

## SAFETY PERFORMANCE DATA

In 1971, the Research and Special Programs Administration (RSPA) of the Department of Transportation (DOT) established the Hazardous Materials Information System (HMIS) to fulfill certain requirements of the Federal Hazardous Materials Transportation Law. RSPA's Office of Hazardous Materials Safety maintains the HMIS, which is the principal source of safety data related to hazardous materials transportation. The system contains comprehensive information on hazardous materials incidents, exemptions and approvals, enforcement actions, and other elements that support the regulatory program.

Each carrier who transports hazardous materials is required to report in writing on [DOT Form F 5800.1 \(Rev. 6/89\)](#) to the Department within 30 days of the date of discovery, each incident that occurs during the course of transportation. The incident data is entered in HMIS and is accessible by DOT, other Federal agencies, state and local governments, industry, researchers, the media, and the public. HMIS data support regulatory evaluation and policy making, training programs, the better understanding of hazardous materials transportation incidents, and identification of possible safety problems.

An incident is defined as **any unintentional release of a hazardous material during transportation** (including loading, unloading, and temporary storage related to transportation). This includes all hazardous substances with a hazard class that is different from the hazard class ORM-E. For hazardous substances with the hazard class ORM-E, any release of the substance in a quantity equal to or greater than its reportable quantity (RQ) is considered a reportable incident. This definition also applies to the release of any quantity of **hazardous waste** discharged during transportation.

In 1993, RSPA's Hazardous Materials Safety (OHMS) created the definition of serious incident to convey the consequences of hazardous materials transportation – i.e., what has resulted, in terms of harm and inconvenience – as unintended consequences of the necessity to transport hazardous materials. The **current definition of a serious accident**, revised in 2002, is:

- a fatality or major injury caused by the release of a hazardous material,
- the evacuation of 25 or more persons as a result of release of a hazardous material or exposure to fire,
- a release or exposure to fire which results in the closure of a major transportation artery,
- the alteration of an aircraft flight plan or operation,
- the release of radioactive materials from Type B packaging,
- the release of over 11.9 gallons or 88.2 pounds of a severe marine pollutant, or
- the release of a bulk quantity (over 119 gallons or 882 pounds) of a hazardous material.

In reformulating the definition of serious incidents, RSPA brought focus to those incidents that result in serious consequences or have a high potential to result in serious consequences. Prior to 2002, the definition of a serious incident was “incidents that involve: a fatality or major injury due to a hazardous material; closure of a major transportation artery or facility or evacuation of six or more persons due to the presence of a hazardous material; or a vehicle crash or derailment resulting in the release of a hazardous material.”

The 2002 redefinition of serious incidents retains some components of the previous definition, drops some others, and adds several new components. The 2002 definition differs from the old definition in several ways.

- The 2002 definition of serious incidents includes incidents resulting in the evacuation of 25 or more employees or responders or any number of the general public when there has been a hazardous material release or exposure to fire. The old definition set the threshold at six or more persons. The next version of the 5800.1 form will identify the types of people evacuated and will enable such a definition.
- All incidents involving a major transportation artery closure were included in the old definition of “serious incident.” The 2002 definition only includes those incidents when the material is released or there is exposure to fire. All transportation artery closures are included in the significant incident definition.
- Vehicle crashes or derailments resulting in the release of a hazardous material are excluded from the new definition (unless other criteria, such as a bulk release, are met) of a serious incident.
- Incidents on board or affecting aircraft are particularly serious, due to the potential for loss of many lives and extremely large economic costs, including aircraft replacement costs.
- Radioactive materials shipped in Type B packaging are not expected to ever release their contents, even under accident scenarios, so any such release is of extreme gravity. Transported infectious substances include a wide range of hazards, from medical waste, such as “sharps,” to highly contagious airborne viruses. Restricting the definition of serious incident to the more serious Risk Group 3 and 4 materials is more appropriate than including all of these materials.
- The release of more than a bulk quantity of a material (defined as 119 gallons or 882 pounds) is also added to the “serious incident” definition, due to the potential for serious consequences. This criterion captures spills from bulk packaging and also includes spills from more than one non-bulk packaging. Even if no other serious consequences such as fatalities, injuries, or large evacuations actually occur when a bulk quantity is released, slight changes in incident scenarios could easily lead to such consequences.
- The rationale for including severe marine pollutants with a quantity release greater than or equal to 11.9 gallons or 88.2 pounds in the serious incident category relates to the criteria for classification of mixtures of materials as marine pollutants. For a solution or mixture to be classified as a marine pollutant, it must be 10 percent or more by weight of a material identified as a marine pollutant in the Appendix B to 49 CFR § 171.101. The percentage falls to 1 percent or more in the case of a severe marine pollutant. A marine pollutant released in bulk quantity (119 gallons or 882 pounds) would be in the serious incident category. Maintaining the same ten-to-one ratio based on hazard, a release of 11.9 gallons or 88.2 pounds of a severe marine pollutant is appropriate for inclusion in the serious incident category.

The HMIS migration from its existing database management system into a more robust environment continued in 2004. RSPA expects this migration to improve system performance, maintenance, and accessibility. Alternative methods of submitting incident reports, including Internet based submissions, will be introduced in 2005. RSPA continues to make more data and reports available to the public on the OHMS Internet Home Page.

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**PLEASE NOTE:**

The following analysis is based on HMIS Incident Reports received by DOT through May 19, 2004 and may not always reflect the most current incident information. Each month DOT continues to receive and process Incident Reports for the current and previous years.

This report does not reflect a serious incident that occurred on July 2, 2003 in Bonita Springs, Florida which resulted in five fatalities. This incident is currently under investigation and the filing of an incident report is anticipated.

To see the most up-to-date Incident information, please see the "Hazardous Materials Incident Summary Statistics and Data" reached from the SPILLS section of the OHMS web site:

<http://hazmat.dot.gov/spills.htm>

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## Summary of 2002 and 2003 Hazardous Materials Incident Statistics

(Data as of May 19, 2004)

The Department of Transportation has received hazardous materials incident reports since 1971. This summary of 2002 and 2003 Hazardous Materials Safety Statistics provides an overview of the reports and graphs. As shown in Table 1.0, the number of reported incidents shows a year-to-year increase from 2000 to 2001, but a substantial drop in 2002 and 2003.

**Table 1.0**  
**Comparison of Total Hazardous Materials Incidents**  
**2000 to 2003 by Year and Mode**

Transportation Modes	2000		2001		2002		2003	
	Incidents	Mode % of total	Incidents	Mode % of total	Incidents	Mode % of total	Incidents	Mode % of total
Air	1,419	8.1%	1,084	6.1%	734	4.8%	753	5.0%
Highway	15,062	86.0%	15,888	89.0%	13,831	89.5%	13,595	89.6%
Rail	1,058	6.0%	899	5.0%	872	5.6%	813	5.4%
Water	17	<.01%	6	<.01%	9	<.01%	10	<.01%
<b>Total Incidents</b>	<b>17,556</b>		<b>17,877</b>		<b>15,446</b>		<b>15,171</b>	

Each year the majority of reported incidents are highway incidents, and in fact, the increase in total incidents from 2000 to 2001 was caused by a 5.5 percent increase in highway incidents. However, in 2002, a significant decrease in highway incidents resulted in a 14 percent decrease in total incidents. This downward trend continued in the 2003 reporting year.

An analysis of 2002 and 2003 reported incidents by package type shows that the majority of incidents reported to DOT involved non-bulk packages. Non-bulk packaging can be single containers (e.g., metal or plastic drums or pails) or some combination of 4G-fiberboard boxes filled with inner containers (plastic jugs or bottles). Bulk packaging, which accounts for an average of 20% of the unintentional releases of hazardous materials, usually involve highway containers (e.g., cargo tanks) but can also involve rail containers. Typically, the causes of damage to bulk and non-bulk packaging which lead to the unintentional release of hazardous materials differ. Bulk containers are more often damaged as a result of a vehicular crash. Non-bulk packages are more likely to sustain damage as a result of load shift during transport or problems that occur during loading and unloading. These packages are either single containers (e.g., metal or plastic drums or pails) or some combination of 4G-fiberboard boxes filled with inner containers (plastic jugs or bottles). In either case, most spills and releases of hazardous materials are categorized as being caused by human error.

An analysis of the reported consequences of hazardous materials releases by transportation phase shows that a high number of dollar damages were due to en route accidents, which also resulted in the highest number of fatalities. Unloading incidents resulted in the largest number of incidents.

Examining the 2002 and 2003 reported incidents by hazard class shows that corrosive materials and flammable-combustible liquids were involved in the most incidents, accounting for about 80 percent of the total in both reporting years. In 2002 and 2003, these same materials accounted for the majority of total injuries reported.

**Table 2.0  
Comparison of Serious Reported Hazardous Materials Incidents and Damages  
by Year and Mode**

Transportation Modes	2002 Incidents	2003 Incidents	2002 \$ Damages	2003 \$ Damages
Air	15	13	\$12,000	\$1,715
Highway	387	387	\$31,247,960	\$31,152,746
Rail	68	56	\$6,674,464	\$3,021,760
Water	2	2	\$13,383	\$65,650
Total	472	458	\$37,947,807	34,241,871

The proportion of serious incidents remained flat for 2002 and 2003 at 3.0 percent of all incidents each year. Table 2.0 shows that serious highway incidents were the majority of all serious incidents and resulted in over 80 percent of the total dollar damages in 2002 for all reported serious incidents and 90 percent in 2003.

### **2002 and 2003 Incidents Resulting in Fatalities**

Eight incidents in 2002 resulted in nine fatalities:

- Seven fatalities were the result of six separate vehicle crashes, each causing loads of gasoline to ignite.
- One fatality incident was the result of a train derailment involving 15 tank cars that released anhydrous ammonia.
- One fatality was caused by problems that occurred while loading toluene, a volatile, flammable liquid.

Eight incidents in 2003 resulted in eight fatalities:

- All eight incidents involved flammable liquids transported by highway.
- Seven of the fatalities were caused by separate incidents of vehicle crashes, each causing loads of flammable liquids to ignite.
- One of the above vehicle crashes involved a tanker truck carrying gasoline and resulted in the evacuation of approximately 150 residents of a nearby apartment complex.
- One fatality occurred as a result of improper loading of anhydrous ammonia from a storage tank to a nurse tank.

The charts and tables in this report do not reflect a serious incident that occurred on July 2, 2003 in Bonita Springs, Florida which resulted in five fatalities. This incident is currently under investigation and the filing of an incident report is anticipated.

### **2002 and 2003 Incidents Resulting in Evacuations**

Three rail incidents and four highway incidents in 2002 involved the evacuation of a thousand or more people:

- Twenty-five thousand people were evacuated when a vehicle overturned in Spartanburg, SC and 9,000 gallons of gasoline spilled. This one incident resulted in a major increase in total number of persons evacuated for the year.
- A highway shipment of ammonium nitrate was spilled when a tank truck overturned in Danville, KY. Approximately 1,000 people were evacuated.
- A highway accident in Bloomington, IN resulted in a spill of ammonium nitrate. Approximately 1,500 people were evacuated.
- While unloading a shipment in Pacoima, CA, several punctured drums were discovered in a truck trailer. The resulting spill of toxic solids resulted in the evacuation of 1,000 people.
- Thirty-five rail cars derailed, causing the release of 34,000 gallons of a liquefied petroleum gases in Pottersville, MI. Authorities evacuated approximately 2,200 local residents for about four days.
- As a result of a multi-car derailment in Farragut, TN, various hazardous materials were released and 3,200 people were evacuated.
- A multi-car derailment resulted in two railcars losing or leaking hydrochloric acid and styrene monomer inhibited, which may cause a violent reaction when combined. Approximately 1,200 people were evacuated.

One rail incident in 2003 involved the evacuation of a thousand or more people:

- A train traveling north at Tamora, IL derailed 22 cars, resulting in seven tank cars releasing various types and quantities of hazardous materials. An evacuation of a three-mile radius and the closing of U.S. highway 51 followed the derailment.

The next two highest incidents of evacuation in 2003 involved 600 people. All other evacuation incidents involved less than 500 people.

### **2002 and 2003 Incidents Resulting in High Damage Costs**

In 2002 there were seven reported incidents that resulted in damages greater than \$1 million. Four of these involved railway derailments and three were the result of accidents or loading errors during highway transportation. These seven incidents accounted for over 30 percent of all damages for the year.

High damage cost incidents were further reduced in 2003. Three such incidents were reported: one train derailment and two tank truck crashes resulting in damages greater than \$1 million. The train derailment accounted for 31.3 percent of all damages due to rail and the two tank truck crashes accounted for 10.3 percent of all damages due to highway.

### **Description of Charts and Graphs (Data as of May 19, 2004)**

Exhibit 1.1 summarizes hazardous materials transportation incidents reported to OHMS over the past eight years. Beginning in 1996 the number of reported incidents increased each year, until peaking at

over 17,800 in 2001. In 2002 the number of incidents decreased by 13.6 percent and continued a downward trend into 2003. Highway, clearly the most prevalent mode for incidents, accounted for the majority of incidents (usually averaging over 85 percent each year) in the period from 1996 to 2003. Highway accounted for all fatalities except in 1996 and 2002. In 1996 two rail fatalities were due to one derailment incident that also resulted in 787 minor injuries. A major air incident in 1996 resulted in 110 deaths. In 2002, one rail incident resulted in one fatality.

Exhibit 1.2 summarizes serious incidents reported to OHMS along with fatalities, injuries and dollar damages. Serious incidents have remained relatively steady from 1996 through 2003, with the average number of serious incidents per year being under 470.

Exhibit 1.3 summarizes vehicular accident and derailment incidents reported to OHMS over the past eight years. The average number of incidents per year has been under 350. All fatalities from these incidents were highway-related, except for two rail fatalities that occurred in 1996 and one in 2002.

Exhibit 1.4 summarizes hazardous waste incidents reported to OHMS over the past eight years. While the average number of hazardous waste incidents over the last eight years has been just over 350, in recent years the number of reported incidents has decreased substantially. Reported incidents in 2002 were 42 percent lower than the eight year average, and the number in 2003 decreased by 60 percent. Only one hazardous waste incident resulted in a fatality in a 1996 highway incident. The majority of hazardous waste injuries involved highway and rail modes of transport.

Exhibits 2.1 and 2.2 display reported hazardous materials transportation incidents and fatalities over the past eight years and correspond to data from Exhibit 1.1.

Exhibits 2.3 - 2.6 display the number of incidents reported to OHMS by mode over the past eight years. Exhibits 2.3 and 2.4 also break out the number of bulk vs. non-bulk incidents for highway and rail. The number of bulk incidents has remained fairly steady since 1996, except for noticeable downward trend in bulk rail incidents beginning in 2001. Exhibit 2.5 shows the noticeable increase in reported air incidents in 1998-2000 but a marked downward trend beginning in 2001.

Exhibit 3.1 graphs the hazardous materials incidents reported since 1989. By separating highway incidents from all others, this graph illustrates the major impact highway incidents have on the trend of total incidents. A three year increase in incident reporting from 1999-2001 was followed by a substantial decrease in reported incidents in 2002 and 2003.

Exhibit 3.2 provides a graphical display of the serious hazardous materials incidents reported in relation to total incidents since 1992. Note that serious incidents are measured on a different scale than all incidents. Serious incidents have remained relatively steady for the past ten years.

Exhibit 3.3 illustrates the number of all reported incidents since 1992 that involved commodities shipped in bulk versus non-bulk packaging. The number of bulk incidents has remained fairly constant during this period; most of the variability in the number of incident reports is due to changes in the number of non-bulk incidents.

Exhibits 4.1.1 - 4.1.4 show reported incidents and damages by hazard class for 2002 and 2003. The first four columns of each exhibit present and rank incidents by hazard class. The last four columns present the number of incidents involving dollar damages, damages by dollar amount, percent, and rank. The majority of incidents and damages involved corrosive materials and flammable-combustible liquids. Exhibits 4.1.3 and 4.1.4 graphically depict the distribution of incidents among the top hazard classes.

Exhibits 4.2.1 and 4.2.2 display injuries by hazard class for 2002 and 2003. Also included is a breakdown between major and minor injuries. In 2002, corrosive materials, flammable-combustible liquids, and poisonous materials accounted for more than 75 percent of injuries while in 2003 the same hazard classes accounted for over 70 percent of injuries.

Exhibit 4.3 lists the classes of hazardous materials involved in incidents which resulted in fatalities. One air incident in 1996 involving oxidizers resulted in 110 fatalities. Of the remaining materials, gasoline accounts for the most fatalities each year.

Exhibits 4.4.1 and 4.4.2 rank the 50 top hazardous materials involved in incidents for 2002 and 2003. The 50 materials listed, out of approximately 3,000 hazardous materials identified in the Hazardous Materials Table, 49 CFR §172.101, were involved in 76.0 percent of all incidents reported. The Exhibits list the commodity, corresponding hazard class, number of incidents reported for that commodity, and corresponding percentage.

Exhibits 4.5.1 and 4.5.2 rank the hazardous materials involved in serious incidents. These materials were involved in less than three percent of all incidents in 2002 as well as in 2003. Gasoline accounts for more serious incidents than any other hazardous material. The Exhibits list the commodity, corresponding hazard class, number of incidents reported for that commodity, and corresponding percentage.

Exhibit 5 shows the distribution of incident damages in the five categories that appear on the report form. Carrier damage and decontamination/cleanup costs made up 81.6 percent of the costs associated with incidents involving damages in 2002 and 80.4 percent of those costs in 2003.



Exhibits 6.1 and 6.2 show the breakdown of incident causes by mode of transportation. Human error was the main cause of incidents in both 2002 and 2003. Combined with package failure, these two causes are responsible for over 97 percent of all incidents each year. Note that for accidents and derailments the cause of the crash is not determined.

Exhibits 7.1 and 7.2 display information on incidents involving an evacuation. The incidents are broken down by mode, cause, and consequence. In 2002, one highway incident resulted in an evacuation of 25,000 people, causing a major spike in the total number of evacuations for the year. Human error was the main cause of evacuation incidents in both 2002 and 2003.

Exhibits 8.1.1 and 8.1.2 show the consequences of hazardous materials incidents by transportation phase. Most incidents resulting in high damages were due to en route accidents, which also resulted in the highest number of fatalities. Unloading incidents result in the second largest number of fatalities, the most minor injuries, and by far the largest number of incidents.

Exhibits 8.2.1 and 8.2.2 display the consequences of bulk and non-bulk hazardous materials incidents. Although an approximately equal number of minor injury incidents result from bulk and non-bulk incidents, in 2002 bulk incidents lead to significantly more incidents with major injuries and damages greater than \$50,000, and accounted for all the incidents with fatalities. In 2003 one fatality resulted from a non-bulk incident and evacuations also increased for this packaging type.

Exhibits 8.3.1 and 8.3.2 illustrate the consequences of hazardous materials incidents by time of day.

Exhibits 9.1 and 9.2 show the number of serious bulk and non-bulk hazardous materials incidents by time of day. Most serious incidents occurred between 6 a.m. and 3 p.m.

Exhibits 10.1 and 10.2 display the breakdown of hazardous materials incidents, fatalities, injuries, and damages by state. States with large population centers and industrial cities had the most hazardous materials incidents.

Exhibits 11.1.1 - 11.7.2 display 2002 and 2003 incident data by county. The areas with the greatest concentration of hazardous materials incidents either were industrial centers or included numerous terminal facilities:

Exhibits 11.1.1 and 11.1.2 - location of all incidents reported to RSPA.

Exhibits 11.2.1 and 11.2.2 - origin of reported shipments that resulted in an incident.

Exhibits 11.3.1 and 11.3.2 - location of reported highway incidents.

Exhibits 11.4.1 and 11.4.2 - location of reported rail incidents.

Exhibits 11.5.1 and 11.5.2 - location of reported loading and unloading incidents.

Exhibits 11.6.1 and 11.6.2 - location of reported incidents that occurred en route.

Exhibits 11.7.1 and 11.7.2 - location of reported serious incidents.

Note that the exhibits for rail, en route, and serious incidents use a different classification scheme from the other exhibits.

