

# 3. VEHICLES

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Statistics about the vehicles involved in motor vehicle crashes are presented in this chapter, according to six major vehicle types: **Passenger Cars**, **Light Trucks** (including pickups, vans, and utility vehicles with a gross vehicle weight rating of 10,000 pounds or less), **Large Trucks** (including single-unit trucks and truck tractors with a gross vehicle weight rating of more than 10,000 pounds), **Motorcycles** (including motorcycles, mopeds, and motorscooters), **Buses** (including school buses and transit buses), and **Other Vehicles** (including all-terrain vehicles, farm and construction equipment, and motorhomes). The tables and figures are presented for all vehicle types first, then by individual vehicle type. Below are some of the vehicle statistics you will find in this section:

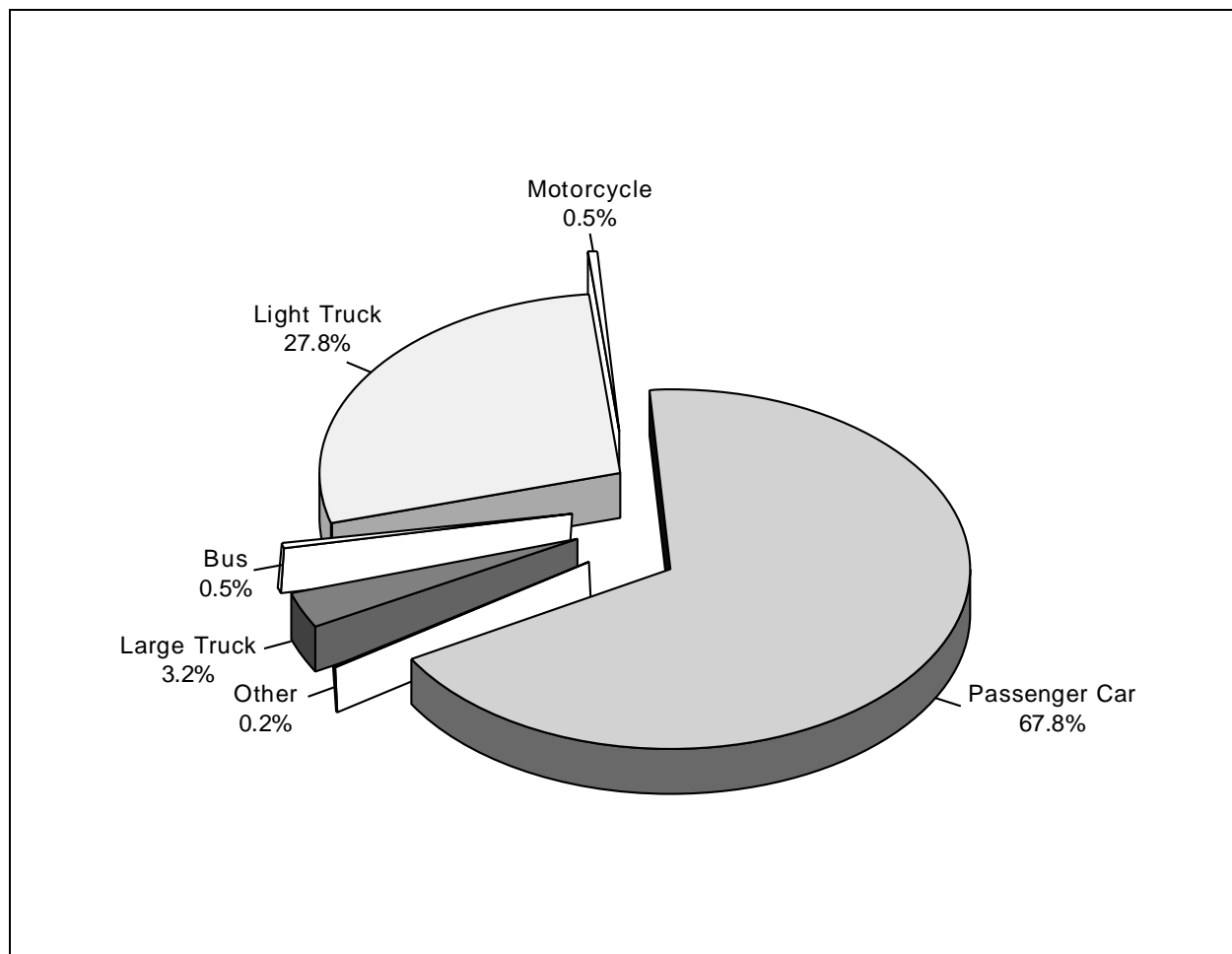
- Ninety-six percent of the 12 million vehicles involved in motor vehicle crashes in 1996 were passenger cars or light trucks.
- Large trucks accounted for 8 percent of the vehicles in fatal crashes, but only 3 percent of the vehicles involved in injury and property-damage-only crashes. Of the 4,740 large trucks involved in fatal crashes, 75 percent were combination trucks.
- The proportion of vehicles that rolled over in fatal crashes (18.3 percent) was almost 5 times as high as the proportion in injury crashes (4.0 percent) and 15 times as high as the proportion in property-damage-only crashes (1.2 percent).
- Compared with other vehicle types, utility vehicles experienced the highest rollover rates: 37.0 percent in fatal crashes, 8.7 percent in injury crashes, and 3.0 percent in property-damage-only crashes.
- Fires occurred in less than 1 percent of the vehicles involved in all traffic crashes in 1996. For fatal crashes, however, fires occurred in nearly 3 percent of the vehicles involved.
- Regardless of crash severity, the majority of vehicles in single- and two-vehicle crashes were going straight prior to the crash. The next most common vehicle maneuver differed by crash severity: negotiating a curve for fatal crashes and turning left for injury and property-damage-only crashes.
- Motorcycles in fatal crashes had the highest proportion of collisions with fixed objects (26.8 percent), and buses in fatal crashes had the lowest proportion (1.6 percent).

**Table 35**  
**Vehicles Involved in Crashes by Vehicle Type and Crash Severity**

Vehicle Type	Crash Severity						Total	
	Fatal		Injury		Property Damage Only			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Passenger Car	30,596	53.5	2,908,000	70.0	5,346,000	66.7	8,284,000	67.8
Light Truck	18,180	31.8	1,080,000	26.0	2,303,000	28.7	3,401,000	27.8
Large Truck	4,740	8.3	94,000	2.3	296,000	3.7	394,000	3.2
Motorcycle	2,176	3.8	51,000	1.2	14,000	0.2	67,000	0.5
Bus	320	0.6	15,000	0.4	42,000	0.5	58,000	0.5
Other	492	0.9	6,000	0.1	12,000	0.2	19,000	0.2
Total*	57,136	100.0	4,154,000	100.0	8,013,000	100.0	12,224,000	100.0

\* Includes 632 vehicles of unknown type involved in fatal crashes.

