

Incidence, Regulation, and Movement of Hazardous Materials in New Jersey

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ABSTRACT

The New Jersey Department of Transportation adopted regulations governing the transportation of hazardous materials by truck and rail, as mandated by the state legislature; these regulations took effect on March 18, 1985. Concomitantly, the state initiated steps to find out as much as possible about the movement of hazardous materials in New Jersey, in addition to the frequency and severity of hazardous material incidents in the state. Described are the incidence and means of hazardous materials transportation in New Jersey. Tonnage estimates of hazardous materials transported by rail, truck, air, and water were developed from 1982 TRANSEARCH data. Intrastate tonnage of hazardous materials was estimated at 31.9 million tons; interstate inbound tonnage of hazardous materials was estimated at 21.5 million; and interstate outbound hazardous material tonnage approximated 32.1 million tons. Hazardous material tonnage represented approximately 45 percent of all freight tonnage. Between 1971 and 1984 (the period during which these data were recorded), 3,417 hazardous material incidents were recorded to have taken place in New Jersey. Six deaths, 335 injuries, and \$3.3 million in damages were reported during this time period. Most of the incidents (91 percent) were related to the highway mode of travel; 7 percent were related to rail transport. New Jersey also originated 10,746 shipments involved in incidents occurring elsewhere across the nation. The majority of these incidents were due to human error (44 percent) or package failure (22 percent). Only 2 percent were the result of vehicular accidents or derailments.

The New Jersey State Legislature, pursuant to N.J.S.A. 39:5B-25 et seq., provided for the adoption of regulations governing the transportation of hazardous materials. The legislation required the New Jersey Department of Transportation (NJDOT) to promulgate rules and regulations in substantial conformance with the federal requirements contained in Title 49 of the Code of Federal Regulations (C.F.R.), Parts 100 to 199. NJDOT was further directed to consult with all appropriate state departments and agencies during this process.

As a result of the developmental process incurred in promulgating the regulations, several additions and modifications to the original legislation were identified by NJDOT and the New Jersey State Police. The statutory needs were brought to the attention of the state legislature, which passed the necessary legislation, effective January 1986.

New Jersey's Hazardous Material Regulations were developed using a three-phase strategy. First, because hazardous materials transportation involved a new area of expertise within NJDOT, advanced technical training was undertaken to develop a working knowledge of the federal regulations. Second, a broad frame of reference was defined in order to set priorities and identify the problems that most likely would need to be addressed by a hazardous materials safety program. Finally, a forum was established within the state; this forum included agencies involved with, or affected by, the proposed action. All three phases occurred concurrently, and

are still active and available for response to specific needs.

REGULATIONS

New Jersey's Hazardous Materials Regulations became effective on February 11, 1985. The state's regulations embrace the federal regulations, specifically 49 C.F.R.—Transportation, Parts 100 to 199, revised as of November 1, 1983. In summary, those sections adopted include

1. Part 171, General Information, Regulations, and Definitions. (Note: Sections 171.15 and 171.16 were modified, and Sections 171.1, 171.4, 171.5, 171.10, and 171.20 were excluded from adoption.)
2. Part 172, Hazardous Materials Table and Hazardous Materials Communications Regulations.
3. Part 173, Shippers—General Requirements for Shipments and Packagings. (Note: Section 173.118a and applicability to Section 173.24 were modified; Section 173.32 was excluded from adoption.)
4. Part 174, Carriage by Rail. (Section 174.8 was omitted.)
5. Part 177, Carriage by Public Highway. [Appendix A and Section 177.825(a),(b),(c), and (e) were excluded from adoption.]
6. Part 178, Shipping Container Specifications.
7. Part 179, Specifications for Tank Cars. (Sections 179.3, 179.4, and 179.5 were omitted.)