**Exhibit 1.1**  
**Incident Statistics by Mode and Reporting Year**

<b>Mode</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>Total</b>
<b>Incidents by Mode</b>									
<b>Air</b>	925	1,031	1,386	1,582	1,419	1,084	734	753	8,914
<b>Highway</b>	12,034	11,932	13,111	14,953	15,062	15,888	13,831	13,595	110,406
<b>Railway</b>	1,112	1,102	989	1,073	1,058	899	872	813	7,918
<b>Water</b>	6	5	11	8	17	6	9	10	72
<b>Other</b>	0	0	0	0	0	0	0	0	0
<b>Totals</b>	14,077.00	14,070.00	15,497.00	17,616.00	17,556.00	17,877.00	15,446.00	15,171.00	127,310.00

<b>Deaths By Mode</b>									
<b>Air</b>	110	0	0	0	0	0	0	0	110.00
<b>Highway</b>	8	12	13	9	16	11	8	8	85.00
<b>Railway</b>	2	0	0	0	0	0	1	0	3.00
<b>Water</b>	0	0	0	0	0	0	0	0	0.00
<b>Other</b>	0	0	0	0	0	0	0	0	0.00
<b>Totals</b>	120	12	13	9	16	11	9	8	198.00

<b>Injuries By Mode</b>									
<b>Air</b>	33	24	20	12	5	13	4	1	112
<b>Highway</b>	216	152	151	217	164	126	115	103	1,244
<b>Railway</b>	926	45	22	35	82	29	14	13	1,166
<b>Water</b>	0	0	2	0	0	0	0	0	2
<b>Other</b>	0	0	0	0	0	0	0	0	0
<b>Totals</b>	1,175	221	195	264	251	168	133	117	2,524

<b>Damages By Mode and Incident Year</b>									
<b>Air</b>	87,188	336,178	266,628	286,104	271,629	309,189	109,135	100,483	1,766,534
<b>Highway</b>	29,256,951	24,741,052	28,668,607	34,359,418	50,906,899	47,684,979	43,630,994	43,978,132	303,227,032
<b>Railway</b>	17,385,078	8,418,188	16,242,506	30,694,452	26,546,958	21,247,655	9,705,954	4,124,165	134,364,956
<b>Water</b>	120,146	38,145	1,014,931	60,500	283,183	147,361	247,802	261,324	2,173,392
<b>Other</b>	0	0	0	0	0	0	0	0	0
<b>Totals</b>	46,849,363	33,533,563	46,192,672	65,400,474	78,008,669	69,389,184	53,693,885	48,464,104	441,531,914

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 05/19/2004

**Exhibit 1.2  
Incident Statistics by Mode and Reporting Year  
Serious Incidents**

Mode	1996	1997	1998	1999	2000	2001	2002	2003	Total
<b>Incidents by Mode</b>									
<b>Air</b>	11	11	23	12	11	10	15	13	106
<b>Highw</b>	374	347	340	384	399	415	387	387	3,033
<b>Railwa</b>	76	66	68	71	94	66	68	56	565
<b>Water</b>	0	0	0	0	2	0	2	2	6
<b>Other</b>	0	0	0	0	0	0	0	0	0
<b>Totals</b>	461	424	431	467	506	491	472	458	3,710

<b>Deaths By Mode</b>									
<b>Air</b>	110	0	0	0	0	0	0	0	110
<b>Highwa</b>	8	12	13	9	16	11	8	8	85
<b>Railwa</b>	2	0	0	0	0	0	1	0	3
<b>Water</b>	0	0	0	0	0	0	0	0	0
<b>Other</b>	0	0	0	0	0	0	0	0	0
<b>Totals</b>	120	12	13	9	16	11	9	8	198

<b>Injuries By Mode</b>									
<b>Air</b>	15	4	4	4	0	3	0	0	30
<b>Highw</b>	85	65	52	109	41	51	25	31	459
<b>Railwa</b>	890	6	9	3	57	8	3	2	978
<b>Water</b>	0	0	0	0	0	0	0	0	0
<b>Other</b>	0	0	0	0	0	0	0	0	0
<b>Totals</b>	990	75	65	116	98	62	28	33	1,467.00

<b>Damages By Mode and Incident Year</b>									
<b>Air</b>	11,390	6,209	26,168	6,187	49,059	68,034	12,000	1,715	180,762
<b>High</b>	23,848,509	18,851,249	22,247,503	26,258,444	42,610,653	37,354,950	31,247,960	31,152,746	233,572,014
<b>Railw</b>	16,619,721	7,506,644	15,385,579	28,864,681	25,498,079	20,262,646	6,674,464	3,021,760	123,833,574
<b>Water</b>	0	0	0	0	75,000	0	13,383	65,650	154,033
<b>Other</b>	0	0	0	0	0	0	0	0	0
<b>Totals</b>	40,479,620	26,364,102	37,659,250	55,129,312	68,232,791	57,685,630	37,947,807	34,241,871	357,740,383

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 05/19/2004

**Exhibit 1.3  
Incident Statistics by Mode and Reporting Year  
Accident / Derailment Incidents**

Mode	1996	1997	1998	1999	2000	2001	2002	2003	Total
<b>Incidents by Mode</b>									
Air	0	1	2	0	1	2	1	0	7
Highw	291	263	265	306	327	354	313	271	2,390
Railwa	43	52	50	64	62	54	41	42	408
Water	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>334</b>	<b>316</b>	<b>317</b>	<b>370</b>	<b>390</b>	<b>410</b>	<b>355</b>	<b>313</b>	<b>2,805</b>

<b>Deaths By Mode</b>									
Air	0	0	0	0	0	0	0	0	0
Highwa	5	10	8	7	11	7	7	7	62
Railwa	2	0	0	0	0	0	1	0	3
Water	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>7</b>	<b>10</b>	<b>8</b>	<b>7</b>	<b>11</b>	<b>7</b>	<b>8</b>	<b>7</b>	<b>65</b>

<b>Injuries By Mode</b>									
Air	0	0	0	0	0	0	0	0	0
Highw	22	11	9	15	15	12	13	15	112
Railwa	842	5	4	0	1	0	1	0	853
Water	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>864</b>	<b>16</b>	<b>13</b>	<b>15</b>	<b>16</b>	<b>12</b>	<b>14</b>	<b>15</b>	<b>965</b>

<b>Damages By Mode and Incident Year</b>									
Air	0	0	0	0	42,164	50,000	60,000	0	152,164
High	22,298,814	17,871,071	21,488,847	23,019,756	37,699,609	36,311,471	29,094,707	33,348,949	221,133,224
Railw	15,460,065	7,446,489	15,320,681	28,655,871	23,978,356	20,092,439	7,484,983	3,174,532	121,613,416
Water	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>37,758,879</b>	<b>25,317,560</b>	<b>36,809,528</b>	<b>51,675,627</b>	<b>61,720,129</b>	<b>56,453,910</b>	<b>36,639,690</b>	<b>36,523,481</b>	<b>342,898,804</b>

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 05/19/2004

**Exhibit 1.4  
Incident Statistics by Mode and Reporting Year  
Hazardous Waste Incidents**

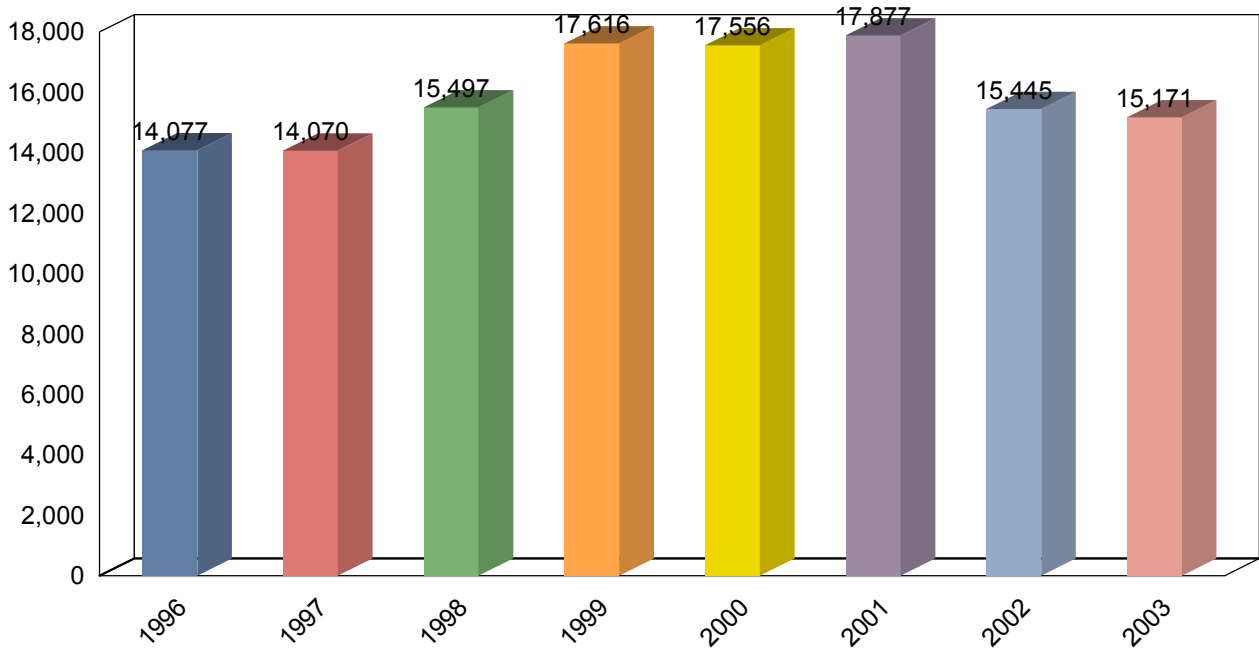
Mode	1996	1997	1998	1999	2000	2001	2002	2003	Total
<b>Incidents by Mode</b>									
<b>Air</b>	0	2	2	2	1	1	0	1	9
<b>Highw</b>	433	382	382	443	328	296	179	113	2,556
<b>Railwa</b>	34	37	40	36	26	29	25	24	251
<b>Water</b>	0	0	0	0	0	0	1	0	1
<b>Other</b>	0	0	0	0	0	0	0	0	0
<b>Totals</b>	467	421	424	481	355	326	205	138	2,817

<b>Deaths By Mode</b>									
<b>Air</b>	0	0	0	0	0	0	0	0	0
<b>Highwa</b>	1	0	0	0	0	0	0	0	1
<b>Railwa</b>	0	0	0	0	0	0	0	0	0
<b>Water</b>	0	0	0	0	0	0	0	0	0
<b>Other</b>	0	0	0	0	0	0	0	0	0
<b>Totals</b>	1	0	0	0	0	0	0	0	1

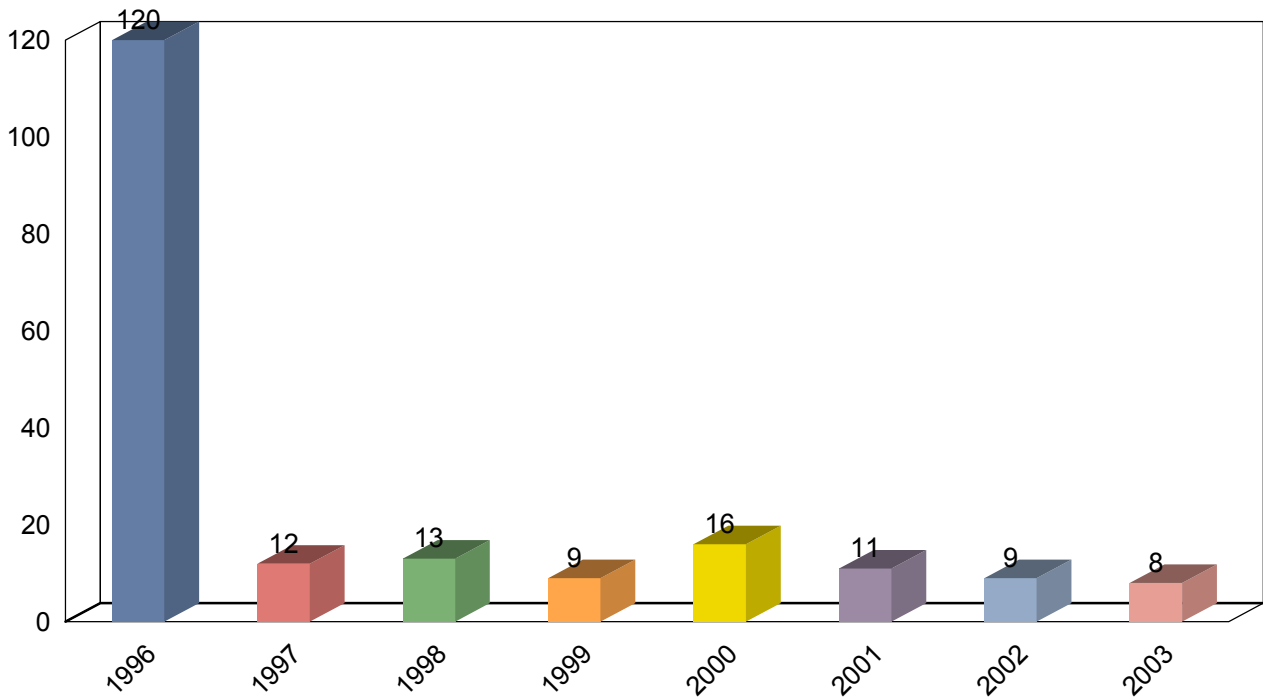
<b>Injuries By Mode</b>									
<b>Air</b>	0	0	2	0	0	1	0	0	3
<b>Highw</b>	10	9	4	21	13	6	7	4	74
<b>Railwa</b>	3	1	1	6	1	0	1	1	14
<b>Water</b>	0	0	0	0	0	0	0	0	0
<b>Other</b>	0	0	0	0	0	0	0	0	0
<b>Totals</b>	13	10	7	27	14	7	8	5	91

<b>Damages By Mode and Incident Year</b>									
<b>Air</b>	0	75	5,075	2,000	0	0	0	0	7,150
<b>High</b>	1,773,552	3,098,973	908,038	1,425,592	1,047,245	475,897	1,478,518	789,481	10,997,296
<b>Railw</b>	43,960	35,520	31,445	1,306,262	74,040	89,725	10,970	33,395	1,625,317
<b>Water</b>	0	0	0	0	0	0	5,000	0	5,000
<b>Other</b>	0	0	0	0	0	0	0	0	0
<b>Totals</b>	1,817,512	3,134,568	944,558	2,733,854	1,121,285	565,622	1,494,488	822,876	12,634,763

**Exhibit 2.1**  
**Hazardous Materials Incidents, 1996 - 2003**

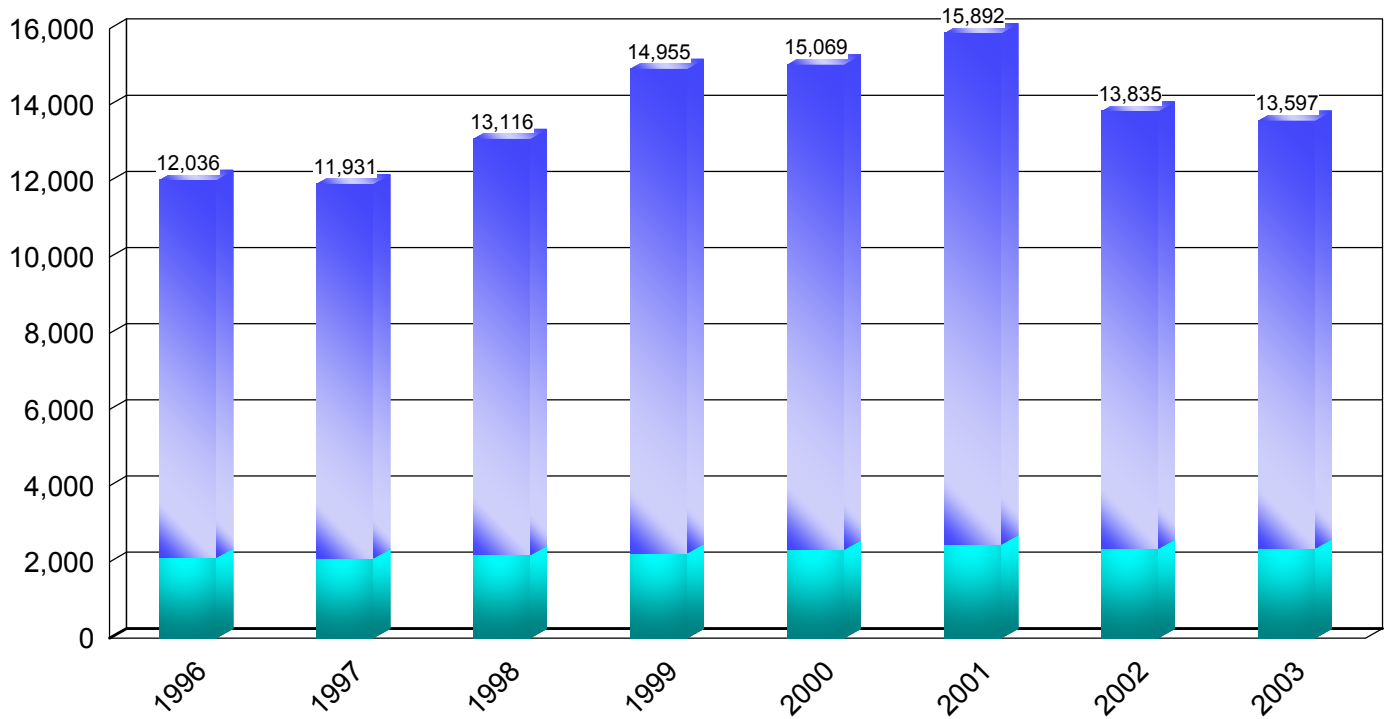
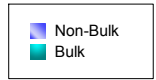


**Exhibit 2.2**  
**Fatalities due to Hazardous Materials, 1996 - 2003**

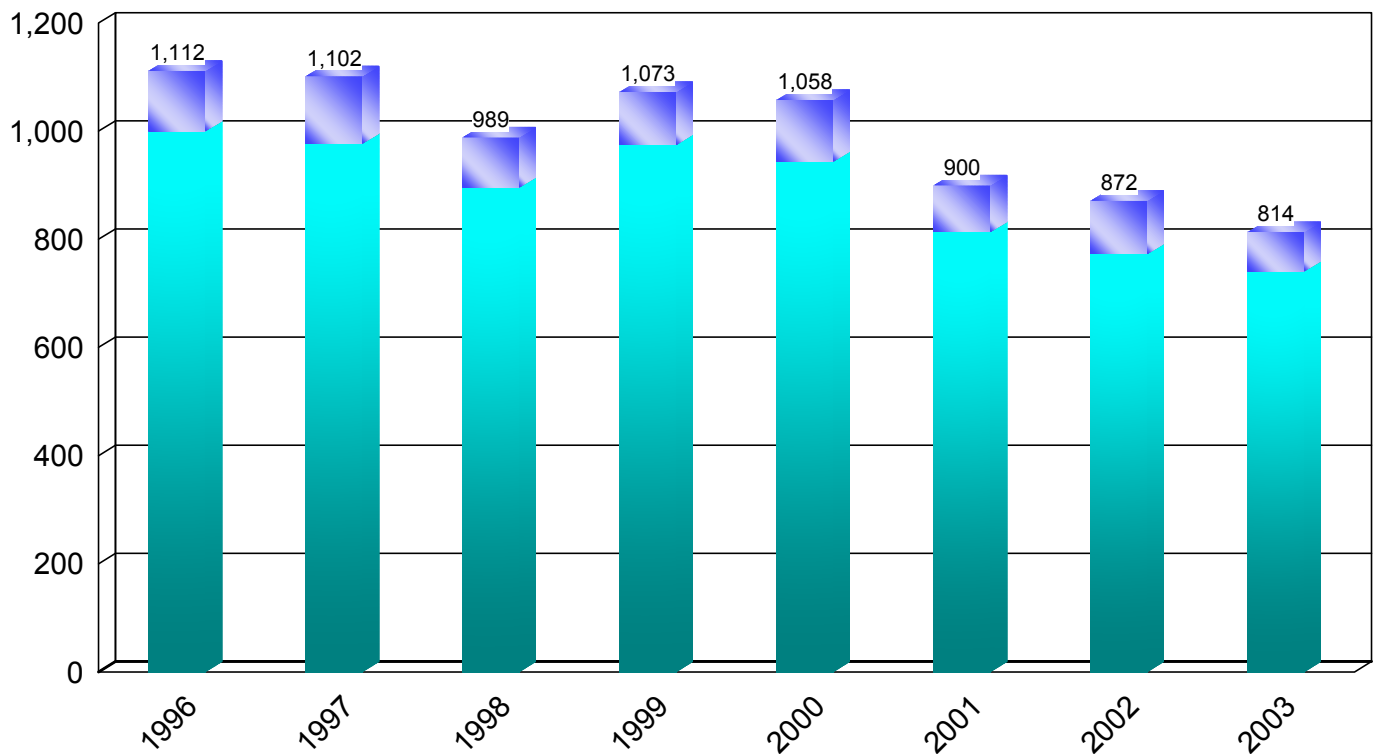


Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 5/19/2004.

