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Safety Information Reporting and Analysis System (SIRAS)

HEAVY RAIL TRANSIT SAFETY 1983 Annual Report

Research and Special Programs
Administration
Transportation Systems Center
Cambridge, MA 02142

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UMTA Technical Assistance Program

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16. Abstract The <u>Heavy Rail Transit Safety 1983 Annual Report</u> is a compendium and analysis of heavy rail transit accident and casualty statistics reported by the eleven heavy rail transit systems in the United States during 1983, under UMTA's Safety Information Reporting and Analysis System (SIRAS)			
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Introduction

The Safety Information Reporting and Analysis System (SIRAS) is a voluntary safety reporting system, developed by the Urban Mass Transportation Administration (UMTA) in cooperation with the American Public Transit Association (APTA) and the heavy rail transit (RRT) systems operating in the United States. Since its implementation on January 1, 1983, the operating RRT systems have been reporting transit safety data to UMTA on a monthly basis. Up to three transit data reports are submitted: a Statistical Data Report, a Train Accident Report and a Casualty Report. All transit systems submit a monthly Statistical Data Report containing the total number of car miles and number of passengers in the reporting month. The Train Accident Report and the Casualty Report are submitted only during those months when reportable train accidents or casualties occur (according to specific SIRAS thresholds contained in Appendix A). As noted on the individual data tables contained in this report, the present SIRAS thresholds are not the same as the 1982 FRA reporting thresholds and therefore, it would be inappropriate to interpret any comparisons of 1983 and 1982 data.

To assist in understanding the terms used in this report, a glossary has been provided in Section 1.

Note: Column and row entries may not sum to the total shown due to rounding.

I. Glossary

The following definitions are to be used as a reference in understanding the terms in this report.

AUTHORIZED PERSON IN STATION OR OTHER AUTHORIZED LOCATION - A person legally on a transit system's property in a location deemed licit.

CAR MILES - Distances traveled by each rail transit car of a transit system in both revenue and non-revenue service during a reporting period.

CASUALTY - A fatality or injury in accordance with SIRAS thresholds.*

CASUALTY REPORT - A SIRAS report containing specific information on individual casualties (fatalities or injuries) submitted to UMTA by rail transit systems on a monthly basis, when applicable.

COLLISION WITH OBSTACLE - A SIRAS train accident type involving the collision of a rail transit revenue train with obstacles (e.g., shopping carts, foreign objects, etc.) other than trains and persons.*

COLLISION WITH PERSON - A SIRAS train accident type involving the collision of a rail transit revenue train with a person on a track or platform.*

COLLISION WITH OTHER TRAIN - A SIRAS train accident type involving the collision of a rail transit revenue train with another rail transit train (e.g., revenue or non-revenue train, work train, etc.).*

DERAILMENT - A SIRAS train accident type involving a rail transit revenue train's leaving the rails.*

FATALITY - A death confirmed to result from a rail transit accident within 30 days after the accident.*

FIRE - A SIRAS train accident type involving the phenomenon of combustion manifested in light, flame and heat.*

NON-AUTHORIZED PERSON IN NON-AUTHORIZED LOCATION - A person illegally on a transit system's property in a location deemed illicit.

PASSENGER IN UNAUTHORIZED AREA - A person on, boarding or alighting from a rail transit revenue train in a location deemed illicit.

PASSENGER IN VEHICLE, BOARDING OR ALIGHTING - A person on, boarding or alighting from a rail transit revenue train in a location deemed licit.

RAIL-HIGHWAY CROSSING - A SIRAS train accident type involving the intersection of an otherwise exclusive (rail transit) right-of-way and a highway where motor vehicle and pedestrian traffic safety is enhanced by one or more crossing warning mechanisms.*

TRAIN ACCIDENT - An event involving one or more trains resulting in any casualty or property damage in accordance with SIRAS thresholds.*

TRAIN ACCIDENT REPORT - A SIRAS report containing specific information on individual train accidents (collisions with trains, collisions with obstacles, collisions with persons, derailments, fires or rail-highway crossings) submitted to UMTA by rail transit systems on a monthly basis, when applicable.

STATISTICAL DATA REPORT - A SIRAS report containing total car miles and total passengers submitted to UMTA by rail transit systems on a monthly basis.