**Figure 14**  
**Proportion of Vehicles Involved in Traffic Crashes**



**Table 36**  
**Vehicles Involved in Fatal Crashes by Body Type**

Body Type	Number	Percent	Body Type	Number	Percent
<b>Passenger Cars</b>	<b>30,596</b>	<b>53.5</b>	<b>Large Trucks</b>	<b>4,740</b>	<b>8.3</b>
Convertible	283	0.5	Step Van	32	0.1
2 Door Sedan, Hardtop, Coupe	9,919	17.4	Single Unit Truck		
3 Door/2 Door Hatchback	2,093	3.7	(10,000 lb < GVWR ≤ 19,500 lb)	143	0.3
4 Door Sedan Hardtop	15,428	27.0	Single Unit Truck		
5 Door/4 Door Hatchback	568	1.0	(19,500 lb < GVWR ≤ 26,000 lb)	213	0.4
Station Wagon	1,192	2.1	Single Unit Heavy Truck		
Hatchback, Doors Unknown	59	0.1	(GVWR > 26,000 lb)	798	1.4
Other Auto	230	0.4	Single Unit Truck, Unknown GVWR	102	0.2
Unknown Auto	741	1.3	Truck Tractor	3,399	5.9
Auto-Based Pickup	81	0.1	Unknown Medium Truck		
Auto-Based Panel	2	*	(10,000 lb < GVWR ≤ 26,000 lb)	3	*
<hr/>			Unknown Heavy Truck		
<b>Light Trucks</b>	<b>18,180</b>	<b>31.8</b>	(GVWR > 26,000 lb)	10	*
Compact Utility	2,900	5.1	Unknown Large Truck Type	39	0.1
Large Utility	537	0.9	Unknown Truck	1	*
Utility Station Wagon	300	0.5	<hr/>		
Utility, Unknown Body Type	16	*	<b>Motorcycles</b>	<b>2,176</b>	<b>3.8</b>
Minivan	1,974	3.5	Motorcycle	2,057	3.6
Large Van	1,358	2.4	Moped	38	0.1
Step Van	72	0.1	Three Wheel Motorcycle or Moped	1	*
Van-Based School Bus	11	*	Off-Road Motorcycle (Two Wheel)	34	0.1
Van-Based Transit Bus	7	*	Other Motorcycle/Minibike	25	*
Other Van Type	57	0.1	Unknown Motorcycle	21	*
Unknown Van Type	55	0.1	<hr/>		
Compact Pickup	4,184	7.3	<b>Buses</b>	<b>320</b>	<b>0.6</b>
Standard Pickup	6,386	11.2	School Bus	124	0.2
Pickup with Camper	57	0.1	Cross Country/Intercity Bus	34	0.1
Unknown Pickup Style Truck	97	0.2	Transit Bus	111	0.2
Cab Chassis-Based Light Truck	122	0.2	Other Bus	32	0.1
Other Conventional Light Truck	3	*	Unknown Bus	19	*
Unknown Light Truck (not pickup)	16	*	<hr/>		
Unknown Light Vehicle Type	21	*	<b>Other Vehicles</b>	<b>492</b>	<b>0.9</b>
Unknown Truck	7	*	Large Limousine	4	*
<hr/>			Van-Based Motorhome	26	*
			Light Truck-Based Motorhome	4	*
			Large Truck-Based Motorhome	20	*
			Unknown Truck Camper/Motorhome	41	0.1
			All Terrain Vehicle	148	0.3
			Snowmobile	62	0.1
			Farm Equipment Except Trucks	103	0.2
			Construction Equipment Except Trucks	27	*
			Other Vehicle	57	0.1
			<hr/>		
			<b>Unknown Body Type</b>	<b>632</b>	<b>1.1</b>
			<hr/>		
			<b>Total</b>	<b>57,136</b>	<b>100.0</b>

\* Less than 0.05 percent.

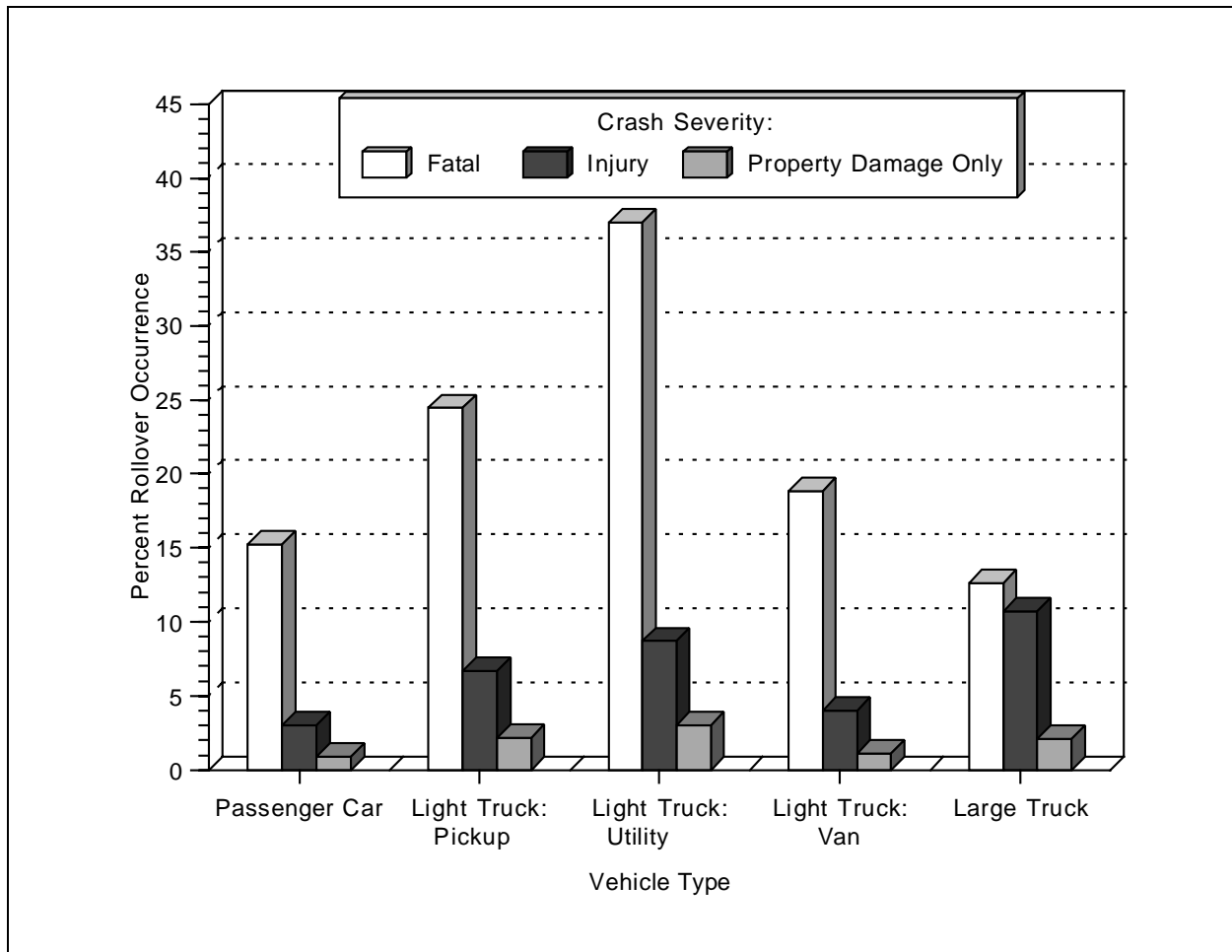
**Table 37**  
**Vehicles Involved in Crashes by Vehicle Type, Rollover Occurrence, and Crash Severity**

