



U.S. Department
of Transportation
Research and
Special Programs
Administration

Biennial Report on Hazardous Materials Transportation Calendar Years 1992-1993

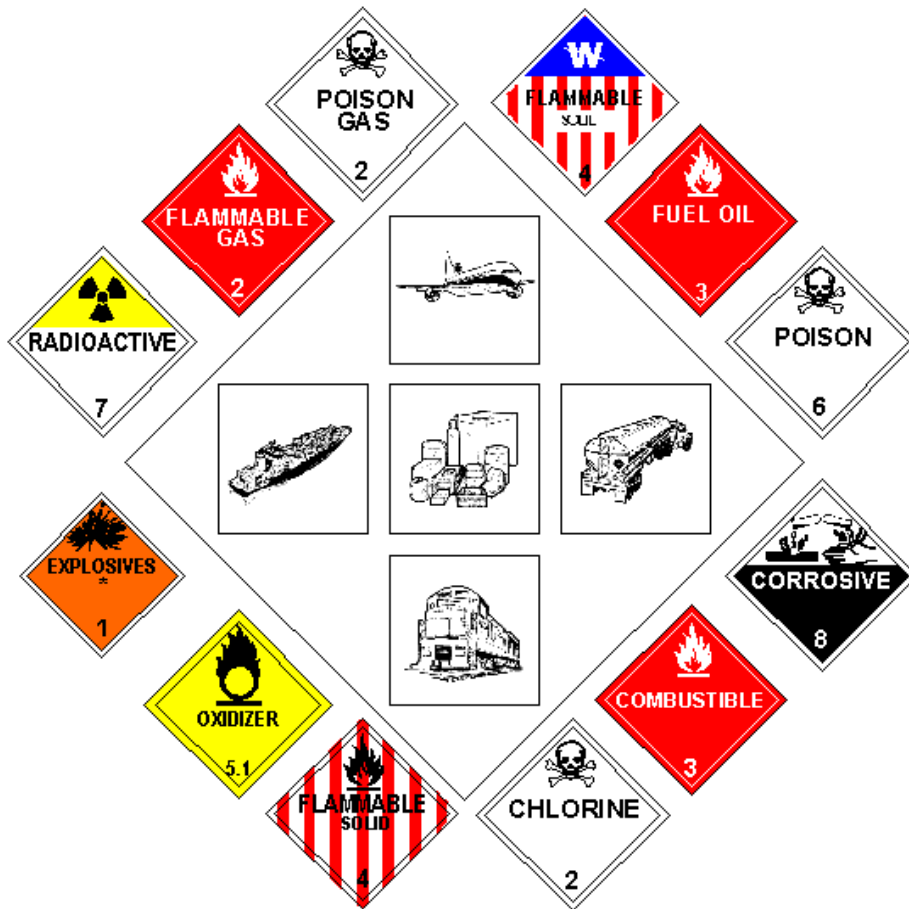


Exhibit 1

Incident Statistics by Mode and Reporting Year

Mode	1986	1987	1988	1989	1990	1991	1992	1993	Total
Incidents by Mode									
Air	120	163	172	188	297	299	422	625	2,284
Highway	4,616	4,953	4,906	6,037	7,299	7,644	7,795	11,068	54,318
Railway	853	887	1,018	1,193	1,279	1,155	1,129	1,118	8,632
Water	7	15	15	11	7	12	8	8	76
Freight Forwarder	150	118	78	127	0	0	0	0	473
Other	12	1	1	2	0	0	0	0	16
TOTALS	5,758	6,137	6,190	7,558	8,882	9,110	9,354	12,819	65,808
Deaths by Mode									
Air	0	0	0	0	0	0	0	0	0
Highway	16	10	19	8	8	10	15	15	101
Railway	1	0	0	0	0	0	0	0	1
Water	0	0	0	0	0	0	0	0	0
Freight Forwarder	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
TOTALS	17	10	19	8	8	10	15	15	102
Injuries by Mode									
Air	12	26	6	54	39	31	27	50	245
Highway	229	247	129	218	311	333	461	511	2,439
Railway	59	25	36	36	73	75	116	65	485
Water	2	8	0	7	0	0	0	0	17
Freight Forwarder	12	25	0	15	0	0	0	0	52
Other	2	0	0	0	0	0	0	0	2
TOTALS	316	331	171	330	423	439	604	626	3,240
Damages by Mode (in Dollars)									
Air	62,813	13,779	562,176	104,936	142,038	77,090	99,529	88,555	1,150,916
Highway	31,106,729	15,528,734	18,475,190	15,233,111	20,216,703	29,649,627	24,054,745	19,848,519	155,113,358
Railway	3,075,523	7,716,725	2,180,697	10,632,203	11,951,572	8,469,499	10,949,302	2,649,851	57,625,372
Water	53,500	54,930	49,262	39,900	69,898	154,395	143,115	213,091	778,091
Freight Forwarder	102,117	51,126	15,009	37,655	0	0	0	0	205,907
Other	3,385	50	2,700	2,600	0	0	0	0	8,735
TOTALS	16,404,067	23,365,344	21,285,034	26,050,405	32,380,211	38,350,611	35,246,691	22,800,016	215,882,379

Data as of March 18, 1994.

Note: Effective January 1, 1990, Freight Forwarder classification no longer used.

Exhibit 2a

Hazardous Materials Summary by State - 1992

All Modes

State	Incidents	Injuries		Deaths	Damages	State	Incidents	Injuries		Deaths	Damages
		Major	Minor					Major	Minor		
Alabama	116	0	8	1	346,059	Montana	30	0	2	0	78,581
Alaska	16	0	0	0	355,988	Nebraska	60	0	3	0	442,071
Arizona	98	0	2	0	193,402	Nevada	41	1	1	0	235,716
Arkansas	115	0	7	3	428,616	New Hampshire	19	1	0	0	13,017
California	847	5	47	0	5,013,652	New Jersey	225	2	32	1	1,473,116
Colorado	239	0	3	1	263,231	New Mexico	52	0	0	0	178,274
Connecticut	69	1	1	0	57,550	New York	300	0	12	0	432,926
Delaware	23	0	1	0	43,206	North Carolina	359	0	9	0	1,588,486
Dist. of Columbia	10	0	3	0	41,897	North Dakota	12	0	0	0	5,406
Florida	403	4	39	0	624,745	Ohio	666	0	14	0	939,297
Georgia	258	0	13	0	1,801,862	Oklahoma	80	1	8	0	326,685
Hawaii	5	0	0	0	1,058	Oregon	120	0	7	0	209,554
Idaho	37	0	0	0	602,618	Pennsylvania	775	0	16	1	988,257
Illinois	534	3	26	0	539,477	Rhode Island	5	0	1	0	255
Indiana	236	2	7	0	851,310	South Carolina	130	0	1	0	348,071
Iowa	99	0	3	0	307,537	South Dakota	10	0	0	0	218,662
Kansas	174	1	6	0	658,431	Tennessee	400	3	10	0	372,663
Kentucky	141	1	4	0	443,815	Texas	630	6	44	0	1,554,556
Louisiana	218	5	97	0	716,590	Utah	94	0	2	0	257,972
Maine	79	1	0	0	242,061	Vermont	18	0	0	0	443,242
Maryland	151	3	6	3	573,862	Virginia	151	0	3	0	563,061
Massachusetts	157	1	3	0	2,045,724	Washington	133	1	6	0	132,480
Michigan	260	1	11	1	250,386	West Virginia	51	1	10	0	176,363
Minnesota	168	0	1	0	254,425	Wisconsin	132	2	64	1	5,673,355
Mississippi	94	0	8	3	676,815	Wyoming	43	0	13	0	552,997
Missouri	253	0	4	0	300,385	* Other	18	0	0	0	406,926
						TOTAL	9,354	46	558	15	\$ 35,246,691

Data as of March 19, 1993.