The regulations define the commodities that constitute a hazard to the general public and prescribe conditions under which they may be transported. When a commodity is defined within a particular hazard

class, such as a Poison B or an Explosive A, shippers originating the material and carriers transporting the material must comply with specific requirements pertaining to shipping papers, packaging, labeling, marking, placarding, signed certifications, loading and storage specifications, blocking and bracing requirements, and so forth. The regulations define standards that ensure that the materials remain safely contained while in transit. Hazardous materials demand that strict packaging and containerization requirements be met so that the public is adequately safeguarded.

New Jersey's Hazardous Material Regulations will be used in conjunction with the federal regulations. The intent is to create state requirements that are in substantial conformance with federal rules. States authorities are preempted by the federal government in regulating the transportation of hazardous materials. Uniformity is a key objective in national efforts aimed at cooperative enforcement and reciprocity. Uniformity is also desirable to achieve compliance from the motor carrier industry. Without endorsing national accepted standards, New Jersey or any other state would experience difficulty in achieving high levels of compliance. By adopting uniform standards, New Jersey can anticipate support for enforcement efforts from both the public and private sectors.

REGULATORY DATA: HOW NEW JERSEY COMPARES

The federal Hazardous Materials Transportation Act of 1974 was intended "to regulate commerce by improving the protections afforded the public against risks connected with the transportation of hazardous materials. Operating under the premise that a knowledgeable regulated public will comply with the hazardous materials safety regulations. . ." (1). The U.S. Department of Transportation has sought to promote public safety while concomitantly saving industry the burden of complying with unnecessarily stringent or duplicative regulations.

In 1981, the State Hazardous Materials Enforcement Development (SHMED) Program was established to encourage states to assume a larger share of the responsibility for enforcement of regulations governing hazardous materials transportation. This program has provided financial and technical incentives to encourage states to adopt and enforce federal regulations. The prime objective of this effort has been to achieve "the uniform application of a single national set of regulatory standards for both interstate and intrastate movement of hazardous materials" (1). Approximately 25 states have received funding through the SHMED Program. New Jersey did not qualify for this program and therefore has not been a program participant. The phasing out of SHMED's financial program began during fiscal year 1984 and will end during fiscal year 1987.

To date, most states have adopted the federal hazardous material regulations, particularly 49 C.F.R., Parts 171, 172, 173, 177, and 178. According to the Bureau of Motor Carrier Safety, another five states have similar rules and only seven states have no regulations on this subject (as of August 6, 1984).

The federal Motor Carrier Safety Assistance Program (MCSAP), although broader in scope, is a logical extension of the SHMED Program. Established by Congress in the Surface Transportation Assistance Act of 1982, MCSAP is designed to encourage states to adopt not only uniform federal hazardous material regulations, but also requires states to adopt the Federal Motor Carrier Safety Regulations, 49 C.F.R., Parts 386 and 388 through 399, or alternatively to

provide an official legal opinion from the State's Attorney General that the state embraces similar rules and regulations.

State participation in the adoption of Federal Motor Carrier Safety regulations is less comprehensive than for hazardous material regulations. State endorsement varies with each part of the federal regulations, although a majority of states have adopted Parts 391 through 397 (as of August 6, 1984, according to the Bureau of Motor Carrier Safety).

In October 1984, the U.S. Congress passed the Motor Carrier Safety Act of 1984. This Act includes additional initiatives directed toward requiring uniform commercial motor vehicle safety standards nationwide and strengthening of enforcement efforts. The Act requires that "no state may have in effect or enforce with respect to commercial motor vehicles any State law or regulation pertaining to commercial motor vehicle safety which the Secretary finds under this section, may not be in effect and enforced." This provision will take effect within 5 years. In the meantime, the U.S. Department of Transportation is directed to review all state statutes, rules, regulations, and standards. The U.S. Secretary of Transportation will then rule on the consistency of these provisions.

