	1	3		1	6
Illinois		4		2	5	3	1	7	22
Indi ana		1		1	5	2		3	12
I owa		1			3	2		2	8
Kansas					6	1		~ 4	11
Kentucky	1				6			1	8
Loui si ana		1			8	3		4	16
					1	3 1			2
Mai ne					1	1			2
Maryl and								1	1
Massachusetts					2	1			3
Mi chi gan					2	1	1	2	6
Mi nnesota		2			2	10	1	6	21
Mi ssi ssi ppi			1	2	6	1			10
Mi ssouri	1	2			9	4		3	19
Montana					3	5		2	10
Nebraska				1	1	3		3	8
Nevada					1				1
New Hamshi re								1	1
New Jersey					1			3	4
New Mexico					2			1	3
New York					1	1		3	5
North Carolina		1		2	5			2	10
North Dakota					3				3
0hi o			1	1	4	1		4	11
0kl ahoma		1			1	2			4
0regon				1	2	10		2	15
Pennsyl vani a		1			1	1		5	8
Rhode Island									
South Carolina				1	2	1			4
South Dakota					<i>ـ</i> 				
				1		2			
Tennessee					3			4	10
Texas	2			1	14	20	1	3	41
Utah						3		1	4
Vermont						2		1	3
Vi rgi ni a				1	7	3		8	19
Washi ngton		1		1	4	9		2	17
West Virginia					4			1	5
Wi sconsi n						4	1	1	6
Wyomi ng						4		1	5
Unknown									
Total	5	17	4	25	150	132	8	101	442

Note: "Special" are crossings protected by watchmen or members of train crew

ACCIDENTS/INCIDENTS AT PRIVATE HIGHWAY-RAIL CROSSINGS, TABLE 64. BY HIGHWAY USER, 1996

	<b>A</b>	cc/Inc		Ki l l ed	I	nj ured	Fatal	Inj ury	
Type Of Vehicle	No.	%	No.	%	No.	%	Acc/Inc	Acc/Inc	
Automobile	184	39. 23	25	64. 10	60	48. 39	22	39	
Truck	147	31. 34	9	23. 08	36	29. 03	8	28	
Truck-trailer	108	23. 03	3	7. 69	21	16. 94	2	18	
Bus	1	. 21							
School bus									
Motorcycl e	2	. 43	1	2. 56			1		
Pedestri an									
0ther	27	5. 76	1	2. 56	7	5. 65	1	6	
Total	469	100. 00	39	100.00	124	100.00	34	91	

#### TABLE 65. (MV) ACCIDENTS/INCIDENTS AT PRIVATE HIGHWAY-RAIL CROSSINGS, BY WARNING DEVICE CATEGORY AND MOTORIST ACTION, 1996

		ove Ar Thru G			opped en Proc		- Di d	Not S	top		- Other	r	1	Unknow	n		- Total	
Warning Device	A/I	KI d	Iŋj	A/I	K1 d	Inj	A/I	KI d	Îŋj	A/I	KI d	Inj	A/I	KI d	Inj	A/I	KI d	Inj
Gates	2									3						5		
Cantilever flshrs							1		1	1			1		1	3		2
Standard flashers				1			7		2	6						14		2
Hwy Sig, W W, Bells							2		4	2						4		4
Special Devices				1		1	18		4	6		1				25		6
Crossbucks				9		6	88	14	28	50	1	6	3		3	150	15	43
Stopsi gns				15	1	4	75	10	33	39	5	1	3			132	16	38
Other Signs				1			6			1						8		
No Signs Or Signl				13			54	6	18	33	1	4	1			101	7	22
Total	2			40	1	11	251	30	90	141	7	12	8		4	442	38	117

Note: "Special" are crossings protected by watchmen or members of train crew. "Hwy Sig" = Highway signals, W W = Wigwags.

TABLE 66. (MV) ACCIDENTS/INCIDENTS AT PRIVATE HIGHWAY-RAIL CROSSINGS,
BY SPEED OF VEHICLE, CIRCUMSTANCE AND VISIBILITY, 1996