Note: * Incidents by U.S. carriers that occurred in Puerto Rico, territorial possessions or foreign countries.

Exhibit 2b

Hazardous Materials Summary by State - 1993

All Modes

State	Incidents	Injuries		Deaths	Damages	State	Incidents	Injuries		Deaths	Damages
		Major	Minor					Major	Minor		
Alabama	185	0	11	1	308,358	Missouri	391	1	29	0	725,071
Alaska	7	0	4	0	3,214	Montana	17	0	0	0	280,596
Arizona	125	0	14	0	146,710	Nebraska	73	0	2	0	392,624
Arkansas	182	0	11	0	151,264	Nevada	50	0	1	0	99,507
California	1,283	1	63	0	1,555,579	New Hampshire	33	0	2	0	181,019
Colorado	276	1	18	0	995,705	New Jersey	290	0	14	0	363,405
Connecticut	81	0	2	0	121,797	New Mexico	79	0	5	1	482,918
Delaware	9	0	3	0	10,958	New York	510	2	16	0	389,212
Dist. of Columbia	3	0	0	0	5,499	North Carolina	381	1	15	1	470,940
Florida	468	10	38	6	850,047	North Dakota	36	0	2	0	32,008
Georgia	293	1	13	1	669,019	Ohio	1,066	1	29	0	592,223
Hawaii	10	0	0	0	959	Oklahoma	81	0	4	0	183,178
Idaho	26	0	0	0	107,839	Oregon	154	0	4	0	159,667
Illinois	740	1	11	0	428,076	Pennsylvania	1,047	0	20	0	1,544,327
Indiana	326	0	19	0	375,322	Rhode Island	29	0	0	0	2,150
Iowa	153	0	5	0	120,762	South Carolina	135	0	1	0	115,151
Kansas	249	1	64	0	469,190	South Dakota	34	0	0	0	153,708
Kentucky	178	0	15	0	792,318	Tennessee	721	0	4	0	676,447
Louisiana	231	3	15	0	3,870,137	Texas	898	5	71	0	1,397,814
Maine	36	0	3	0	189,338	Utah	128	0	2	0	385,143
Maryland	154	2	7	0	215,428	Vermont	12	0	0	0	62,359
Massachusetts	397	0	3	0	107,225	Virginia	138	0	9	0	86,138
Michigan	309	0	15	1	488,955	Washington	132	1	5	0	427,522
Minnesota	300	0	10	0	482,888	West Virginia	35	0	0	3	444,489
Mississippi	114	2	6	0	139,348	Wisconsin	153	1	7	1	306,733
Missouri	391	1	29	0	725,071	Wyoming	52	0	0	0	236,991
						* Other	9	0	0	0	2,741
						TOTAL	12,819	34	592	15	\$ 22,800,016

Data as of March 18, 1994.

Note: * Incidents by U.S. carriers that occurred in Puerto Rico, territorial possessions or foreign countries.

Exhibit 3a

Incidents and Damages by Hazard Class - 1992

Hazard Class	Reported Number of Incidents	Rank	Percent of Reported Incidents	Amount of Damages	Rank by Damages	Percent of Total Damages	Number of Incidents Involving Damages
Flammable - Combustible Liquid	3,798	1	40.6	19,667,576	1	55.8	3,190
Corrosive Material	3,200	2	34.2	4,177,165	2	11.9	2,639
Combustible Liquid	781	3	8.3	3,782,156	3	10.7	591
Poisonous Materials	482	4	5.2	3,032,880	4	8.6	354
Miscellaneous Hazardous Material	306	5	3.3	978,252	6	2.8	188
Oxidizer	295	6	3.2	1,639,942	5	4.7	265
Nonflammable Compressed Gas	229	7	2.4	926,009	7	2.6	165
Flammable Gas	125	8	1.3	523,504	8	1.5	70
Organic Peroxide	72	9	0.8	39,435	15	0.1	65
Poisonous Gas	41	10	0.4	85,622	10	0.2	20
Flammable Solid	31	11	0.3	24,402	16	<.1	23
Spontaneously Combustible	12	12	0.1	103,531	9	0.3	10
Radioactive Material	12	12	0.1	67,428	12	0.2	5
Other Regulated Material, Class D	10	14	0.1	650	19	<.1	6
Very Insensitive Explosive	9	15	<.1	21,871	17	<.1	7
Dangerous When Wet Material	7	16	<.1	41,825	13	0.1	5
Infectious Substance (Etiologic)	3	17	<.1	0	24	0	0
Explosive Mass Explosion Hazard	2	18	<.1	8,000	18	<.1	1
Irritating Material	2	18	<.1	569	20	<.1	2
Explosive No Blast Hazard	1	20	<.1	85,200	11	0.2	1
Explosives, Class A	1	20	<.1	40,200	14	0.1	1
Flammable Solid (Pre 1991)	1	20	<.1	345	21	<.1	1
Explosive Projection Hazard	1	20	<.1	120	22	<.1	1
Explosive Fire Hazard	1	20	<.1	9	23	<.1	1
TOTAL			100.0	\$35,246,691		100.0	

Data as of March 19, 1993.

Note: All % figures rounded to the nearest .1%.

Since some incidents involve multiple hazard classes, double counting occurs in the "Reported Number of Incidents" and "Number of Incidents Involving Damages." Therefore, no totals are shown for these columns.

The calculation of "Percent of Reported Incidents" is based on the actual total of 9,354 incidents.

Exhibit 3b

Incidents and Damages by Hazard Class - 1993

Hazard Class	Reported Number of Incidents	Rank	Percent of Reported Incidents	Amount of Damages	Rank by Damages	Percent of Total Damages	Number of Incidents Involving Damages
Flammable - Combustible Liquid	5,360	1	41.8	12,393,546	1	54.3	3,922
Corrosive Material	4,743	2	37.0	3,874,531	2	17.0	3,354
Poisonous Materials	741	3	5.8	2,211,017	3	9.7	539
Combustible Liquid	537	4	4.2	1,710,483	4	7.5	369
Miscellaneous Hazardous Material	522	5	4.1	958,228	5	4.2	327
Oxidizer	270	6	2.1	520,561	6	2.3	211
Nonflammable Compressed Gas	263	7	2.1	119,860	10	0.5	156
Flammable Gas	154	8	1.2	464,491	7	2.0	89
Organic Peroxide	92	9	0.7	141,872	9	0.6	83
Flammable Solid	69	10	0.5	10,810	15	<.1	49
Poisonous Gas	46	11	0.4	145,068	8	0.6	24
Dangerous When Wet Material	15	12	0.1	6,475	17	<.1	12
Spontaneously Combustible	13	13	0.1	7,880	16	<.1	12
Other Regulated Material, Class D	9	14	<.1	576	18	<.1	0
Radioactive Material	8	15	<.1	15,075	14	<.1	3
Explosive Very Insensitive	6	16	<.1	62,390	12	0.3	6
Explosive No Blast Hazard	3	17	<.1	41,500	13	0.2	2
Explosive Fire Hazard	2	18	<.1	3	21	<.1	1
Explosive Mass Explosion Hazard	1	19	<.1	115,500	11	0.5	1
Irritating Material	1	19	<.1	125	19	<.1	1
Flammable Solid (Pre 1991)	1	19	<.1	25	20	<.1	1
Explosive Projection Hazard	1	19	<.1	0	22	0.0	0
Infectious Substance (Etiologic)	1	19	<.1	0	22	0.0	0
TOTAL			100.0	\$22,800,016		100.0	

Data as of March 18, 1994.