COMMODITY FLOWS OF HAZARDOUS MATERIALS IN NEW JERSEY

Hazardous material movements were estimated from the 1982 TRANSEARCH data base developed by Reebie Associates of Greenwich, Connecticut. Tonnage estimates were available for the rail, truck, and water transport modes. The data presented included only movements that had either an origin or destination in New Jersey. It did not include commodity movements passing through the state or international shipments originating or terminating in the state.

Commodity movements considered hazardous totaled 85.4 million tons during 1982. Approximately 32.1 million tons of hazardous materials moved outbound from New Jersey by truck, rail, or water; approximately 21.4 million tons of hazardous materials entered the state; and 31.9 million tons had both an origin and destination within the state (see Table 1).

Hazardous material tonnage represented 45 percent of all freight tonnage. Water transport was dominated by hazardous materials (commonly referred to as hazmats), comprising 71 percent of total water-

TABLE 1 1982 Hazardous Material Tonnage and Total Freight Tonnage in New Jersey

	Rail	Truck	Water	Total
Hazardous Material Tonnage (millions)				
Interstate inbound	2.9	3.2	15.3	21.4
Interstate outbound	1.4	3.1	27.6	32.1
Intrastate	0.4	1.7	29.8	31.9
Total Hazardous Materials (tons)	4.7	8.0	72.7	85.4
Total Freight Tonnage (millions)				
Interstate inbound	12.6	32.9	18.1	63.6
Interstate outbound	4.3	24.1	31.2	59.6
Intrastate	0.7	11.8	53.7	66.2
Total Hazardous Materials	17.6	68.8	103.0	189.4
Hazardous Material Tonnage as Percentage of Total New Jersey Freight Tonnage				
	27	12	71	45

Source: Reebie Associates, Greenwich, Connecticut, 1982 TRANSEARCH data.

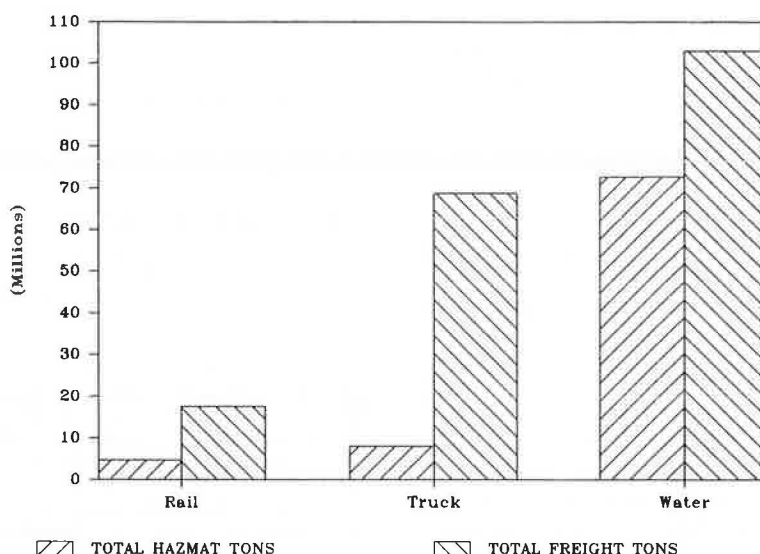


FIGURE 1 Hazardous material tonnage by mode compared with total freight tonnage.

borne traffic in New Jersey. Proportionally more hazardous materials were transported by rail (27 percent of total rail tonnage) than by truck (12 percent of total truck tonnage). Actual hazmat tonnage by truck, however, was close to twice that of rail (8 million tons compared with 4.7 million). Figure 1 shows a comparison of hazardous material tonnage and total freight by mode.

Of the total interstate tonnage inbound to New Jersey (hazardous and nonhazardous), 34 percent was designated as hazardous. The majority of this freight moved by water (71 percent); 14 percent moved by rail; and 15 percent was shipped by truck. Over one-half (54 percent) of the interstate outbound traffic was classified as hazardous. This traffic also moved predominantly by water (86 percent) as opposed to truck (10 percent) or rail (4 percent). Close to one-half (48 percent) of the interstate tonnage transported (by all modes) involved hazardous materials.