Vehicle Type	Rollover Occurrence				Total	
	Yes		No			
	Number	Percent	Number	Percent	Number	Percent
Fatal Crashes						
Passenger Car	4,652	15.2	25,944	84.8	30,596	100.0
Light Truck						
Pickup	2,629	24.5	8,095	75.5	10,724	100.0
Utility	1,389	37.0	2,364	63.0	3,753	100.0
Van	664	18.8	2,870	81.2	3,534	100.0
Other	21	12.4	148	87.6	169	100.0
Large Truck	595	12.6	4,145	87.4	4,740	100.0
Bus	6	1.9	314	98.1	320	100.0
Other/Unknown	129	11.5	995	88.5	1,124	100.0
Total*	10,085	18.3	44,875	81.7	54,960	100.0
Injury Crashes						
Passenger Car	86,000	3.0	2,822,000	97.0	2,908,000	100.0
Light Truck						
Pickup	36,000	6.7	510,000	93.3	547,000	100.0
Utility	17,000	8.7	174,000	91.3	190,000	100.0
Van	10,000	4.0	247,000	96.0	258,000	100.0
Other	4,000	5.1	80,000	94.9	85,000	100.0
Large Truck	10,000	10.7	84,000	89.3	94,000	100.0
Bus	**	1.5	15,000	98.5	15,000	100.0
Other/Unknown	1,000	11.3	5,000	88.7	6,000	100.0
Total*	165,000	4.0	3,938,000	96.0	4,103,000	100.0
Property-Damage-Only Crashes						
Passenger Car	46,000	0.9	5,300,000	99.1	5,346,000	100.0
Light Truck						
Pickup	26,000	2.2	1,172,000	97.8	1,198,000	100.0
Utility	12,000	3.0	382,000	97.0	393,000	100.0
Van	6,000	1.1	551,000	98.9	557,000	100.0
Other	3,000	1.9	151,000	98.1	154,000	100.0
Large Truck	6,000	2.1	290,000	97.9	296,000	100.0
Bus	**	**	42,000	100.0	42,000	100.0
Other/Unknown	**	2.3	12,000	97.7	12,000	100.0
Total*	99,000	1.2	7,900,000	98.8	7,999,000	100.0
All Crashes						
Passenger Car	137,000	1.6	8,148,000	98.4	8,284,000	100.0
Light Truck						
Pickup	65,000	3.7	1,691,000	96.3	1,756,000	100.0
Utility	30,000	5.1	558,000	94.9	588,000	100.0
Van	17,000	2.1	802,000	97.9	818,000	100.0
Other	7,000	3.0	232,000	97.0	239,000	100.0
Large Truck	17,000	4.3	377,000	95.7	394,000	100.0
Bus	**	0.4	58,000	99.6	58,000	100.0
Other/Unknown	1,000	5.6	18,000	94.4	19,000	100.0
Total*	274,000	2.3	11,883,000	97.7	12,157,000	100.0

\* Excludes motorcycles.

\*\* Less than 500 or less than 0.05 percent.

**Figure 15**  
**Percent Rollover Occurrence by Vehicle Type and Crash Severity**



**Table 38**  
**Vehicles Involved in Crashes by Vehicle Type, Fire Occurrence, and Crash Severity**

Vehicle Type	Fire Occurrence				Total	
	Yes		No			
	Number	Percent	Number	Percent	Number	Percent
Fatal Crashes						
Passenger Car	743	2.4	29,853	97.6	30,596	100.0
Light Truck	466	2.6	17,714	97.4	18,180	100.0
Large Truck	192	4.1	4,548	95.9	4,740	100.0
Motorcycle	39	1.8	2,137	98.2	2,176	100.0
Bus	1	0.3	319	99.7	320	100.0
Other/Unknown	16	1.4	1,108	98.6	1,124	100.0
Total	1,457	2.6	55,679	97.4	57,136	100.0
Injury Crashes						
Passenger Car	2,000	0.1	2,906,000	99.9	2,908,000	100.0
Light Truck	2,000	0.2	1,078,000	99.8	1,080,000	100.0
Large Truck	*	0.5	93,000	99.5	94,000	100.0
Motorcycle	*	0.9	51,000	99.1	51,000	100.0
Bus	*	*	15,000	100.0	15,000	100.0
Other/Unknown	*	*	6,000	100.0	6,000	100.0
Total	5,000	0.1	4,149,000	99.9	4,154,000	100.0
Property-Damage-Only Crashes						
Passenger Car	4,000	0.1	5,341,000	99.9	5,346,000	100.0
Light Truck	3,000	0.2	2,299,000	99.8	2,303,000	100.0
Large Truck	1,000	0.2	295,000	99.8	296,000	100.0
Motorcycle	*	*	14,000	100.0	14,000	100.0
Bus	*	0.2	42,000	99.8	42,000	100.0
Other/Unknown	*	2.5	12,000	97.5	12,000	100.0
Total	9,000	0.1	8,004,000	99.9	8,013,000	100.0
All Crashes						
Passenger Car	7,000	0.1	8,277,000	99.9	8,284,000	100.0
Light Truck	6,000	0.2	3,395,000	99.8	3,401,000	100.0
Large Truck	1,000	0.3	393,000	99.7	394,000	100.0
Motorcycle	*	0.7	67,000	99.3	67,000	100.0
Bus	*	0.1	58,000	99.9	58,000	100.0
Other/Unknown	*	1.7	19,000	98.3	19,000	100.0
Total	15,000	0.1	12,209,000	99.9	12,224,000	100.0

\* Less than 500 or less than 0.05 percent.