		Dawn-			Day			Dusk			Dark		Total		
Speed Of Vehicle	A/I	Kld	Iŋj	A/I	Kld	Inj	A/I	Kld	Iŋj	A/I	Kld	Inj	A/I	K1 d	Iŋj
RAIL CONSI	ST S	STR	и с к	HIGI	I W A Y	US	E R								
Standi ng	3			82	2	7	8		2	47	4	3	140	6	12
l-9	7	2	2	113	12	43	7		3	19		2	146	14	50
10- 19	2			52	6	16				11	1	6	65	7	2
20- 29				7	1	9	1			2			10	1	!
30-39				2	1	1	1	1		2	3		5	5	
10-49				2		2							2		:
60- 59															
30 and over										1			1		
Jnknown	1			11	1	2				7		3	19	1	:
Total	13	2	2	269	23	80	17	1	5	89	8	14	388	34	10
HIGHWAY US	ER S	STR	UCK	RAII	. C O I	NSI:	S T								
Standi ng															
l- <b>9</b>	2			17	1	7				3			22	1	•
0- 19	1			8	1		1			2			12	1	
20- 29				5		1				7	1	4	12	1	:
30- 39				2	1	1				1		2	3	1	:
40- 49				1									1		
50- 59															
30 and over															
Jnknown				1						3		1	4		
Total	3			34	3	9	1			16	1	7	54	4	16
GRAND TOTA	L														
Standi ng	3			82	2	7	8		2	47	4	3	140	6	13
l- <b>9</b>	9	2	2	130	13	50	7		3	22		2	168	15	5
0- 19	3			60	7	16	1			13	1	6	77	8	2
20-29				12	1	10	1			9	1	4	22	2	1
30-39				4	2	2	1	1		3	3	2	8	6	Ξ.
10-49				3		2							3		
60- 59															
30 and over										1			1		
Jnknown	1			12	1	2				10		4	23	1	(
Total	16	2	2	303	26	89	18	1	5	105	9	21	442	38	117

TABLE 67. (MV) ACCIDENTS/INCIDENTS AT PRIVATE HIGHWAY-RAIL CROSSINGS, BY RAILROAD AND WARNING DEVICE, 1996

Rai l road	Gates	Flashing Lights	Hwy Sig. Wigwags Bells	Speci al	Cross- Bucks	Stop Signs	Other Signs	No Signs Or Signals	Total
Alaska Railroad Corp.									
Alton & Southern Railroad									
Amtrak (Nat'l Railroad Passenger Corp.)					7	5		4	16
Bangor And Aroostook Railroad					1	1			2
Belt Railway Co. of Chicago									
Bessemer & Lake Erie Railroad Co.									
Birmingham Southern Railroad Co.								2	2
Burlington Northern Santa Fe	1	5		4	35	38	1	15	99
Chicago, Central & Pacific Railroad Co.		1			1				2
Consolidated Rail Corp.		1		2	5	1		14	23
CSX Transp.				1	26	2		6	35
Dakota, Minnesota & Eastern Railroad						1			1
Delaware And Hudson Railroad Co.					1	1			2
Denver And Rio Grande Western Railroad Co.					2	3			5
						1			1
Duluth, Missabe & Iron Range Railway Co.									
Duluth, Winnipeg & Pacific Railway									
Elgin, Joliet And Eastern Railway Co.					1	1			2
Florida East Coast Railway Co.									
Gateway Western Railway					1			1	2
Grand Trunk Western Railroad Co.									
Guilford Railroad System									
Houston Belt & Terminal Railway Co.									
Illinois Central Railroad Co.					4	2		4	10
Indiana Harbor Belt Railroad Co.		1						1	2
Kansas City Southern Railway Co.			1	1	7	1		1	11
Long Island Rail Road									
Massachusettes Bay Transit Authority									
Metro North Commuter Railroad Co.						2			2
Montana Rail Link					3	4		2	9
New Jersey Transit Rail Operations									
Norfolk Southern Corp.		4		8	24	11	1	16	64
Northeast Illinois Regional Commuter Rail		2							2
ĕ									
Northern Indiana Commuter Trans.									
Paducah & Louisville Railway Co.									
Peninsular Commuter									
Port Authority Trans Hudson									
Port Terminal Railroad Assoc.					1				1
Soo Line Railroad Co.		1		1	2			3	7
Southeastern Pennsylvania Transp.									
Southern California Regional Rail									
Southern Pacific Transp. Co.	3		2	2	6	19	2	4	38
Southern Pacific, Chicago-St. Louis Corp.							1		1
St. Louis Southwestern Railway Co.					1	4		1	6
Terminal Railroad Assoc. of St. Louis									
Union Pacific Railroad Co.		1		1	15	19	1	19	56
Union Railroad Company (Pittsburgh)								2	2
Wheeling & Lake Erie Railway Co.			1						1
Wisconsin Central Ltd.						3	2		5
All Other Railroads	1	1		5	7	13		6	33
ALL OCHEL MALLIVAUS	1	1		3	,	13		U	33
Total	5	17	4	25	150	132	8	101	442

Note: "Special" are crossings protected by watchmen or members of train crew.

The totals on this table are slightly higher than those shown on other tables. The reporting rules require that when an Amtrak train is being operated by a crew of another railroad, both Amtrak and the operating carrier must make a report of an accident/incident. In all other tables these accidents/incidents are only counted once.