Table 2 gives hazardous material tonnage by commodity type (Standard Transportation Commodity Code). Petroleum and coal products predominate, making up 81 percent of hazmat tonnage movements by all modes. Chemicals comprise the second largest category, representing 10 percent of hazardous material tonnage; crude petroleum, natural gas, and gasoline make up 5 percent of the shipments.

TABLE 2 1982 Hazardous Material Tonnage in New Jersey by Standard Transportation Commodity Code

STCC No.	STCC Classification	Total Tonnage	
		No.	Percent
		(In Millions)	
29	Petroleum or coal products	69.7	81
28	Chemicals or allied products	8.8	10
13	Crude petroleum, natural gas, or gasoline	4.1	5
49	Hazardous material (specially classified)	2.3	3
	All other	0.5	1
Total		85.4	100

Note: Includes rail, truck, and water modes.

Source: Reebe Associates, Greenwich, Connecticut, 1982 TRANSEARCH data.

The majority of hazardous material tonnage inbound to New Jersey originates from two regions: the Middle Atlantic section, comprised of New York and Pennsylvania; and the West-South-Central portion of the United States, which includes Arkansas, Louisiana, Oklahoma, and Texas. Substantial hazmat tonnage also originates from the South Atlantic region.

The majority of hazardous material tonnage outbound from New Jersey is destined for New England; the second major destination is New York or Pennsylvania. Substantial hazmat tonnage is also shipped to the south Atlantic region. Figure 2 shows the distribution of both origins and destinations for all hazmat tonnage movements.

HAZARDOUS MATERIAL INCIDENTS

The U.S. Department of Transportation, pursuant to 49 C.F.R. Part 171, requires interstate carriers and shippers to report in writing any unintentional release of hazardous materials from a package or container (including a tank). A report is also required for any quantity of hazardous waste that has been discharged during transportation as a result of accidents, leaks, spills, and so forth. Transportation is broadly defined to include loading and unloading, as well as temporary storage. Reports are also required if, as a direct result of an accident involving hazardous materials, any one of the following circumstances occur:

- A person is killed.
- A person receives injuries requiring hospitalization.
- Estimated carrier or other property damage exceeds \$50,000.
- Fire, breakage, spillage, or suspected contamination occurs involving shipments of radioactive material or etiologic agents.
- A situation exists of such a nature that, in the judgment of the carrier, it should be reported even though it does not meet the preceding criteria.

All reports are submitted on form DOT F 5800.1 and are entered into the hazardous materials data base, formally referred to as the Hazardous Mate-

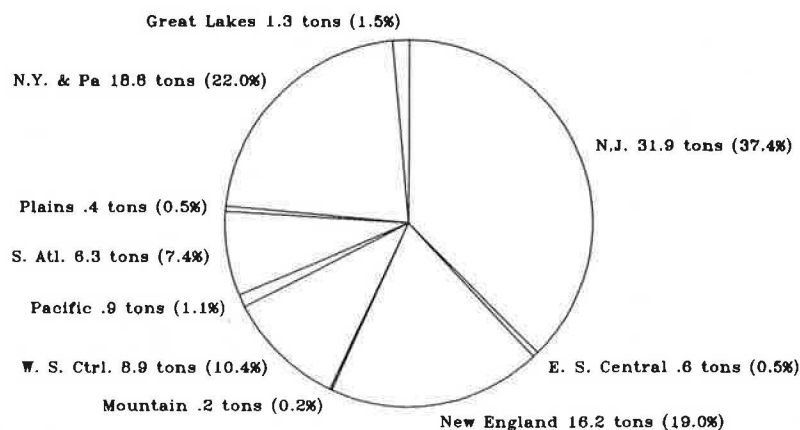


FIGURE 2 1982 origins and destinations of New Jersey hazardous material tonnage.

rials Incident Reporting System (HMIRS). This data base is maintained by the Materials Transportation Bureau at the U.S. Department of Transportation. States may access the information directly by modem to obtain information. Records date back to 1971, although the records are less complete for the first several years. Annual comparisons are further complicated by a change in the reporting requirements effective January 1, 1981. Fewer incidents were reported after this date, due at least in part to less stringent reporting requirements.