**Table 39**  
**Vehicles Involved in Single- and Two-Vehicle Crashes by Vehicle Maneuver and Crash Severity**

Vehicle Maneuver	Crash Severity						Total	
	Fatal		Injury		Property Damage Only			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Going Straight	33,745	69.4	2,151,000	62.5	4,096,000	55.7	6,281,000	57.9
Turning Left	2,843	5.8	394,000	11.5	714,000	9.7	1,111,000	10.2
Stopped in Traffic Lane	612	1.3	312,000	9.1	708,000	9.6	1,020,000	9.4
Turning Right	300	0.6	85,000	2.5	298,000	4.0	383,000	3.5
Slowed in Traffic Lane	316	0.6	129,000	3.7	352,000	4.8	481,000	4.4
Merging/Changing Lanes	619	1.3	58,000	1.7	281,000	3.8	340,000	3.1
Negotiating Curve	7,082	14.6	77,000	2.2	106,000	1.4	191,000	1.8
Backing Up	159	0.3	12,000	0.3	128,000	1.7	140,000	1.3
Passing Other Vehicle	995	2.0	38,000	1.1	118,000	1.6	157,000	1.4
Starting in Traffic Lane	498	1.0	34,000	1.0	72,000	1.0	107,000	1.0
Leaving Parking Space	43	0.1	4,000	0.1	49,000	0.7	54,000	0.5
Making U-Turn	192	0.4	18,000	0.5	41,000	0.6	59,000	0.5
Entering Parking Space	18	*	1,000	*	14,000	0.2	15,000	0.1
Disabled in Traffic Lane	26	0.1	5,000	0.1	12,000	0.2	16,000	0.2
Other Maneuver	872	1.8	124,000	3.6	369,000	5.0	494,000	4.6
Total**	48,624	100.0	3,442,000	100.0	7,358,000	100.0	10,849,000	100.0

\* Less than 0.05 percent.

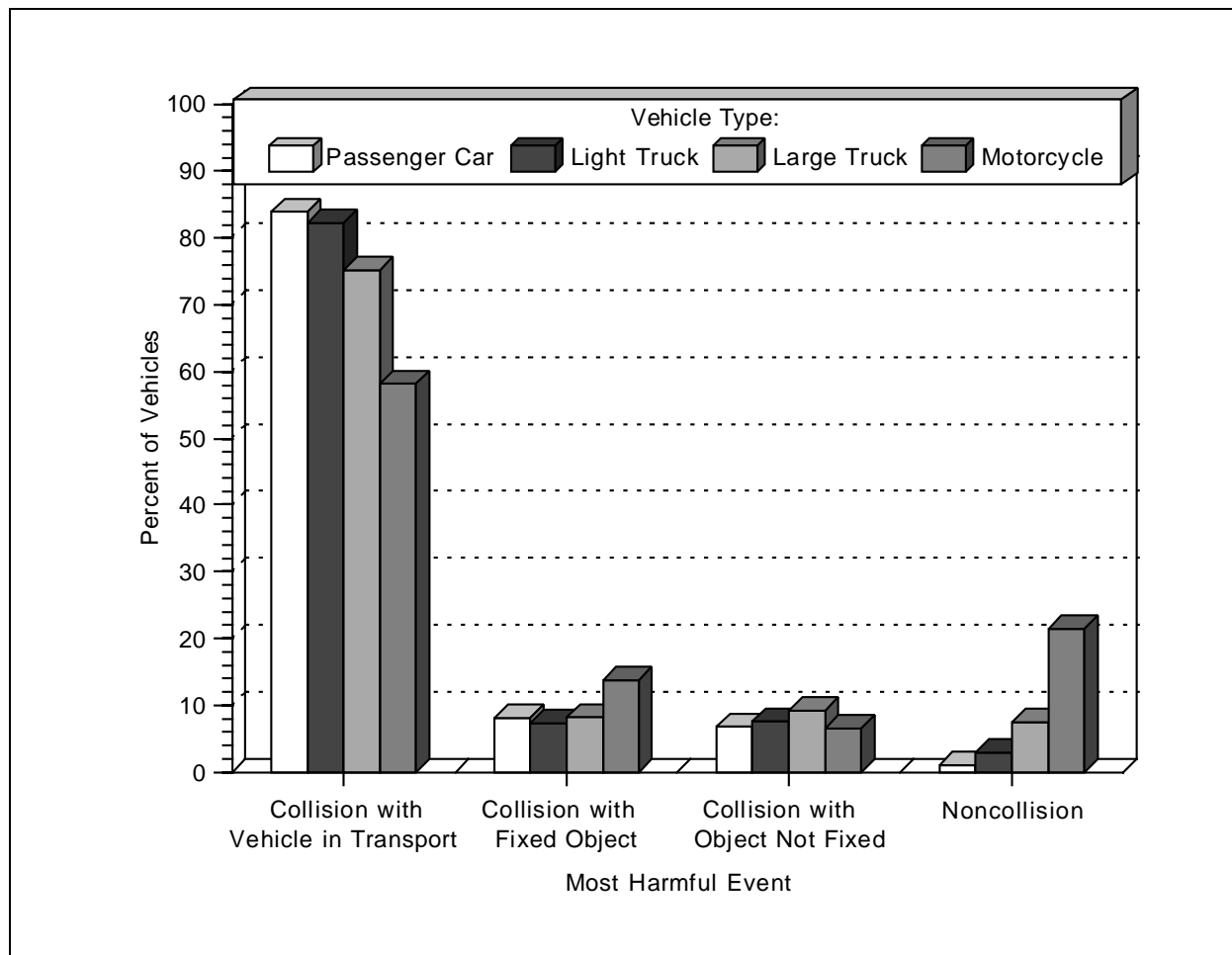
\*\* Includes 304 vehicles involved in fatal crashes with unknown vehicle maneuver.