**Exhibit 2.3**  
**Hazardous Materials Incidents, 1996 - 2003**  
**Highway by Bulk and Non-Bulk**

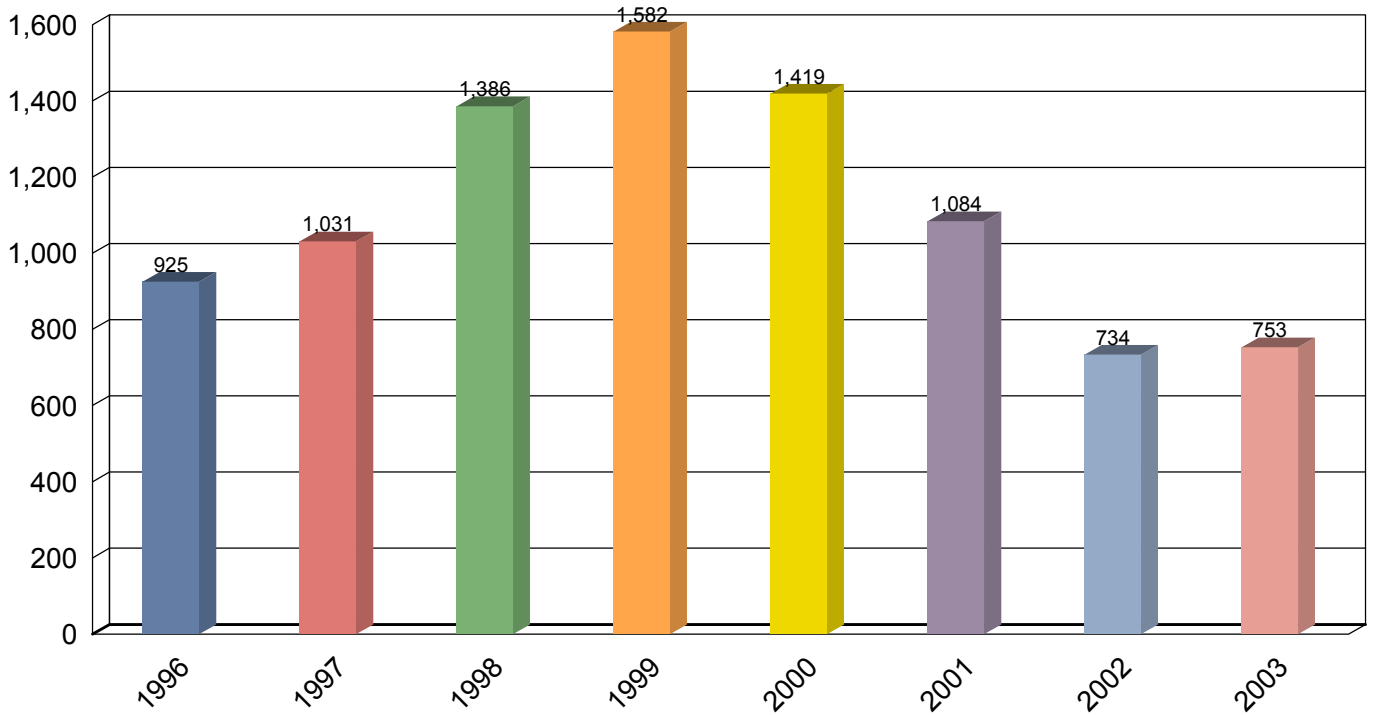


**Exhibit 2.4**  
**Hazardous Materials Incidents, 1996 - 2003**  
**Rail by Bulk and Non-Bulk**

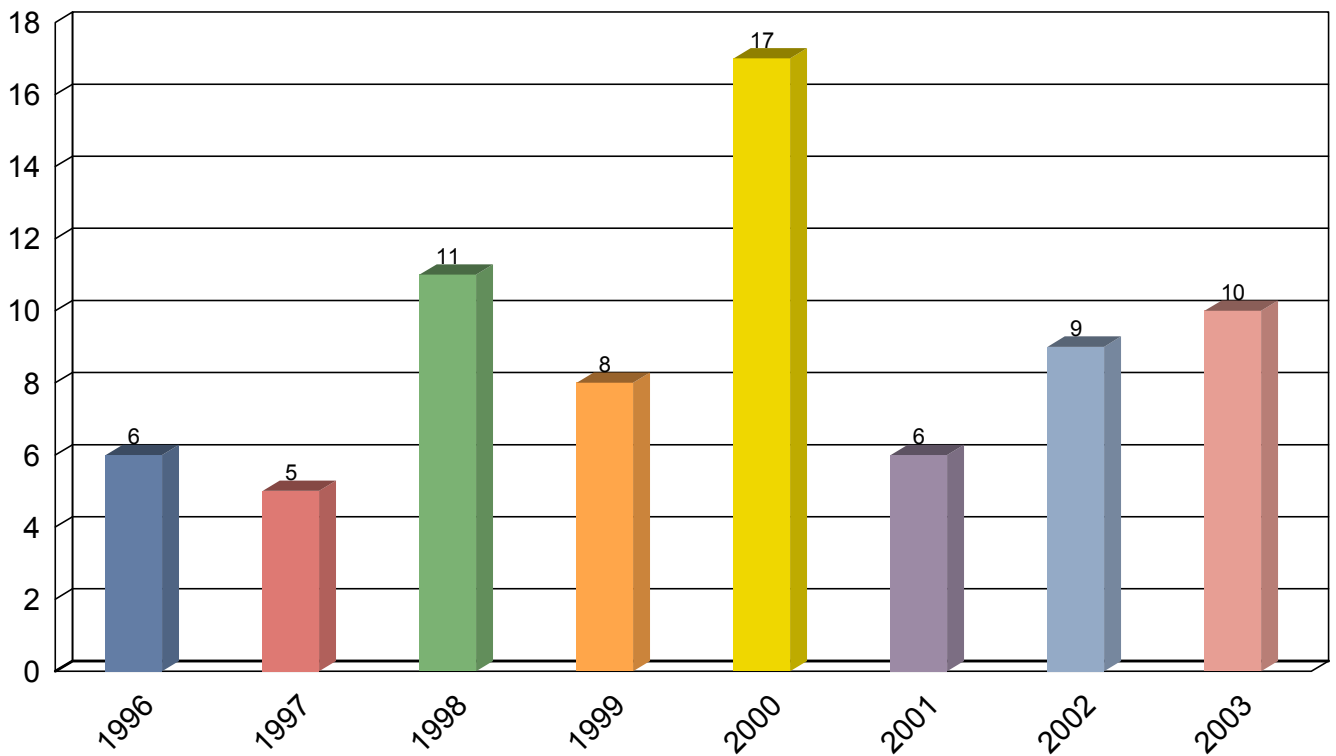


Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 05/19/2004

**Exhibit 2.5**  
**Hazardous Materials Incidents, 1996 - 2003**  
**Air**

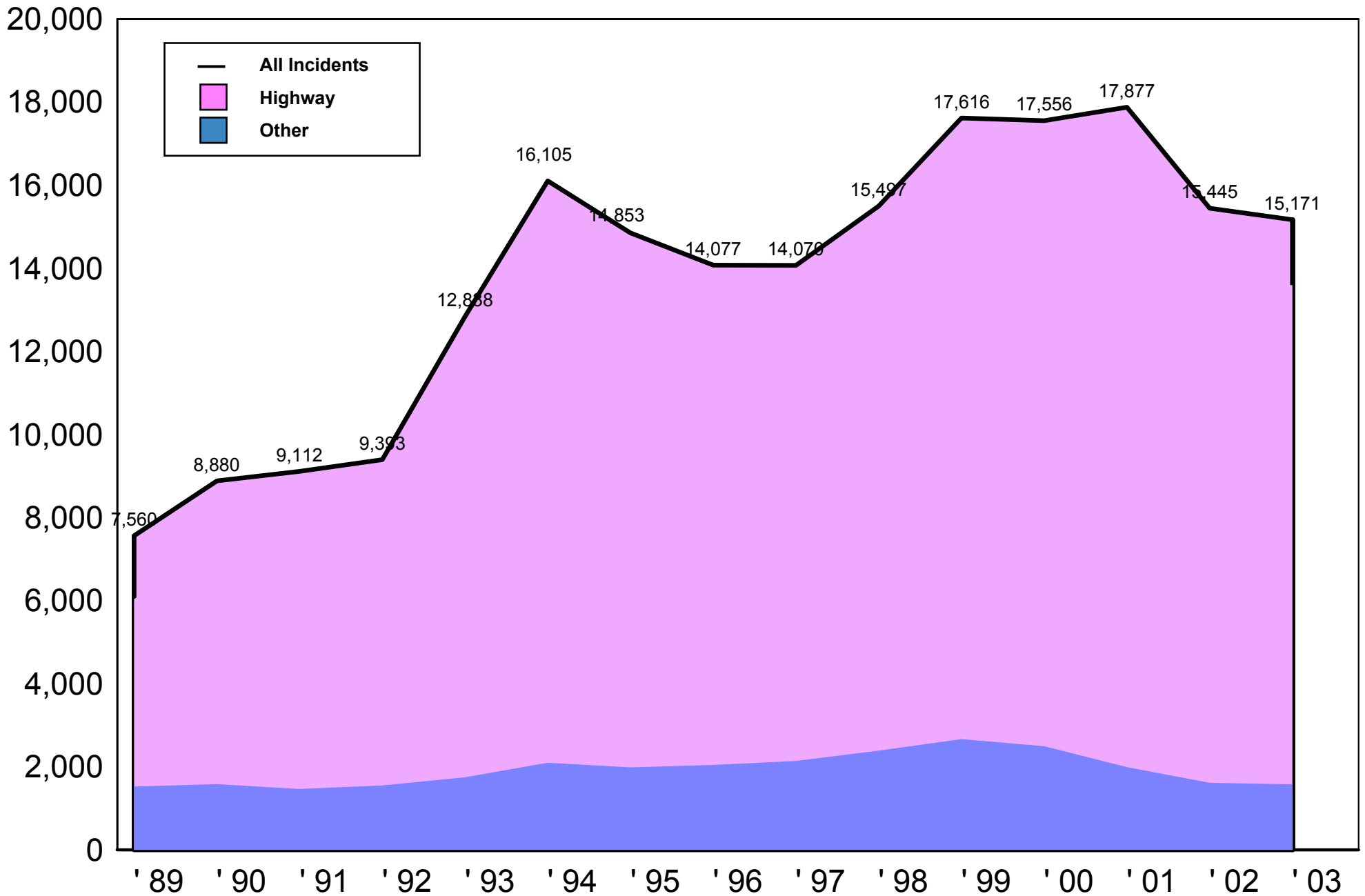


**Exhibit 2.6**  
**Hazardous Materials Incidents, 1996 - 2003**  
**Water**



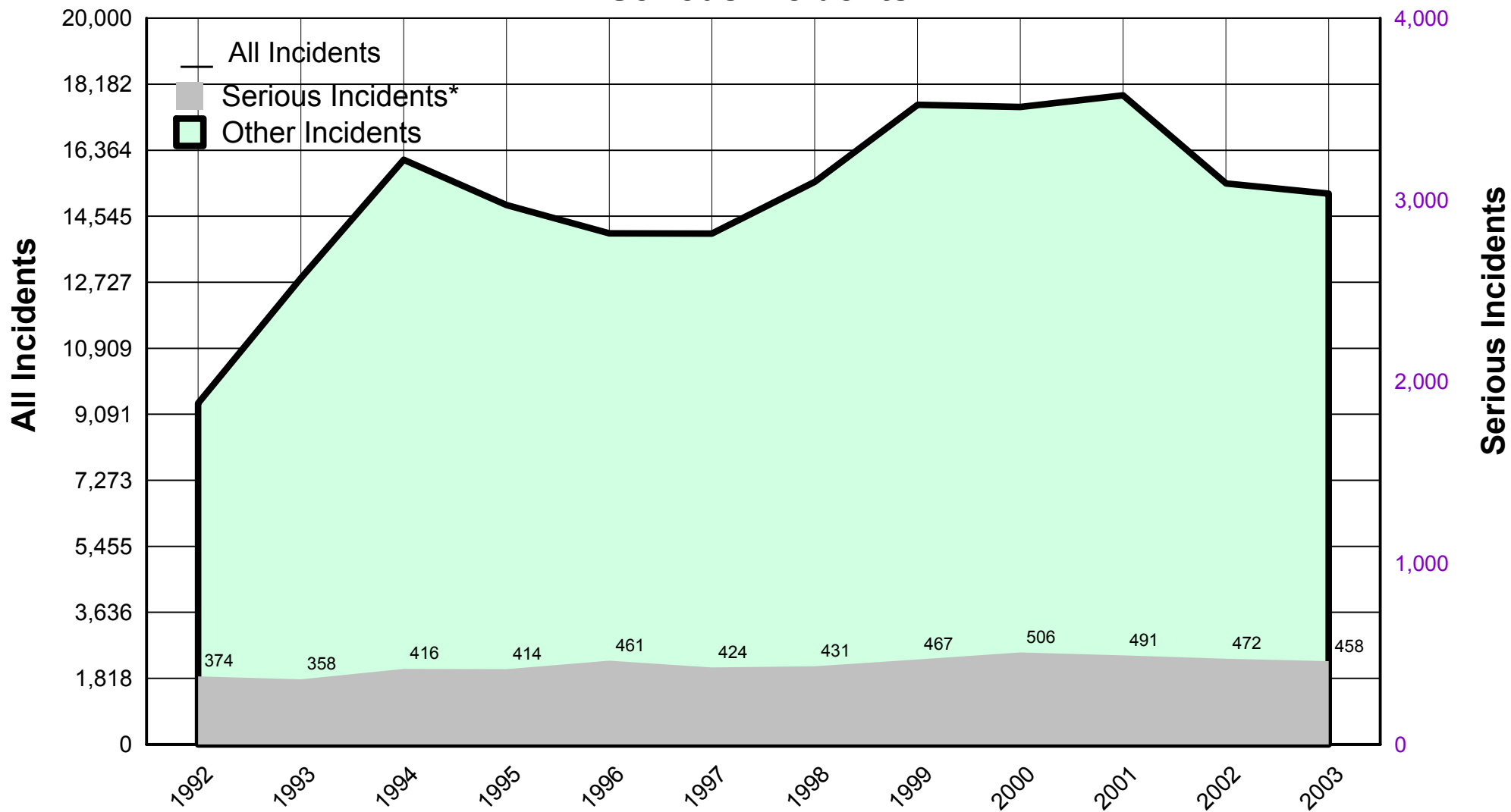


### Exhibit 3.1 Hazardous Materials Incidents, 1989 - 2003



Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 5/19/2004.

## Exhibit 3.2 Hazmat Incidents vs. Serious Hazmat Incidents, 1992 - 2003 Serious Incidents



Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 5/19/2004.

\* RSPA revised the definition of a serious incident in 2002. This report uses both definitions:

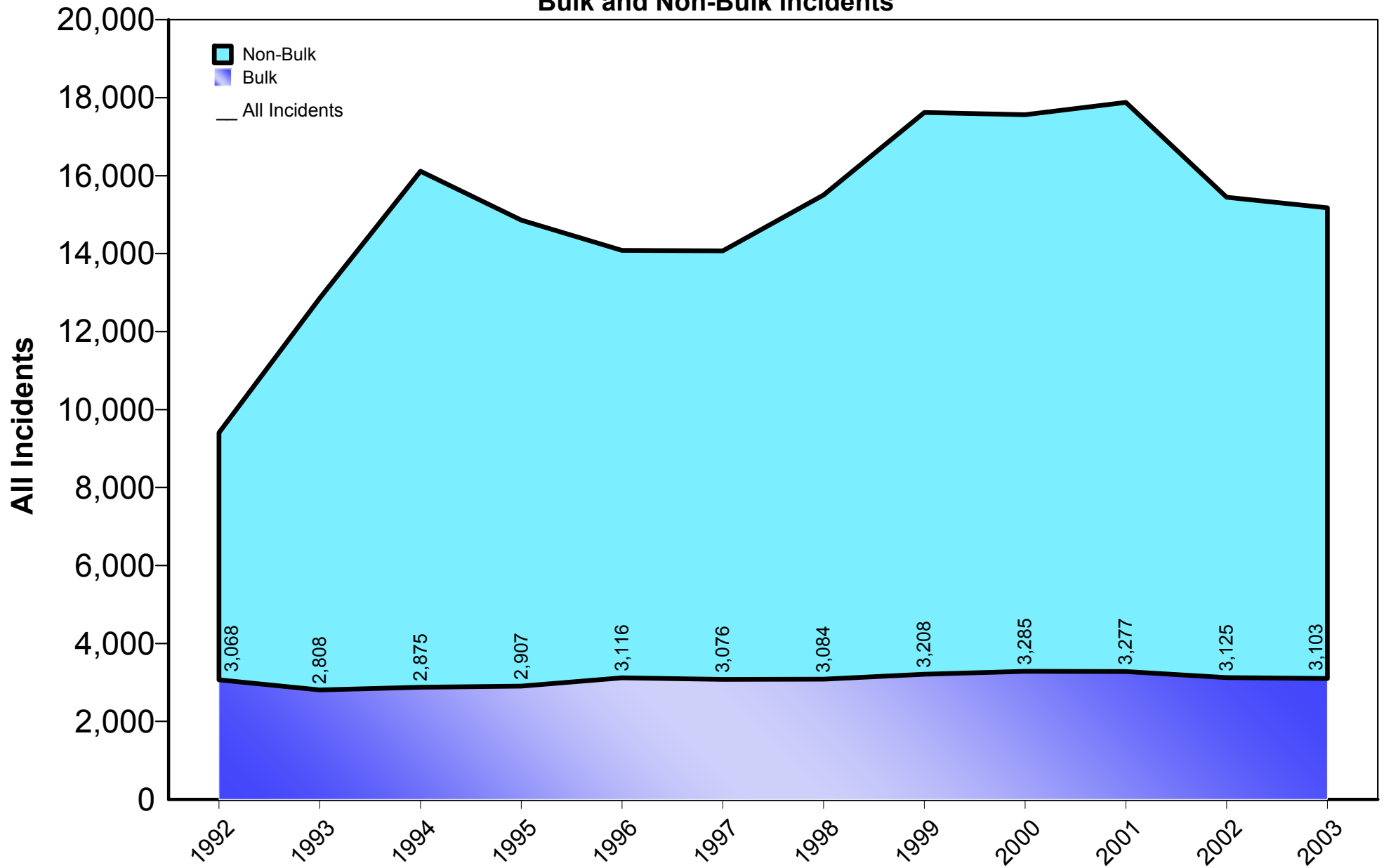
This is the definition used for 1992-2001:

- a fatality or major injury caused by the release of a hazardous material,
- closure of a major transportation artery,
- the evacuation of 6 or more persons due to the presence of a hazardous material,
- a vehicle accident or derailment resulting in the release of a hazardous material

This is the current definition used after 2001:

- a fatality or major injury caused by the release of a hazardous material,
- the evacuation of 25 or more persons as a result of release of a hazardous material or exposure to fire,
- a release or exposure to fire which results in the closure of a major transportation artery,
- the alteration of an aircraft flight plan or operation,
- the release of radioactive materials from Type B packaging,
- the release of over 11.9 gallons or 88.2 pounds of a severe marine pollutant, or
- the release of a bulk quantity (over 119 gallons or 882 pounds) of a hazardous material.

**Exhibit 3.3**  
**Hazardous Materials Incidents, 1996 - 2003**  
**Bulk and Non-Bulk Incidents**



Note: Bulk packages are defined as those with maximum capacity greater than 450L (119 gallons).  
Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 5/19/2004.

**Exhibit 4.1.1**  
**Incident and Damages by Hazard Class - 2002**

Hazard Class*	Number of Reported Incidents	Percent of Reported Incidents	Rank By Incidents	Number of Incidents Involving Damages	Amount of Damages(\$)	Percent of Total Damages	Rank by \$ Damages
Flammable - Combustible Liquid	6,172	40.0	1	4,754	29,045,665	54.1	1
Corrosive Material	6,055	39.2	2	4,878	7,903,369	14.7	2
Poisonous Materials	868	5.6	3	682	1,550,046	2.9	8
Miscellaneous Hazardous Material	493	3.2	4	308	4,140,746	7.7	4
Oxidizer	430	2.8	5	335	1,721,763	3.2	5
Nonflammable Compressed Gas	418	2.7	6	312	1,578,741	2.9	7
Combustible Liquid	330	2.1	7	231	1,709,194	3.2	6
Flammable Gas	195	1.3	8	128	5,293,443	9.9	3
Organic Peroxide	170	1.1	9	139	266,336	0.5	9
Flammable Solid	123	0.8	10	82	128,459	0.2	10
Infectious Substance (Etiologic)	86	0.6	11	11	49,029	<.1	14
Poisonous Gas	36	0.2	12	18	92,598	0.2	11
Other Regulated Material Class D	26	0.2	13	8	535	<.1	20
Dangerous When Wet Material	25	0.2	14	16	27,650	<.1	15
Spontaneously Combustible	16	0.1	15	15	17,550	<.1	16
Explosive No Blast Hazard	9	<.1	16	6	13,507	<.1	18
Radioactive Material	8	<.1	17	4	14,745	<.1	17
Very Insensitive Explosive	5	<.1	18	4	67,559	0.1	13
Explosive Fire Hazard	1	<.1	19	1	2,750	<.1	19
Explosive Mass Explosion Hazard	1	<.1	20	0	0	<.1	21
Forbidden	1	<.1	21	1	70,200	0.1	12
Explosive Projection Hazard	1	<.1	22	0	0	<.1	22
<b>TOTALS</b>		<b>100.0</b>				<b>100.0</b>	

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

The "Percent of Reported Incidents" is based on the sum of the "Number of Reported Incidents" column.

All percent figures are rounded to the nearest tenth.

\* No reports were received for other hazard classes.

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 5/19/2004.

**Exhibit 4.1.2**  
**Incident and Damages by Hazard Class - 2003**

Hazard Class*	Number of Reported Incidents	Percent of Reported Incidents	Rank By Incidents	Number of Incidents Involving Damages	Amount of Damages(\$)	Percent of Total Damages	Rank by \$ Damages
Flammable - Combustible Liquid	6,419	42.3	1	4,930	32,119,055	66.3	1
Corrosive Material	5,691	37.5	2	4,406	5,694,602	11.8	2
Poisonous Materials	787	5.2	3	580	2,166,252	4.5	3
Miscellaneous Hazardous Material	578	3.8	4	365	1,288,026	2.7	6
Oxidizer	454	3.0	5	348	909,432	1.9	8
Nonflammable Compressed Gas	443	2.9	6	303	2,138,611	4.4	4
Combustible Liquid	259	1.7	7	196	1,435,498	3.0	5
Organic Peroxide	155	1.0	8	134	72,373	0.1	15
Flammable Gas	154	1.0	9	88	1,192,029	2.5	7
Flammable Solid	86	0.6	10	70	427,873	0.9	9
Other Regulated Material Class D	58	0.4	11	34	9,682	<.1	17
Infectious Substance (Etiologic)	34	0.2	12	19	4,390	<.1	18
Poisonous Gas	25	0.2	13	16	389,131	0.8	10
Dangerous When Wet Material	21	0.1	14	13	22,807	<.1	16
Spontaneously Combustible	16	0.1	15	10	213,962	0.4	11
Radioactive Material	13	<.1	16	7	95,030	0.2	14
Explosive No Blast Hazard	5	<.1	17	1	525	<.1	19
Explosive Mass Explosion Hazard	3	<.1	18	3	167,800	0.3	12
Very Insensitive Explosive	3	<.1	19	3	117,026	0.2	13
<b>TOTALS</b>		<b>100.0</b>				<b>100.0</b>	

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

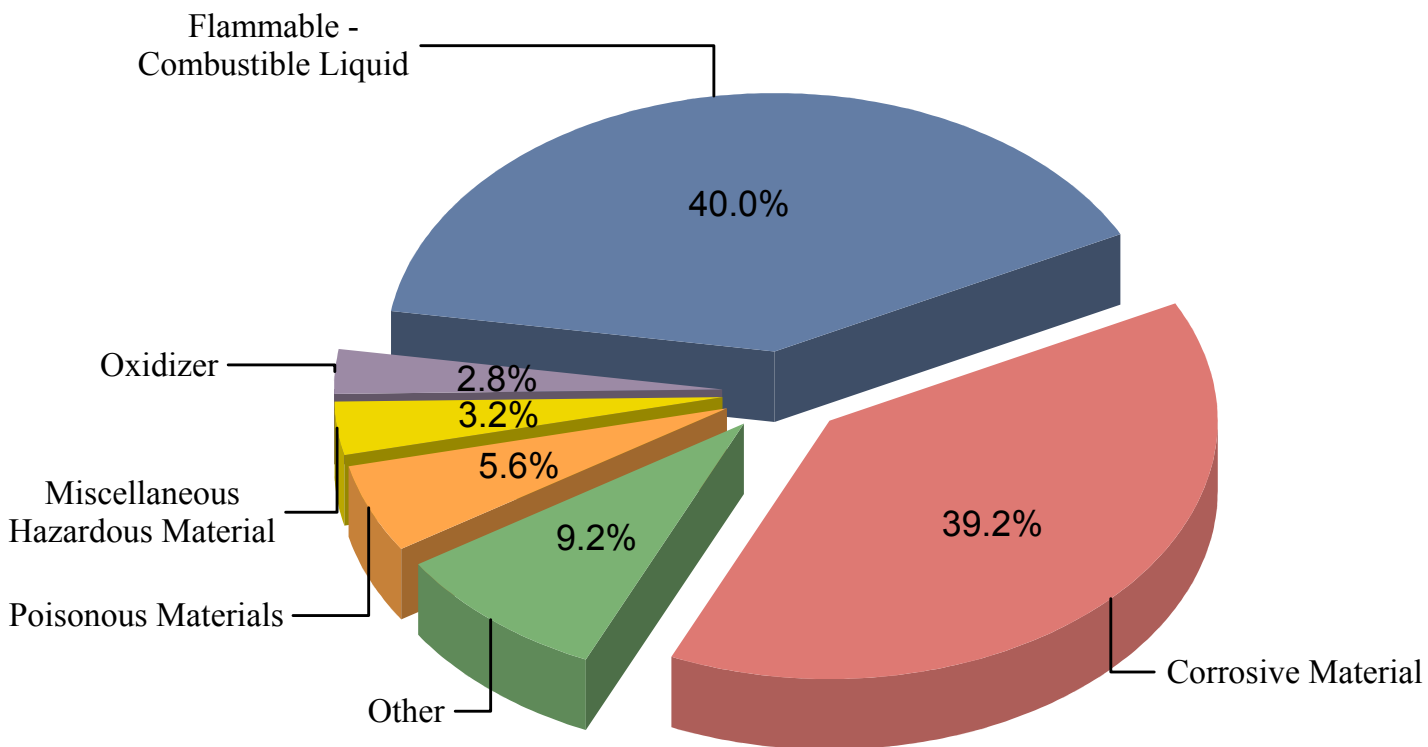
The "Percent of Reported Incidents" is based on the sum of the "Number of Reported Incidents" column.

All percent figures are rounded to the nearest tenth.