* For additional information, please see Appendix A. RRT Thresholds

II. STATISTICAL DATA

(A) PASSENGERS

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PERCENT OF TOTAL	1982* TOTAL
BART	12,968,221	13,838,733	14,267,694	14,439,121	55,513,769	3.5	54,076,603
CTA	36,599,135	37,626,735	36,064,549	36,318,290	146,608,709	9.3	146,771,844
GCRTA	1,826,234	1,768,691	1,557,641	1,652,908	6,805,474	0.4	8,668,627
MARTA	9,274,028	9,728,000	9,993,000	10,093,411	39,088,439	2.5	23,469,000
MBTA	24,193,000	23,586,000	23,644,000	24,771,000	96,194,000	6.1	92,383,450
NYCTA	251,703,498	261,861,028	236,954,834	255,156,510	1,005,675,870	63.9	989,349,353
PATCO	2,773,563	2,643,097	2,556,260	2,709,163	10,682,083	0.7	10,981,375
PATH	12,946,052	14,314,561	13,749,846	13,865,538	54,875,997	3.5	52,475,130
SEPTA	17,101,724	18,042,034	15,147,384	19,865,767	70,156,909	4.5	65,009,950
SIRTOA	1,459,962	1,442,897	1,268,506	1,417,890	5,589,255	0.4	5,758,218
WMATA	19,854,621	20,365,815	21,944,505	20,415,558	82,580,499	5.2	78,668,741
TOTAL	390,700,038	405,217,591	377,148,219	400,705,156	1,573,771,004	100.0	1,527,612,291

* Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

II. STATISTICAL DATA

(B) CAR MILES

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PERCENT OF TOTAL	1982* TOTAL
BART	7,185,682	7,202,247	7,483,958	7,471,633	29,343,520	7.0	28,848,026
CTA	11,667,058	12,607,689	12,324,029	12,480,894	49,079,670	11.7	48,054,552
GCRTA	529,741	522,488	546,063	538,926	2,137,218	0.5	2,578,421
MARTA	1,350,007	1,351,410	1,378,170	1,347,938	5,427,525	1.3	4,234,031
MBTA	3,279,240	3,354,332	3,283,490	3,606,987	13,524,049	3.2	12,669,394
NYCTA	67,772,652	67,163,839	66,314,211	69,286,403	270,537,105	64.6	273,586,369
PATCO	1,095,564	1,034,282	1,021,127	1,061,168	4,212,141	1.0	4,313,925
PATH	2,383,154	2,466,062	2,436,091	2,496,353	9,781,660	2.4	9,240,576
SEPTA	3,943,014	3,679,278	3,451,635	4,501,274	15,575,201	3.7	13,435,258
SIRTOA	492,505	508,713	516,856	566,166	2,084,240	0.5	1,988,962
WMATA	4,035,902	4,321,999	4,513,289	4,403,327	17,274,517	4.1	18,036,760
TOTAL	103,734,519	104,212,339	103,268,919	107,761,069	418,976,846	100.0	416,986,274

* Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

III. TRAIN ACCIDENTS

(A) BY TYPE ACCIDENT

	COLLISION WITH OTHER TRAIN		COLLISION WITH OBSTACLE		COLLISION WITH PERSON		DERAILMENT		FIRE		RAIL-HIGHWAY CROSSING		TOTAL	
	1983 TOTAL	1982 TOTAL	1983 TOTAL	1982 TOTAL	1983 TOTAL	1982 TOTAL	1983 TOTAL	1982 TOTAL	1983 TOTAL	1982 TOTAL	1983 TOTAL	1982 TOTAL	1983 TOTAL	1982 TOTAL
BART	NUMBER 0	1	0	0	0	0	1	0	2	1	N/A	N/A	3	2
	PER 1,000,000 CAR MILES	0	0.03	0	0	0	0.03	0	0.07	0.03	N/A	N/A	0.10	0.07
CTA	NUMBER 0	2	0	0	0	0	3	0	5	12	4	2	16	17
	PER 1,000,000 CAR MILES	0.02	0.04	0	0	0	0.06	0	0.10	0.25	0.08	0.04	0.32	0.35
GCRTA	NUMBER 0	1	0	1	0	0	2	0	0	2	N/A	N/A	3	4
	PER 1,000,000 CAR MILES	0	0.39	0	0.39	0	0.93	0	0	0.77	N/A	N/A	1.40	1.55
MARTA	NUMBER 0	0	0	0	0	0	0	0	0	0	N/A	N/A	3	0
	PER 1,000,000 CAR MILES	0	0	0	0	0	0	0	0	0	N/A	N/A	0.55	0
MBTA	NUMBER 1	0	0	0	0	0	0	0	0	0	N/A	N/A	2	0
	PER 1,000,000 CAR MILES	0.07	0	0	0	0	0	0	0	0	N/A	N/A	0.15	0
NYCTA	NUMBER 0	1	0	0	0	0	16	0	15	0	N/A	N/A	31	12
	PER 1,000,000 CAR MILES	0	*	0	0	0	0.06	0.04	0.05	0	N/A	N/A	0.11	0.04
PATCO	NUMBER 0	0	0	0	0	0	0	0	0	0	N/A	N/A	1	0
	PER 1,000,000 CAR MILES	0	0	0	0	0	0	0	0	0	N/A	N/A	0.24	0
PATH	NUMBER 0	0	0	0	0	0	0	0	0	2	0	0	0	3
	PER 1,000,000 CAR MILES	0	0	0	0	0	0	0	0.22	0	0	0	0	0.32
SEPTA	NUMBER 1	0	0	0	0	0	0	0	2	0	N/A	1	6	1
	PER 1,000,000 CAR MILES	0.06	0	0	0	0	0	0	0.13	0	N/A	0.07	0.38	0.07
SIRTOA	NUMBER 0	0	0	0	0	0	0	0	0	0	N/A	N/A	0	0
	PER 1,000,000 CAR MILES	0	0	0	0	0	0	0	0	0	N/A	N/A	0	0
WMATA	NUMBER 0	0	0	0	0	0	0	1	7	16	N/A	N/A	7	17
	PER 1,000,000 CAR MILES	0	0	0	0	0	0	0.05	0.40	0.89	N/A	N/A	0.40	0.94
TOTAL	NUMBER 3	5	0	1	0	0	22	12	31	33	4	3	72	56**
	PER 1,000,000 CAR MILES	0.01	0.01	0	*	0	0.05	0.03	0.02	0.8	0.01	0.01	0.17	0.13