**Table 40**  
**Vehicles Involved in Fatal Crashes by Roadway Function Class,**  
**Crash Type, and Hazardous Cargo**

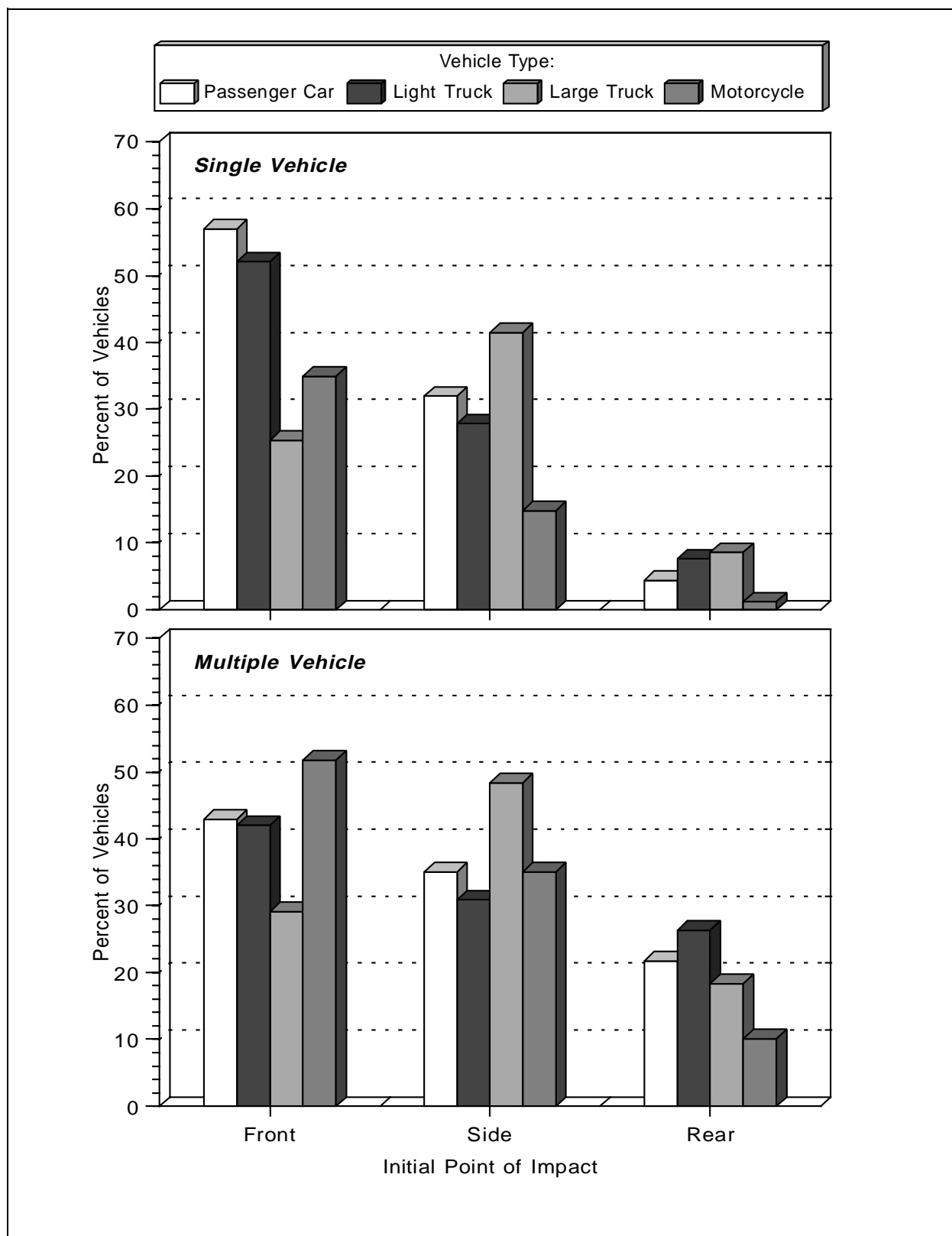
Roadway Function Class	Crash Type				Total	
	Single Vehicle		Multiple Vehicle			
	Hazardous Cargo	Total	Hazardous Cargo	Total	Hazardous Cargo	Total
Rural Fatal Crashes						
Principal Arterial						
Interstate	8	1,606	29	2,027	37	3,633
Other	10	1,628	47	6,070	57	7,698
Minor Arterial	9	1,727	32	4,132	41	5,859
Major Collector	8	3,166	16	4,472	24	7,638
Minor Collector	1	970	3	856	4	1,826
Local Road or Street	2	2,981	5	2,050	7	5,031
Unknown Rural	0	163	3	214	3	377
Total	38	12,241	135	19,821	173	32,062
Urban Fatal Crashes						
Principal Arterial						
Interstate	4	1,137	10	2,339	14	3,476
Freeway/Expressway	3	731	3	1,530	6	2,261
Other	1	2,410	21	5,921	22	8,331
Minor Arterial	3	1,753	5	3,543	8	5,296
Collector	1	718	1	859	2	1,577
Local Road or Street	1	1,947	4	1,869	5	3,816
Unknown Urban	0	39	0	52	0	91
Total	13	8,735	44	16,113	57	24,848
All Fatal Crashes						
Principal Arterial						
Interstate	12	2,743	39	4,366	51	7,109
Freeway/Expressway	3	731	3	1,530	6	2,261
Other	11	4,038	68	11,991	79	16,029
Minor Arterial	12	3,480	37	7,675	49	11,155
Collector	10	4,854	20	6,187	30	11,041
Local Road or Street	3	4,928	9	3,919	12	8,847
Unknown Rural	0	163	3	214	3	377
Unknown Urban	0	39	0	52	0	91
Unknown Rural or Urban	0	70	1	156	1	226
Total	51	21,046	180	36,090	231	57,136



**Figure 16**  
**Percent of Vehicles in Crashes by Most Harmful Event and Vehicle Type**



**Figure 17**  
**Percent of Vehicles in Crashes by Initial Point of Impact, Crash Type, and Vehicle Type**



Note: Excludes other or unknown point of impact and noncollisions.

**Table 41**  
**Passenger Cars Involved in Crashes by Most Harmful Event and Crash Severity**

Most Harmful Event	Crash Severity						Total	
	Fatal		Injury		Property Damage Only			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Collision with Motor Vehicle in Transport by Initial Point of Impact:								
Front	11,023	36.0	1,153,000	39.6	1,826,000	34.2	2,989,000	36.1
Left Side	2,828	9.2	396,000	13.6	904,000	16.9	1,302,000	15.7
Right Side	2,634	8.6	336,000	11.6	804,000	15.0	1,143,000	13.8
Rear	1,217	4.0	583,000	20.0	933,000	17.5	1,517,000	18.3
Other/Unknown	227	0.7	1,000	*	1,000	*	2,000	*
Subtotal	17,929	58.6	2,468,000	84.9	4,468,000	83.6	6,954,000	83.9
Collision with Fixed Object								
	5,059	16.5	245,000	8.4	423,000	7.9	673,000	8.1
Collision with Object Not Fixed:								
Nonmotorist	3,436	11.2	98,000	3.4	10,000	0.2	111,000	1.3
Other	537	1.8	48,000	1.6	403,000	7.5	451,000	5.4
Subtotal	3,973	13.0	146,000	5.0	413,000	7.7	563,000	6.8
Noncollision	3,623	11.8	50,000	1.7	41,000	0.8	95,000	1.1
Total**	30,596	100.0	2,908,000	100.0	5,346,000	100.0	8,284,000	100.0

\* Less than 0.05 percent.