Note: All % figures rounded to the nearest .1%.

Since some incidents involve multiple hazard classes, double counting occurs in the "Reported Number of Incidents" and "Number of Incidents Involving Damages." Therefore, no totals are shown for these columns.

The calculation of "Percent of Reported Incidents" is based on the actual total of 12,819 incidents.

Exhibit 4a

Injuries by Hazard Class* - 1992

Hazard Class **	Number of Injuries	Percent of Injuries	Major Injuries ***	Minor Injuries	Number of Incidents with Injuries
Corrosive Material	240	39.7	23	217	115
Flammable - Combustible Liquid	165	27.3	11	154	50
Poisonous Gas	67	11.1	1	66	10
Poisonous Materials	43	7.1	1	42	17
Miscellaneous Hazardous Material	35	5.8	1	34	11
Oxidizer	23	3.8	2	21	12
Combustible Liquid	9	1.5	1	8	6
Nonflammable Gas	10	1.7	3	7	5
Flammable Gas	8	1.3	3	5	6
Organic Peroxide	3	.5	0	3	3
Flammable Solid	1	.2	0	1	1
TOTAL	604	100.0	46	558	236

Data as of March 19, 1993.

Note: All % figures rounded to nearest .1%.

* Effective with the implementation of HM-181 December 21, 1990, hazard classes have been modified to reflect international classes.

** No reports received for other hazard classes.

*** Major injuries are those requiring hospitalization, or resulting in injury-related loss of time at work of one or more days.

Exhibit 4b

Injuries by Hazard Class* - 1993

Hazard Class **	Number of Injuries	Percent of Injuries	Major Injuries ***	Minor Injuries	Number of Incidents with Injuries
Corrosive Material	238	38.1	8	230	124
Flammable - Combustible Liquid	168	26.9	16	152	65
Poisonous Materials	79	12.6	0	79	24
Poisonous Gas	36	5.8	3	33	11
Combustible Liquid	23	3.5	2	21	14
Miscellaneous Hazardous Material	22	3.5	2	20	9
Nonflammable Compressed Gas	21	3.4	1	20	11
Oxidizer	21	3.4	0	21	9
Flammable Gas	6	1.0	1	5	3
Flammable Solid	5	.8	1	4	3
Radioactive Material	4	.6	0	4	1
Dangerous When Wet Material	1	.2	0	1	1
Explosive No Blast Hazard	1	.2	0	1	1
Organic Peroxide	1	.2	0	1	1
TOTAL	626	100.0	34	592	277

Data as of March 18, 1994.

Note: All % figures rounded to nearest .1%.

* Effective with the implementation of HM-181 December 21, 1990, hazard classes have been modified to reflect international classes.

** No reports received for other hazard classes.

*** Major injuries are those requiring hospitalization, or resulting in injury-related loss of time at work of one or more days.

Exhibit 5a

Fatalities by Hazardous Material and Class - 1992

Hazardous Material	Hazard Class	Number of Deaths
Gasoline	Flammable - Combustible Liquid	10
Liquified Petroleum Gas	Flammable Gas	3
Fuel Aviation Turbine	Flammable - Combustible Liquid	1
Petroleum Crude Oil	Flammable - Combustible Liquid	1
	TOTAL	15

Data as of March 19, 1993.

Exhibit 5b

Fatalities by Hazardous Material and Class - 1993

Hazardous Material	Hazard Class	Number of Deaths
Gasoline	Flammable - Combustible Liquid	12
Asphalt	Flammable - Combustible Liquid	1
Denatured Alcohol	Flammable - Combustible Liquid	1
Fuel Aviation Turbine	Combustible Liquid	1
	TOTAL	15

Data as of March 18, 1994.

Exhibit 6a

Incident Cause by Mode - 1992

	Air	Highway	Rail	Water	Total	Percent of all Incidents
Human Error	318	6,072	470	4	6,864	73.4
Package Failure	56	1,242	567	1	1,866	19.9
Vehicle Accident/Derailments	1	247	36	1	285	3.0
Other	47	234	56	2	339	3.6
TOTAL	422	7,795	1,129	8	9,354	
Percent of Incidents by Mode	4.5	83.3	12.1	<.1		

Data as of March 19, 1993.

Exhibit 6b

Incident Cause by Mode - 1993

	Air	Highway	Rail	Water	Total	Percent of all Incidents
Human Error	509	9,088	445	5	10,047	78.4
Package Failure	109	1,705	621	3	2,438	19.0
Vehicle Accident/Derailments	0	216	48	0	264	2.1
Other	7	59	4	0	70	.5
TOTAL	625	11,068	1,118	8	12,819	
Percent of Incidents by Mode	4.9	86.3	8.7	<.1		

Data as of March 18, 1994.