* Less than 0.01

** Two (2) train accidents in 1982 were reported under the FRA Reporting System category of Other.
N/A - Not applicable since this RRT system does not have rail-highway crossings.

III. TRAIN ACCIDENTS

(B) BY CASUALTIES AND DAMAGE ESTIMATES

	INJURIES	FATALITIES	TRAIN DAMAGE ESTIMATE (\$)	OTHER TRANSIT DAMAGE ESTIMATE (\$)	NON- TRANSIT DAMAGE ESTIMATE (\$)	1983 TOTAL DAMAGE ESTIMATE (\$)	1982* TOTAL DAMAGE ESTIMATE (\$)
COLLISION WITH OTHER TRAIN	2	0	224,371	0	0	224,371	132,585
COLLISION WITH OBSTACLE	0	0	0	0	0	0	6,000
COLLISION WITH PERSON	6	6	500	0	0	500	**
DERAILMENT	6	0	589,169	463,997	0	1,053,166	948,396
FIRE	42	0	250,518	19,000	0	269,518	1,229,988
RAIL-HIGHWAY CROSSING	0	0	1,661	0	440	2,101	415,372
TOTAL	56	6	1,066,219	482,997	440	1,549,656	2,732,341

* Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**This Train Accident type was not part of the FRA Reporting System in 1982. As such, no figure is available.

IV. CASUALTIES

(A) NON-FATALITIES BY EVENT CAUSING INJURY

EVENT CAUSING INJURY	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 PASSENGERS	1983 PERCENT OF TOTAL	1982* TOTAL	FOUR QUARTER MOVING AVERAGE
STRUCK BY TRAIN	10	12	5	17	44	0.03	2.2	98	11.00
CAUGHT/STRUCK BY TRAIN DOOR	23	15	17	12	67	0.04	3.4	34	16.75
DRAGGED IN CLOSED DOOR	4	7	4	4	19	0.01	1.0	0	4.75
THROWN/FELL FROM TRAIN MOVEMENT	26	24	26	24	100	0.06	5.0	0	25.00
FELL, SLIPPED, TRIPPED, STUMBLE	394	342	267	383	1,386	0.88	70.1	1,529	346.50
STRUCK BY MISSILE, LOOSE OBJECT	13	33	45	17	108	0.07	5.5	0	27.00
INJURED IN TRAIN ACCIDENT	7	22	12	15	56	0.04	2.8	120	14.00
MISCELLANEOUS	41	60	47	49	197	0.13	10.0	954	49.25
TOTAL	518	515	423	521	1,977	1.26	100.0	2,735	494.25

* Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

IV. CASUALTIES

(B) NON-FATALITIES BY TYPE PERSON

TYPE PERSON	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 PASSENGERS	1983 PERCENT OF TOTAL	1982* TOTAL	FOUR QUARTER MOVING AVERAGE
PASSENGER IN VEHICLE, BOARDING OR ALIGHTING	128	155	145	141	569	0.36	28.8	836	142.25
AUTHORIZED PERSON IN STATION OR OTHER AUTHORIZED LOCATION	340	282	240	309	1,171	0.75	59.2	1,652	292.75
NON-AUTHORIZED PERSON IN NON- AUTHORIZED LOCATION	5	3	1	0	9	0.01	0.5	245	2.25
EMERGENCY FORCE (FIRE, POLICE, MEDICAL)	0	0	0	0	0	0	0	***	0
CONTRACTOR, OTHER OFFICIAL DUTY PERSON	0	1	5	0	6	**	0.3	2	1.50
PASSENGER IN UNAUTHORIZED AREA	45	74	32	71	222	0.14	11.2	***	55.50
TOTAL	518	515	423	521	1,977	1.26	100.0	2,735	494.25

* Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

** Figure is less than 0.01.

***This Type Person category was not part of the FRA Reporting System in 1982. As such, no figure is available.

IV. CASUALTIES

(C) NON-FATALITIES BY LOCATION

LOCATION	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 PASSENGERS	1983 PERCENT OF TOTAL	1982* TOTAL	FOUR QUARTER MOVING AVERAGE
IN RAPID RAIL TRANSIT STATION	362	294	234	317	1,207	0.77	61.0	**	301.75
BOARDING/ALIGHTING	82	64	61	72	279	0.18	14.1	**	69.75
ON BOARD TRAIN	57	106	102	84	349	0.22	17.7	**	87.25
TRACK AND TRACK STRUCTURE	17	51	26	48	142	0.09	7.2	**	35.50
TOTAL	518	515	423	521	1,977	1.26	100.0	2,735	494.25

* Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**The FRA Reporting System in 1982 did not categorize non-fatalities by SIRAS Location categories used in 1983. As such, one is unable to categorize by location the 2,735 non-fatalities reported in 1982.