The ensuing analysis is based on data on hazardous material incidents retrieved from the HMIRS. Descriptive indicators are available for all states. The focus of this analysis is New Jersey, in relation to other states and the nation as a whole. Some of the more important indicators are

- Mode of travel,
- Consequence of incident,
- Cause of incident,
- Incident location,
- Origin and destination of incident shipment,
- Commodity types involved, and
- Reasons for the release of hazardous materials.

New Jersey Compared with the Nation

Between 1971 and the end of 1984, 3,417 incidents were recorded to have taken place in New Jersey. This statewide total can be compared with a nationwide total of 142,348 incidents occurring during the same time period. These incidents represent 2.4 percent of all incidents occurring nationally. Table 3 gives a list of the 20 states with the highest number of reported incidents occurring between 1971 and 1984; New Jersey ranks 16th. The five states with the highest reported incident levels are Pennsylvania, Ohio, Illinois, Texas, and California.

Of those incidents occurring in New Jersey, 38 percent involved shipments originating within the state (Table 4). Other states' originating shipments involved in New Jersey hazardous material incidents included 9 percent from New York, 8 percent from Pennsylvania, 6 percent each from Illinois and Ohio, and 4 percent from Texas.

New Jersey originated substantially more shipments involved in hazardous material incidents that occurred elsewhere across the country. As the data in Table 5 indicate, New Jersey ranks third in originating shipments that are later involved in hazardous material incidents. Out of 142,348 incidents oc-

TABLE 3 States with Highest Number of Hazardous Material Incidents Reported (1971-1984)

Rank	State	Total No. of Incidents	Percent Highway Related	Percent Rail Related
1	Pennsylvania	13,944	96	3
2	Ohio	9,865	95	4
3	Illinois	7,590	84	15
4	Texas	7,309	77	21
5	California	6,622	77	20
6	New York	6,290	93	4
7	Tennessee	5,895	84	5
8	North Carolina	5,594	93	6
9	Georgia	5,506	91	9
10	Missouri	5,091	96	4
11	Michigan	5,079	93	6
12	Indiana	4,413	93	6
13	Wisconsin	3,991	98	2
14	Florida	3,799	82	17
15	Virginia	3,596	94	5
16	New Jersey	3,417	91	7
17	Alabama	3,144	83	16
18	Louisiana	2,893	78	18
19	South Carolina	2,526	93	7
20	Minnesota	2,462	93	5
	All Other	33,322	-	-
Total		142,348	89	9

Source: Hazardous Materials Incident Reporting System, Materials Transportation Bureau, U.S. Department of Transportation.

TABLE 4 States Originating the Most Hazardous Material Incidents Occurring in New Jersey (1971-1984)

Originating State	No. of Incidents	Percent of Incidents Occurring in New Jersey
New Jersey (intrastate)	1,309	38
New York	315	9
Pennsylvania	272	8
Illinois	219	6
Ohio	205	6
Texas	139	4
Michigan	94	3
Connecticut	87	3
Massachusetts	73	2
Maryland	69	2
Missouri	67	2
West Virginia	51	2
All Other	517	15
Total incidents in New Jersey	3,417	100

Source: Hazardous Materials Incident Reporting System, Materials Transportation Bureau, U.S. Department of Transportation.