\*\* Includes 12 passenger cars involved in fatal crashes with unknown most harmful event.

**Table 42**  
**Passenger Cars Involved in Crashes by Initial Point of Impact, Crash Severity, and Crash Type**

Initial Point of Impact	Crash Severity						Total	
	Fatal		Injury		Property Damage Only			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Single-Vehicle Crashes								
Front	7,301	63.6	265,000	62.9	454,000	54.0	726,000	57.0
Left Side	959	8.4	48,000	11.5	121,000	14.3	170,000	13.4
Right Side	957	8.3	61,000	14.6	174,000	20.7	236,000	18.5
Rear	257	2.2	10,000	2.4	46,000	5.5	56,000	4.4
Noncollision	1,171	10.2	32,000	7.5	23,000	2.7	56,000	4.4
Other/Unknown	833	7.3	5,000	1.2	24,000	2.8	30,000	2.3
Total	11,478	100.0	422,000	100.0	841,000	100.0	1,274,000	100.0
Multiple-Vehicle Crashes								
Front	11,662	61.0	1,160,000	46.7	1,842,000	40.9	3,014,000	43.0
Left Side	2,960	15.5	399,000	16.1	911,000	20.2	1,313,000	18.7
Right Side	2,768	14.5	340,000	13.7	808,000	17.9	1,151,000	16.4
Rear	1,351	7.1	585,000	23.5	935,000	20.8	1,522,000	21.7
Noncollision	13	0.1	*	*	4,000	0.1	5,000	0.1
Other/Unknown	364	1.9	2,000	0.1	4,000	0.1	6,000	0.1
Total	19,118	100.0	2,487,000	100.0	4,504,000	100.0	7,010,000	100.0
All Crashes								
Front	18,963	62.0	1,425,000	49.0	2,296,000	43.0	3,741,000	45.2
Left Side	3,919	12.8	448,000	15.4	1,031,000	19.3	1,483,000	17.9
Right Side	3,725	12.2	401,000	13.8	982,000	18.4	1,387,000	16.7
Rear	1,608	5.3	595,000	20.5	981,000	18.4	1,578,000	19.0
Noncollision	1,184	3.9	32,000	1.1	27,000	0.5	60,000	0.7
Other/Unknown	1,197	3.9	6,000	0.2	28,000	0.5	35,000	0.4
Total	30,596	100.0	2,908,000	100.0	5,346,000	100.0	8,284,000	100.0

\* Less than 500 or less than 0.05 percent.

**Table 43**  
**Light Trucks Involved in Crashes by Most Harmful Event and Crash Severity**

Most Harmful Event	Crash Severity						Total	
	Fatal		Injury		Property Damage Only			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Collision with Motor Vehicle in Transport by Initial Point of Impact:								
Front	7,763	42.7	446,000	41.3	730,000	31.7	1,184,000	34.8
Left Side	859	4.7	132,000	12.2	312,000	13.5	444,000	13.1
Right Side	643	3.5	109,000	10.1	313,000	13.6	423,000	12.4
Rear	728	4.0	220,000	20.4	524,000	22.8	745,000	21.9
Other/Unknown	143	0.8	*	*	2,000	0.1	2,000	0.1
Subtotal	10,136	55.8	907,000	84.0	1,882,000	81.7	2,799,000	82.3
Collision with Fixed Object								
	1,987	10.9	83,000	7.7	162,000	7.0	247,000	7.3
Collision with Object Not Fixed:								
Nonmotorist	2,052	11.3	34,000	3.1	3,000	0.1	38,000	1.1
Other	278	1.5	14,000	1.3	205,000	8.9	220,000	6.5
Subtotal	2,330	12.8	48,000	4.4	208,000	9.0	258,000	7.6
Noncollision	3,723	20.5	42,000	3.9	51,000	2.2	97,000	2.9
Total**	18,180	100.0	1,080,000	100.0	2,303,000	100.0	3,401,000	100.0

\* Less than 500 or less than 0.05 percent.

\*\* Includes 4 light trucks involved in fatal crashes with unknown most harmful event.

**Table 44**  
**Light Trucks Involved in Crashes by Initial Point of Impact, Crash Severity, and Crash Type**

Initial Point of Impact	Crash Severity						Total	
	Fatal		Injury		Property Damage Only			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Single-Vehicle Crashes								
Front	4,132	57.5	92,000	55.7	199,000	50.5	295,000	52.1
Left Side	365	5.1	15,000	9.0	44,000	11.3	60,000	10.5
Right Side	404	5.6	23,000	14.0	74,000	18.9	98,000	17.3
Rear	113	1.6	3,000	1.6	40,000	10.2	43,000	7.6
Noncollision	1,662	23.1	31,000	18.9	30,000	7.6	62,000	11.1
Other/Unknown	508	7.1	1,000	0.7	6,000	1.6	8,000	1.4
Total	7,184	100.0	164,000	100.0	394,000	100.0	565,000	100.0
Multiple-Vehicle Crashes								
Front	8,241	74.9	448,000	49.0	738,000	38.7	1,194,000	42.1
Left Side	957	8.7	134,000	14.6	314,000	16.5	449,000	15.8
Right Side	718	6.5	110,000	12.0	315,000	16.5	426,000	15.0
Rear	863	7.8	220,000	24.1	525,000	27.5	746,000	26.3
Noncollision	13	0.1	2,000	0.2	14,000	0.7	16,000	0.6
Other/Unknown	204	1.9	*	*	3,000	0.2	4,000	0.1
Total	10,996	100.0	915,000	100.0	1,909,000	100.0	2,835,000	100.0
All Crashes								
Front	12,373	68.1	540,000	50.0	937,000	40.7	1,489,000	43.8
Left Side	1,322	7.3	149,000	13.8	359,000	15.6	509,000	15.0
Right Side	1,122	6.2	133,000	12.3	389,000	16.9	524,000	15.4
Rear	976	5.4	223,000	20.7	565,000	24.5	789,000	23.2
Noncollision	1,675	9.2	33,000	3.1	44,000	1.9	79,000	2.3
Other/Unknown	712	3.9	1,000	0.1	9,000	0.4	11,000	0.3
Total	18,180	100.0	1,080,000	100.0	2,303,000	100.0	3,401,000	100.0

\* Less than 500 or less than 0.05 percent.