TABLE 68. ACCIDENTS/INCIDENTS AND CASUALTIES AT PRIVATE HIGHWAY-RAIL CROSSINGS, BY RAILROAD, 1996

		otor Vehic			· Highway 1		Total			
Railroad	Acc/Inc	Killed	Inj ured	Acc/Inc	Killed	Injured	Acc/Inc	Killed	Injure	
Alaska Railroad Corp.				1			1			
Alton & Southern Railroad										
Amtrak (Nat'l Railroad Passenger Corp.)	16	2	6	2			18	2	6	
Bangor And Aroostook Railroad	2		1				2		1	
Belt Railway Co. of Chicago										
ž e										
Bessemer & Lake Erie Railroad Co. Birmingham Southern Railroad Co.	2						2			
8	99	8					104	8		
Burlington Northern Santa Fe	2		18 2	5			2		18 2	
Chicago, Central & Pacific Railroad Co.			2 10							
Consolidated Rail Corp.	23			1			24		10	
CSX Transp.	35	4	7				35	4	7	
Dakota, Minnesota & Eastern Railroad	1						1			
Delaware And Hudson Railroad Co.	2		1				2		1	
Denver And Rio Grande Western Railroad		1	3				5	1	3	
Duluth, Missabe & Iron Range Railway Co	. 1						1		-, -, -,	
Duluth, Winnipeg & Pacific Railway									-, -, -,	
Elgin, Joliet And Eastern Railway Co.	2						2			
Florida East Coast Railway Co.										
Gateway Western Railway	2	2					2	2		
Grand Trunk Western Railroad Co.									-, -, -,	
Guilford Railroad System										
Houston Belt & Terminal Railway Co.										
Illinois Central Railroad Co.	10	1	1				10	1	1	
Indiana Harbor Belt Railroad Co.	2		3				2		3	
Kansas City Southern Railway Co.	11		5	2			13		5	
Long Island Rail Road										
Massachusettes Bay Transit Authority										
Metro North Commuter Railroad Co.	2						2			
Montana Rail Link	9	1	2	1			10	1	2	
New Jersey Transit Rail Operations										
Norfolk Southern Corp.	64	2	22	4		3	68	2	25	
Northeast Illinois Regional Commuter Ra							2			
Northern Indiana Commuter Trans.										
Paducah & Louisville Railway Co.										
3										
Peninsular Commuter										
Port Authority Trans Hudson										
Port Terminal Railroad Assoc.	1						1			
Soo Line Railroad Co.	7	1	3	1			8	1	3	
Southeastern Pennsylvania Transp.										
Southern California Regional Rail										
Southern Pacific Transp. Co.	38	7	13				38	7	13	
Southern Pacific, Chicago-St. Louis Cor	p. 1						1		-, -, -,	
St. Louis Southwestern Railway Co.	6	4	2	2		1	8	4	3	
Terminal Railroad Assoc. of St. Louis										
Union Pacific Railroad Co.	56	4	13	5	1	2	61	5	15	
Union Railroad Company (Pittsburgh)	2						2			
Wheeling & Lake Erie Railway Co.	1						1			
Wisconsin Central Ltd.	5						5			
All Other Railroads	33	1	5	3		1	36	1	6	
Total	442	38	117	27	1	7	469	39	124	

Note: A/I totals on this table are slightly higher than those shown on other tables. The reporting rules require that when an Amtrak train is being operated by a crew of another railroad, both Amtrak and the operating carrier must make a report of an accident/incident. In all other tables these accidents/incidents are only counted once.

TABLE 69. (MV) ACCIDENTS/INCIDENTS AND CASUALTIES AT PRIVATE HIGHWAY-RAIL CROSSINGS, BY SPEED OF CONSIST, 1996

		Freigh	t	<b>P</b> :	asseng	er	- Yar	d Swite	chi ng		Other To				
Speed Of Consist	A/I	K1 d	Iŋj	A/I	KI d	Inj	A/I	Kl d	Inj	A/I	Kl d	Inj	A/I	KI d	Inj
Standing	2	1	1							3			5	1	1
1-9	48		16	2			55		5	23		2	128		23
10- 19	27		1	2		2	8		3	15		1	52		7
20-29	38		5	4		1	2		4	9		1	53		11
30-39	57	8	22				2		1	2			61	8	23
40-49	73	16	29	1						6	1	1	80	17	30
50- 59	34	6	11							2		1	36	6	12
60-69	11	4	4	5		2							16	4	6
70-79	1			10	2	4							11	2	4
80-89															
90 and over															
Unknown															
Total	291	35	89	24	2	9	67		13	60	1	6	442	38	117

Note: "Other" includes mixed trains, work trains, light locomotives, single car or cut of cars