TABLE 5 Originating State for Nationwide Hazardous Material Incidents (1971-1984)

Originating State	No. of Incidents
1 Illinois	12,623
2 Ohio	12,073
3 New Jersey	10,746
4 Texas	10,387
5 Pennsylvania	8,244
6 California	7,478
7 New York	6,908
8 Michigan	6,741
9 Georgia	6,304
10 Missouri	6,143
11 Tennessee	3,762
12 Indiana	3,743
13 Louisiana	3,117
14 North Carolina	3,089
15 Wisconsin	2,917
16 Minnesota	2,895
17 Florida	2,701
18 Kentucky	2,665
19 Massachusetts	2,651
20 Kansas	2,420
All Other	24,741
Total	142,348

Source: Hazardous Materials Incident Reporting System, Materials Transportation Bureau, U.S. Department of Transportation.

curring nationwide between 1971 and 1984, 10,746 or 7.5 percent were shipments that originated in New Jersey. Only Illinois and Ohio generated more incident-related shipments.

Profile of New Jersey Incidents

The HMIRS data base recorded 3,417 hazardous material incidents occurring in New Jersey between 1971 and 1984. A high percentage of the incidents occurred while in transit by motor carrier (91 percent), and 7 percent occurred while being transported by rail. Less than 1 percent were related to either air or waterborne transportation. New Jersey's modal split was similar to that of the nation (Table 6).

Almost one-half of the incidents occurring in New Jersey were caused by human error; 25 percent were due to package failure; and 3 percent were a result of vehicular accidents or derailments. Cause of incidents was similarly distributed at the national level (Table 7). At both the state and national levels, the majority of incidents resulted in spillage (Table 8).

TABLE 6 New Jersey and National Incidents by Mode (1971-1984)

Travel Mode	New Jersey Incidents		National Incidents	
	No.	Percent	No.	Percent
Air	19	<1	1,822	1
Highway (for hire)	2,924	86	120,576	85
Highway (private)	179	5	6,723	5
Rail	241	7	12,427	9
Water	23	<1	292	<1
Freight forwarder	20	<1	203	<1
Other	11	<1	305	<1
Total	3,417	100	142,348	100

Source: Hazardous Materials Incident Reporting System, Materials Transportation Bureau, U.S. Department of Transportation.

TABLE 7 Cause of Hazardous Material Incidents in New Jersey (1971-1984)

Cause	New Jersey		National Comparison
	No.	Percent	Percent
Human error	1,630	48	46
Package failure	856	25	20
Vehicular accident or derailment	105	3	4
Other	147	4	4
Unknown	679	20	26
Total	3,417	100	100

Source: Hazardous Materials Incident Reporting System, Materials Transportation Bureau, U.S. Department of Transportation.

TABLE 8 Consequence of Hazardous Material Incidents in New Jersey (1971-1984)

Result	New Jersey		National Comparison
	No.	Percent	Percent
None	34	1	2
Fire	7	<1	<1
Explosion	3	<1	<1
Fire and explosion	1	<1	<1
Spillage	2,799	82	75
Spill and fire	18	1	1
Spill and explosion	1	<1	<1
Spill-fire-explosion	1	<1	<1
Undefined	553	16	22
Total	3,417	100	100

Source: Hazardous Materials Incident Reporting System, Materials Transportation Bureau, U.S. Department of Transportation.

Specific reasons for container failure are given in Table 9. Primary reasons for the unintentional release of hazardous materials were external punctures; loose fittings, valves, or closures; droppage while handling; defective fittings, valves, or closures; damage by other freight; and spills occurring during loading and unloading.

Table 10 gives the hazard classes involved in New Jersey's reported incidents. Almost one-half of the incidents involved hazard classes defined as flammable liquids; 31 percent were related to corrosive materials; combustible liquids comprised 5 percent

TABLE 9 Primary Reason for Release of Hazardous Materials, New Jersey Incidents (1971-1984)

Failure Description	Primary Reason	
	No.	Percent
External puncture of container	549	16
Loose fittings, valves, or closures	404	12
Other conditions, unspecified	322	10
Droppage while handling	294	9
Defective fittings, valves, or closures	252	7
Damage by other freight	248	7
Spills during loading or unloading (tank trucks and trailers)	182	5
Bottom failure	167	5
Body or side failure	82	2
Improper blocking or bracing	70	2
Vehicular accident or derailment	67	2
Internal pressure	64	2
All other conditions	716	21
Total	3,417	100

Source: Hazardous Materials Incident Reporting System, Materials Transportation Bureau, U.S. Department of Transportation.