**Table 45**  
**Large Trucks Involved in Crashes by Most Harmful Event and Crash Severity**

Most Harmful Event	Crash Severity						Total	
	Fatal		Injury		Property Damage Only			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Collision with Motor Vehicle in Transport by Initial Point of Impact:								
Front	2,367	49.9	31,000	32.9	56,000	18.8	89,000	22.5
Left Side	387	8.2	17,000	18.2	50,000	17.0	68,000	17.2
Right Side	203	4.3	13,000	14.3	69,000	23.2	82,000	20.9
Rear	689	14.5	14,000	15.0	42,000	14.2	57,000	14.4
Other/Unknown	111	2.3	1,000	0.8	1,000	0.4	2,000	0.5
Subtotal	3,757	79.3	76,000	81.2	218,000	73.7	298,000	75.5
Collision with Fixed Object								
	138	2.9	5,000	5.4	27,000	9.1	32,000	8.2
Collision with Object Not Fixed:								
Nonmotorist	385	8.1	1,000	1.4	*	*	2,000	0.4
Other	61	1.3	2,000	1.8	31,000	10.6	33,000	8.4
Subtotal	446	9.4	3,000	3.2	31,000	10.6	35,000	8.8
Noncollision	398	8.4	10,000	10.3	20,000	6.6	30,000	7.5
Total**	4,740	100.0	94,000	100.0	296,000	100.0	394,000	100.0

\* Less than 500 or less than 0.05 percent.

\*\* Includes 1 large truck involved in a fatal crash with unknown most harmful event.

**Table 46**  
**Large Trucks Involved in Crashes by Initial Point of Impact, Crash Severity, and Crash Type**

Initial Point of Impact	Crash Severity						Total	
	Fatal		Injury		Property Damage Only			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Single-Vehicle Crashes								
Front	406	53.4	4,000	26.8	17,000	24.6	21,000	25.3
Left Side	28	3.7	1,000	7.2	9,000	14.0	11,000	12.7
Right Side	54	7.1	2,000	11.5	22,000	33.0	24,000	28.8
Rear	42	5.5	*	0.6	7,000	10.4	7,000	8.6
Noncollision	133	17.5	8,000	49.8	9,000	13.8	17,000	20.4
Other/Unknown	98	12.9	1,000	4.2	3,000	4.2	4,000	4.3
Total	761	100.0	15,000	100.0	67,000	100.0	83,000	100.0
Multiple-Vehicle Crashes								
Front	2,520	63.3	32,000	40.4	56,000	24.7	91,000	29.1
Left Side	401	10.1	17,000	21.8	50,000	22.1	68,000	21.9
Right Side	214	5.4	14,000	17.3	69,000	30.0	82,000	26.5
Rear	706	17.7	14,000	18.0	42,000	18.4	57,000	18.3
Noncollision	3	0.1	2,000	2.0	11,000	4.6	12,000	3.9
Other/Unknown	135	3.4	*	0.4	*	0.2	1,000	0.3
Total	3,979	100.0	78,000	100.0	229,000	100.0	311,000	100.0
All Crashes								
Front	2,926	61.7	36,000	38.2	73,000	24.7	112,000	28.3
Left Side	429	9.1	18,000	19.5	60,000	20.2	79,000	19.9
Right Side	268	5.7	15,000	16.3	91,000	30.7	106,000	27.0
Rear	748	15.8	14,000	15.1	49,000	16.6	64,000	16.2
Noncollision	136	2.9	9,000	9.8	20,000	6.7	29,000	7.4
Other/Unknown	233	4.9	1,000	1.0	3,000	1.1	4,000	1.1
Total	4,740	100.0	94,000	100.0	296,000	100.0	394,000	100.0

\* Less than 500.



**Table 47**  
**Large Trucks Involved in Crashes by Truck Type, Rollover Occurrence,**  
**and Crash Severity**

Truck Type	Rollover Occurrence				Total	
	Yes		No			
	Number	Percent	Number	Percent	Number	Percent
Fatal Crashes						
Single-Unit Truck	182	15.4	1,002	84.6	1,184	100.0
Combination Truck	413	11.6	3,143	88.4	3,556	100.0
Total	595	12.6	4,145	87.4	4,740	100.0
Injury Crashes						
Single-Unit Truck	4,000	9.8	33,000	90.2	37,000	100.0
Combination Truck	6,000	11.4	51,000	88.6	57,000	100.0
Total	10,000	10.7	84,000	89.3	94,000	100.0
Property-Damage-Only Crashes						
Single-Unit Truck	3,000	2.1	120,000	97.9	122,000	100.0
Combination Truck	4,000	2.1	170,000	97.9	173,000	100.0
Total	6,000	2.1	290,000	97.9	296,000	100.0
All Crashes						
Single-Unit Truck	6,000	4.0	154,000	96.0	160,000	100.0
Combination Truck	11,000	4.5	224,000	95.5	234,000	100.0
Total	17,000	4.3	377,000	95.7	394,000	100.0

**Table 48**  
**Truck Tractors with Trailers Involved in Crashes by Number of Trailers,**  
**Jackknife Occurrence, and Crash Severity**

Number of Trailers	Jackknife Occurrence				Total	
	Yes		No			
	Number	Percent	Number	Percent	Number	Percent
Fatal Crashes						
One	245	8.1	2,798	91.9	3,043	100.0
Two or More	21	12.9	142	87.1	163	100.0
Unknown Number	0	--	11	100.0	11	100.0
Total	266	8.3	2,951	91.7	3,217	100.0
Injury Crashes						
One	2,000	4.4	48,000	95.6	50,000	100.0
Two or More	*	10.5	1,000	89.5	1,000	100.0
Unknown Number	*	3.1	*	96.9	*	100.0
Total	2,000	4.6	49,000	95.4	52,000	100.0
Property-Damage-Only Crashes						
One	4,000	2.7	145,000	97.3	149,000	100.0
Two or More	*	2.0	5,000	98.0	5,000	100.0
Unknown Number	*	*	2,000	100.0	2,000	100.0
Total	4,000	2.6	152,000	97.4	156,000	100.0
All Crashes						
One	6,000	3.2	196,000	96.8	203,000	100.0
Two or More	*	4.1	6,000	95.9	6,000	100.0
Unknown Number	*	0.3	2,000	99.7	2,000	100.0
Total	7,000	3.2	204,000	96.8	211,000	100.0

\* Less than 500 or less than 0.05 percent.