Exhibit 7a

Incidents by Top 50 Hazardous Materials - 1992

Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents	Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents
1	Corrosive Liquids n.o.s.	Corrosive Material	661	7.1	29	Hypochlorite Solution 5-16%	Corrosive Material	67	0.7
2	Flammable Liquids n.o.s.	Flammable - Combustible Liq	621	6.6	30	Hydrogen Perox-Peroxyacet	Oxidizer	64	0.7
3	Gasoline	Flammable - Combustible Liq	450	4.8	31	Petroleum Crude Oil	Flammable - Combustible Liq	61	0.7
4	Fuel Oil No. 1,2,4,5,6	Combustible Liquid	342	3.7	32	Petroleum Gases Liquefied	Flammable Gas	60	0.6
5	Sulfuric Acid	Corrosive Material	336	3.6	33	Methyl Methacrylate Inhib	Flammable - Combustible Liq	56	0.6
6	Compound Cleaning Liquid	Corrosive Material	316	3.4	33	Toluene	Flammable - Combustible Liq	56	0.6
7	Hydrochloric Acid Solution	Corrosive Material	299	3.2	35	Coating Solution	Flammable - Combustible Liq	55	0.6
8	Resin Solution	Flammable - Combustible Liq	295	3.2	35	Compound Cleaning Liq PHO	Corrosive Material	55	0.6
9	Adhesives	Flammable - Combustible Liq	285	3.0	37	Denatured Alcohol	Flammable - Combustible Liq	54	0.6
10	Sodium Hydroxide Solution	Corrosive Material	246	2.6	37	Poisonous Liquids n.o.s.	Poisonous Materials	54	0.6
11	Paint or Paint Related	Flammable - Combustible Liq	219	2.3	39	Tetrachloroethylene	Poisonous Materials	53	0.6
12	Phosphoric Acid	Corrosive Material	167	1.8	40	Fire Extinguishers	Nonflammable Compressed Gas	52	0.6
13	Ink Printers Flammable	Flammable - Combustible Liq	157	1.7	40	Fuel Oil	Combustible Liquid	52	0.6
14	Combustible Liquid n.o.s.	Combustible Liquid	154	1.6	42	Compound Cleaning Liq HCL	Corrosive Material	49	0.5
15	Caustic Alkali Liquid n.o.s.	Corrosive Material	148	1.6	42	1,1,1-Trichloroethane	Poisonous Materials	49	0.5
16	Methanol	Flammable - Combustible Liq	146	1.6	44	Cement	Flammable - Combustible Liq	48	0.5
17	Ammonia Solutions 10-35%	Corrosive Material	120	1.3	45	Alcohols n.o.s.	Flammable - Combustible Liq	47	0.5
18	Isopropanol	Flammable - Combustible Liq	118	1.3	45	Flammable Liquid Corrosive	Flammable - Combustible Liq	47	0.5
19	Hazardous Substance n.o.s.	Miscellaneous Hazardous Mat	103	1.1	47	Hazardous Waste Liquid	Miscellaneous Hazardous Mat	42	0.4
20	Xylenes	Flammable - Combustible Liq	100	1.1	48	Acetone	Flammable - Combustible Liq	41	0.4
21	Ethanol	Flammable - Combustible Liq	91	1.0	49	Acetic Acid Solution	Corrosive Material	40	0.4
22	Naphtha Petroleum	Combustible Liquid	90	1.0	50	Hazardous Waste Solid n.o.s.	Miscellaneous Hazardous Mat	38	0.4
23	Potassium Hydroxide Solution	Corrosive Material	82	0.9					
24	Extracts Flavoring Liquid	Flammable - Combustible Liq	81	0.9					
25	Compound Cleaning Liquid	Flammable - Combustible Liq	76	0.8					
26	Ammonia Anhydrous	Nonflammable Compressed Gas	73	0.8					
26	Naphtha Petroleum	Flammable - Combustible Liq	73	0.8					
28	Paint Related Material	Flammable - Combustible Liq	69	0.7					
					TOTAL			7,058	75.5

Data as of March 19, 1993.

Note: Percentage figures based on 9,354 incidents reported in 1992.

Exhibit 7b

Incidents by Top 50 Hazardous Materials - 1993

Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents	Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents
1	Corrosive Liquids n.o.s.	Corrosive Material	1,192	9.3	29	Ammonia Anhydrous	Nonflammable Compressed Gas	89	0.7
2	Flammable Liquids n.o.s.	Flammable - Combustible Liq	942	7.3	30	Petroleum Distillate n.o.s.	Flammable - Combustible Liq	87	0.7
3	Compound Cleaning Liquid	Corrosive Material	482	3.8	31	Extracts Flavoring Liquid	Flammable - Combustible Liq	85	0.7
4	Gasoline	Flammable - Combustible Liq	447	3.5	32	Dichloromethane	Poisonous Materials	78	0.6
5	Resin Solution	Flammable - Combustible Liq	446	3.5	33	Coating Solution	Flammable - Combustible Liq	74	0.6
6	Sulfuric Acid	Corrosive Material	398	3.1	33	Toluene	Flammable - Combustible Liq	74	0.6
7	Adhesives	Flammable - Combustible Liq	365	2.8	33	Hazardous Waste Liquid	Miscellaneous Hazardous Mat	74	0.6
8	Hydrochloric Acid Solution	Corrosive Material	356	2.8	36	Hazardous Substance n.o.s.	Miscellaneous Hazardous Mat	72	0.6
9	Sodium Hydroxide Solution	Corrosive Material	352	2.7	37	Formaldehyde Solutions	Miscellaneous Hazardous Mat	70	0.5
10	Phosphoric Acid	Corrosive Material	272	2.1	38	Acetone	Flammable - Combustible Liq	69	0.5
11	Paint or Paint Related	Flammable - Combustible Liq	246	1.9	39	Compound Cleaning Liq PHO	Corrosive Material	68	0.5
12	Isopropanol	Flammable - Combustible Liq	224	1.7	40	Petroleum Crude Oil	Flammable - Combustible Liq	66	0.5
13	Potassium Hydroxide Solution	Corrosive Material	220	1.7	41	Fuel Oil (No. 1,2,4,5,6)	Flammable - Combustible Liq	63	0.5
14	Ethanol	Flammable - Combustible Liq	211	1.6	42	Fuel Oil	Combustible Liquid	59	0.5
15	Ink Printers Flammable	Flammable - Combustible Liq	204	1.6	43	Acetic Acid Solution	Corrosive Material	55	0.4
16	Methanol	Flammable - Combustible Liq	192	1.5	44	Hazardous Waste Solid n.o.s.	Miscellaneous Hazardous Matl	52	0.4
17	Fuel Oil No. 1,2,4,5,6	Combustible Liquid	188	1.5	45	Compound Cleaning Liq HCL	Corrosive Material	49	0.4
18	Combustible Liquid n.o.s.	Combustible Liquid	180	1.4	46	Cement	Flammable - Combustible Liq	48	0.4
19	Compound Cleaning Liquid	Flammable - Combustible Liq	165	1.3	46	Disinfectant Corrosive Liquid	Corrosive Material	48	0.4
20	Caustic Alkali Liquid n.o.s.	Corrosive Material	164	1.3	46	Petroleum Gases Liquefied	Flammable Gas	48	0.4
21	Ammonia Solutions 10-35%	Corrosive Material	149	1.2	49	Corrosive Solids n.o.s.	Corrosive Material	47	0.4
22	Methyl Methacrylate Inhib	Flammable - Combustible Liq	142	1.1	49	Environmentally Haz Liq	Miscellaneous Hazardous Mat	47	0.4
23	Xylenes	Flammable - Combustible Liq	121	0.9					
24	Hypochlorite Solution 5-16%	Corrosive Material	118	0.9					
25	1,1,1-Trichloroethane	Poisonous Materials	103	0.8					
26	Alcohols n.o.s.	Flammable - Combustible Liq	102	0.8					
27	Naphtha Petroleum	Flammable - Combustible Liq	100	0.8					
28	Poisonous Liquids n.o.s.	Poisonous Materials	93	0.7					
					TOTAL			9,596	74.9

Data as of March 18, 1994.

Note: Percentage figures based on 12,819 incidents reported in 1993.