TABLE 10 Hazard Class Involved in New Jersey Incidents (1971-1984)

Hazard Class	Incidents	
	No.	Percent
Flammable liquid	1,687	49
Corrosive material	1,063	31
Combustible liquid	177	5
Class B poison	167	5
Oxidizer	82	2
Nonflammable compressed gas	67	2
Flammable compressed gas	57	2
Organic peroxide	31	1
All other	86	3
Total	3,417	100

Source: Hazardous Materials Incident Reporting System, Materials Transportation Bureau, U.S. Department of Transportation.

of the state's incidents; and Class B poisons also made up 5 percent.

Table 11 gives data on New Jersey's hazardous material incidents on an annual basis. The number of incidents varies from 65 in 1971, when incident reporting requirements were initiated, to a high of 380 in 1977. Reporting requirements were made less stringent in 1981, which in part resulted in fewer incidents being reported. The trend in New Jersey's incidents parallels that of the nation as shown in Figure 3.

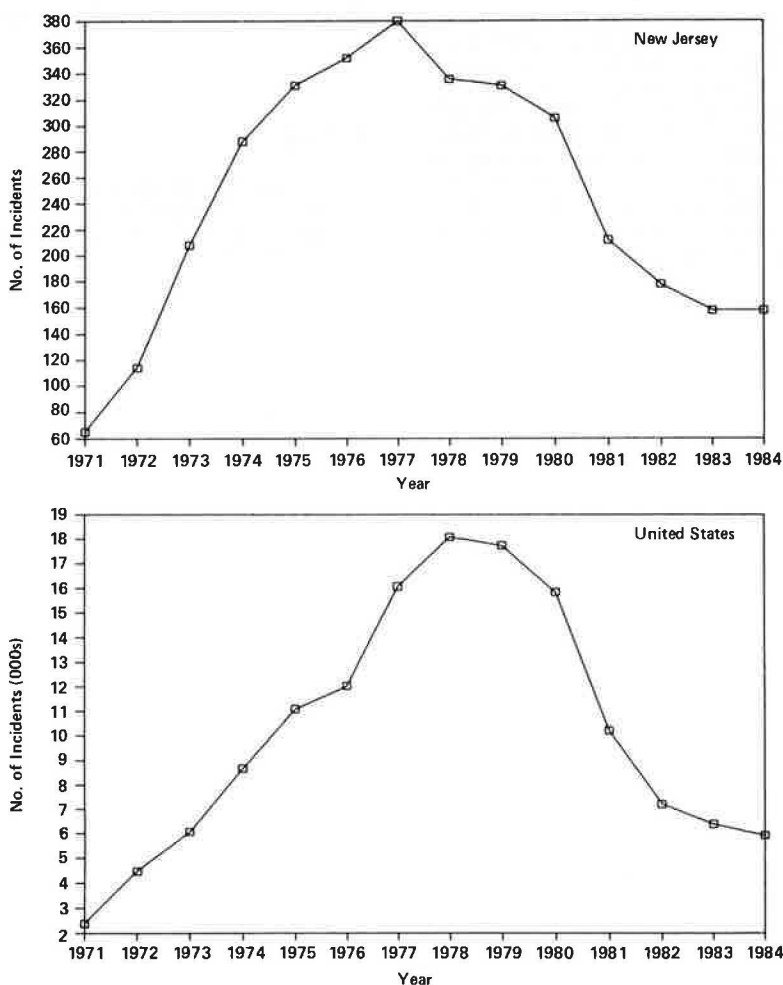
TABLE 11 Annual Depiction of New Jersey Incidents