TABLE 70. (MV) ACCIDENTS/INCIDENTS AND CASUALTIES AT PRIVATE HIGHWAY-RAIL CROSSINGS, BY LENGTH OF CONSIST, 1996

	Frei ght			Passenger		<ul> <li>Yard Switching</li> </ul>			- Other			- Total			
Number Of Cars	A/I	KI d	Inj	A/I	Kld	Inj	A/I	KI d	Inj	A/I	KI d	Iŋj	A/I	KI d	Inj
1-9	47	4	11	17	1	7	36		3	7			107	5	21
10- 19	22	2	9	7	1	2	16		9	1			46	3	20
20-29	25	3	9				8						33	3	9
30-39	29	10	8				1						30	10	8
40-49	16	2	4				1						17	2	4
50-59	32	5	7				2		1				34	5	8
60-69	22		7										22		7
70-79	18	1	6										18	1	6
80-89	17	3	6										17	3	6
90-99	13		7										13		7
100-109	19	2	4				1						20	2	4
110-119	18	2	6										18	2	6
120- 129	4		2										4		2
130-139	3	1	1										3	1	1
140- 149							1						1		
150 And over	4												4		
Locomotives only.	2		2				1			52	1	6	55	1	8
Total	291	35	89	24	2	9	67		13	60	1	6	442	38	117

Note: "Other" includes mixed trains, work trains, light locomotives, single car or cut of cars  $% \left( 1\right) =\left( 1\right) \left( 1\right)$ 

TABLE 71. (MV) ACCIDENTS/INCIDENTS AT PRIVATE HIGHWAY-RAIL CROSSINGS, BY OPERATIONAL STATUS OF WARNING DEVICE, CIRCUMSTANCE AND VISIBILITY, 1996

	- Dev	-Device Working			ruck By	Consis	t	<b>R</b> a	Ran Into Consist				
Warning Device	Yes	No	N/A	Dawn	Day	Dusk	Dark	Dawn	Day	Dusk	Dark		
Gates	5			2	2		1						
Cantilever flshrs	1	1	1				2				1		
Standard flashers	14				8		3		2		1		
Hwy Sig, W W, Bells	4				1	1	1		1				
Special Devices			25		12		7		2		4		
Crossbucks			150	1	99	5	27	1	11		6		
Stopsi gns			132	6	83	8	26	1	7		1		
Other Signs			8		4		3				1		
No Signs Or Signl			101	4	60	3	19	1	11	1	2		
Total	24	1	417	13	269	17	89	3	34	1	16		

Note: If a rail consist is intentionally grounded to prevent activation of the warning device, these are reported as "N/A."

TABLE 72. PRIVATE CROSSINGS AT-GRADE BY STATE AND TYPE DEVELOPMENT, 1996

State	Farm		Recreational		Unknown	Total
Al abama	1, 283	230	14	463	0	1, 990
Al aska	4	14	5	81	0	104
Ari zona	392	24	13	253	0	682
Arkansas	1, 002	220	17	269	0	1, 508
Cal i forni a	2, 130	341	123	2, 246	9	4, 849
Col orado	781	249	19	258	2	1, 309
Connecti cut	49	30	32	149	1	261
Del aware	62	34	4	19	0	119
Dist Of Columbia	0	0	0	8	0	8
Fl ori da	400	188	29	444	390	1, 451
Georgi a	1, 519	641	31	551	0	2, 742
Idaho	829	61	11	417	0	1, 318
Illinois	3, 705	492	77	1, 346	0	5, 620
I ndi ana	1, 861	326	30	594	4	2, 815
I owa	3, 149	328	48	687	1	4, 213
Kansas	3, 588	201	8	417	0	4, 214
Kentucky	1, 530	745	18	397	0	2, 690
Loui si ana	1, 728	505	21	950	0	3, 204
Mai ne	410	118	77	329	0	934
Maryl and	404	78	16	210	0	708
Massachusetts	169	67	39	262	0	537
Mi chi gan	1, 325	393	125	855	0	2, 698
Mi nnesota	2, 244	238	50	584	0	3, 116
Mi ssi ssi ppi	1, 377	405	5	254	0	2, 041
Mi ssouri	2, 333	337	27	594	1	3, 292
Montana	1, 620	107	23	301	0	2, 051
Nebraska	2, 474	83	12	236	0	2, 805
Nevada	28	3	6	36	192	265
New Hampshire	152	87	23	82	0	344
New Jersey	199	63	12	324	1	599
New Mexico	445	32	4	110	0	591
New York	2, 153	338	99	588	0	3, 178
North Carolina	1, 721	878	31	870	1	3, 501
North Dakota	1, 956	26	10	189	0	2, 181
Ohi o	2, 137	283	38	788	0	3, 246
0kl ahoma	1, 252	153	10	246	0	1, 661
Oregon	1, 347	335	41	1, 087	0	2, 810
Pennsyl vani a	1, 453	519	158	1, 286	0	3, 416
Rhode Island	7	18	9	37	0	71
South Carolina	699	298	17	316	0	1, 330
South Dakota	1, 143	81	3	134	0	1, 361
Tennessee	1, 094	390	22	384	0	1, 890
Texas	4, 211	507	36	1, 544	3	6, 301
Utah	524	46	10	209	0	789
Vermont	450	62	29	109	0	650
Vi rgi ni a	631	186	14	302	1, 731	2, 864
Washi ngton	1, 446	401	55	1, 112	0	3, 014
West Virginia	1, 440 885	641	46	620	1	2, 193
Wisconsin	1, 860	219	58	690	0	2, 193 2, 827
Wyomi ng	779	16	0	137	0	932
Puerto Rico	2	0	0	0	0	932
FINAL TOTALS	62, 942	12, 037	1, 605	24, 374	2, 337	103, 295