Exhibit 8

Hazardous Waste Incident Statistics By Mode and Reporting Year

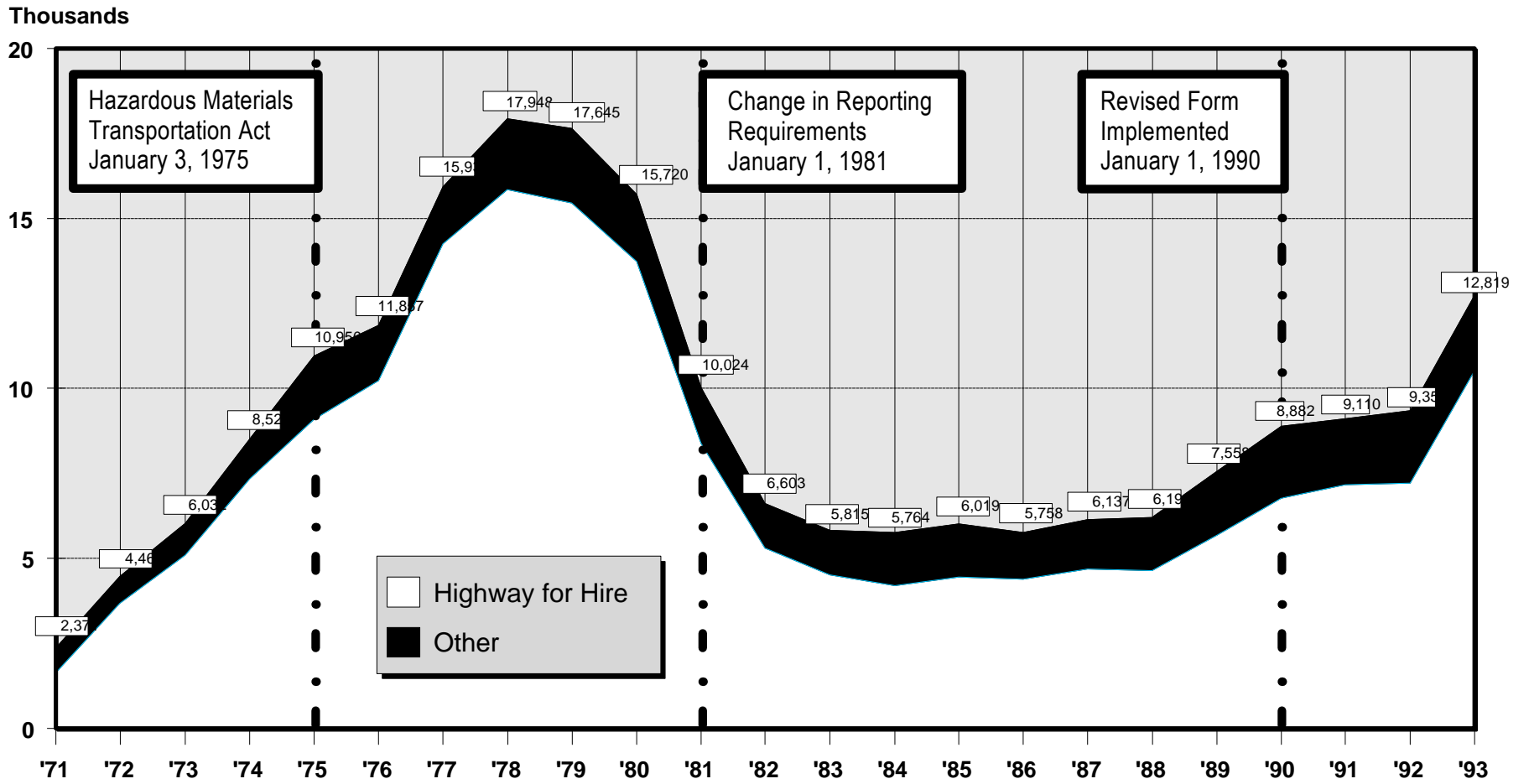
Mode	1986	1987	1988	1989	1990	1991	1992	1993	Total
Incidents by Mode									
Air	2	0	1	0	0	0	1	1	5
Highway	97	112	152	133	168	175	379	549	1,765
Railway	7	13	6	16	26	27	33	23	151
Water	0	1	1	0	0	0	0	1	3
Freight Forwarder	20	10	4	0	0	0	0	0	34
Other	8	1	1	0	0	0	0	0	10
TOTALS	134	137	165	149	194	202	413	574	1,968
Deaths by Mode									
Air	0	0	0	0	0	0	0	0	0
Highway	0	0	0	0	0	0	0	0	0
Railway	0	0	0	0	0	0	0	0	0
Water	0	0	0	0	0	0	0	0	0
Freight Forwarder	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	0	0
Injuries by Mode									
Air	0	0	0	0	0	0	0	0	0
Highway	35	3	4	3	4	25	50	5	129
Railway	0	0	0	0	4	5	1	0	10
Water	0	0	0	0	0	0	0	0	0
Freight Forwarder	1	0	0	0	0	0	0	0	1
Other	0	0	0	0	0	0	0	0	0
TOTALS	36	3	4	3	8	30	51	5	140
Damages by Mode (in Dollars)									
Air	0	0	0	0	0	0	0	1	1
Highway	795,222	248,959	692,794	763,290	1,342,868	1,132,749	1,132,085	832,994	6,940,961
Railway	600	5,942	1,200	123,125	4,516	633,549	67,487	63,789	900,208
Water	0	2,500	0	0	0	0	0	17,630	20,130
Freight Forwarder	2,970	3,195	1,300	0	0	0	0	0	7,465
Other	285	50	2,700	0	0	0	0	0	3,035
TOTALS	799,077	260,646	697,994	886,415	1,347,384	1,766,298	1,199,572	914,414	7,871,800

Data as of March 18, 1994.

Note: Effective January 1, 1990, Freight Forwarder classification no longer used.

Exhibit 9

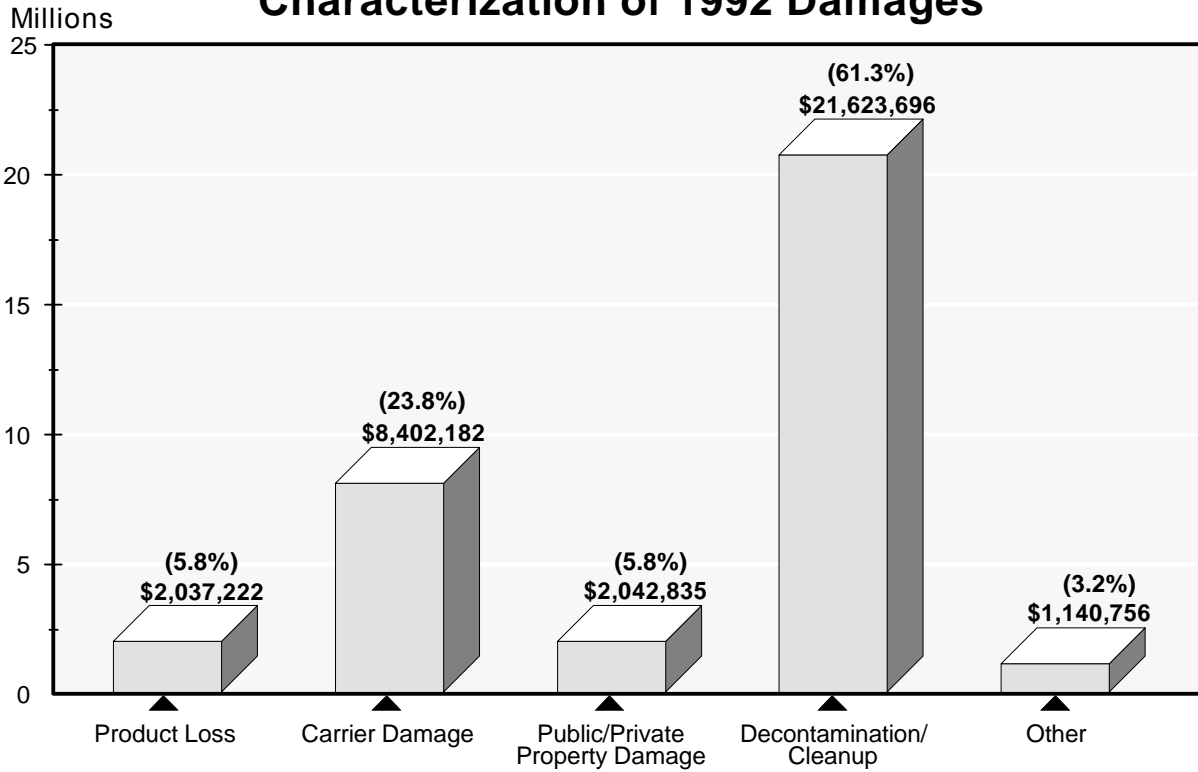
Total Hazardous Materials Incidents, 1971-1993