IV. CASUALTIES

(D) FATALITIES BY EVENT CAUSING FATALITY

EVENT CAUSING FATALITY	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 PASSENGERS	1983 PERCENT OF TOTAL	1982* TOTAL	FOUR QUARTER MOVING AVERAGE
STRUCK BY TRAIN	4	7	3	11	25	0.016	50.0	46	6.25
CAUGHT/STRUCK BY TRAIN DOOR	0	0	0	0	0	0	0	0	0
DRAINED IN CLOSED DOOR	0	1	1	0	2	0.001	4.0	0	0.50
THROWN/FELL FROM TRAIN MOVEMENT	0	0	0	0	0	0	0	0	0
FELL, SLIPPED, TRIPPED, STUMBLER	3	1	4	3	11	0.007	22.0	12	2.75
STRUCK BY MISSILE, LOOSE OBJECT	0	0	0	0	0	0	0	4	0
IN TRAIN ACCIDENT	1	1	1	3	6	0.004	12.0	5	1.50
MISCELLANEOUS	1	2	3	0	6	0.004	12.0	18	1.50
TOTAL	9	12	12	17	50	0.032	100.0	85	12.50

*Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

IV. CASUALTIES

(E) FATALITIES BY TYPE PERSON

TYPE PERSON	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 PASSENGERS	1983 PERCENT OF TOTAL	1982 * TOTAL	FOUR QUARTER MOVING AVERAGE
PASSENGER IN VEHICLE, BOARDING OR ALIGHTING	1	3	1	0	5	0.003	10.0	8	1.25
AUTHORIZED PERSON IN STATION OR OTHER AUTHORIZED LOCATION	0	0	2	1	3	0.002	6.0	11	0.75
NON-AUTHORIZED PERSON IN NON- AUTHORIZED LOCATION	1	0	1	4	6	0.004	12.0	65	1.50
EMERGENCY FORCE (FIRE, POLICE, MEDICAL)	0	0	0	0	0	0	0	**	0
CONTRACTOR, OTHER OFFICIAL DUTY PERSON	0	1	1	0	2	0.001	4.0	1	0.50
PASSENGER IN UNAUTHORIZED AREA	7	8	7	12	34	0.022	68.0	**	8.50
TOTAL	9	12	12	17	50	0.032	100.0	85	12.50

* Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

** This Type Person category was not part of the FRA Reporting System in 1982. As such, no figure is available.

IV. CASUALTIES

(F) FATALITIES BY LOCATION

LOCATION	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 PASSENGERS	1983 PERCENT OF TOTAL	1982* TOTAL	FOUR QUARTER MOVING AVERAGE
IN RAPID RAIL TRANSIT STATION	0	1	1	0	2	0.001	4.0	**	0.50
BOARDING/ALIGHTING	2	3	2	2	9	0.006	18.0	**	2.25
ON BOARD TRAIN	1	1	0	0	2	0.001	4.0	**	0.50
TRACK AND TRACK STRUCTURE	6	7	9	15	37	0.024	74.0	**	9.25
TOTAL	9	12	12	17	50	0.032	100.0	85	12.50

* Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**The FRA Reporting System in 1982 did not categorize fatalities by SIRAS Location categories used in 1983. As such, one is unable to categorize by location the 85 fatalities reported in 1982.

V. SYSTEM-SPECIFIC OVERVIEW

(A) TOTAL OF ALL RRT SYSTEMS

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 CAR MILES	1982* TOTAL
TRAIN ACCIDENTS							
• COLLISION WITH OTHER TRAIN	0	0	0	3	3	0.01	5
• COLLISION WITH OBSTACLE	0	0	0	0	0	0	1
• COLLISION WITH PERSON	7	1	1	3	12	0.03	0
• DERAILMENT	5	9	3	5	22	0.05	12
• FIRE	2	10	10	9	31	0.07	33
• RAIL-HIGHWAY CROSSING	1	1	2	0	4	0.01	3
TOTAL TRAIN ACCIDENTS	15	21	16	20	72	0.17	56***
CASUALTIES						PER 1,000,000 PASSENGERS	
• IN RAPID RAIL TRANSIT STATION	362	295	235	317	1,209	0.77	**
• BOARDING/ALIGHTING	84	67	63	74	288	0.18	**
• ON BOARD TRAIN	58	107	102	84	351	0.22	**
• TRACK AND TRACK STRUCTURE	23	58	35	63	179	0.12	**
TOTAL CASUALTIES	527	527	435	538	2,027	1.29	2,820
INJURIES	518	515	423	521	1,977	1.26	2,735
FATALITIES	9	12	12	17	50	0.03	85

*Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**The FRA Reporting System in 1982 did not categorize casualties by the SIRAS Location categories used in 1983. As such, one is unable to categorize by location the 2,820 casualties reported by all RRT systems in 1982.