State	Signs	Signals	No Signs or Signals	Unknown	Total
Al abama	674	22	1, 293	1	1, 990
Al aska	68	0	36	0	104
Ari zona	413	5	264	0	682
Arkansas	254	8	1, 246	0	1, 508
Cal i forni a	3, 562	106	1, 181	0	4, 849
Col orado	740	18	551	0	1, 309
Connecti cut	211	42	8	0	261
Del aware	10	1	108	0	119
Dist Of Columbia	0	0	8	0	8
Fl ori da	937	53	461	0	1, 451
Georgi a	1, 391	12	1, 338	1	2, 742
I daho	274	10	1, 034	0	1, 318
Illinois	569	104	4, 947	0	5, 620
I ndi ana	263	38	2, 514	0	2, 815
I owa	675	15	3, 523	0	4, 213
Kansas	272	5	3, 937	0	4, 214
Kentucky	632	33	2, 025	0	2, 690
Loui si ana	413	34	2, 757	0	3, 204
Mai ne	291	16	627	0	934
Maryl and	140	10	558	0	708
Massachusetts	174	13	350	0	537
Mi chi gan	314	34	2, 350	0	2, 698
Mi nnesota	1, 101	18	1, 997	0	3, 116
Mi ssi ssi ppi	193	5	1, 843	0	2, 041
Mi ssouri	249	26	3, 017	0	3, 292
Montana	512	9	1, 530	0	2, 051
Nebraska	220	6	2, 579	0	2, 805
Nevada	107	7	150	1	265
New Hampshire	49	4	291	0	344
New Jersey	157	15	427	0	599
New Mexico	230	2	359	0	591
New York	325	33	2, 820	0	3, 178
North Carolina	1, 331	29	2, 141	0	3, 501
North Dakota	368	2	1, 811	0	2, 181
0hi o	287	39	2, 920	0	3, 246
0kl ahoma	307	10	1, 343	1	1, 661
0regon	933	23	1, 853	1	2, 810
Pennsyl vani a	759	37	2, 620	0	3, 416
Rhode Island	41	1	29	0	71
South Carolina	976	11	343	0	1, 330
South Dakota	235	2	1, 123	1	1, 361
Tennessee	338	12	1, 540	0	1, 890
Texas	1, 638	85	4, 578	0	6, 301
Utah	173	5	611	0	789
Vermont	72	6	572	0	650
Vi rgi ni a	466	43	2, 355	0	2, 864
Washi ngton	584	17	2, 413	0	3, 014
West Virginia	321	17	1, 855	0	2, 193
Wi sconsi n	400	20	2, 407	0	2, 827
Wyomi ng	309	5	618	0	932
Puerto Rico	1	1	0	0	2
FINAL TOTALS	24, 959	1, 069	77, 261	6	103, 295
	,	,		-	,

TABLE 74. PRIVATE CROSSINGS AT-GRADE BY TYPE DEVELOPMENT AND WARNING DEVICE, 1996

State	Signs	Signals	No Signs or Signals	Unknown	Total
Farm	11, 630	112	51, 199	1	62, 942
Resi denti al .	4, 042	81	7, 914	0	12, 037
Recreati onal	673	31	901	0	1, 605
Industri al	8, 128	823	15, 418	5	24, 374
Unknown	486	22	1, 829	0	2, 337
FINAL TOTALS	24, 959	1, 069	77, 261	6	103, 295