Data as of March 18, 1994.

Exhibit 10a

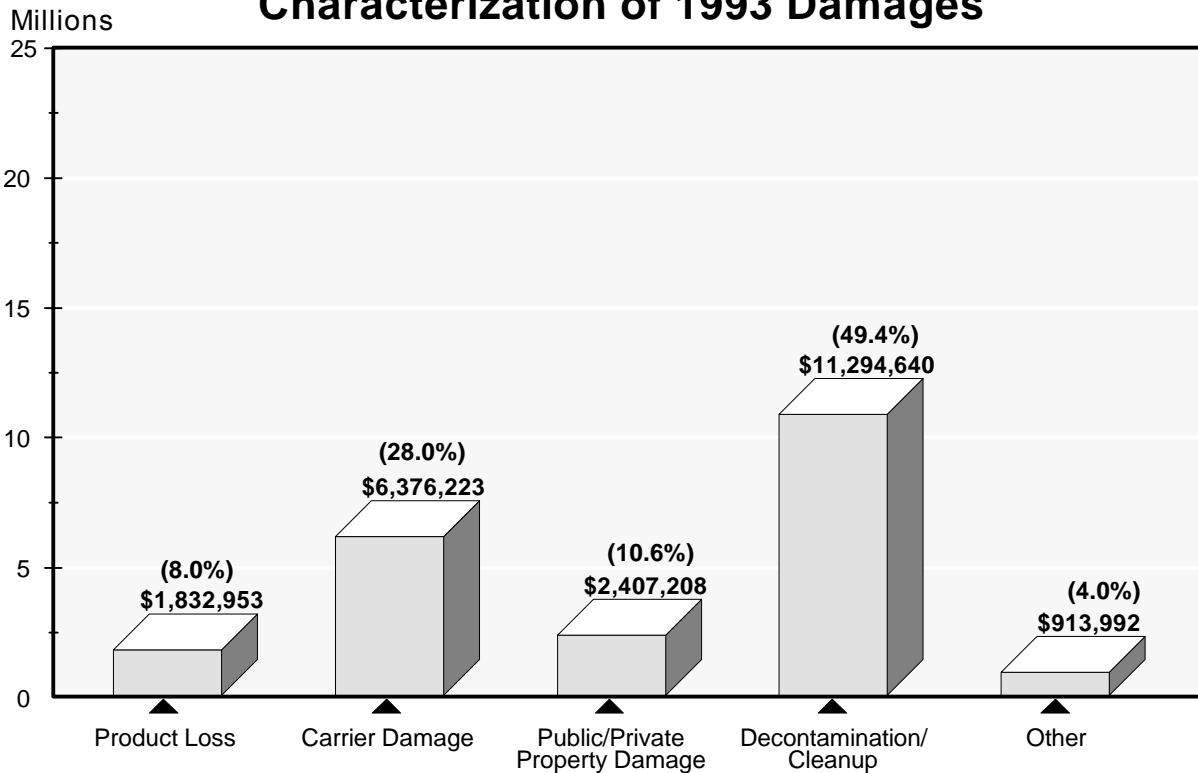
Characterization of 1992 Damages



Data as of March 19, 1993.

Exhibit 10b

Characterization of 1993 Damages



Data as of March 18, 1994.

Exhibit 11a

1992 Evacuations - Consequence and Cause by Mode

	Consequence					Cause			
	Incidents	People Evacuated	Dead	Major Injuries	Minor Injuries	Human	Package	Accident	Other
Air	10	187	0	0	3	6	2	0	2
Highway	72	5,236	1	6	118	36	12	12	12
Railway	22	23,465	0	2	61	6	5	10	1
Water	1	21	0	0	0	0	0	1	0
Total	105	28,909	1	8	182	48	19	23	15

Data as of January 19, 1993.

Exhibit 11b

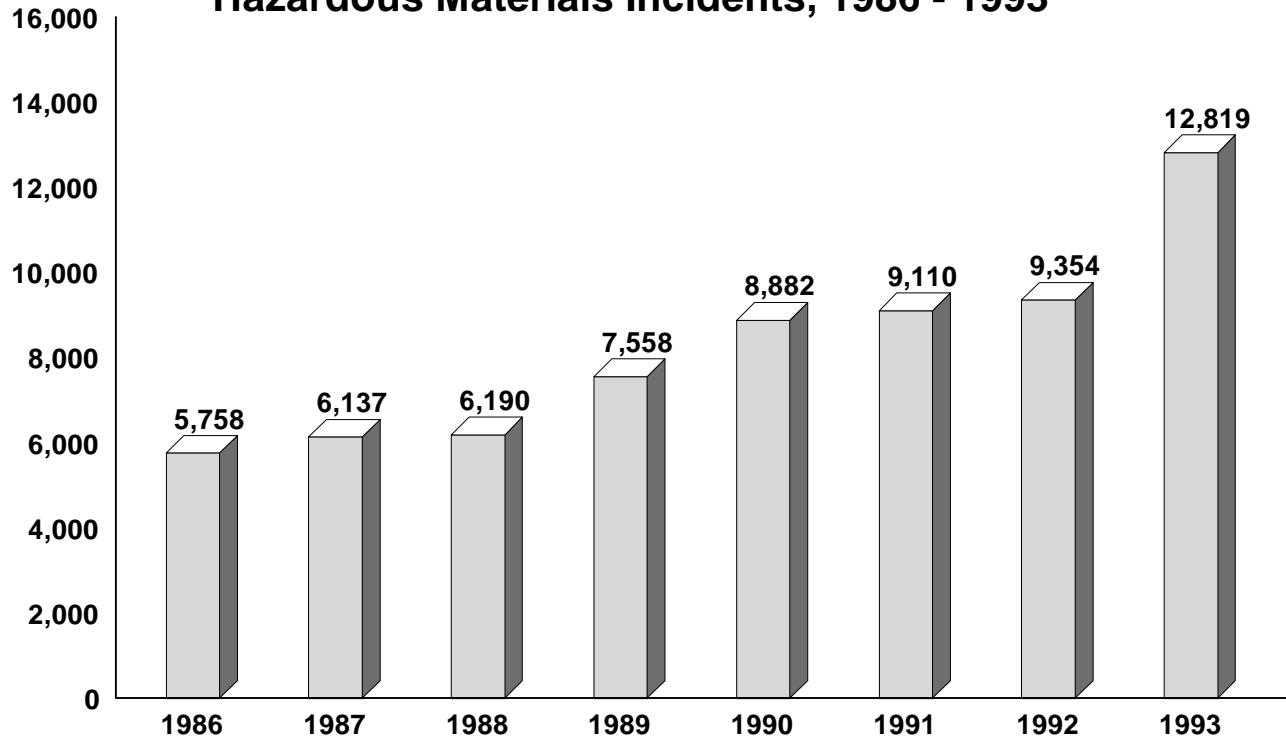
1993 Evacuations - Consequence and Cause by Mode