***Two (2) train accidents in 1982 were reported under the FRA Reporting System category of Other.

NOTE: CTA was the only RRT system to report Rail-Highway Crossing accidents under SIRAS in 1983.

V. SYSTEM-SPECIFIC OVERVIEW

(B) BAY AREA RAPID TRANSIT DISTRICT (BART)

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 CAR MILES	1982* TOTAL
TRAIN ACCIDENTS							
• COLLISION WITH OTHER TRAIN	0	0	0	0	0	0	1
• COLLISION WITH OBSTACLE	0	0	0	0	0	0	0
• COLLISION WITH PERSON	0	0	0	0	0	0	0
• DERAILMENT	1	0	0	0	1	0.03	0
• FIRE	0	1	1	0	2	0.07	1
• RAIL-HIGHWAY CROSSING	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL TRAIN ACCIDENTS	1	1	1	0	3	0.10	2
CASUALTIES						PER 1,000,000 PASSENGERS	
• IN RAPID RAIL TRANSIT STATION	20	11	19	26	76	1.37	**
• BOARDING/ALIGHTING	2	1	2	2	7	0.13	**
• ON BOARD TRAIN	1	1	2	1	5	0.09	**
• TRACK AND TRACK STRUCTURE	2	1	1	0	4	0.07	**
TOTAL CASUALTIES	25	14	24	29	92	1.66	35
INJURIES	25	14	24	29	92	1.66	35
FATALITIES	0	0	0	0	0	0	0

*Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**The FRA Reporting System in 1982 did not categorize casualties by the SIRAS Location categories used in 1983. As such, one is unable to categorize by location the 35 casualties reported by BART in 1982.

N/A - Not applicable since BART does not have rail-highway crossings.

V. SYSTEM-SPECIFIC OVERVIEW

(C) CHICAGO TRANSIT AUTHORITY (CTA)

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 CAR MILES	1982* TOTAL
<u>TRAIN ACCIDENTS</u>							
• COLLISION WITH OTHER TRAIN	0	0	0	1	1	0.02	2
• COLLISION WITH OBSTACLE	0	0	0	0	0	0	0
• COLLISION WITH PERSON	3	0	0	0	3	0.06	0
• DERAILMENT	1	2	0	0	3	0.06	0
• FIRE	0	3	1	1	5	0.10	12
• RAIL-HIGHWAY CROSSING	1	1	2	0	4	0.08	2
TOTAL TRAIN ACCIDENTS	5	6	3	2	16	0.32	17***
<u>CASUALTIES</u>						PER 1,000,000 PASSENGERS	
• IN RAPID RAIL TRANSIT STATION	13	10	10	12	45	0.31	**
• BOARDING/ALIGHTING	14	3	4	2	23	0.15	**
• ON BOARD TRAIN	2	22	7	13	44	0.30	**
• TRACK AND TRACK STRUCTURE	3	1	3	0	7	0.05	**
TOTAL CASUALTIES	32	36	24	27	119	0.81	201
INJURIES	32	36	22	27	117	0.80	186
FATALITIES	0	0	2	0	2	0.01	15

*Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**The FRA Reporting System in 1982 did not categorize casualties by the SIRAS Location categories used in 1983. As such, one is unable to categorize by location the 201 casualties reported by CTA in 1982.

***One (1) train accident in 1982 was reported under the FRA Reporting System category of Other.

NOTE: CTA was the only RRT system to report Rail-Highway Crossing accidents under SIRAS in 1983.

V. SYSTEM-SPECIFIC OVERVIEW

(D) GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY (GCRTA)

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 CAR MILES	1982* TOTAL
<u>TRAIN ACCIDENTS</u>							
• COLLISION WITH OTHER TRAIN	0	0	0	0	0	0	1
• COLLISION WITH OBSTACLE	0	0	0	0	0	0	1
• COLLISION WITH PERSON	0	0	0	1	1	0.47	0
• DERAILMENT	0	1	1	0	2	0.93	0
• FIRE	0	0	0	0	0	0	2
• RAIL-HIGHWAY CROSSING	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL TRAIN ACCIDENTS	0	1	1	1	3	1.40	4
<u>CASUALTIES</u>						PER 1,000,000 PASSENGERS	
• IN RAPID RAIL TRANSIT STATION	1	0	0	1	2	0.29	**
• BOARDING/ALIGHTING	0	0	0	0	0	0	**
• ON BOARD TRAIN	2	0	0	1	3	0.44	**
• TRACK AND TRACK STRUCTURE	0	0	0	1	1	0.15	**
TOTAL CASUALTIES	3	0	0	3	6	0.88	6
INJURIES	3	0	0	2	5	0.73	5
FATALITIES	0	0	0	1	1	0.15	1

*Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**The FRA Reporting System in 1982 did not categorize casualties by the SIRAS Location categories used in 1983. As such, one is unable to categorize by location the 6 casualties reported by GCRTA in 1982.