TABLE 75. PRIVATE CROSSINGS AT-GRADE BY RAILROAD AND TYPE DEVELOPMENT, 1996

Rai l road	Farm	Residential	Recreational	Industri al	Unknown	Total
Alaska Railroad Corporation	4	14	5	81	0	104
Alton & Southern Railroad	8	5	0	14	0	27
Amtrak (National Railroad Passenger Corpora	35	13	3	16	1	68
Bangor & Aroostook Railroad	184	35	48	118	0	385
Belt Railway Company Of Chicago	0	0	0	76	0	76
Bessemer & Lake Erie Railroad Company	38	12	2	44	0	96
Birmingham Southern Railroad Company	0	0	0	36	0	36
Burlington Northern Santa Fe	11, 212	1, 172	146	3, 316	3	15, 849
Chicago, Central & Pacific Railroad Company	525	24	3	150	0	702
Consolidated Rail Corporation	3, 694	864	214	1, 975	1	6, 748
CSX Transportation	4, 930	1, 821	154	2, 562	794	10, 261
Dakota, Minnesota & Eastern Railroad	480	8	1	67	0	556
Delaware & Hudson Railway Company	305	49	37	55	0	446
Denver & Rio Grande Western Railroad Compan	259	165	12	174	1	611
Duluth, Missabe & Iron Range Railway Compan	24	17	1	87	0	129
Duluth, Winnipeg & Pacific Railway	4	4	7	5	0	20
Elgin, Joliet & Eastern Railway Company	39	1	0	34	0	74
Florida East Coast Railway Company	5	3	1	18	86	113
Gateway Western Railway	135	1	1	19	0	156
Grand Trunk Western Railroad Incorporated	207	19	4	67	0	297
Guilford Rail System	266	90	25	339	0	720
Houston Belt & Terminal Railway Company	0	1	0	42	0	43
Illinois Central Railroad Company	1, 040	210	8	330	0	1, 588
Indiana Harbor Belt Railroad Company	0	2	0	41	0	43
Kansas City Southern Railway Company	1, 232	265	9	351	0	1, 857
Long Island Rail Road	67	4	3	8	0	82
Metro North Commuter Railroad Company	12	8	7	33	0	60
Montana Rail Link	466	62	15	138	0	681
New Jersey Transit Rail Operations	43	16	5	33	0	97
Norfolk Southern Corporation	5. 867	2, 068	73	1, 867	1, 112	10. 987
Northeast Illinois Regional Comuter Rail Co	3	3	1	3	0	10
Northern Indiana Commuter Transportation Di	8	2	0	15	0	25
Paducah & Louisville Railway Company	118	30	1	36	0	185
Port Authority Trans Hudson	1	0	0	1	0	2
Soo Line Railroad Company	1, 986	253	47	472	0	2, 758
Southeastern Pennsylvania Transportation Au	22	12	2	17	0	53
Southern Pacific Transportation Company	2, 019	328	104	1. 988	86	4, 525
Southern Pacific, Chicago-St. Louis Corpora	55	5	0	18	0	78
St. Louis Southwestern Railway Company	601	74	4	84	0	763
Terminal Railroad Association Of St. Louis	3	0	0	9	0	12
Union Pacific Railroad Company	10, 188	1, 050	108	2, 896	102	14, 344
Union Railroad Company (Pittsburgh)	0	0	0	2, 030	0	39
Wheeling & Lake Erie Railway Company	216	36	5	133	0	390
Wisconsin Central Ltd. (also Railway)	715	100	24	323	0	1. 162
				020	0	1, 102
All Unknown Railroads	15, 926	3, 191	525	6, 244	151	26, 037