	Consequence					Cause			
	Incidents	People Evacuated	Dead	Major Injuries	Minor Injuries	Human	Package	Accident	Other
Air	11	412	0	4	3	9	2	0	0
Highway	108	11,741	1	5	176	67	20	20	1
Railway	26	5,939	0	0	8	8	7	11	0
Water	0	0	0	0	0	0	0	0	0
Total	145	18,092	1	9	187	84	29	31	1

Data as of January 18, 1994.

Figure I

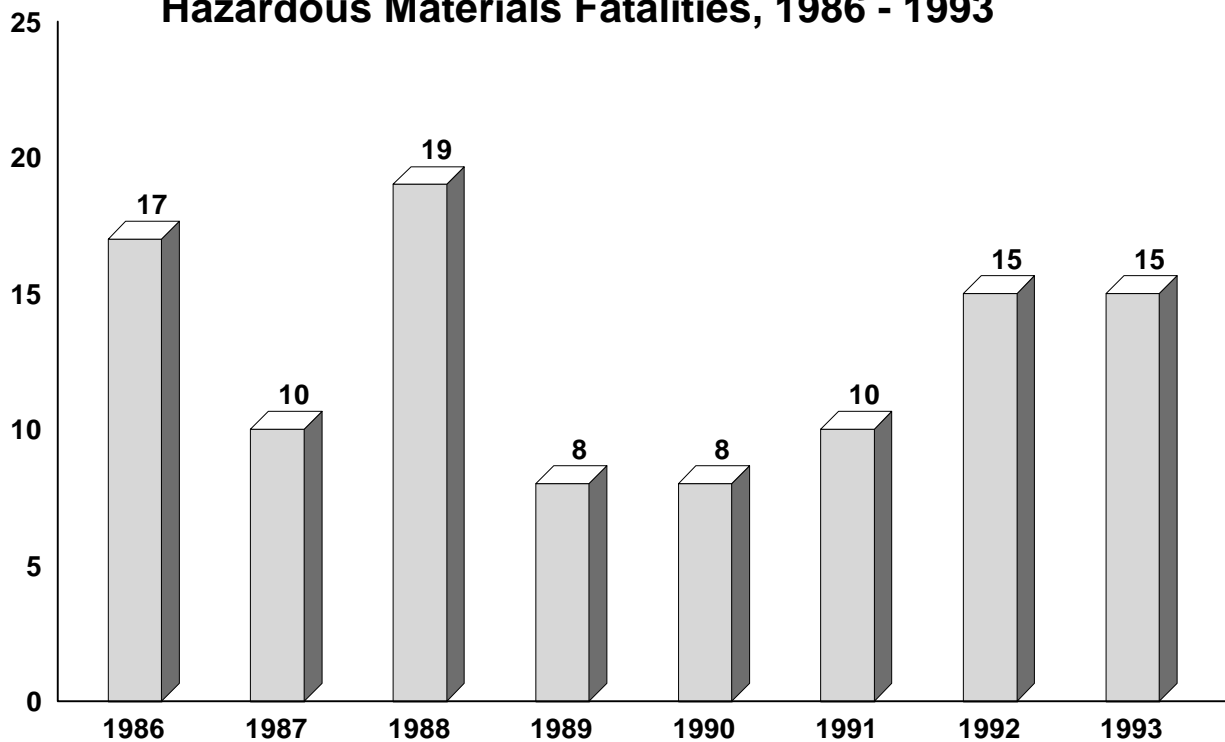
Hazardous Materials Incidents, 1986 - 1993



Data as of March 18, 1994.

Figure II

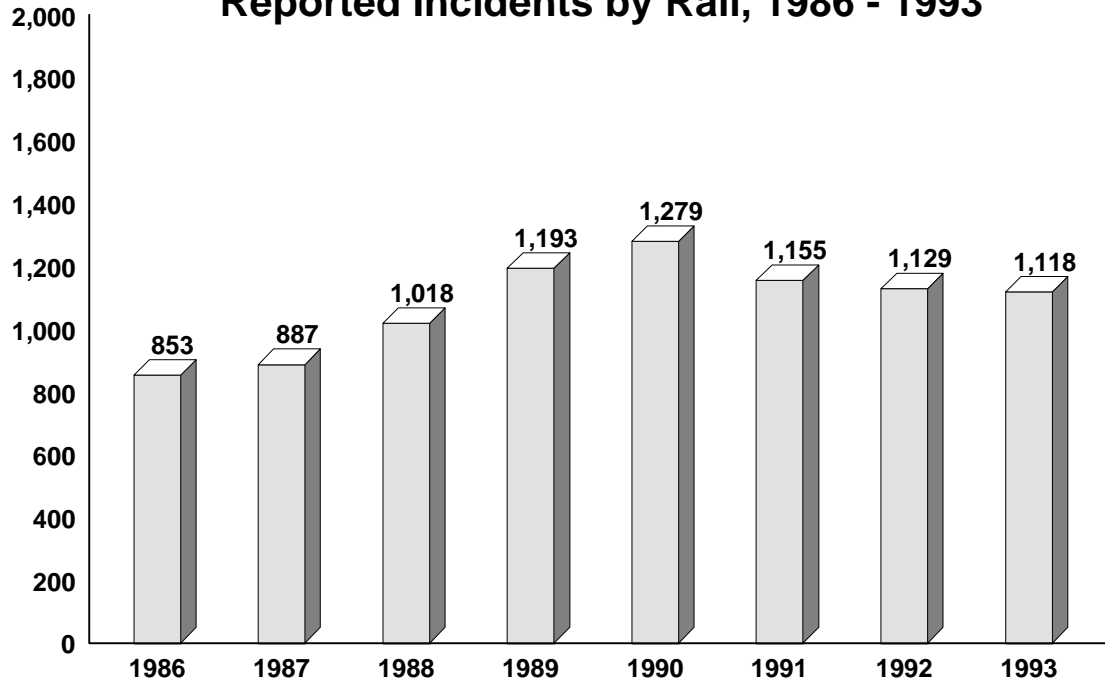
Hazardous Materials Fatalities, 1986 - 1993



Data as of March 18, 1994.