N/A - Not applicable since GCRTA does not have rail-highway crossings.

V. SYSTEM-SPECIFIC OVERVIEW

(E) METROPOLITAN ATLANTA REGIONAL TRANSIT AUTHORITY (MARTA)

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 CAR MILES	1982* TOTAL
TRAIN ACCIDENTS							
• COLLISION WITH OTHER TRAIN	0	0	0	0	0	0	0
• COLLISION WITH OBSTACLE	0	0	0	0	0	0	0
• COLLISION WITH PERSON	0	0	1	2	3	0.55	0
• DERAILMENT	0	0	0	0	0	0	0
• FIRE	0	0	0	0	0	0	0
• RAIL-HIGHWAY CROSSING	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL TRAIN ACCIDENTS	0	0	1	2	3	0.55	0
CASUALTIES						PER 1,000,000 PASSENGERS	
• IN RAPID RAIL TRANSIT STATION	37	25	27	25	114	2.92	**
• BOARDING/ALIGHTING	4	2	1	0	7	0.18	**
• ON BOARD TRAIN	2	2	6	1	11	0.28	**
• TRACK AND TRACK STRUCTURE	0	1	4	3	8	0.20	**
TOTAL CASUALTIES	43	30	38	29	140	3.58	134
INJURIES	43	30	37	27	137	3.50	134
FATALITIES	0	0	1	2	3	0.08	0

*Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**The FRA Reporting System in 1982 did not categorize casualties by the SIRAS Location categories used in 1983. As such, one is unable to categorize by location the 134 casualties reported by MARTA in 1982.

N/A - Not applicable since MARTA does not have rail-highway crossings.

V. SYSTEM-SPECIFIC OVERVIEW

(F) MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (MBTA)

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 CAR MILES	1982* TOTAL
TRAIN ACCIDENTS							
• COLLISION WITH OTHER TRAIN	0	0	0	1	1	0.07	0
• COLLISION WITH OBSTACLE	0	0	0	0	0	0	0
• COLLISION WITH PERSON	1	0	0	0	1	0.07	0
• DERAILMENT	0	0	0	0	0	0	0
• FIRE	0	0	0	0	0	0	0
• RAIL-HIGHWAY CROSSING	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL TRAIN ACCIDENTS	1	0	0	1	2	0.15	0
CASUALTIES						PER 1,000,000 PASSENGERS	
• IN RAPID RAIL TRANSIT STATION	33	31	32	31	127	1.32	**
• BOARDING/ALIGHTING	3	3	9	8	23	0.24	**
• ON BOARD TRAIN	2	3	1	3	9	0.09	**
• TRACK AND TRACK STRUCTURE	2	0	0	0	2	0.02	**
TOTAL CASUALTIES	40	37	42	42	161	1.67	188
INJURIES	39	37	42	42	160	1.66	188
FATALITIES	1	0	0	0	1	0.01	0

*Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**The FRA Reporting System in 1982 did not categorize casualties by the SIRAS Location categories used in 1983. As such, one is unable to categorize by location the 188 casualties reported by MBTA in 1982

N/A - Not applicable since MBTA does not have rail-highway crossings.

V. SYSTEM-SPECIFIC OVERVIEW

(G) NEW YORK CITY TRANSIT AUTHORITY (NYCTA)

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 CAR MILES	1982* TOTAL
TRAIN ACCIDENTS							
● COLLISION WITH OTHER TRAIN	0	0	0	0	0	0	1
● COLLISION WITH OBSTACLE	0	0	0	0	0	0	0
● COLLISION WITH PERSON	0	0	0	0	0	0	0
● DERAILMENT	3	6	2	5	16	0.06	11
● FIRE	1	3	4	7	15	0.05	0
● RAIL-HIGHWAY CROSSING	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL TRAIN ACCIDENTS	4	9	6	12	31	0.11	12
CASUALTIES							
● IN RAPID RAIL TRANSIT STATION	230	202	133	205	770	0.77	**
● BOARDING/ALIGHTING	59	47	42	58	206	0.20	**
● ON BOARD TRAIN	48	74	80	62	264	0.26	**
● TRACK AND TRACK STRUCTURE	14	53	25	55	147	0.15	**
TOTAL CASUALTIES	351	376	280	380	1,387	1.38	1,762
INJURIES	343	365	272	368	1,348	1.34	1,700
FATALITIES	8	11	8	12	39	0.04	62

*Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**The FRA Reporting System in 1982 did not categorize casualties by the SIRAS Location categories used in 1983. As such, one is unable to categorize by location the 1,762 casualties reported by NYCTA in 1982.

N/A - Not applicable since NYCTA does not have rail-highway crossings.