TABLE 76. PRIVATE CROSSINGS AT-GRADE BY RAILROAD AND WARNING DEVICE, 1996

Rai l road	Signs	Signals	No Signs or Signals	Unknown	Total
Alaska Railroad Corporation	68	0	36	0	104
Alton & Southern Railroad	4	0	23	0	27
Amtrak (National Railroad Passenger Corpora	31	8	29	0	68
Bangor & Aroostook Railroad	86	5	294	0	385
Belt Railway Company Of Chicago	25	2	49	0	76
Bessemer & Lake Erie Railroad Company	11	0	85	0	96
Birmingham Southern Railroad Company	11	3	22	0	36
Burlington Northern Santa Fe	3, 929	165	11, 754	1	15, 849
Chicago, Central & Pacific Railroad Company	268	2	432	0	702
Consolidated Rail Corporation	901	73	5, 774	0	6, 748
CSX Transportation	4, 103	189	5, 968	1	10, 261
Dakota, Minnesota & Eastern Railroad	54	0	501	1	556
Delaware & Hudson Railway Company	33	9	404	0	446
Denver & Rio Grande Western Railroad Compan	509	7	95	0	611
Duluth, Missabe & Iron Range Railway Compan	115	2	12	0	129
Duluth, Winnipeg & Pacific Railway	15	0	5	0	20
Elgin, Joliet & Eastern Railway Company	16	3	55	0	74
Florida East Coast Railway Company	54	5	54	0	113
Gateway Western Railway	5	0	151	0	156
Grand Trunk Western Railroad Incorporated	32	13	252	0	297
Guilford Rail System	200	22	498	0	720
Houston Belt & Terminal Railway Company	5	0	38	0	43
Illinois Central Railroad Company	213	23	1, 352	0	1, 588
Indiana Harbor Belt Railroad Company	19	1	23	0	43
Kansas City Southern Railway Company	226	8	1, 623	0	1, 857
Long Island Rail Road	3	5	74	0	82
Metro North Commuter Railroad Company	42	13	5	0	60
Montana Rail Link	150	4	527	0	681
New Jersey Transit Rail Operations	36	4	57	0	97
Norfolk Southern Corporation	1, 926	79	8, 981	1	10, 987
Northeast Illinois Regional Comuter Rail Co	5	0	5	0	10
Northern Indiana Commuter Transportation Di	8	7	10	0	25
Paducah & Louisville Railway Company	44	3	138	0	185
Port Authority Trans Hudson	2	0	0	0	2
Soo Line Railroad Company	256	19	2, 483	0	2, 758
Southeastern Pennsylvania Transportation Au	1	1	51	0	53
Southern Pacific Transportation Company	1, 987	99	2, 439	0	4, 525
Southern Pacific, Chicago-St. Louis Corpora	5	1	72	0	78
St. Louis Southwestern Railway Company	187	6	570	0	763
Terminal Railroad Association Of St. Louis	4	0	8	0	12
Union Pacific Railroad Company	2, 531	105	11, 707	1	14, 344
Union Railroad Company (Pittsburgh)	19	0	20	0	39
Wheeling & Lake Erie Railway Company	67	2	321	0	390
Wisconsin Central Ltd. (also Railway)	190	3	969	Ö	1, 162
massan somethi ben (diso mail ndy)					
All Unknown Railroads	6, 563	178	19, 295	1	26, 037

## **APPENDIX** A

**REPORTI NG** 

REQUIREMENTS

**AND** 

**DEFINITIONS** 

### ACCIDENT/INCIDENT REPORTABILITY REQUIREMENTS

The rules governing monthly reporting of railroad accidents/incidents in effect in 1992 define a reportable accident/incident as an event arising from the operation of a railroad that results in one or more stated circumstances.

- (a) An impact occurs between railroad on-track equipment and an automobile, bus, truck, motorcycle, bicycle, farm vehicle, pedestrian or other highway user at a highway-rail crossings.
- (b) Any collision, derailment, fire, explosion, act of <u>GOD</u> or other event involving the operation of railroad on-track equipment (standing or moving) which results in more than \$6,300 in damages to railroad on-track equipment, signals, track and/or track structures, and roadbed.
- (c) Any event arising from the operation of a railroad which results in:
  - (i) death of one or more persons;
  - (ii) injury to one or more persons, other than railroad employees, requiring medical treatment;
  - (iii) injury to one or more employees requiring medical treatment or resulting in restriction of work or motion for one or more days, one or more lost work days, transfer to another job, termination of employment or loss of consciousness;
  - (iv) any occupational illness of railroad employee diagnosed by a physician.

#### **DEFINITIONS**

Annual Average Daily Traffic. An estimate of the annual average daily highway traffic in both traffic directions.

Active Warning Devices. A warning system activated by an approaching train: gates, flashing lights, highway signal, wigwags, or bells.

Car. A railway car designed to carry freight, railroad personnel, or passengers. This includes boxcars, covered hopper cars, flatcars, refrigerator cars, gondola cars, hopper cars, tank cars, cabooses, stock cars, ventilation cars, and special cars. Also includes on-track maintenance equipment.

Class I Railroad. A railroad with an annual gross operating revenue in excess of \$250 million based on 1991 dollars.

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

Consist. On-track railroad equipment such as a train, locomotive, group of railroad cars, or a single railcar not coupled to another car or to a locomotive.

Contractor Employee. A person employed by a contractor hired by a railroad to perform normal maintenance work to railroad rolling stock, track structure, bridges, buildings, etc.

### **Crossing Surfaces.**

- 1. Sectional treated timber. Prefabricated units approximately eight feet long, made of treated timber, individually installed, and removable for maintenance and replacement purpose.
- 2. Full wood plank. A wood surface, other than sectional treated timber, covering the entire crossing area above crossties.
- 3. Asphalt. A surface over the entire crossing area or the area between plants or other material which forms flange way openings with or without single planks on the outside of running rails.
- 4. Concrete slab. Precast concrete slabs which are installed and individually removable for maintenance and replacement.
- 5. Concrete pavement. A continuous concrete surface over the track area which cannot be removed except by destruction of the surface.
- 6. Rubber slabs. Performed rubber sections which can be installed and removed individually for maintenance and replacement.
- 7. Metal sections. Preformed sections of steel or other metal which can

be individually installed and removed for maintenance and replacement.