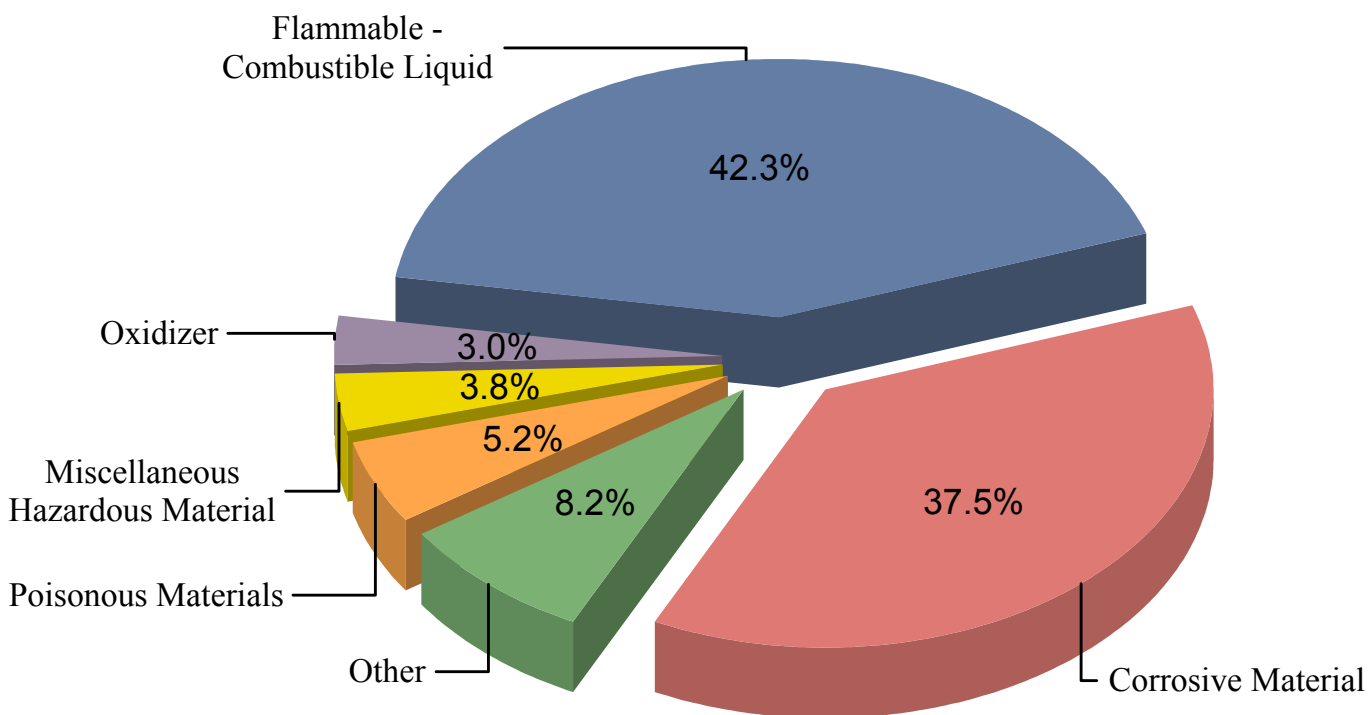
\* No reports were received for other hazard classes.

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 5/19/2004.

**Exhibit 4.1.3  
Incident by Hazard Class - 2002**



**Exhibit 4.1.4  
Incident by Hazard Class - 2003**



Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 5/19/2004.

## Exhibit 4.2.1

### Hazardous Materials Incidents - 2002

#### Injuries by Hazard Class

Hazard Class	Number of Injuries	Percent of Injuries	Major Injuries**	Minor Injuries	Number of Incidents with Injuries		
					Major	Minor	Total***
Corrosive Material	70	52.6	8	62	8	55	63
Flammable-Combustible Liquid	18	13.5	5	13	4	11	15
Poisonous Materials	12	9.0	0	12	0	9	10
Nonflammable Compressed Gas	8	6.0	2	6	2	5	6
Flammable Compressed Gas	6	4.5	1	5	1	4	5
Oxidizer	6	4.5	0	6	0	3	4
Miscellaneous Hazardous Material	6	4.5	1	5	1	4	5
Poisonous Gas	3	2.3	0	3	0	0	1
Infectious Substance(Etiologic)	2	1.5	0	2	0	1	2
Other Regulated Material, Class D	1	0.8	0	1	0	0	1
Combustible liquid	1	0.8	0	1	0	0	1
<b>TOTALS</b>	<b>133</b>	<b>100.0</b>	<b>17</b>	<b>116</b>	<b>16</b>	<b>98</b>	<b>112</b>

Note: All percent figures are rounded to the nearest tenth.

\* No reports received for other classes

\*\* Major injuries are those requiring hospitalization or resulting in loss of time at work.

\*\*\* Since some incidents involve both major and minor injuries, the "Number of Incidents with Injuries - Total" column may not equal the sum of the preceding columns.

## Exhibit 4.2.2

### Hazardous Materials Incidents - 2003

#### Injuries by Hazard Class

Hazard Class	Number of Injuries	Percent of Injuries	Major Injuries**	Minor Injuries	Number of Incidents with Injuries		
					Major	Minor	Total***
Corrosive Material	49	41.9	6	43	6	39	45
Flammable-Combustible Liquid	31	26.5	5	26	4	15	18
Nonflammable Compressed Gas	9	7.7	1	8	1	6	7
Poisonous Materials	8	6.8	1	7	1	6	7
Flammable Compressed Gas	7	6.0	0	7	0	5	6
Infectious Substance(Etiologic)	4	3.4	0	4	0	3	4
Poisonous Gas	3	2.6	1	2	1	1	2
Oxidizer	3	2.6	0	3	0	2	3
Organic Peroxide	2	1.7	0	2	0	1	2
Miscellaneous Hazardous Material	1	0.9	0	1	0	0	1
<b>TOTALS</b>	<b>117</b>	<b>100.0</b>	<b>14</b>	<b>103</b>	<b>13</b>	<b>84</b>	<b>94</b>

Note: All percent figures are rounded to the nearest tenth.

\* No reports received for other classes

\*\* Major injuries are those requiring hospitalization or resulting in loss of time at work.

\*\*\* Since some incidents involve both major and minor injuries, the "Number of Incidents with Injuries - Total" column may not equal the sum of the preceding columns.



## Exhibit 4.3

### Hazardous Materials Incidents, 1996 - 2003 Fatalities by Hazard Class / Hazardous Material

	1996	2002	1998	1999	2000	2001	2002	2003	TOTAL
<b>Custible Liquid</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
FUEL OIL NO. 1,2,4,5,6	1	...	...	...	...	...	...	...	1
PETROLEUM DISTILLATE	1	...	...	...	...	...	...	...	1
<b>Flammable Gas</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>
PETROLEUM GASES LIQUEFIED	...	3	...	...	4	...	...	...	7
<b>Nonflammable Compressed Gas</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>3</b>
AMMONIA ANHYDROUS	...	...	...	...	1	...	1	1	3
<b>Poisonous Gas</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>5</b>
AMMONIA ANHYDROUS	1	...	...	...	...	...	...	...	1
CHLORINE	1	...	...	...	...	...	...	...	1
METHYL MERCAPTAN	...	...	...	...	...	3	...	...	3
<b>Flammable - Combustible Liquid</b>	<b>6</b>	<b>9</b>	<b>13</b>	<b>8</b>	<b>11</b>	<b>8</b>	<b>8</b>	<b>7</b>	<b>70</b>
ALCOHOLS N.O.S.	...	1	...	...	...	...	...	...	1
BUTYLACRYLATE	...	...	2	...	...	...	...	...	2
DIESEL FUEL	...	...	...	1	1	...	...	...	2
FLAMMABLE LIQUIDS N.O.S.	1	1	...	...	...	...	...	...	2
GASOLINE	4	6	11	6	9	7	7	6	56
HEPTANES	...	...	...	1	...	...	...	...	1
HYDROCARBONS LIQUID NOS	1	...	...	...	...	1	...	...	2
ISOPROPANOL	...	...	...	...	...	...	...	1	1
PETROLEUM DISTILLATES NOS	...	...	...	...	1	...	...	...	1
TOLUENE	...	...	...	...	...	...	1	...	1
XYLENES	...	1	...	...	...	...	...	...	1
<b>Oxidizer</b>	<b>110</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>110</b>
OXIDIZING SOLID NOS	110	...	...	...	...	...	...	...	110
<b>Corrosive Material</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
SODIUM HYDROSULFIDE SOLTN	...	...	...	1	...	...	...	...	1
<b>Total</b>	<b>120</b>	<b>12</b>	<b>13</b>	<b>9</b>	<b>16</b>	<b>11</b>	<b>9</b>	<b>8</b>	<b>198</b>

**Exhibit 4.4.1**  
**Incident by Top 50 Hazardous Materials - 2002**

Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents	Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents
1	Flammable Liquids N.O.S.	Flammable - Combustible Liquid	1,155	7.50	26	Hypochlorite Solutions	Corrosive Material	147	1.00
2	Corrosive Liquids N.O.S.	Corrosive Material	929	6.00	26	Compound Cleaning Liq Ph	Corrosive Material	147	1.00
3	Resin Solution	Flammable - Combustible Liquid	622	4.00	28	Corros Liq Basic Organic	Corrosive Material	134	0.90
4	Sodium Hydroxide Solution	Corrosive Material	580	3.80	29	Xylenes	Flammable - Combustible Liquid	126	0.80
5	Corros Liq Basic Inorgani	Corrosive Material	461	3.00	30	Amines Liquid Corros Nos	Corrosive Material	123	0.80
6	Isopropanol	Flammable - Combustible Liquid	393	2.50	31	Acetic Acid Glacial	Corrosive Material	113	0.70
7	Corros Liq Acidic Organic	Corrosive Material	387	2.50	32	Acetone	Flammable - Combustible Liquid	111	0.70
8	Corros Liq Acidic Inorgan	Corrosive Material	383	2.50	33	Diesel Fuel	Flammable - Combustible Liquid	102	0.70
9	Phosphoric Acid	Corrosive Material	374	2.40	33	Organophosphorus Pest Slc	Poisonous Materials	102	0.70
10	Hydrochloric Acid Solutn	Corrosive Material	336	2.20	35	Environmentally Haz Solid	Miscellaneous Hazardous Material	97	0.60
11	Adhesives	Flammable - Combustible Liquid	330	2.10	36	Alcohols N.O.S.	Flammable - Combustible Liquid	95	0.60
12	Gasoline	Flammable - Combustible Liquid	320	2.10	37	Dichloromethane	Poisonous Materials	91	0.60
13	Printing Ink Flammable	Flammable - Combustible Liquid	305	2.00	38	Toxic Liquid Organic Nos	Poisonous Materials	90	0.60
14	Paint Or Paint Related	Flammable - Combustible Liquid	287	1.90	39	Coating Solution	Flammable - Combustible Liquid	88	0.60
15	Sulfuric Acid	Corrosive Material	271	1.80	40	Ammonia Anhydrous	Nonflammable Compressed Gas	87	0.60
16	Potassium Hydroxide Soltn	Corrosive Material	261	1.70	40	Combustible Liquid N.O.S.	Combustible Liquid	87	0.60
17	Fuel Oil (No. 1,2,4,5,6)	Flammable - Combustible Liquid	259	1.70	42	Corrosive Liquids Toxic	Corrosive Material	85	0.60
18	Caustic Alkali Liquid Nos	Corrosive Material	237	1.50	43	Regulated Medical Waste	Infectious Substance (Etiologic)	82	0.50
19	Methanol	Flammable - Combustible Liquid	234	1.50	44	Hydrogen Perox-Peroxyace	Oxidizer	79	0.50
20	Ethanol	Flammable - Combustible Liquid	220	1.40	45	Petroleum Gases Liquefied	Flammable Gas	77	0.50
21	Fuel Oil No. 1,2,4,5,6	Combustible Liquid	206	1.30	46	Compound Cleaning Liquid	Corrosive Material	75	0.50
22	Environmentally Haz Liq	Miscellaneous Hazardous Material	194	1.30	47	Organic Peroxide E Liquid	Organic Peroxide	74	0.50
23	Petroleum Distillates Nos	Flammable - Combustible Liquid	178	1.20	48	Paint Related Material	Flammable - Combustible Liquid	72	0.50
24	Fire Extinguishers	Nonflammable Compressed Gas	165	1.10	49	Methyl Ethyl Ketone	Flammable - Combustible Liquid	61	0.40
25	Extracts Flavoring Liquid	Flammable - Combustible Liquid	163	1.10	50	Toluene	Flammable - Combustible Liquid	59	0.40
					<b>Totals</b>				
					<b>11,654</b>				
					<b>76.0</b>				

Note: Percentage figures are based on 15,445 incidents reported in 2002 and are rounded to the nearest tenth. Since some incidents involve multiple hazard materials, double counting occurs in the "Incidents" column

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 5/19/2004.

**Exhibit 4.4.2**  
**Incident by Top 50 Hazardous Materials - 2003**

Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents	Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents
1	Flammable Liquids N.O.S.	Flammable - Combustible Liquid	1,154	7.60	26	Environmentally Haz Solid	Miscellaneous Hazardous Material	145	1.00
2	Corrosive Liquids N.O.S.	Corrosive Material	738	4.90	27	Alcohols N.O.S.	Flammable - Combustible Liquid	144	0.90
3	Resin Solution	Flammable - Combustible Liquid	708	4.70	28	Amines Liquid Corros Nos	Corrosive Material	142	0.90
4	Sodium Hydroxide Solution	Corrosive Material	582	3.80	29	Fuel Oil No. 1,2,4,5,6	Combustible Liquid	138	0.90
5	Corros Liq Basic Inorgani	Corrosive Material	462	3.00	29	Compound Cleaning Liq Ph	Corrosive Material	138	0.90
6	Isopropanol	Flammable - Combustible Liquid	390	2.60	31	Corros Liq Basic Organic	Corrosive Material	136	0.90
7	Adhesives	Flammable - Combustible Liquid	384	2.50	32	Xylenes	Flammable - Combustible Liquid	107	0.70
8	Corros Liq Acidic Organic	Corrosive Material	365	2.40	33	Acetic Acid Glacial	Corrosive Material	105	0.70
9	Hydrochloric Acid Solutn	Corrosive Material	364	2.40	34	Hydrogen Peroxide 20-40%	Oxidizer	103	0.70
10	Printing Ink Flammable	Flammable - Combustible Liquid	359	2.40	35	Corrosive Liquids Toxic	Corrosive Material	101	0.70
11	Paint Or Paint Related	Flammable - Combustible Liquid	346	2.30	36	Acetone	Flammable - Combustible Liquid	97	0.60
12	Corros Liq Acidic Inorgan	Corrosive Material	321	2.10	36	Diesel Fuel	Flammable - Combustible Liquid	97	0.60
13	Phosphoric Acid	Corrosive Material	279	1.80	38	Organophosphorus Pest Slc	Poisonous Materials	91	0.60
14	Sulfuric Acid	Corrosive Material	272	1.80	39	Combustible Liquid N.O.S.	Combustible Liquid	83	0.50
15	Ethanol	Flammable - Combustible Liquid	263	1.70	40	Coating Solution	Flammable - Combustible Liquid	82	0.50
16	Gasoline	Flammable - Combustible Liquid	257	1.70	41	Toxic Liquid Organic Nos	Poisonous Materials	81	0.50
17	Fuel Oil (No. 1,2,4,5,6)	Flammable - Combustible Liquid	249	1.60	42	Flammable Liquid Corrosiv	Flammable - Combustible Liquid	80	0.50
18	Methanol	Flammable - Combustible Liquid	243	1.60	43	Hydrogen Perox-Peroxyace	Oxidizer	79	0.50
19	Potassium Hydroxide Soltn	Corrosive Material	234	1.50	44	Ammonia Anhydrous	Nonflammable Compressed Gas	76	0.50
20	Environmentally Haz Liq	Miscellaneous Hazardous Material	227	1.50	45	Dichloromethane	Poisonous Materials	73	0.50
21	Petroleum Distillates Nos	Flammable - Combustible Liquid	208	1.40	46	Petroleum Crude Oil	Flammable - Combustible Liquid	72	0.50
22	Caustic Alkali Liquid Nos	Corrosive Material	206	1.40	46	Petroleum Gases Liquefied	Flammable Gas	72	0.50
23	Hypochlorite Solutions	Corrosive Material	188	1.20	48	Nitric Acid <70%	Corrosive Material	64	0.40
24	Extracts Flavoring Liquid	Flammable - Combustible Liquid	169	1.10	49	Organic Peroxide E Liquid	Organic Peroxide	62	0.40
25	Fire Extinguishers	Nonflammable Compressed Gas	154	1.00	50	Methyl Ethyl Ketone	Flammable - Combustible Liquid	61	0.40
<b>Totals</b>								<b>11,551</b>	<b>76.0</b>

Note: Percentage figures are based on 15,171 incidents reported in 2003 and are rounded to the nearest tenth. Since some incidents involve multiple hazard materials, double counting occurs in the "Incidents" column

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 5/19/2004.

**Exhibit 4.5.1**  
**Incident by Top 50 Hazardous Materials - 2002**

Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents	Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents
1	Gasoline	Flammable - Combustible Liquid	92	0.6	26	Carbon Dioxide Refrig Liq	Nonflammable Compressed Gas	3	<.1
2	Diesel Fuel	Flammable - Combustible Liquid	31	0.2	26	Argon Refrigerated Liquid	Nonflammable Compressed Gas	3	<.1
3	Petroleum Gases Liquefied	Flammable Gas	24	0.2	35	Acetone	Flammable - Combustible Liquid	2	<.1
4	Fuel Oil (No. 1,2,4,5,6)	Flammable - Combustible Liquid	21	0.1	35	Sulfur Molten	Flammable Solid	2	<.1
5	Fuel Oil No. 1,2,4,5,6	Combustible Liquid	18	0.1	35	Adhesives	Flammable - Combustible Liquid	2	<.1
5	Hydrochloric Acid Solutn	Corrosive Material	18	0.1	35	Kerosene	Flammable - Combustible Liquid	2	<.1
7	Elevated Temp Material Li	Miscellaneous Hazardous Material	13	0.1	35	Chlorite Solution	Corrosive Material	2	<.1
7	Sodium Hydroxide Solution	Corrosive Material	13	0.1	35	Oxidizing Liquid Nos	Oxidizer	2	<.1
9	Petroleum Crude Oil	Flammable - Combustible Liquid	9	0.1	35	Oxygen Refrigerated Liq	Nonflammable Compressed Gas	2	<.1
9	Ammonium Nitrate <0.2%	Oxidizer	9	0.1	35	Radioactive Material Nos	Radioactive Material	2	<.1
11	Sulfuric Acid	Corrosive Material	8	0.1	35	Styrene Monomer Inhibited	Flammable - Combustible Liquid	2	<.1
11	Ammonia Anhydrous	Nonflammable Compressed Gas	8	0.1	35	Nitrogen Refrigerated Liq	Nonflammable Compressed Gas	2	<.1
13	Resin Solution	Flammable - Combustible Liquid	7	<.1	35	Flammable Liquid Corrosiv	Flammable - Combustible Liquid	2	<.1
13	Hypochlorite Solutions	Corrosive Material	7	<.1	35	Ferrous Chloride Solution	Corrosive Material	2	<.1
13	Corros Liq Acidic Inorgan	Corrosive Material	7	<.1	35	Corrosive Liq Flam N.O.S.	Corrosive Material	2	<.1
16	Sulfur Molten	Miscellaneous Hazardous Material	6	<.1	35	Corros Liq Acidic Organic	Corrosive Material	2	<.1
16	Fuel Aviation Turbine	Flammable - Combustible Liquid	6	<.1	35	Ammonium Nitrate-Inorgani	Oxidizer	2	<.1
16	Environmentally Haz Solid	Miscellaneous Hazardous Material	6	<.1	35	Ammonium Nitrate-Fuel Oil	Very Insensitive Explosive	2	<.1
16	Environmentally Haz Liq	Miscellaneous Hazardous Material	6	<.1	35	Ammonium Nitrate Fertiliz	Oxidizer	2	<.1
20	Corrosive Liquids N.O.S.	Corrosive Material	5	<.1	35	Hydrogen Peroxide 20-40%	Oxidizer	2	<.1
20	Ferric Chloride Solution	Corrosive Material	5	<.1	35	Helium Refrigerated Liq	Nonflammable Compressed Gas	2	<.1
20	Flammable Liquids N.O.S.	Flammable - Combustible Liquid	5	<.1	35	Denatured Alcohol	Flammable - Combustible Liquid	2	<.1
23	Methanol	Flammable - Combustible Liquid	4	<.1	35	Nitric Acid <70%	Corrosive Material	2	<.1
23	Paint Or Paint Related	Flammable - Combustible Liquid	4	<.1	35	Kerosene	Combustible Liquid	2	<.1
23	Sulfuric Acid >51%	Corrosive Material	4	<.1	35	Toluene	Flammable - Combustible Liquid	2	<.1
26	Gas Oil	Flammable - Combustible Liquid	3	<.1	35	Ethanol	Flammable - Combustible Liquid	2	<.1
26	Gasohol	Flammable - Combustible Liquid	3	<.1	59	Sodium	Dangerous When Wet Material	1	<.1
26	Phosphoric Acid	Corrosive Material	3	<.1	59	Petroleum Crude Oil	Combustible Liquid	1	<.1
26	Petroleum Distillates Nos	Flammable - Combustible Liquid	3	<.1	59	Oxidizing Solid Nos	Oxidizer	1	<.1
26	Hazardous Waste Solid Nos	Miscellaneous Hazardous Material	3	<.1	59	Methyl Ethyl Ketone	Flammable - Combustible Liquid	1	<.1
26	Corros Liq Basic Inorgani	Corrosive Material	3	<.1	59	Ethyl Methyl Ketone	Flammable - Combustible Liquid	1	<.1
26	Combustible Liquid N.O.S.	Combustible Liquid	3	<.1	59	Sodium Perchlorate	Oxidizer	1	<.1
<b>Totals</b>								<b>417</b>	<b>2.0</b>

Note: Percentage figures are based on 15,446 incidents reported in 2002 and are rounded to the nearest tenth. Since some incidents involve multiple hazard materials, double counting occurs in the "Incidents" column

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 5/27/2004.