V. SYSTEM-SPECIFIC OVERVIEW

(H) PORT AUTHORITY TRANSIT CORPORATION (PATCO)

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 CAR MILES	1982* TOTAL
TRAIN ACCIDENTS							
• COLLISION WITH OTHER TRAIN	0	0	0	0	0	0	0
• COLLISION WITH OBSTACLE	0	0	0	0	0	0	0
• COLLISION WITH PERSON	1	0	0	0	1	0.24	0
• DERAILMENT	0	0	0	0	0	0	0
• FIRE	0	0	0	0	0	0	0
• RAIL-HIGHWAY CROSSING	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL TRAIN ACCIDENTS	1	0	0	0	1	0.24	0
CASUALTIES						PER 1,000,000 PASSENGERS	
• IN RAPID RAIL TRANSIT STATION	10	4	1	3	18	1.68	**
• BOARDING/ALIGHTING	1	1	1	0	3	0.28	**
• ON BOARD TRAIN	0	2	0	0	2	0.19	**
• TRACK AND TRACK STRUCTURE	1	0	0	0	1	0.09	**
TOTAL CASUALTIES	12	7	2	3	24	2.24	59
INJURIES	12	7	2	3	24	2.24	58
FATALITIES	0	0	0	0	0	0	1

*Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**The FRA Reporting System in 1982 did not categorize casualties by the SIRAS Location categories used in 1983. As such, one is unable to categorize by location the 59 casualties reported by PATCO in 1982.

N/A - Not applicable since PATCO does not have rail-highway crossings.

V. SYSTEM-SPECIFIC OVERVIEW

(I) PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH)

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 CAR MILES	1982* TOTAL
TRAIN ACCIDENTS							
● COLLISION WITH OTHER TRAIN	0	0	0	0	0	0	0
● COLLISION WITH OBSTACLE	0	0	0	0	0	0	0
● COLLISION WITH PERSON	0	0	0	0	0	0	0
● DERAILMENT	0	0	0	0	0	0	0
● FIRE	0	0	0	0	0	0	2
● RAIL-HIGHWAY CROSSING	0	0	0	0	0	0	0
TOTAL TRAIN ACCIDENTS	0	0	0	0	0	0	3***
CASUALTIES							
						PER 1,000,000 PASSENGERS	
● IN RAPID RAIL TRANSIT STATION	12	4	11	11	38	0.69	**
● BOARDING/ALIGHTING	1	4	4	3	12	0.22	**
● ON BOARD TRAIN	1	2	6	2	11	0.20	**
● TRACK AND TRACK STRUCTURE	0	0	0	1	1	0.02	**
TOTAL CASUALTIES	14	10	21	17	62	1.13	92
INJURIES	14	10	21	15	60	1.09	91
FATALITIES	0	0	0	2	2	0.04	1

*Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**The FRA Reporting System in 1982 did not categorize casualties by the SIRAS Location categories used in 1983. As such, one is unable to categorize by location the 92 casualties reported by PATH in 1982.

***One (1) train accident in 1982 was reported under the FRA Reporting System category of Other.

V. SYSTEM-SPECIFIC OVERVIEW

(J) SOUTHEASTERN PENNSYLVANIA TRANSPORTATION AUTHORITY (SEPTA)

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 CAR MILES	1982* TOTAL
<u>TRAIN ACCIDENTS</u>							
• COLLISION WITH OTHER TRAIN	0	0	0	1	1	0.06	0
• COLLISION WITH OBSTACLE	0	0	0	0	0	0	0
• COLLISION WITH PERSON	2	1	0	0	3	0.19	0
• DERAILMENT	0	0	0	0	0	0	0
• FIRE	0	0	1	1	2	0.13	0
• RAIL-HIGHWAY CROSSING	N/A	N/A	N/A	N/A	N/A	N/A	1
TOTAL TRAIN ACCIDENTS	2	1	1	2	6	0.38	1
<u>CASUALTIES</u>						PER 1,000,000 PASSENGERS	
• IN RAPID RAIL TRANSIT STATION	6	8	0	3	17	0.24	**
• BOARDING/ALIGHTING	0	6	0	1	7	0.10	**
• ON BOARD TRAIN	0	1	0	1	2	0.03	**
• TRACK AND TRACK STRUCTURE	1	2	2	3	8	0.11	**
TOTAL CASUALTIES	7	17	2	8	34	0.48	329
INJURIES	7	16	2	8	33	0.47	328
FATALITIES	0	1	0	0	1	0.01	1

*Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**The FRA Reporting System in 1982 did not categorize casualties by the SIRAS Location categories used in 1983. As such, one is unable to categorize by location the 329 casualties reported by SEPTA in 1982.

N/A - Not applicable since SEPTA does not have rail-highway crossings.