- 8. Other metal. A crossing area completed with covered rails or other permanent metal materials in limited sectional units.
- 9. Unconsolidated. Ballast or other unconsolidated material placed above the tops of crossties with or without planks on one or both sides of running rail.

Daylight Train Movements. Train movements between 6 a.m and 6 p.m

Employee. A person engaged in railroad operations who works for a railroad company in return for financial or other compensation.

Employee Not On Duty. A railroad employee who is on railroad property for a purpose connected with his or her employment or with other railroad permission, but who is not engaged in rail operations for financial or other compensation.

Fatality. The death of a person resulting from an injury incurred during railroad operations or resulting from an occupational illness if death occurs within 365 days of initial diagnosis.

Highway-rail Crossing. A location where one or more railroad tracks intersect a public or private thoroughfare, a sidewalk, or a pathway.

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

Locomotive. A self-propelled unit of on-track equipment designed for moving other rail freight and passenger equipment on rail tracks, including self-propelled units.

Main Track. Any track other than auxiliary track that extends through railroad yards or between stations and over which trains operate by time-table and/or train orders or the use of the track is governed by a signal system

Maximum Timetable Speed. Maximum train speed permitted over a crossing.

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

Night Train Movements. Train movements between 6 p.m and 6 a.m

Non-train Incident. An event arising from railroad operations but not from the novement of on-track equipment, which does not exceed the reporting threshold, and results in a death, a reportable injury, or a reportable occupational illness.

Nontrespassers. A person who is lawfully on any part of railroad property which is used in railroad operations or a person who is adjacent to railroad premises

when injured as a the result of railroad operations.

Number Of Crossbucks. Masts with crossbucks; a mast with two or more crossbucks is counted as one. A crossbuck on an active device is not counted.

On-Track Equipment. Railroad rolling stock used to transport freight or passenger. It included locomotives, railroad cars, maintenance equipment, and one or more locomotives coupled to one or more cars.

Other Signs. Signs other than crossbucks or stop signs.

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

Passenger. A person who is on, boarding, or alighting from a railroad car for the purpose of travel, without participating in its operation.

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

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

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

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

Railroad. Any surface transportation system which carries passengers, goods, materials, or property over rails.

Railroad Advance Warning. Advance warning signs on any highway approach.

Rural Crossing. A crossing classification derived from the Functional Classification Code.

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

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

Special Warning Devices. Non-train-activated devices other than signs including manually operated gates, train crews flagging a crossing, watchnen, and flood lights.

Speed Selection For Trains. A uniform warning time for the speed range of trains normally encountered at the crossing.

Standard Highway Stop Sign. Octagonal red sign with white lettering STOP.

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

Switch Trains. All trains other than thru trains, including locals, industrial runs, and switch engines.

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

Total Train Movements. All train movements for the reporting company and all other railroads operating over the crossing.

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

Train Accident. A collision, derailment, or other event involving the operation of railroad on-track equipment resulting in damages that exceed the reporting threshold.

Train Incident. Any event involving the movement of railroad on-track equipment that results in a death, a reportable injury, or a reportable illness, but in which railroad property damage does not exceed the reporting threshold.

Trespasser. Any person whose presence on railroad property used in railroad operations, is prohibited or unlawful.

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

Type of Development.

- 1. Open space. An area that is undeveloped, sparsely developed, very lightly populated, or agricultural.
- 2. Residential. An area comprised of private residences.
- 3. Commercial. An area with retail stores, businesses, offices, and personal service offices.
- 4. Industrial. An area with manufacturing, construction, heavy products, factories, and warehouses.
- 5. Institutional. An area with schools, churches, hospitals, parks, and other community facilities.

Urban Crossing. A crossing classification derived from Functional Classification Code.

Warning Device Category. At crossings which have more than one warning device, the warning category is determined by the following method:

Gates<sup>3</sup> **Hi ghest** 8) Flashing lights 7) 6) Highway signals, wigwags or bells Special warning devices **5)** Stop signs 3) Crossbucks 4) Other signs 2) Lowest No signs or signals 1)

# APPENDIX B

# **REPORTING**

**FORMS** 

### **FORMS**

Three separate forms may be required to properly report a highway-rail crossing accident/incident:

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

For all reportable highway-rail crossing accidents/incidents, Form FRA F 6180-57 must be submitted by the carrier which has on-track equipment involved. If reportable casualties result, they must be individually reported on Form F 6180-55. If the accident resulted in more than \$6,300 in damages to railroad ontrack equipment, signals, track, track structures, or roadbed, Form FRA 6180-54 must also be submitted.