**Exhibit 4.5.2**  
**Incident by Top 50 Hazardous Materials - 2003**

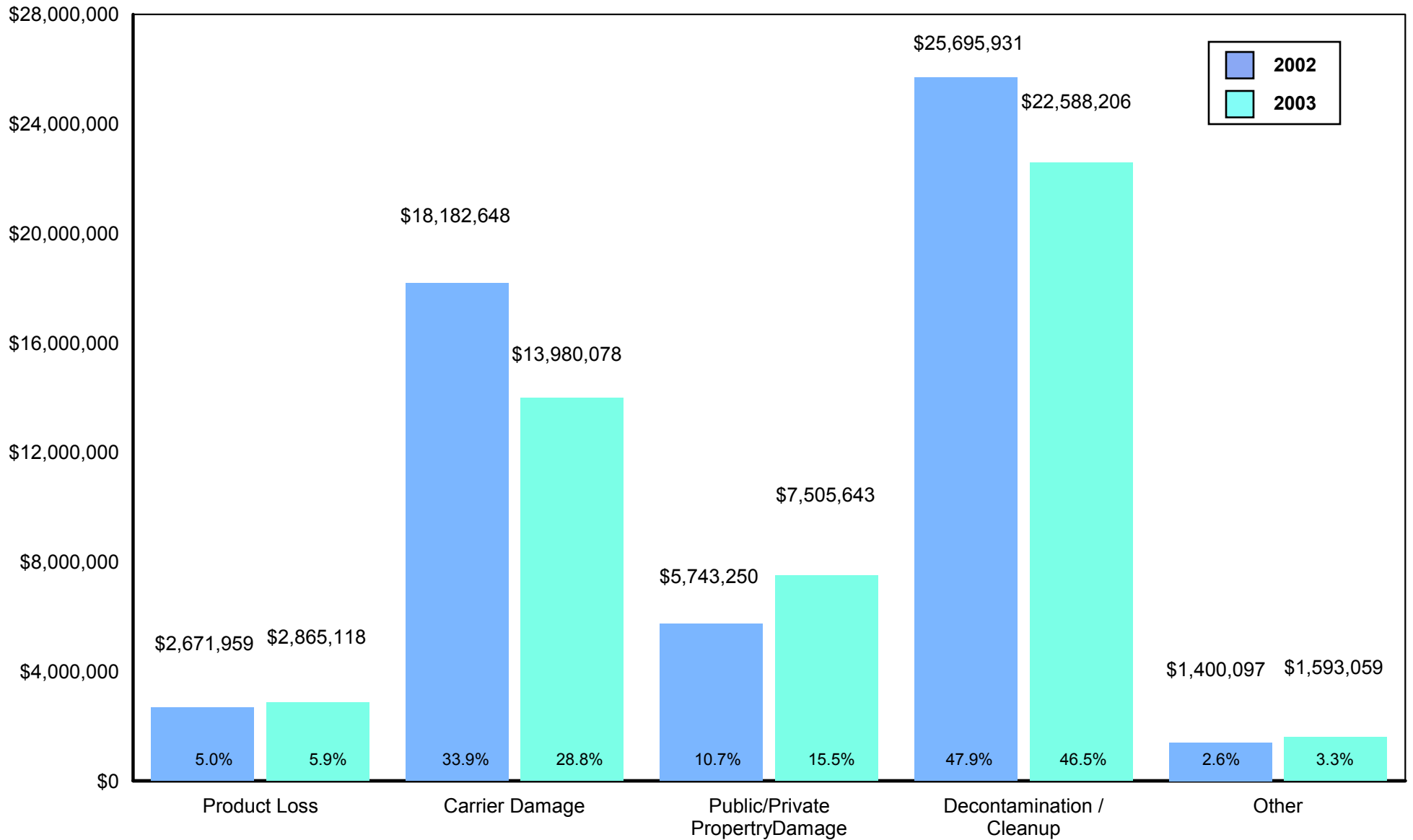
Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents	Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents
1	Gasoline	Flammable - Combustible Liquid	82	0.5	31	Ferrous Chloride Solution	Corrosive Material	3	<.1
2	Diesel Fuel	Flammable - Combustible Liquid	30	0.2	31	Explosive Blasting Type E	Very Insensitive Explosive	3	<.1
3	Fuel Oil (No. 1,2,4,5,6)	Flammable - Combustible Liquid	26	0.2	31	Corros Liq Acidic Inorgan	Corrosive Material	3	<.1
4	Petroleum Crude Oil	Flammable - Combustible Liquid	20	0.1	31	Carbon Dioxide Refrig Liq	Nonflammable Compressed Gas	3	<.1
5	Fuel Oil No. 1,2,4,5,6	Combustible Liquid	15	0.1	31	Hydrogen Peroxide 20-40%	Oxidizer	3	<.1
6	Flammable Liquids N.O.S.	Flammable - Combustible Liquid	13	0.1	31	Corrosive Liquids N.O.S.	Corrosive Material	3	<.1
6	Petroleum Gases Liquefied	Flammable Gas	13	0.1	31	Aluminum Chloride Solutn	Corrosive Material	3	<.1
8	Hydrochloric Acid Solutn	Corrosive Material	12	0.1	31	Elevated Temp Liq Flamm	Flammable - Combustible Liquid	3	<.1
9	Sulfur Molten	Miscellaneous Hazardous Material	11	0.1	31	Fuel Oil No. 1.2.4.5.6	Combustible Liquid	3	<.1
9	Elevated Temp Material Li	Miscellaneous Hazardous Material	11	0.1	31	Alcohols N.O.S.	Flammable - Combustible Liquid	3	<.1
11	Hypochlorite Solutions	Corrosive Material	10	0.1	31	Methanol	Flammable - Combustible Liquid	3	<.1
12	Sodium Hydroxide Solution	Corrosive Material	9	0.1	44	Isopropanol	Flammable - Combustible Liquid	2	<.1
13	Resin Solution	Flammable - Combustible Liquid	8	0.1	44	Matches Strike Anywhere	Flammable Solid	2	<.1
14	Ferric Chloride Solution	Corrosive Material	7	<.1	44	Bisulfites Inorganic Nos	Corrosive Material	2	<.1
14	Argon Refrigerated Liquid	Nonflammable Compressed Gas	7	<.1	44	Organophosphorus Pest Liq	Poisonous Materials	2	<.1
16	Fuel Aviation Turbine	Flammable - Combustible Liquid	6	<.1	44	Hazardous Waste Solid Nos	Miscellaneous Hazardous Material	2	<.1
16	Ammonium Nitrate <0.2%	Oxidizer	6	<.1	44	Ammonium Nitrate-Inorgani	Oxidizer	2	<.1
16	Petroleum Distillates Nos	Flammable - Combustible Liquid	6	<.1	44	Hydrogen Peroxide 40-60%	Oxidizer	2	<.1
19	Gas Oil	Flammable - Combustible Liquid	5	<.1	44	Amines Liquid Corros Nos	Corrosive Material	2	<.1
19	Sulfuric Acid	Corrosive Material	5	<.1	44	Other Regulated Sub Liq	Miscellaneous Hazardous Material	2	<.1
19	Corros Liq Basic Inorgani	Corrosive Material	5	<.1	44	Paint Related Material	Flammable - Combustible Liquid	2	<.1
19	Nitrogen Refrigerated Liq	Nonflammable Compressed Gas	5	<.1	44	Benzaldehyde	Miscellaneous Hazardous Material	2	<.1
19	Paint Or Paint Related	Flammable - Combustible Liquid	5	<.1	44	Nitric Acid <70%	Corrosive Material	2	<.1
19	Phosphoric Acid	Corrosive Material	5	<.1	44	Petroleum Oil	Flammable - Combustible Liquid	2	<.1
25	Environmentally Haz Liq	Miscellaneous Hazardous Material	4	<.1	57	Acetone	Flammable - Combustible Liquid	1	<.1
25	Oxygen Refrigerated Liq	Nonflammable Compressed Gas	4	<.1	57	Toluene	Flammable - Combustible Liquid	1	<.1
25	Ammonia Solutions 10-35%	Corrosive Material	4	<.1	57	Oxygen Compressed	Nonflammable Compressed Gas	1	<.1
25	Environmentally Haz Solid	Miscellaneous Hazardous Material	4	<.1	57	Chlorite Solution	Corrosive Material	1	<.1
25	Potassium Hydroxide Soltn	Corrosive Material	4	<.1	57	Sodium Chlorate	Oxidizer	1	<.1
25	Combustible Liquid N.O.S.	Combustible Liquid	4	<.1	57	Dichloromethane	Poisonous Materials	1	<.1
31	Gasohol	Flammable - Combustible Liquid	3	<.1	57	Cyclohexylamine	Corrosive Material	1	<.1
31	Ammonia Anhydrous	Nonflammable Compressed Gas	3	<.1	57	Carbon Monoxide	Poisonous Gas	1	<.1
<b>Totals</b>								<b>419</b>	<b>2.0</b>

Note: Percentage figures are based on 15,191 incidents reported in 2003 and are rounded to the nearest tenth. Since some incidents involve multiple hazard materials, double counting occurs in the "Incidents" column

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 5/27/2004.

### Exhibit 5

## Characterization of Hazardous Materials Incident Damages, 2002 - 2003



Note: The percentage figures are calculated for the total reported damages for each individual year.  
Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 05/19/2004

**Exhibit 6.1**  
**Hazardous Materials Incidents - 2002**  
**Cause by Mode**

<b>Cause</b>	<b>Air</b>	<b>Highway</b>	<b>Rail</b>	<b>Water</b>	<b>Total</b>	<b>Percentage of all Incidents*</b>
Human Error	634	11,979	512	6	13,131	85.0
Package Failure	97	1,492	316	2	1,907	12.3
Vehicular Accident/Derailment	1	313	41	0	355	2.3
Other	2	47	3	1	53	0.3
<b>TOTALS</b>	<b>734</b>	<b>13,831</b>	<b>872</b>	<b>9</b>	<b>15,446</b>	...
Percent of Incidents by Mode	4.8	89.5	5.6	<.1	...	...

**Exhibit 6.2**  
**Hazardous Materials Incidents - 2003**  
**Cause by Mode**

<b>Cause</b>	<b>Air</b>	<b>Highway</b>	<b>Rail</b>	<b>Water</b>	<b>Total</b>	<b>Percentage of all Incidents*</b>
Human Error	663	11,780	454	6	12,903	85.1
Package Failure	87	1,497	315	4	1,903	12.5
Vehicular Accident/Derailment	0	271	42	0	313	2.1
Other	3	47	2	0	52	0.3
<b>TOTALS</b>	<b>753</b>	<b>13,595</b>	<b>813</b>	<b>10</b>	<b>15,171</b>	...
Percent of Incidents by Mode	5.0	89.6	5.4	<.1	...	...

Note: All percent figures are rounded to the nearest tenth.

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of **05/19/2004**

## Exhibit 7.1

### Hazardous Materials Incidents for 2002 Evacuations - Cause and Consequence by Mode

Mode	INCIDENTS WITH EVACUATIONS	CAUSE				CONSEQUENCE			
		Human Error	Package Failure	Accident/ Derailment	Other	People Evacuated	Deaths	*Major Injuries	Minor Injuries
Air	33	29	3	0	1	180	0	0	0
Highway	106	49	17	33	7	32,103	1	2	6
Railway	29	10	8	10	1	7,898	1	0	1
Water	1	1	0	0	0	20	0	0	0
Totals	169	89	28	43	9	40,201	2	2	7

### Hazardous Materials Incidents for 2003 Evacuations - Cause and Consequence by Mode

Mode	INCIDENTS WITH EVACUATIONS	CAUSE				CONSEQUENCE			
		Human Error	Package Failure	Accident/ Derailment	Other	People Evacuated	Deaths	*Major Injuries	Minor Injuries
Air	82	74	8	0	0	357	0	0	0
Highway	110	76	15	18	1	3,031	1	0	4
Railway	21	5	3	13	0	3,022	0	0	0
Water	0	0	0	0	0	0	0	0	0
Totals	213	155	26	31	1	6,410	1	0	4

\* Major Injuries are those requiring hospitalization or resulting in loss of time at work.

Source: Hazardous Materials Information System, US Department of Transportation. **Data as of**



**Exhibit 8.1.1**  
**Hazardous Materials Incidents - 2002**  
**Consequences by Transportation Phase**

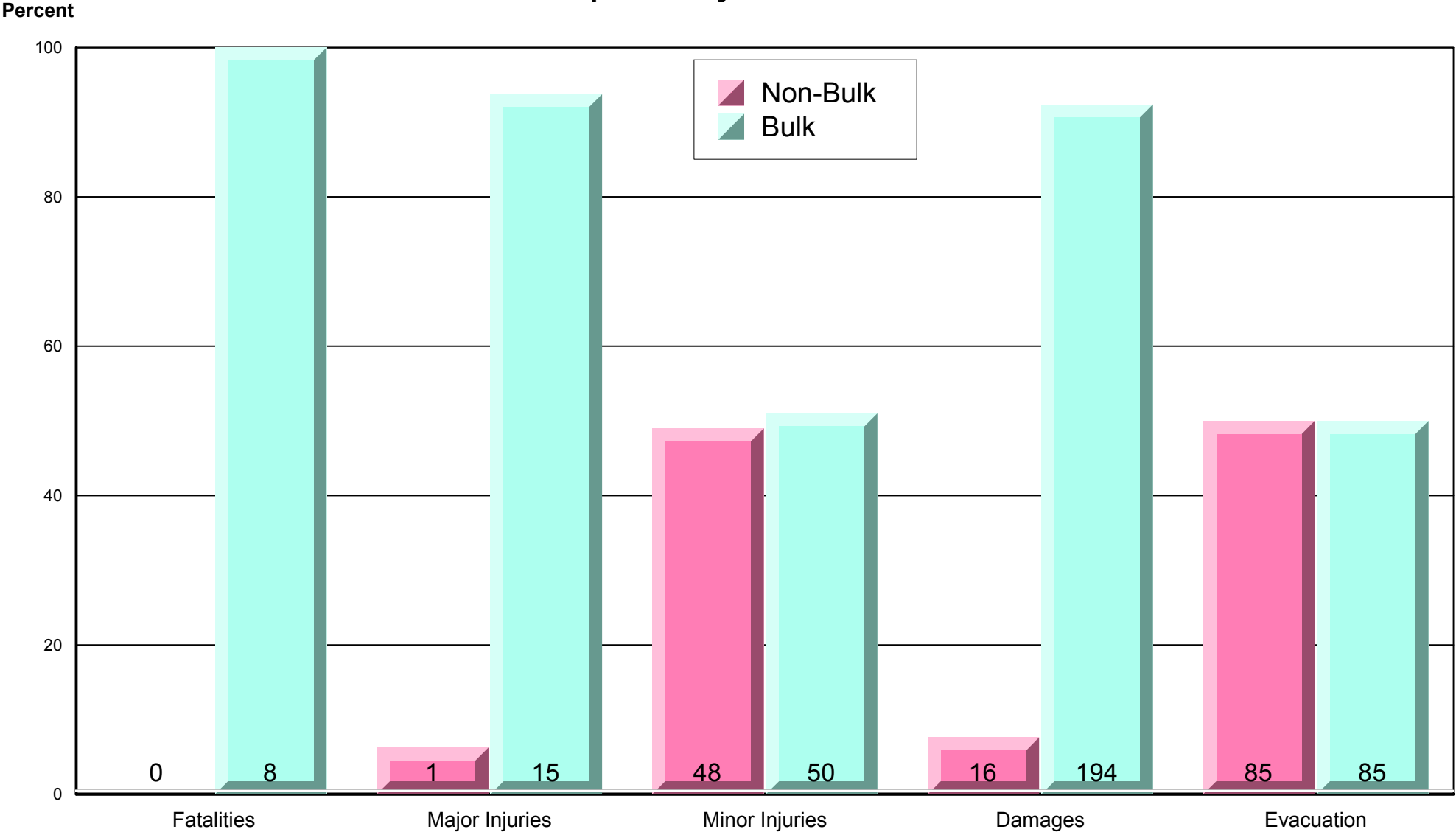
Transportation	Deaths		Major		Minor		Damages >		Evacuations		Total Incidents
	Incidents	People	Incidents	People	Incidents	People	Incidents	\$	Incidents	People	
En-Route/Accident	7	8	3	3	6	10	166	32,041,995	43	36,258	338
En-Route/Non-Accident	0	0	3	3	20	25	22	3,674,325	48	1,466	1,927
Loading	1	1	1	1	18	19	5	617,435	12	172	2,462
Unloading	0	0	9	10	44	49	14	4,884,119	39	2,101	10,059
Storage/Terminal	0	0	0	0	5	8	0	0	25	195	576
<b>Totals</b>	<b>8</b>	<b>9</b>	<b>16</b>	<b>17</b>	<b>93</b>	<b>111</b>	<b>207</b>	<b>41,217,874</b>	<b>167</b>	<b>40,192</b>	<b>15,362</b>

**Exhibit 8.1.2**  
**Hazardous Materials Incidents - 2003**  
**Consequences by Transportation Phase**

Transportation	Deaths		Major		Minor		Damages >		Evacuations		Total Incidents
	Incidents	People	Incidents	People	Incidents	People	Incidents	\$	Incidents	People	
En-Route/Accident	7	7	2	2	4	13	145	32,844,155	31	3,434	305
En-Route/Non-Accident	0	0	1	1	13	14	17	2,120,622	27	1,354	2,005
Loading	1	1	1	1	10	13	2	114,620	11	417	2,148
Unloading	0	0	7	8	54	60	6	962,134	40	767	9,929
Storage/Terminal	0	0	2	2	3	3	4	810,500	103	427	678
<b>Totals</b>	<b>8</b>	<b>8</b>	<b>13</b>	<b>14</b>	<b>84</b>	<b>103</b>	<b>174</b>	<b>36,852,031</b>	<b>212</b>	<b>6,399</b>	<b>15,065</b>

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 05/19/2004

**Exhibit 8.2.1  
Hazardous Materials Incidents, 2002  
Consequences by Bulk and non-Bulk**

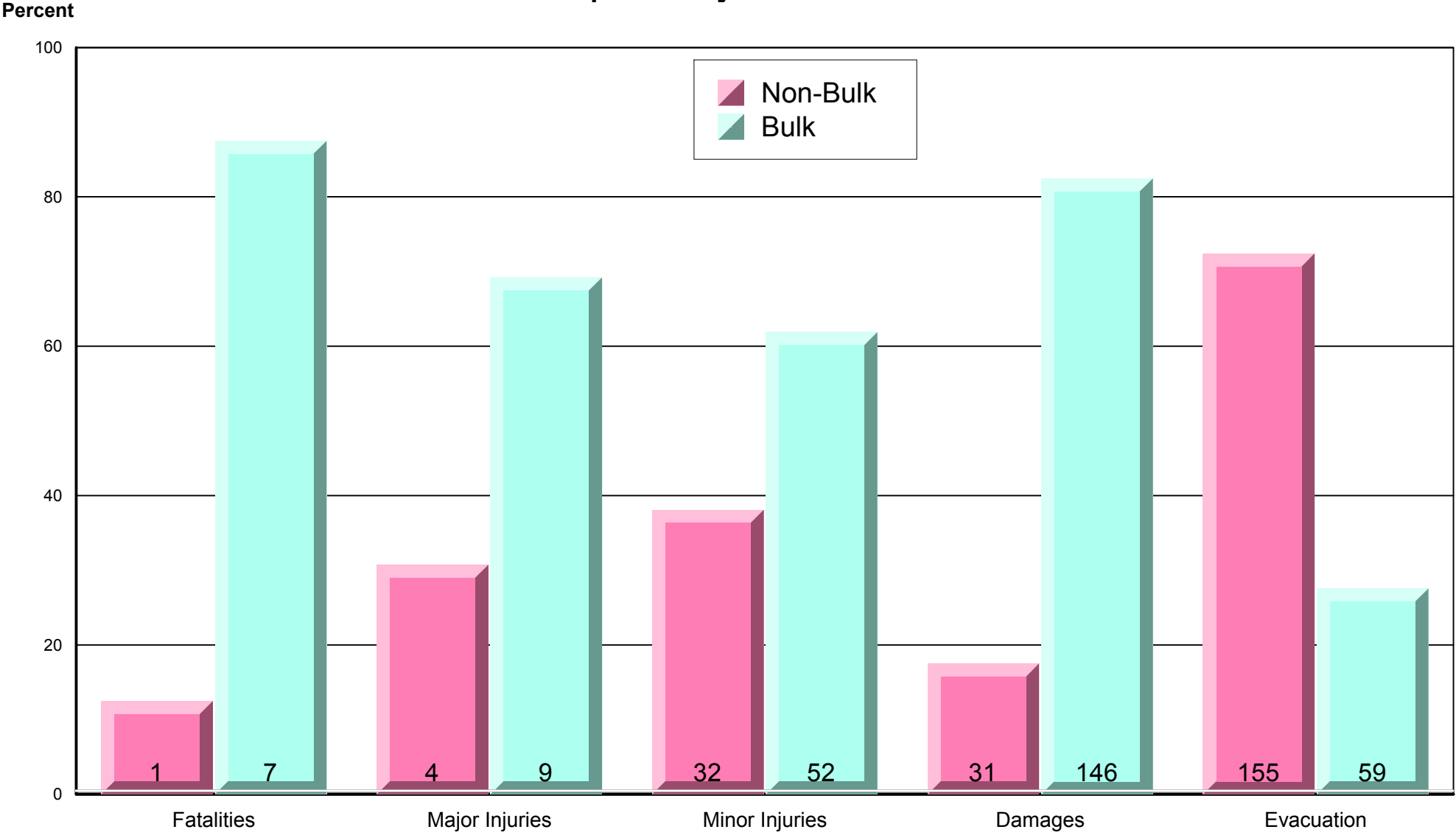


Note: Numbers above show the number of incidents resulting in each consequence.

Bulk packages are defined as those with maximum capacity greater than 450L (119 gallons).

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 5/19/2004.

**Exhibit 8.2.2  
Hazardous Materials Incidents, 2003  
Consequences by Bulk and non-Bulk**

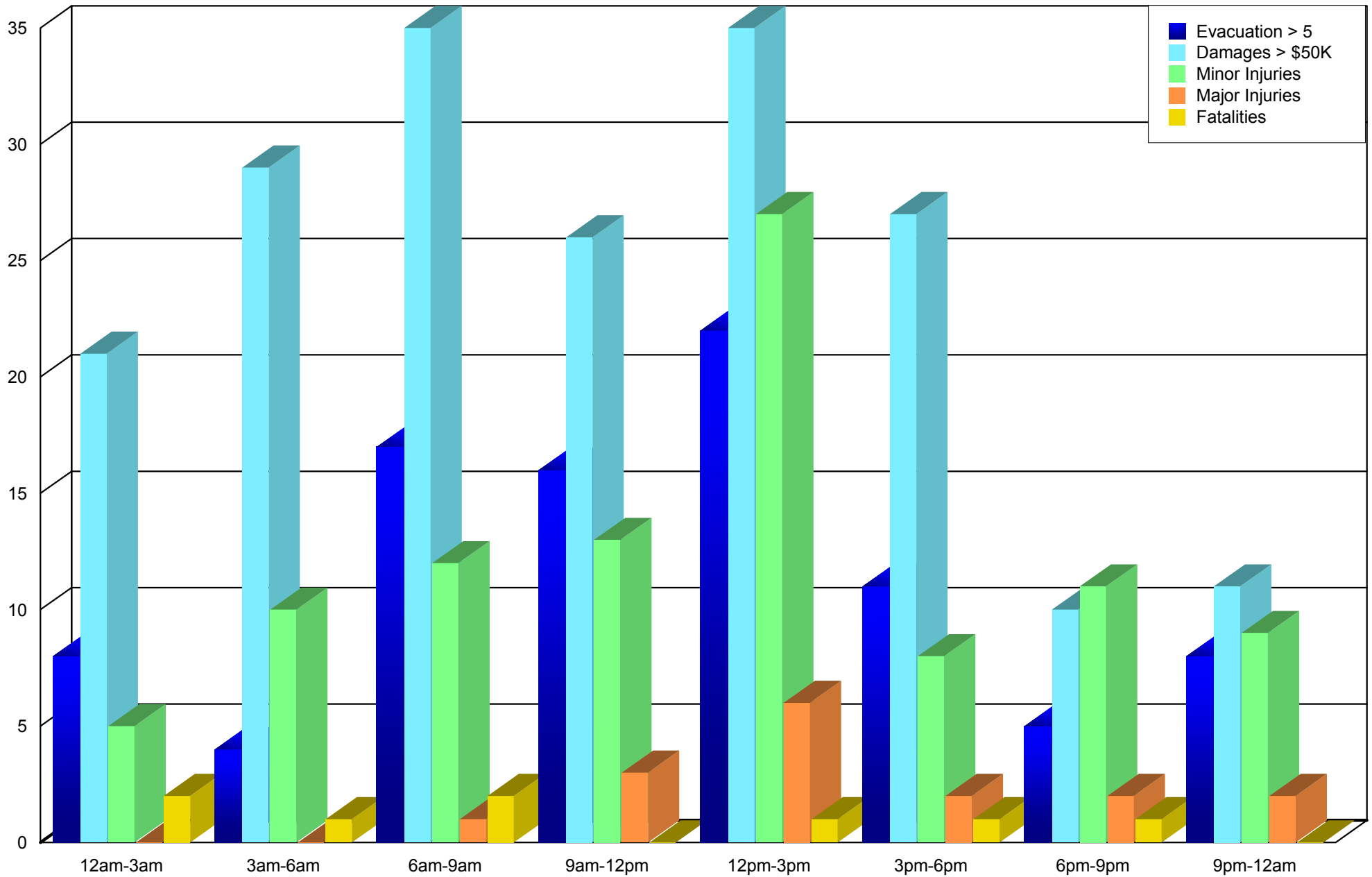


Note: Numbers above show the number of incidents resulting in each consequence.