V. SYSTEM-SPECIFIC OVERVIEW

(K) STATEN ISLAND RAPID TRANSIT OPERATING AUTHORITY (SIRTOA)

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 CAR MILES	1982* TOTAL
TRAIN ACCIDENTS							
● COLLISION WITH OTHER TRAIN	0	0	0	0	0	0	0
● COLLISION WITH OBSTACLE	0	0	0	0	0	0	0
● COLLISION WITH PERSON	0	0	0	0	0	0	0
● DERAILMENT	0	0	0	0	0	0	0
● FIRE	0	0	0	0	0	0	0
● RAIL-HIGHWAY CROSSING	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL TRAIN ACCIDENTS	0	0	0	0	0	0	0
CASUALTIES						PER 1,000,000 PASSENGERS	
● IN RAPID RAIL TRANSIT STATION	0	0	0	0	0	0	0
● BOARDING/ALIGHTING	0	0	0	0	0	0	0
● ON BOARD TRAIN	0	0	0	0	0	0	0
● TRACK AND TRACK STRUCTURE	0	0	0	0	0	0	0
TOTAL CASUALTIES	0	0	0	0	0	0	0
INJURIES	0	0	0	0	0	0	0
FATALITIES	0	0	0	0	0	0	0

* Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.
N/A - Not applicable since SIRTOA does not have rail-highway crossings.

V. SYSTEM-SPECIFIC OVERVIEW

(L) WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY (WMATA)

	1983 FIRST QUARTER	1983 SECOND QUARTER	1983 THIRD QUARTER	1983 FOURTH QUARTER	1983 TOTAL	1983 PER 1,000,000 CAR MILES	1982* TOTAL
TRAIN ACCIDENTS							
• COLLISION WITH OTHER TRAIN	0	0	0	0	0	0	0
• COLLISION WITH OBSTACLE	0	0	0	0	0	0	0
• COLLISION WITH PERSON	0	0	0	0	0	0	0
• DERAILMENT	0	0	0	0	0	0	1
• FIRE	1	3	3	0	7	0.40	16
• RAIL-HIGHWAY CROSSING	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL TRAIN ACCIDENTS	1	3	3	0	7	0.40	17
CASUALTIES						PER 1,000,000 PASSENGERS	
• IN RAPID RAIL TRANSIT STATION	0	0	2	0	2	0.02	**
• BOARDING/ALIGHTING	0	0	0	0	0	0	**
• ON BOARD TRAIN	0	0	0	0	0	0	**
• TRACK AND TRACK STRUCTURE	0	0	0	0	0	0	**
TOTAL CASUALTIES	0	0	2	0	2	0.02	14
INJURIES	0	0	1	0	1	0.01	10
FATALITIES	0	0	1	0	1	0.01	4

*Safety information received in 1982 was collected under the FRA Accident/Incident Reporting System, while that received in 1983 was collected under UMTA's Safety Information Reporting and Analysis System (SIRAS). It would, therefore, be inappropriate to compare 1982 figures with 1983 figures due to different reporting thresholds between the FRA reporting system and SIRAS.

**The FRA Reporting System in 1982 did not categorize casualties by the SIRAS Location categories used in 1983. As such, one is unable to categorize by location the 14 casualties reported by WMATA in 1982.

N/A - Not applicable since WMATA does not have rail-highway crossings.

RRT THRESHOLDS

TRAIN ACCIDENT REPORTING THRESHOLDS

A “*reportable train accident*” is any accident which satisfies one or more of the following threshold levels:

A. TRAIN COLLISIONS

1. All rail transit revenue train collisions involving other rail transit equipment (such as revenue or non-revenue trains, work trains or work equipment), persons and/or rail highway crossings are to be reported.
 2. Collisions between revenue trains and other obstacles (shopping carts, foreign objects, etc.) which result in \$5,000 or greater property damage, or casualties, are to be reported.
- “Property Damage” refers to the estimated cost to repair or replace damaged property (vehicles, equipment, right-of-way, etc.) to a state equivalent to that which existed prior to the accident. Property damage does not include the cost of clearing wreckage.

B. TRAIN DERAILMENTS

1. Rail transit train derailments which result in \$5,000 or greater property damage are to be reported.

C. FIRES

1. Fires which involve the participation of the local fire department in the fire fighting, and/or which cause the evacuation of passengers onto the system right-of-way are to be reported.

D. EXCLUSIONS

1. Accidents (collisions, derailments or fires) occurring in yards and non-revenue service areas which do not involve revenue trains are excluded.
2. Accidents (collisions, derailments or fires) which involve only work trains and servicing equipment are excluded.
3. Collisions between train cars resulting from coupling operations which do not involve passenger casualties are excluded.

CASUALTY REPORTING THRESHOLDS

A “*reportable casualty*” is any casualty which satisfies one or more of the following threshold levels:

A. PASSENGER AND OTHER CASUALTIES

1. Casualties involving passengers or other personnel (contractors, etc.) which occur at or in exclusive approaches to or from faregates, or equivalent, or within the normal “paid” area, and which result in:
 - a. Fatalities, or
 - b. Personal injuries which require immediate medical treatment beyond first aid, are to be reported as casualties.

“Medical treatment” means treatment requiring the attention of a physician or registered professional medical personnel. “Medical treatment” as used here, does not refer to minor first aid treatment (one-time treatment), precautionary measures such as tetanus shots, or subsequent observation of minor scratches, cuts, bruises or splinters.

B. EXCLUSIONS

1. Assaults are excluded.
2. Attempted suicides are excluded.
3. Suicides are excluded.