Figure III

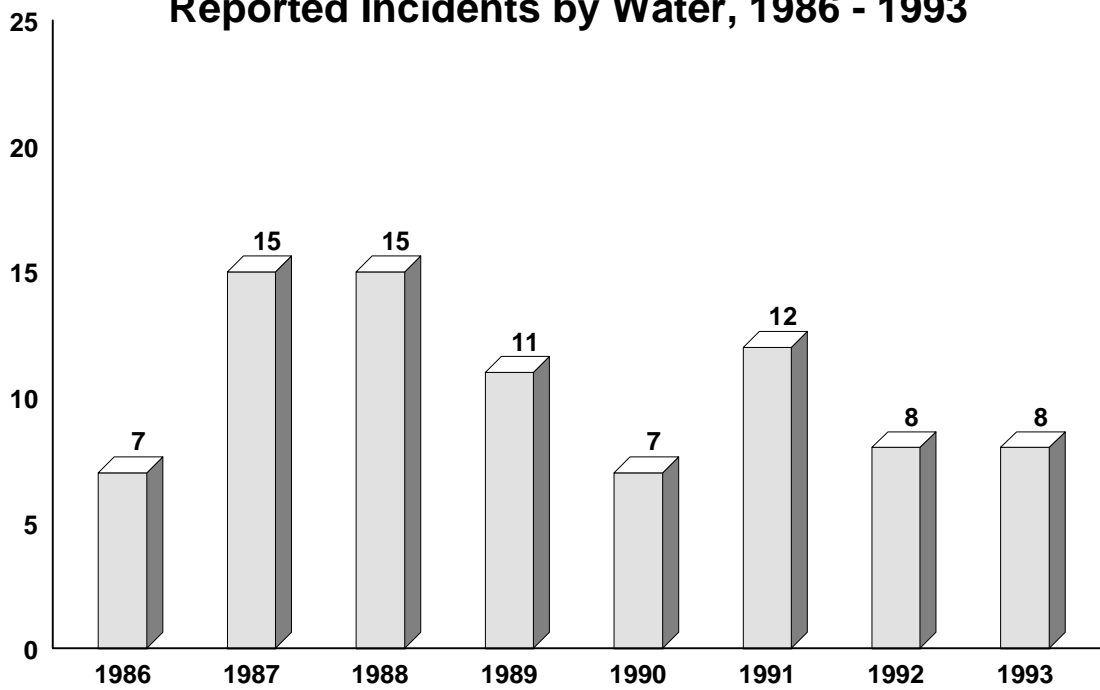
Reported Incidents by Rail, 1986 - 1993



Data as of March 18, 1994.

Figure IV

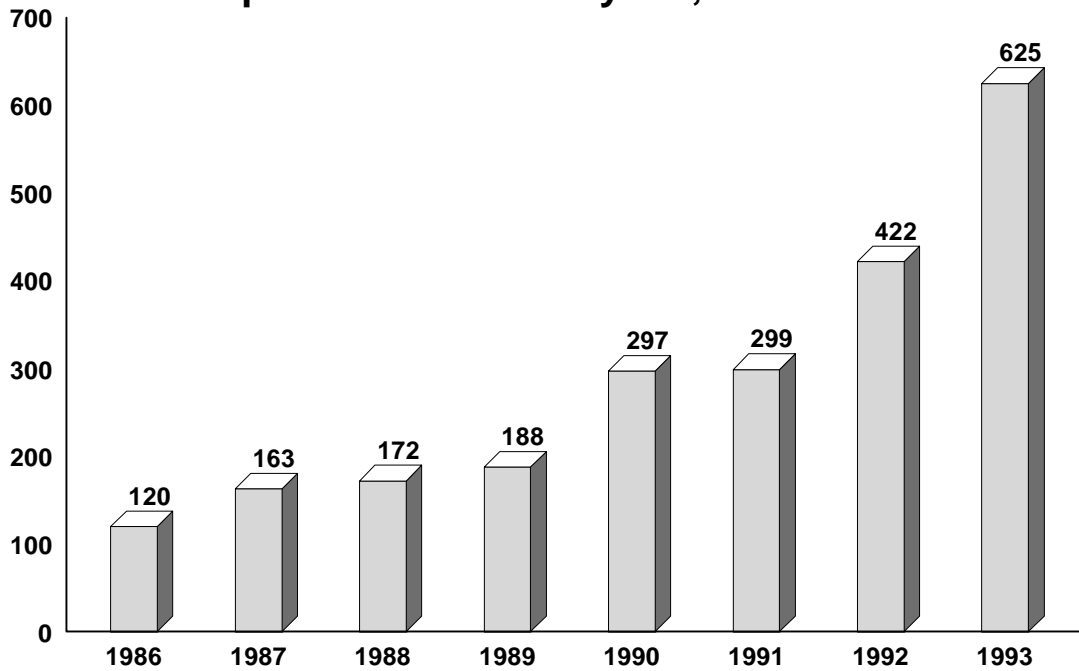
Reported Incidents by Water, 1986 - 1993



Data as of March 18, 1994.

Figure V

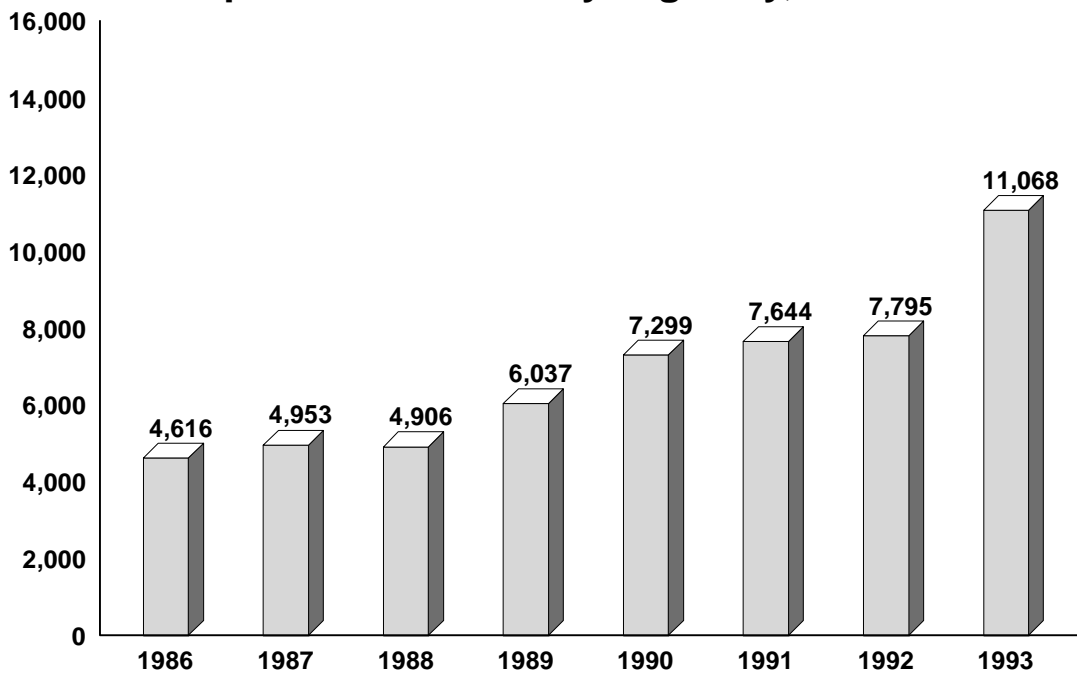
Reported Incidents by Air, 1986 - 1993



Data as of March 18, 1994.

Figure VI

Reported Incidents by Highway, 1986 - 1993



Data as of March 18, 1994.