Bulk packages are defined as those with maximum capacity greater than 450L (119 gallons).

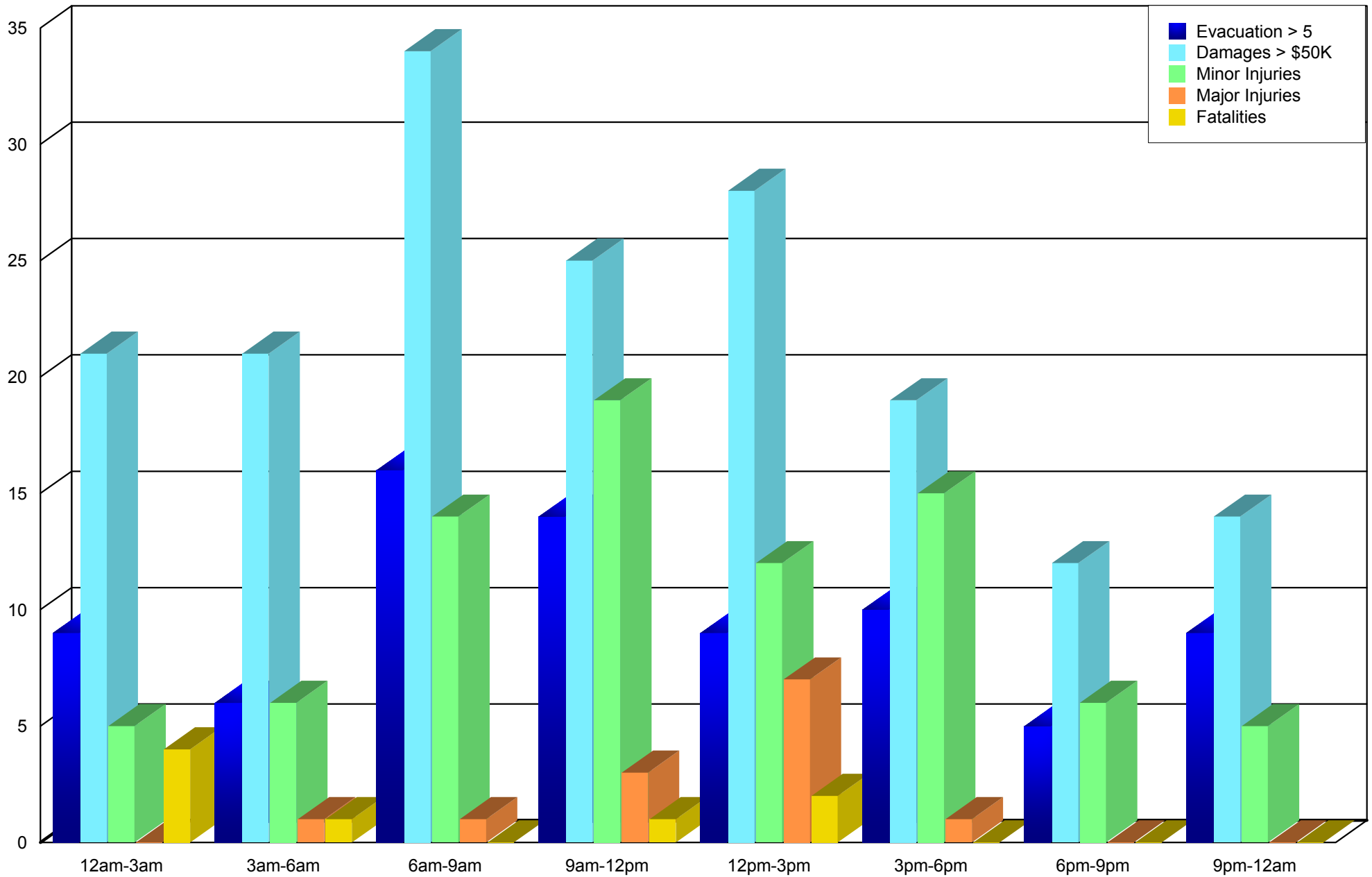
Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 5/19/2004.

**Exhibit 8.3.1  
Hazardous Materials Incident - 2002  
Consequences by Time of Day**



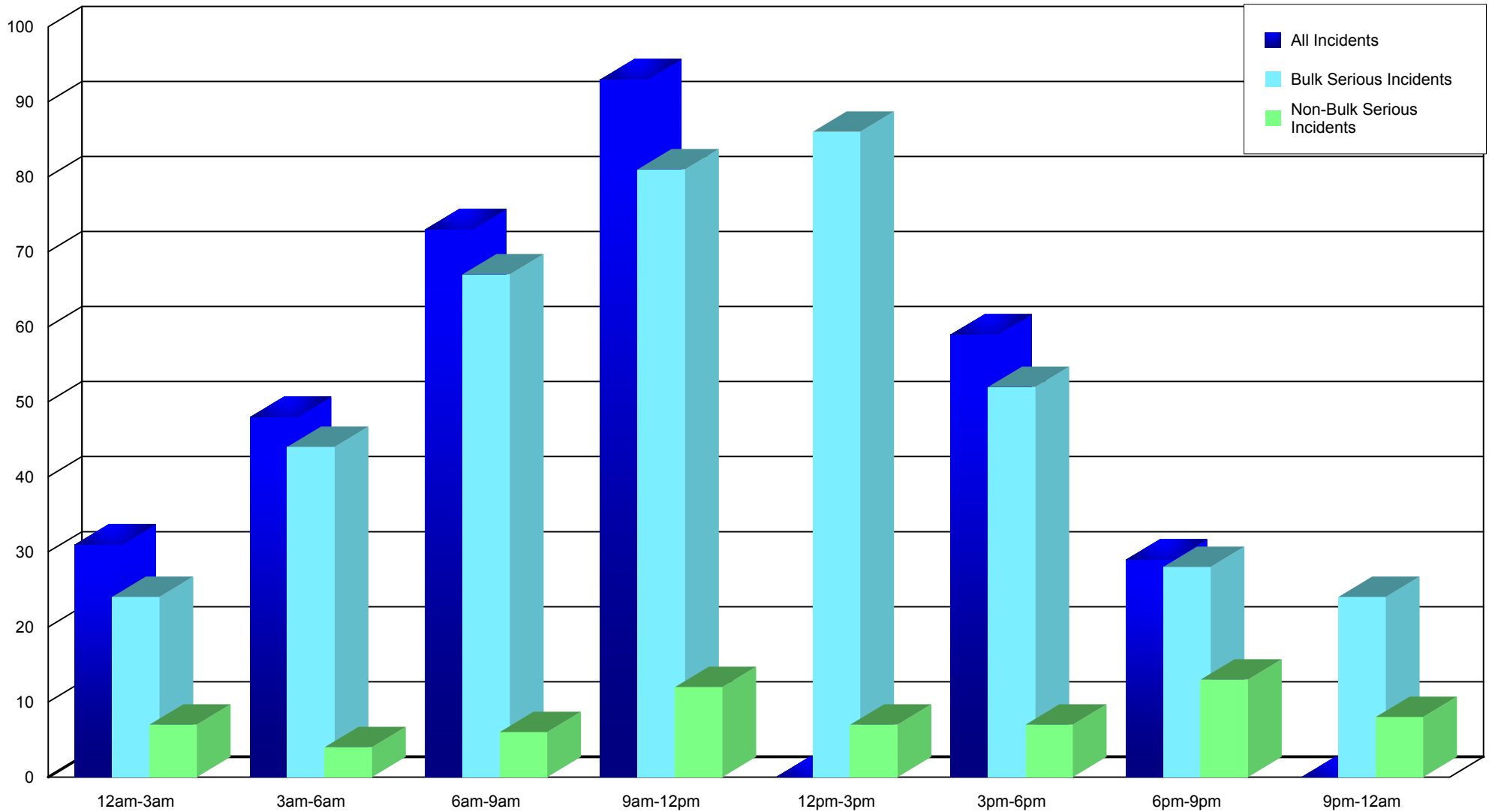
Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 05/19/2004

**Exhibit 8.3.2**  
**Hazardous Materials Incident - 2003**  
**Consequences by Time of Day**



Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of 05/19/2004

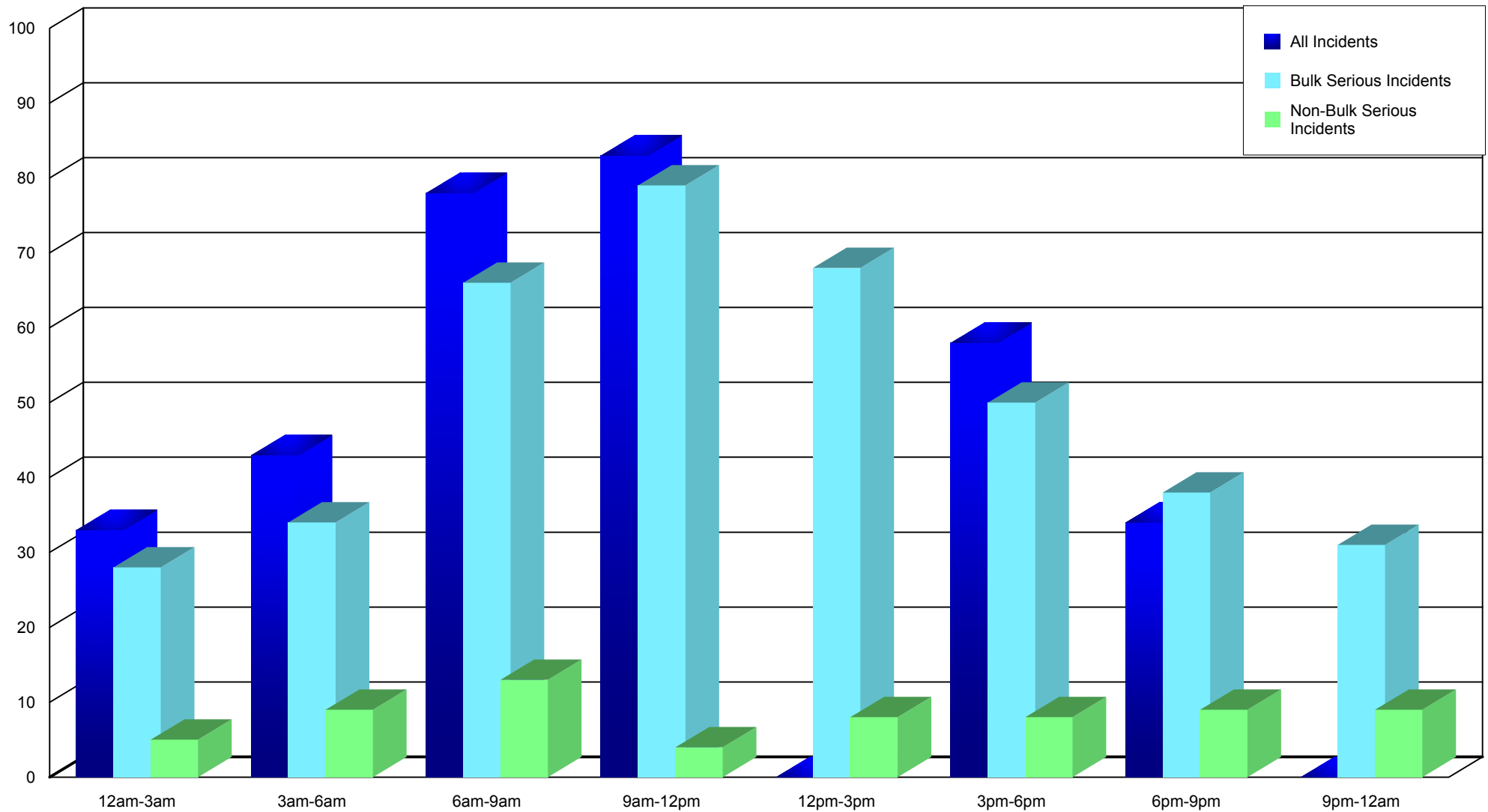
**Exhibit 9.1  
Hazardous Materials Incidents - 2002  
Serious Incidents by Time of Day  
Bulk and Non-Bulk**



In 2002, RSPA revised the definition of a serious incident to the following definition:

- a fatality or major injury caused by the release of a hazardous material,
- the evacuation of 25 or more persons as a result of release of a hazardous material or exposure to fire,
- a release or exposure to fire which results in the closure of a major transportation artery
- the alteration of an aircraft flight plan or operation
- the release of radioactive materials from Type B packaging
- the release of over 11.9 gallons or 88.2 pounds of a severe marine pollutant, or
- the release of a bulk quantity (over 119 gallons or 882 pounds) of a hazardous material.

**Exhibit 9.2  
Hazardous Materials Incidents - 2003  
Serious Incidents by Time of Day  
Bulk and Non-Bulk**



In 2002, RSPA revised the definition of a serious incident to the following definition:

- a fatality or major injury caused by the release of a hazardous material,
- the evacuation of 25 or more persons as a result of release of a hazardous material or exposure to fire,
- a release or exposure to fire which results in the closure of a major transportation artery
- the alteration of an aircraft flight plan or operation
- the release of radioactive materials from Type B packaging
- the release of over 11.9 gallons or 88.2 pounds of a severe marine pollutant, or
- the release of a bulk quantity (over 119 gallons or 882 pounds) of a hazardous material.

**Exhibbit 10.1**  
**Hazardous Materials Incidents - 2002**  
**By State**

State	Incidents	Injuries		Fatalities	\$ Damages
		Major	Minor		
Alabama	194	0	1	0	1,933,985.00
Alaska	10	0	0	0	56,650.00
Arizona	205	0	7	0	568,513.00
Arkansas	180	1	1	1	820,862.00
California	1,122	0	5	0	1,636,572.00
Colorado	335	0	3	0	1,708,136.00
Connecticut	346	0	2	0	976,892.00
Delaware	30	0	3	0	109,114.00
Dist. Of Columbia	5	0	0	0	4,079.00
Florida	561	0	3	3	2,355,355.00
Georgia	409	0	5	0	1,350,609.00
Hawii	6	0	0	0	5,021.00
Idaho	37	0	0	0	2,214,153.00
Illinois	1,329	2	6	1	1,456,411.00
Indiana	425	0	3	1	788,660.00
Iowa	137	0	0	0	409,381.00
Kansas	393	0	1	0	306,133.00
Kentucky	289	1	1	0	1,491,542.00
Louisiana	243	3	5	0	2,152,518.00
Maine	30	0	0	0	250,677.00
Maryland	298	0	5	0	553,812.00
Massachusetts	277	0	2	0	195,480.00
Michigan	273	0	4	0	428,165.00
Minnesota	246	0	1	0	587,832.00
Mississippi	164	0	3	0	787,338.00
Missouri	351	0	3	0	1,297,488.00
Montana	39	0	1	0	351,214.00
Nebraska	76	0	0	0	159,728.00
Nevada	57	0	1	0	460,072.00
New Hampshire	15	0	0	0	4,264.00
New Jersey	436	1	2	0	613,535.00
New Mexico	61	0	0	0	388,439.00
New York	444	0	3	1	1,097,524.00
North Carolina	653	0	4	0	1,991,358.00
North Dakota	27	2	0	1	106,219.00
Ohio	1,228	1	2	0	1,939,918.00
Oklahoma	137	1	7	0	317,709.00
Oregon	216	0	1	0	1,053,364.00
Pennsylvania	953	0	4	0	3,406,350.00
Rhode Island	32	0	0	0	103,941.00
South Carolina	168	0	2	0	627,610.00
South Dakota	12	0	0	0	9,675.00
Tennessee	868	2	6	0	3,996,394.00
Texas	1,210	1	6	1	4,766,949.00
Utah	181	0	2	0	423,519.00
Vermont	13	0	0	0	4,561.00
Virginia	163	2	1	0	2,256,751.00
Washington	176	0	3	0	651,245.00
West Virginia	67	0	4	0	1,071,282.00
Wisconsin	241	0	3	0	164,480.00
Wyoming	33	0	0	0	3,082,441.00
U.S. Territory or Foreign Country	44	0	0	0	199,965.00
<b>TOTAL</b>	<b>15,445</b>	<b>17</b>	<b>116</b>	<b>9</b>	<b>53,693,885</b>

Only those states that had a Hazardous Material Incident are listed.

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of **05/19/2004**



**Exhibit 10.2**  
**Hazardous Materials Incidents - 2003**  
**By State**

State	Incidents	Injuries		Fatalities	\$ Damages
		Major	Minor		
Alabama	197	1	2	0	1,853,275.00
Alaska	6	0	0	0	50.00
Arizona	234	2	3	2	1,043,765.00
Arkansas	147	0	0	0	1,363,484.00
California	1,195	0	6	1	1,958,574.00
Colorado	380	0	5	0	648,346.00
Connecticut	278	0	1	0	1,820,616.00
Delaware	37	0	0	0	37,615.00
Dist. Of Columbia	9	0	0	0	17,688.00
Florida	643	0	6	1	1,677,800.00
Georgia	440	1	3	0	695,064.00
Hawii	8	2	0	0	4,295.00
Idaho	43	0	0	0	1,938,812.00
Illinois	1,241	0	3	0	1,531,123.00
Indiana	377	1	4	0	1,027,815.00
Iowa	111	0	1	0	198,943.00
Kansas	396	0	1	0	914,550.00
Kentucky	226	0	2	0	1,356,315.00
Louisiana	243	0	7	0	693,597.00
Maine	40	0	0	0	668,951.00
Maryland	257	0	1	0	321,772.00
Massachusetts	250	1	0	0	807,570.00
Michigan	308	0	5	1	3,603,724.00
Minnesota	253	0	2	1	505,267.00
Mississippi	134	0	0	0	862,000.00
Missouri	323	0	2	0	506,395.00
Montana	45	0	0	0	140,875.00
Nebraska	66	0	0	0	173,914.00
Nevada	78	0	0	0	414,244.00
New Hampshire	19	0	0	0	10,166.00
New Jersey	506	1	4	0	1,522,941.00
New Mexico	58	0	0	0	64,691.00
New York	391	0	12	1	1,952,938.00
North Carolina	439	0	0	0	703,654.00
North Dakota	26	0	0	0	7,420.00
Ohio	1,223	0	8	1	2,124,651.00
Oklahoma	181	0	1	0	574,529.00
Oregon	228	0	1	0	669,997.00
Pennsylvania	965	2	5	0	3,236,699.00
Rhode Island	34	0	0	0	18,126.00
South Carolina	185	0	2	0	212,994.00
South Dakota	15	0	0	0	9,593.00
Tennessee	805	0	1	0	1,574,326.00
Texas	1,227	3	8	0	5,179,792.00
Utah	211	0	0	0	104,351.00
Vermont	20	0	0	0	202,912.00
Virginia	201	0	4	0	1,344,694.00
Washington	149	0	1	0	715,134.00
West Virginia	50	0	0	0	206,390.00
Wisconsin	217	0	2	0	139,862.00
Wyoming	23	0	0	0	230,034.00
U.S. Territory or Foreign Country	33	0	0	0	871,771.00
<b>TOTAL</b>	<b>15,171</b>	<b>14</b>	<b>103</b>	<b>8</b>	<b>48,464,104</b>

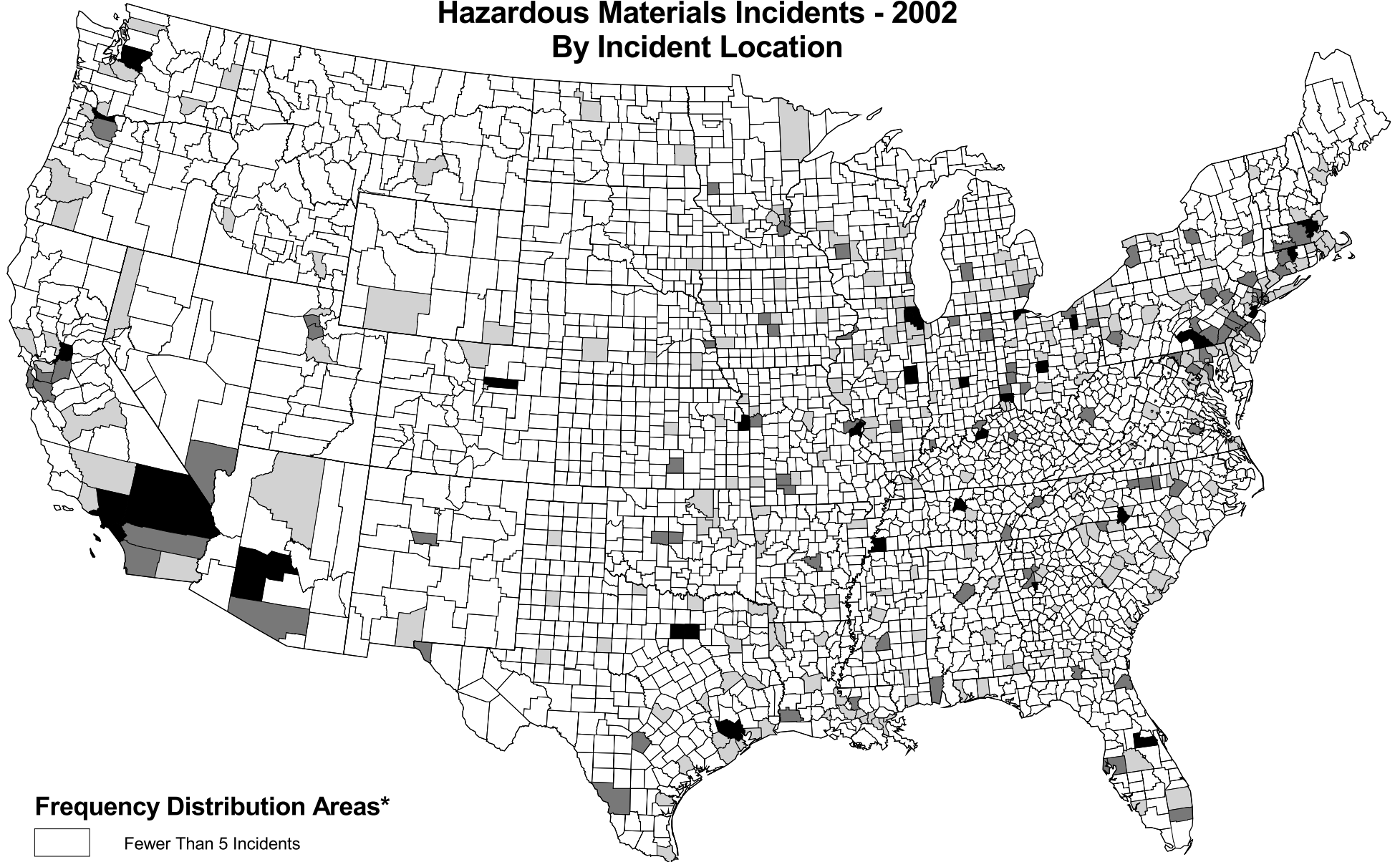
Only those states that had a Hazardous Material Incident are listed.