Year	No. of Incidents	No. of Deaths	No. of Injuries	Damages (\$000s)
1971	65	0	10	1,337
1972	114	1	3	177
1973	208	0	10	40
1974	288	1	11	235
1975	331	1	17	185
1976	352	0	43	123
1977	380	0	94	138
1978	336	0	19	271
1979	331	2	35	252
1980	306	0	56	98
1981 ^a	212	1	20	235
1982	178	0	7	60
1983	158	0	4	70
1984	158	0	6	122
Total	3,417	6	335	3,343

Source: Hazardous Materials Incident Reporting System, Materials Transportation Bureau, U.S. Department of Transportation.

^aReporting requirement was made less stringent, effective January 1, 1981.

The data in Table 11 indicate that six deaths resulted from incidents involving hazardous materials in New Jersey between 1971 and 1984. This compares with 305 deaths occurring nationwide during the same time period. The number of persons sustaining injury within the state ranges from a low of 3 in 1972 to a

**FIGURE 3 Hazardous material incidents in New Jersey and the United States (1971-1984).**

high of 94 in 1977. Injuries to date in New Jersey total 335, compared with 8,016 reported nationally. Monetary damages incurred as a result of hazmat incidents in New Jersey range from \$40,000 in 1973 to \$1.3 million in 1971.

New Jersey has not been the site for any catastrophic hazardous material incident resulting in multiple deaths or major injuries. The public welfare related to hazardous materials transportation is not related to a high rate of incidents as much as it is related to the potential for a catastrophic incident to occur. New Jersey has been able to avoid any such incident. The primary goal of New Jersey's hazardous material regulations is to maintain this record and improve on the existing safety record by further reducing the number of all types of hazardous material incidents.

ENFORCEMENT

Enforcement of New Jersey's Hazardous Materials Regulations is now in progress and is being conducted by the Office of Hazardous Materials Transportation Compliance and Enforcement of the New Jersey State Police. The state's current legislation further authorizes the Port Authority of New York and New Jersey to enforce New Jersey's Hazardous Materials Regulations, as well as authorizing NJDOT to inspect rail equipment used in the transportation of hazardous materials.

NJDOT is also involved with the creation of a data base to monitor hazardous materials enforcement activities. The data base will include violations records and will communicate with other information systems such as the HMIRS, provided by the Materials Transportation Bureau. Communication will also be established with the SAFETynet system being created by the federal Bureau of Motor Carrier Safety. Ultimately, the data base will be used for impact assessment. Enforcement efforts will be focused as a result of data analyses and targeted to problem locations such as high incident sites and terminals with frequent or flagrant violations.

SUMMARY AND CONCLUSIONS

The transportation of hazardous materials requires constant monitoring in New Jersey and across the nation. Significant quantities of various hazardous materials, substances, and wastes are transported daily throughout New Jersey. Although New Jersey accounted for only 2.4 percent of all hazardous material incidents occurring nationwide, it originated 7.5 percent of all trips resulting in hazardous material incidents nationwide. This statistic is indicative of the large volume of hazardous material tonnage that originates in New Jersey. A comparison of state and national data has not identified any unusual differences unique to New Jersey's hazardous material shipments.

A majority of New Jersey's hazardous material incidents are related to the highway mode of travel; most incidents are caused by human error or package failure. Few incidents are caused by vehicular accidents or derailments. A majority of the state's incidents involve commodity types known as flammable liquids, corrosive materials, combustible liquids, and Class B poisons. Trends depicted in more recent data on New Jersey's hazardous material incidents do not deviate significantly from the state's historical data.

Greater national attention and priority needs to be focused on hazardous material transportation. Of greatest importance is the need for education of those who handle or transport hazardous materials, and those emergency response personnel who must react to incidents involving these materials.

REFERENCE

1. Annual Report on Hazardous Materials Transportation, Calendar Year 1982. Materials Transportation Bureau, U.S. Department of Transportation, pp. 27-28.