Source: Hazardous Materials Information System, U.S. Department of Transportation. Data as of **05/19/2004**





# Exhibit 11.1.1

## Hazardous Materials Incidents - 2002

### By Incident Location



#### Frequency Distribution Areas\*

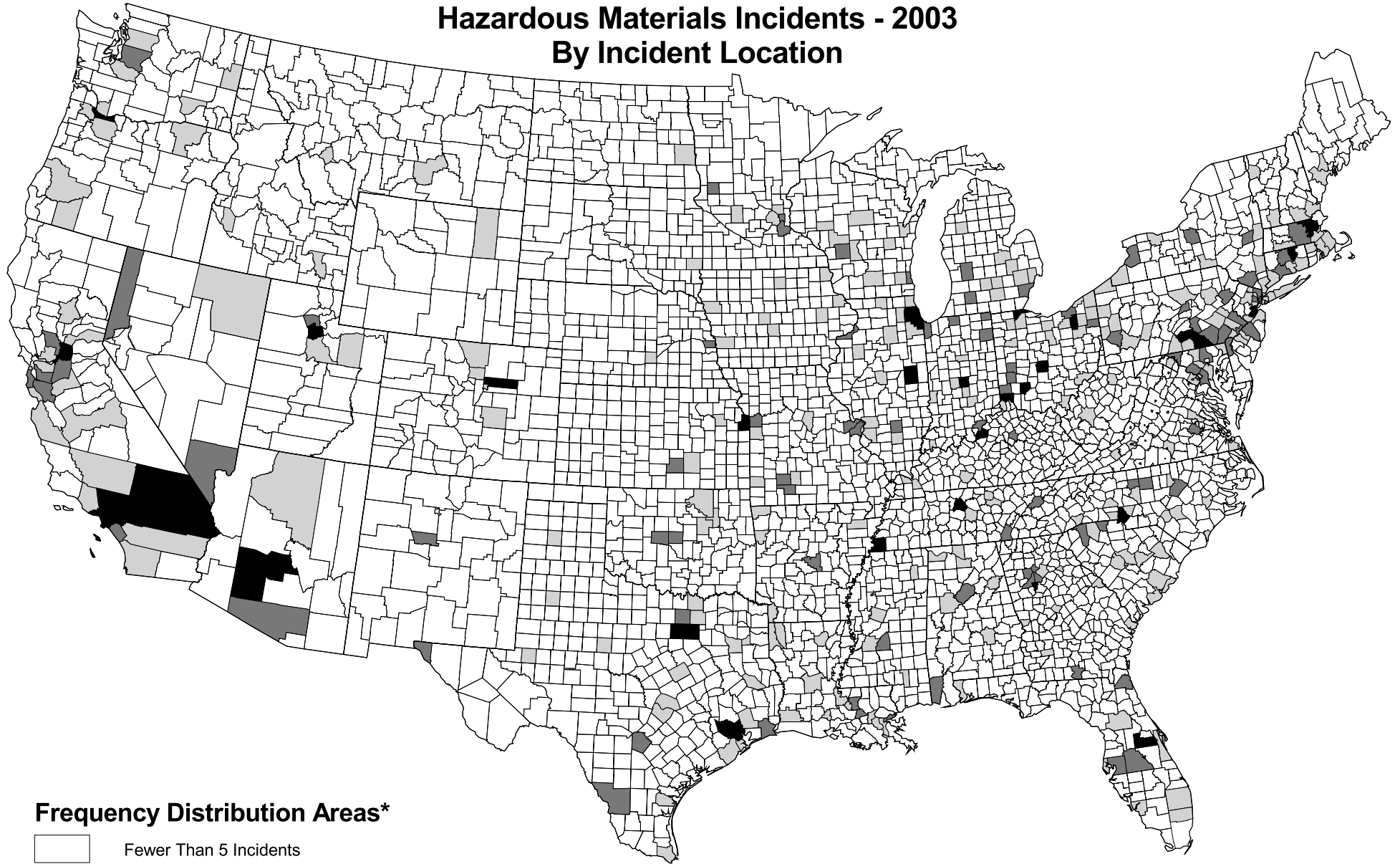
-  Fewer Than 5 Incidents
-  Between 5-24 Incidents
-  Between 25-100 Incidents
-  Greater Than 100 Incidents

\*Areas shown are U.S. Counties





# Exhibit 11.1.2

## Hazardous Materials Incidents - 2003

### By Incident Location



#### Frequency Distribution Areas\*

-  Fewer Than 5 Incidents
-  Between 5-24 Incidents
-  Between 25-100 Incidents
-  Greater Than 100 Incidents

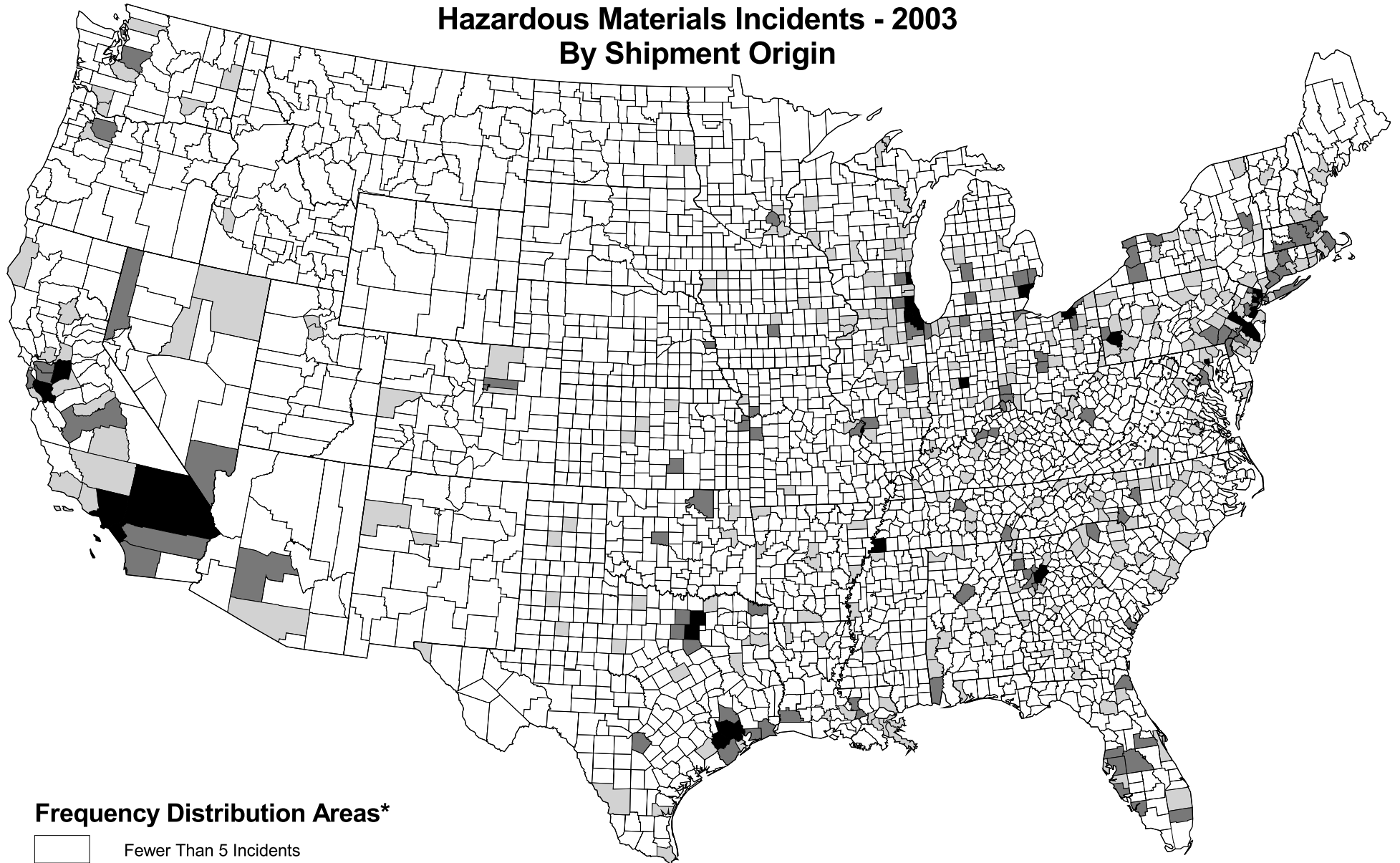
\*Areas shown are U.S. Counties







# Exhibit 11.2.2

## Hazardous Materials Incidents - 2003

### By Shipment Origin



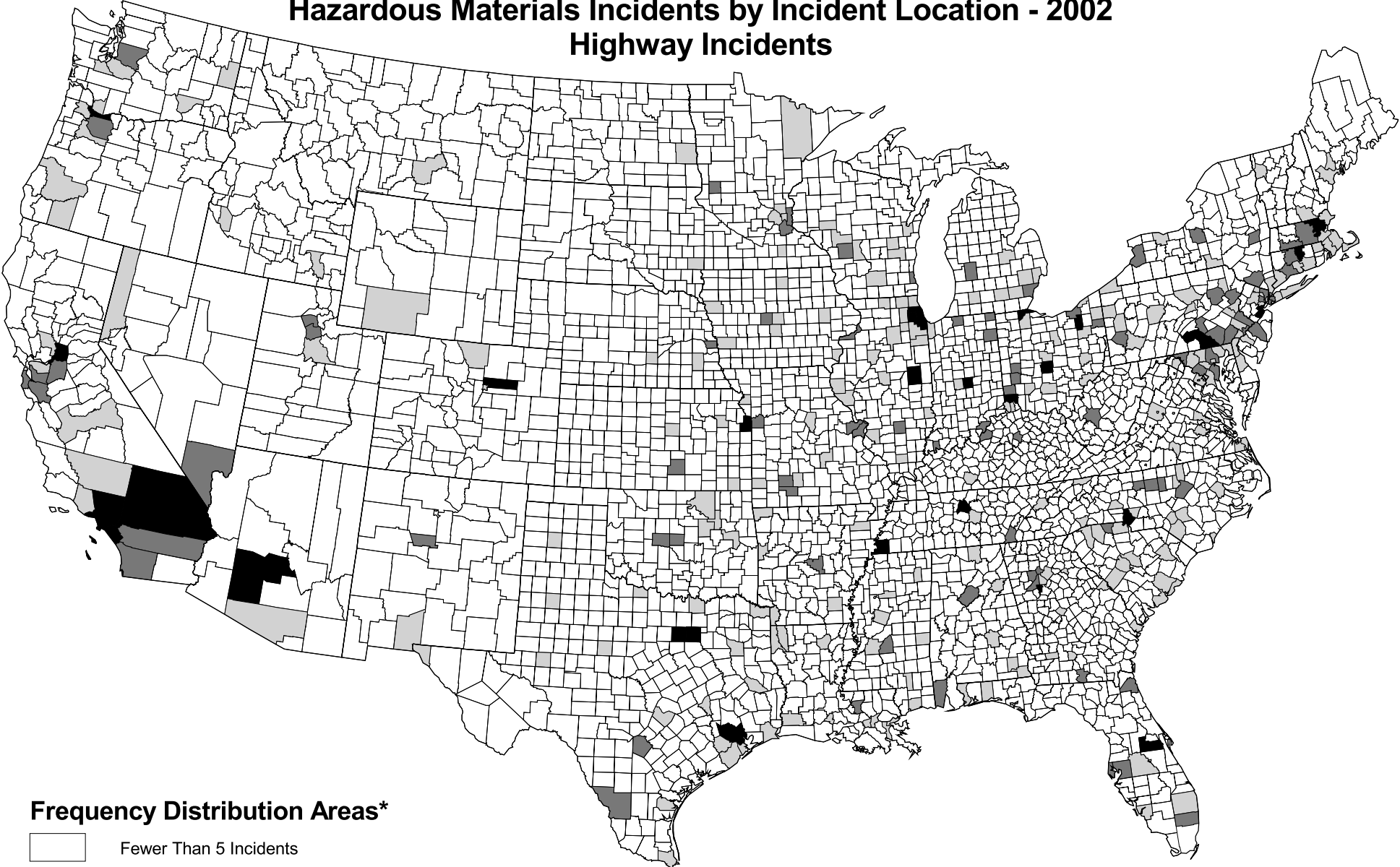
#### Frequency Distribution Areas\*

-  Fewer Than 5 Incidents
-  Between 5-24 Incidents
-  Between 25-100 Incidents
-  Greater Than 100 Incidents





\*Areas shown are U.S. Counties

# Exhibit 11.3.1

## Hazardous Materials Incidents by Incident Location - 2002 Highway Incidents



### Frequency Distribution Areas\*

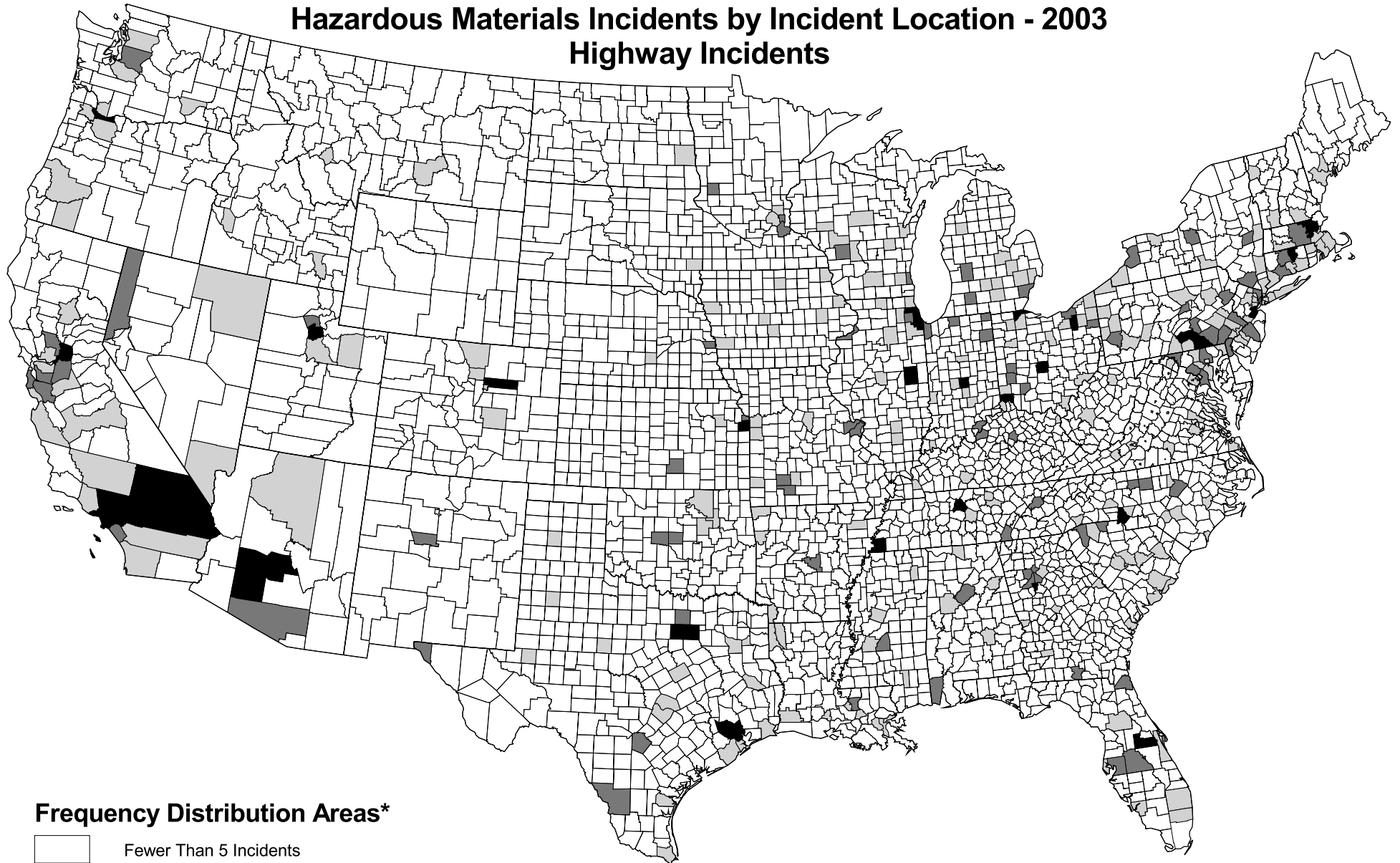
-  Fewer Than 5 Incidents
-  Between 5-24 Incidents
-  Between 25-100 Incidents
-  Greater Than 100 Incidents

\*Areas shown are U.S. Counties





# Exhibit 11.3.2

## Hazardous Materials Incidents by Incident Location - 2003

### Highway Incidents



#### Frequency Distribution Areas\*

-  Fewer Than 5 Incidents
-  Between 5-24 Incidents
-  Between 25-100 Incidents
-  Greater Than 100 Incidents

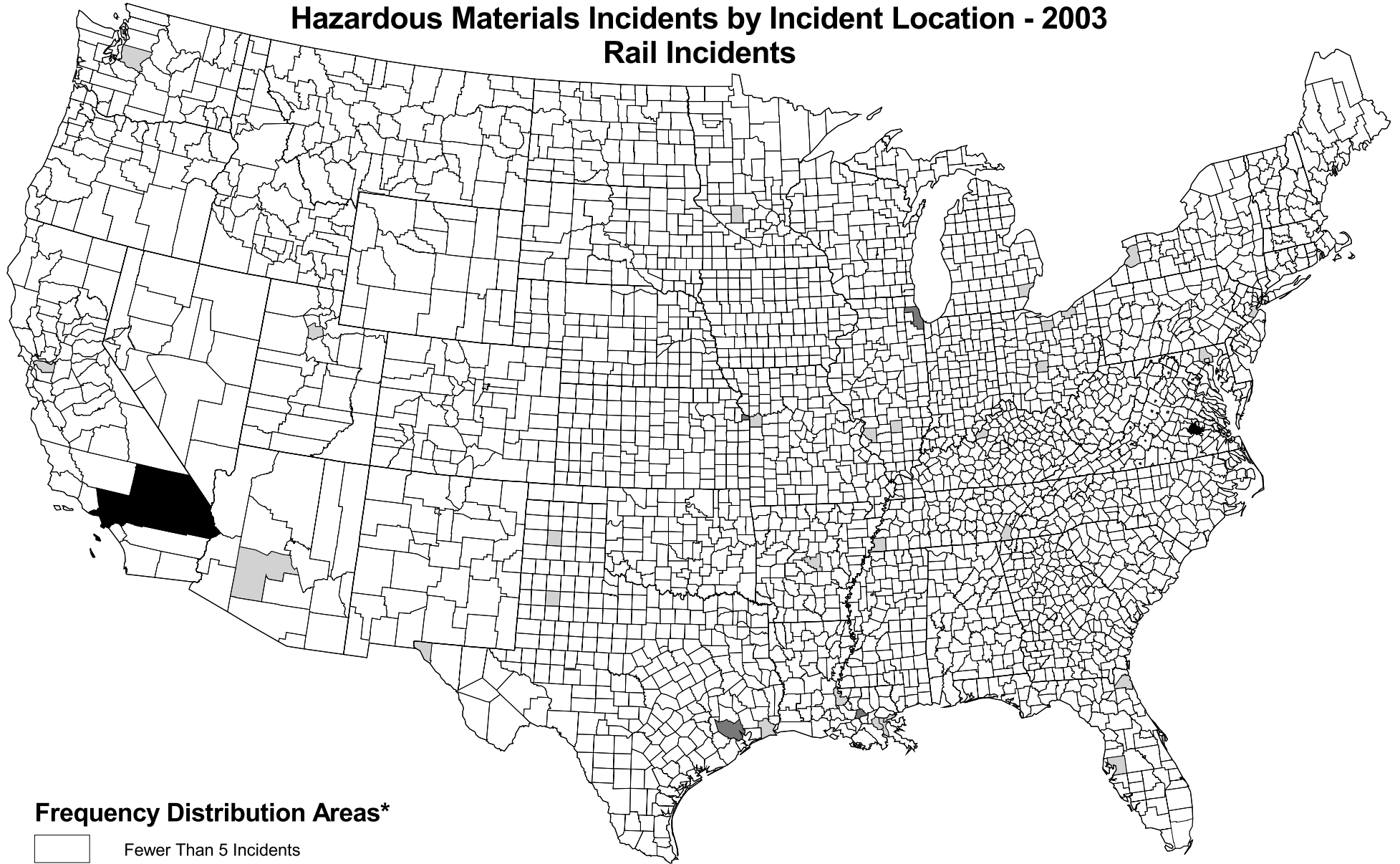
\*Areas shown are U.S. Counties









# Exhibit 11.4.2

## Hazardous Materials Incidents by Incident Location - 2003 Rail Incidents



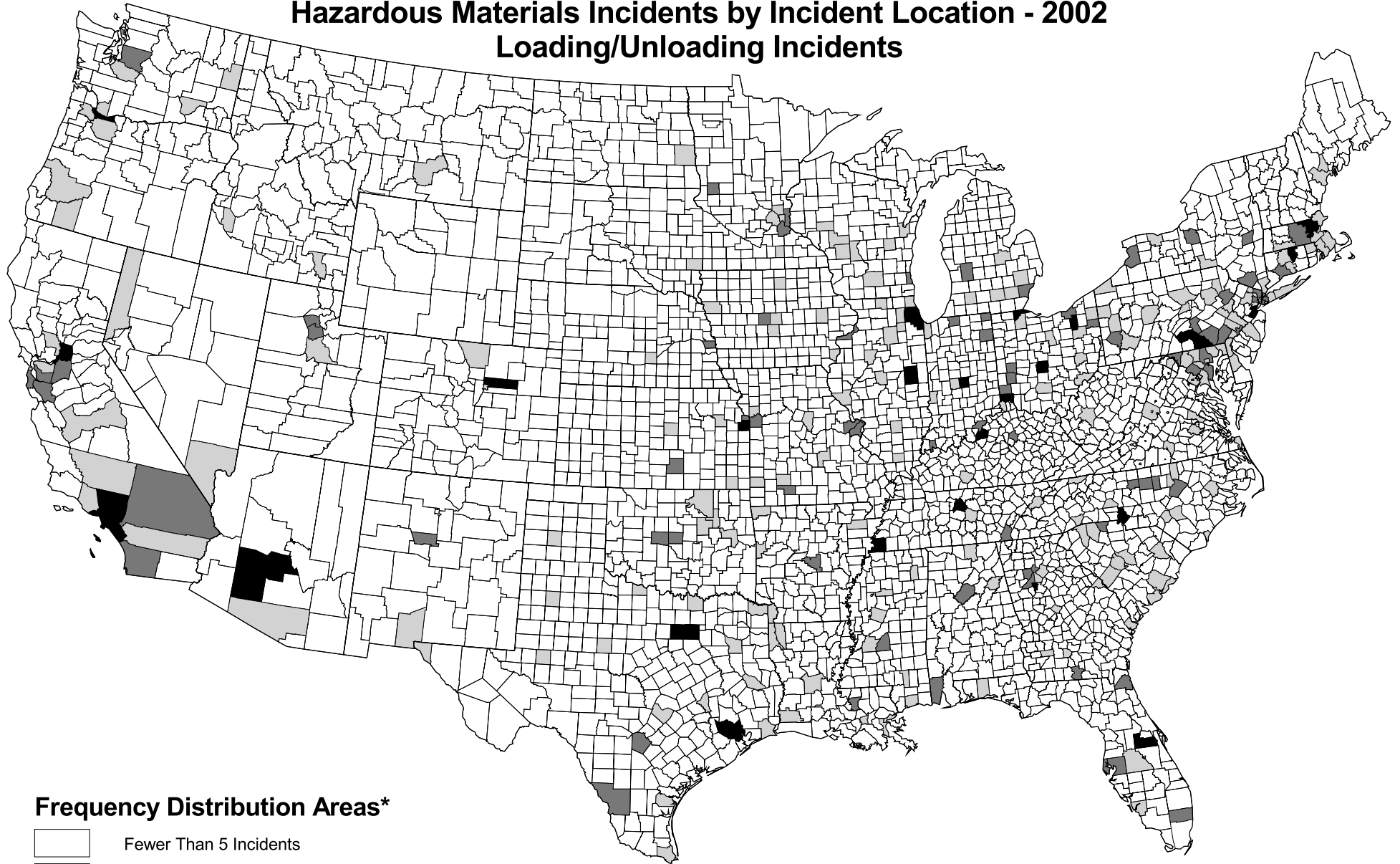
### Frequency Distribution Areas\*

-  Fewer Than 5 Incidents
-  Between 5-19 Incidents
-  Between 20-30 Incidents
-  Greater Than 30 Incidents





\*Areas shown are U.S. Counties

# Exhibit 11.5.1

## Hazardous Materials Incidents by Incident Location - 2002 Loading/Unloading Incidents



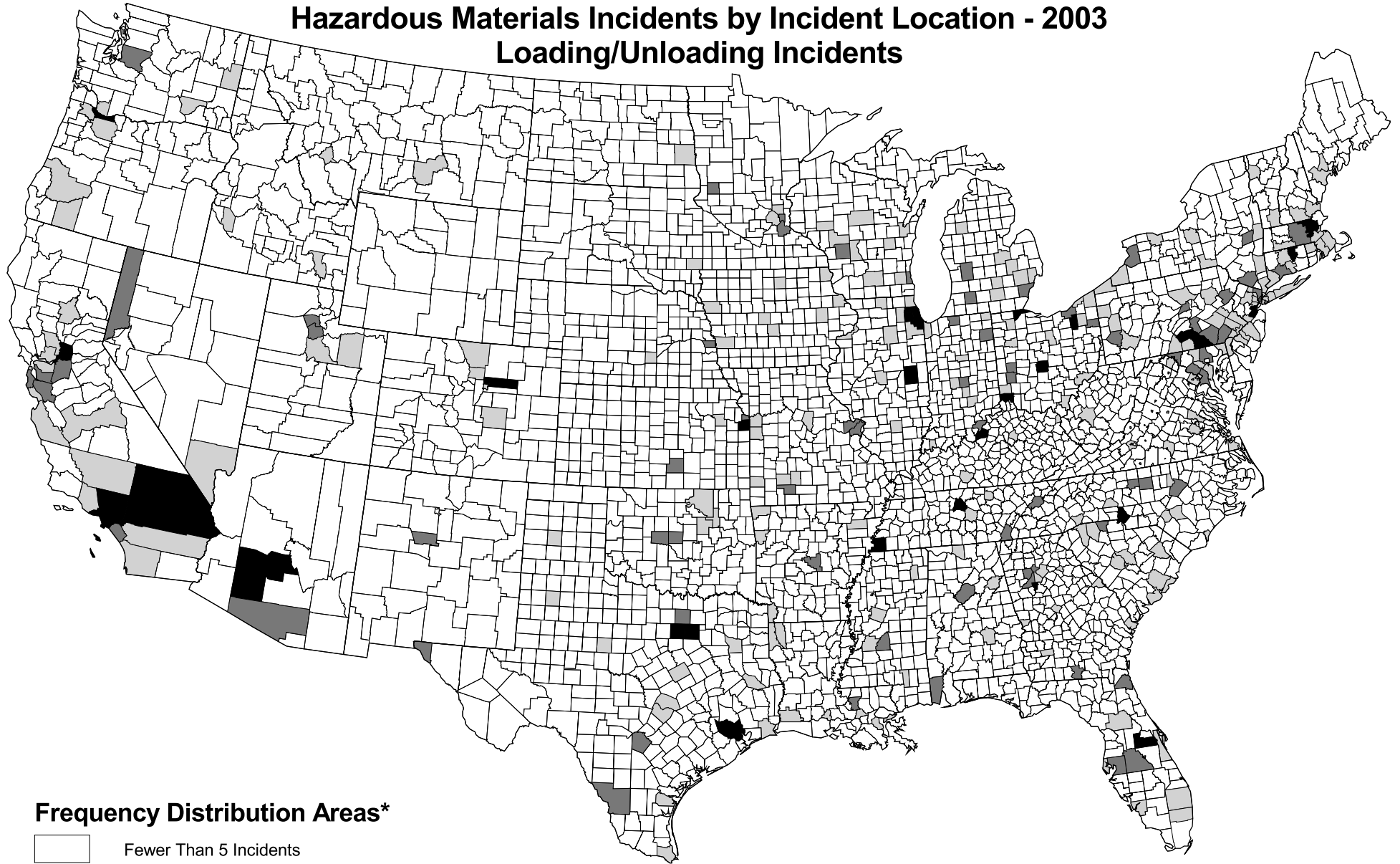
### Frequency Distribution Areas\*

-  Fewer Than 5 Incidents
-  Between 5-24 Incidents
-  Between 25-100 Incidents
-  Greater Than 100 Incidents





\*Areas shown are U.S. Counties

# Exhibit 11.5.2

## Hazardous Materials Incidents by Incident Location - 2003 Loading/Unloading Incidents



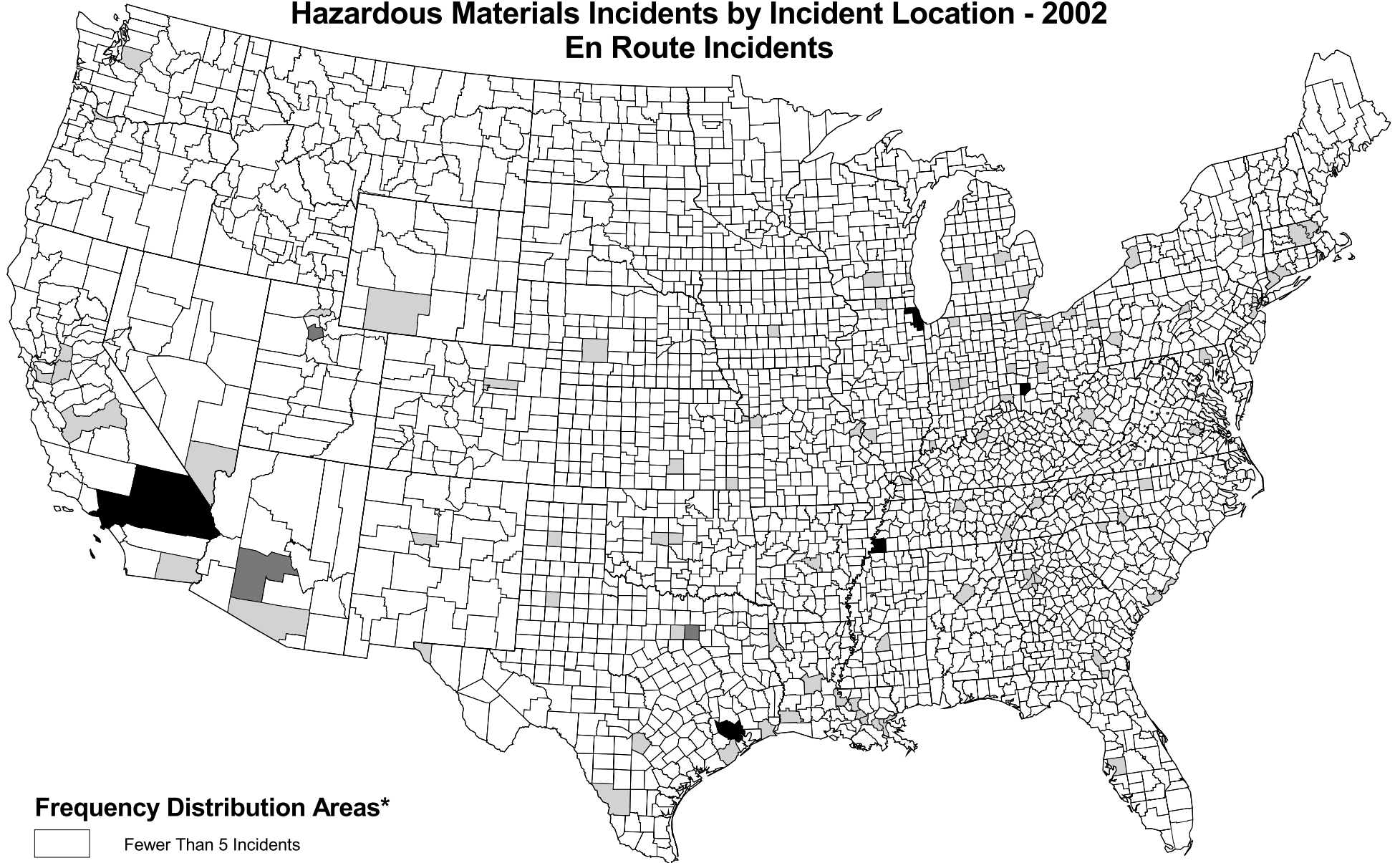
### Frequency Distribution Areas\*

-  Fewer Than 5 Incidents
-  Between 5-24 Incidents
-  Between 25-100 Incidents
-  Greater Than 100 Incidents





\*Areas shown are U.S. Counties

# Exhibit 11.6.1

## Hazardous Materials Incidents by Incident Location - 2002 En Route Incidents



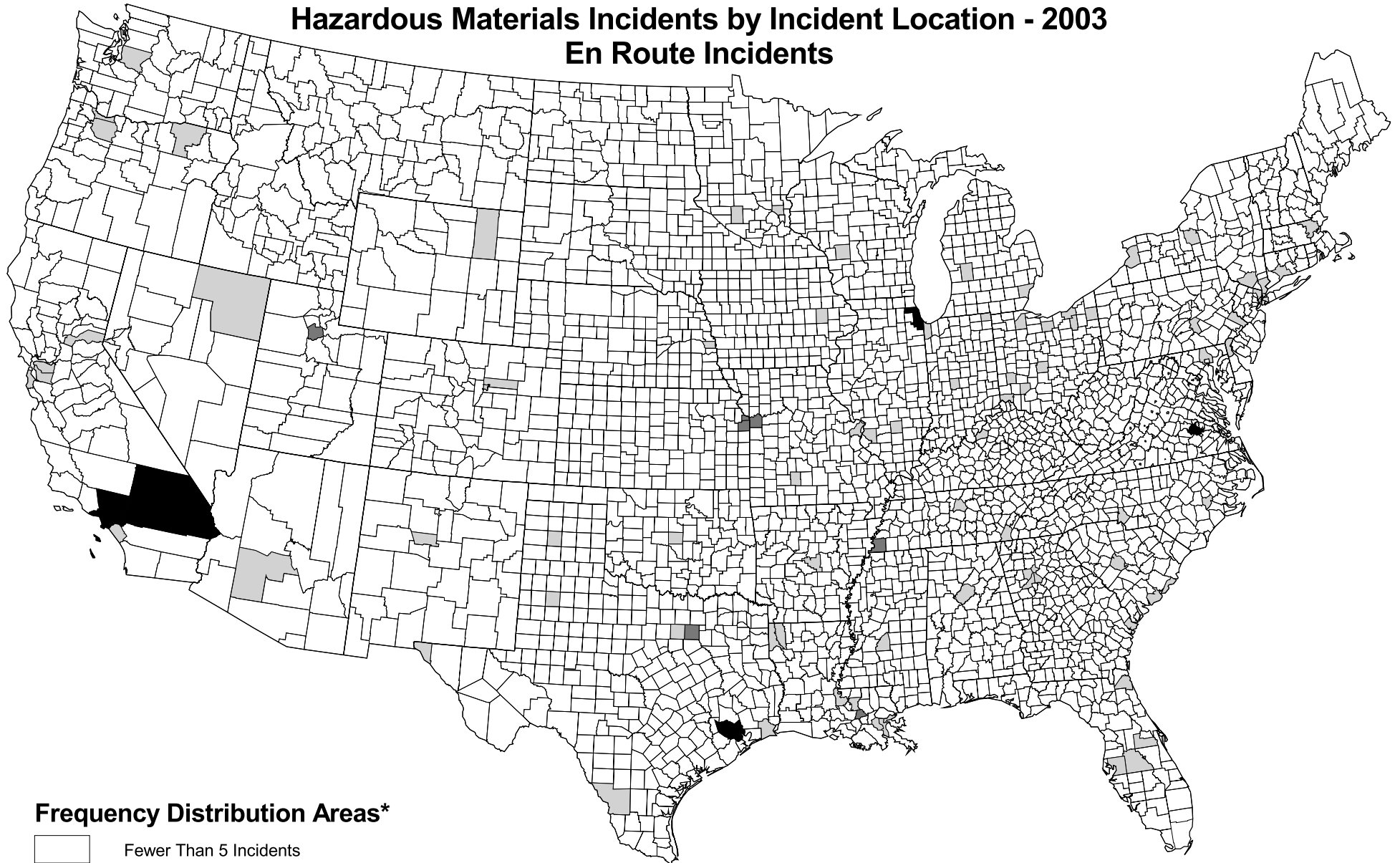
### Frequency Distribution Areas\*

-  Fewer Than 5 Incidents
-  Between 5-19 Incidents
-  Between 20-30 Incidents
-  Greater Than 30 Incidents





\*Areas shown are U.S. Counties

# Exhibit 11.6.2

## Hazardous Materials Incidents by Incident Location - 2003 En Route Incidents



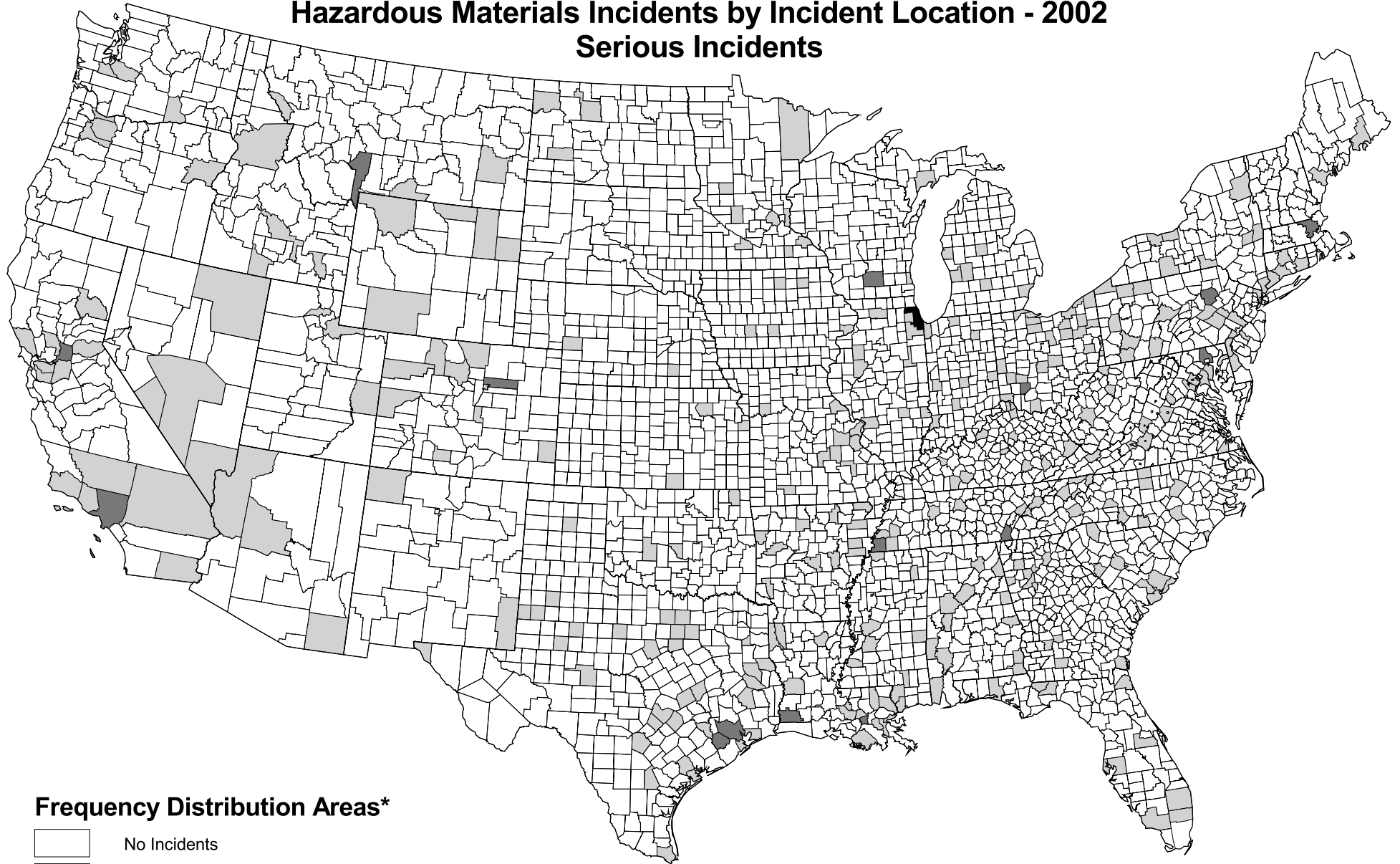
### Frequency Distribution Areas\*

-  Fewer Than 5 Incidents
-  Between 5-19 Incidents
-  Between 20-30 Incidents
-  Greater Than 30 Incidents





\*Areas shown are U.S. Counties

# Exhibit 11.7.1

## Hazardous Materials Incidents by Incident Location - 2002 Serious Incidents



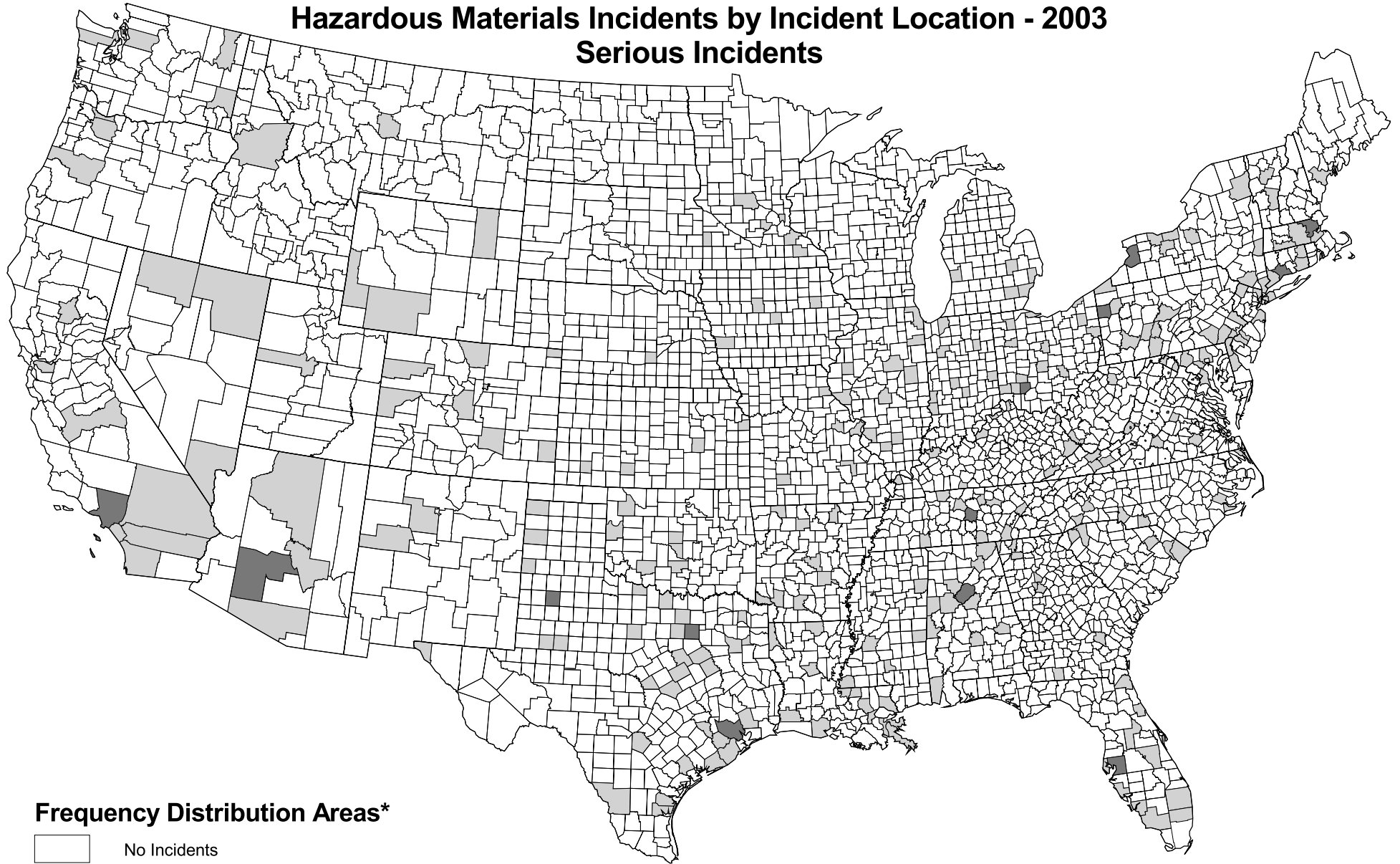
### Frequency Distribution Areas\*

-  No Incidents
-  Between 1-2 Incidents
-  Between 3-7 Incidents
-  Greater Than 7 Incidents





\*Areas shown are U.S. Counties

# Exhibit 11.7.2

## Hazardous Materials Incidents by Incident Location - 2003 Serious Incidents



### Frequency Distribution Areas\*

-  No Incidents
-  Between 1-2 Incidents
-  Between 3-7 Incidents
-  Greater Than 7 Incidents

\*Areas shown are U.S. Counties