**Table 49**  
**Motorcycles Involved in Crashes by Most Harmful Event and Crash Severity**

Most Harmful Event	Crash Severity						Total	
	Fatal		Injury		Property Damage Only			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Collision with Motor Vehicle in Transport by Initial Point of Impact:								
Front	873	40.1	16,000	31.3	4,000	29.3	21,000	31.1
Left Side	119	5.5	6,000	10.8	3,000	24.8	9,000	13.5
Right Side	81	3.7	4,000	8.4	1,000	4.6	5,000	7.4
Rear	61	2.8	3,000	5.0	1,000	10.8	4,000	6.1
Other/Unknown	50	2.3	*	0.1	*	*	*	0.2
Subtotal	1,184	54.4	28,000	55.5	10,000	69.4	39,000	58.3
Collision with Fixed Object								
	584	26.8	8,000	15.1	1,000	6.8	9,000	13.8
Collision with Object Not Fixed:								
Nonmotorist	25	1.1	1,000	1.3	*	*	1,000	1.0
Other	70	3.2	2,000	3.2	2,000	14.5	4,000	5.5
Subtotal	95	4.4	2,000	4.5	2,000	14.5	4,000	6.5
Noncollision	309	14.2	13,000	24.9	1,000	9.3	14,000	21.4
Total**	2,176	100.0	51,000	100.0	14,000	100.0	67,000	100.0

\* Less than 500 or less than 0.05 percent.

\*\* Includes 4 motorcycles involved in a fatal crash with unknown most harmful event.

**Table 50**  
**Motorcycles Involved in Crashes by Initial Point of Impact, Crash Severity, and Crash Type**

Initial Point of Impact	Crash Severity						Total	
	Fatal		Injury		Property Damage Only			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Single-Vehicle Crashes								
Front	489	52.6	7,000	32.5	2,000	44.7	9,000	35.0
Left Side	58	6.2	1,000	6.6	*	*	1,000	5.6
Right Side	62	6.7	2,000	7.0	1,000	22.1	2,000	9.2
Rear	5	0.5	*	0.1	*	7.4	*	1.2
Noncollision	164	17.7	12,000	52.9	1,000	25.8	13,000	47.6
Other/Unknown	151	16.3	*	1.0	*	*	*	1.4
Total	929	100.0	22,000	100.0	4,000	100.0	27,000	100.0
Multiple-Vehicle Crashes								
Front	906	72.7	16,000	54.6	4,000	41.0	21,000	51.8
Left Side	127	10.2	6,000	18.9	3,000	34.8	9,000	22.5
Right Side	86	6.9	4,000	14.9	1,000	6.4	5,000	12.6
Rear	63	5.1	3,000	8.6	1,000	15.1	4,000	10.1
Noncollision	8	0.6	1,000	2.8	*	2.7	1,000	2.7
Other/Unknown	57	4.6	*	0.1	*	*	*	0.2
Total	1,247	100.0	29,000	100.0	10,000	100.0	40,000	100.0
All Crashes								
Front	1,395	64.1	23,000	45.1	6,000	42.1	30,000	45.1
Left Side	185	8.5	7,000	13.6	3,000	24.8	11,000	15.8
Right Side	148	6.8	6,000	11.6	2,000	10.9	8,000	11.3
Rear	68	3.1	3,000	5.0	2,000	12.9	4,000	6.6
Noncollision	172	7.9	12,000	24.2	1,000	9.3	14,000	20.6
Other/Unknown	208	9.6	*	0.5	*	*	*	0.7
Total	2,176	100.0	51,000	100.0	14,000	100.0	67,000	100.0

\* Less than 500 or less than 0.05 percent.

**Table 51**  
**Buses Involved in Crashes by Most Harmful Event and Crash Severity**

Most Harmful Event	Crash Severity						Total	
	Fatal		Injury		Property Damage Only			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Collision with Motor Vehicle in Transport by Initial Point of Impact:								
Front	138	43.1	4,000	25.5	8,000	19.9	12,000	21.5
Left Side	19	5.9	3,000	19.6	11,000	26.5	14,000	24.5
Right Side	9	2.8	2,000	14.2	8,000	19.4	10,000	17.9
Rear	38	11.9	4,000	25.8	8,000	19.9	12,000	21.4
Other/Unknown	3	0.9	*	*	*	*	*	*
Subtotal	207	64.7	13,000	85.1	36,000	85.5	49,000	85.3
Collision with Fixed Object								
	5	1.6	1,000	5.2	1,000	1.8	2,000	2.7
Collision with Object Not Fixed:								
Nonmotorist	101	31.6	1,000	5.4	*	*	1,000	1.6
Other	0	--	1,000	3.9	5,000	12.4	6,000	10.1
Subtotal	101	31.6	1,000	9.3	5,000	12.4	7,000	11.7
Noncollision	7	2.2	*	0.3	*	0.2	*	0.2
Total	320	100.0	15,000	100.0	42,000	100.0	58,000	100.0

\* Less than 500 or less than 0.05 percent.

**Table 52**  
**Buses Involved in Crashes by Initial Point of Impact, Crash Severity, and Crash Type**

Initial Point of Impact	Crash Severity						Total	
	Fatal		Injury		Property Damage Only			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Single-Vehicle Crashes								
Front	58	52.7	1,000	24.8	1,000	12.0	1,000	16.2
Left Side	4	3.6	*	4.1	1,000	10.7	1,000	8.7
Right Side	17	15.5	2,000	68.9	3,000	58.2	5,000	60.7
Rear	6	5.5	*	*	1,000	15.6	1,000	11.0
Noncollision	6	5.5	*	2.2	*	1.4	*	1.7
Other/Unknown	19	17.3	*	*	*	2.2	*	1.8
Total	110	100.0	2,000	100.0	6,000	100.0	8,000	100.0
Multiple-Vehicle Crashes								
Front	141	67.1	4,000	29.9	8,000	22.9	12,000	24.9
Left Side	19	9.0	3,000	23.0	11,000	30.4	14,000	28.4
Right Side	9	4.3	2,000	16.8	8,000	22.3	10,000	20.8
Rear	38	18.1	4,000	30.3	8,000	22.8	12,000	24.8
Noncollision	0	--	*	*	*	*	*	*
Other/Unknown	3	1.4	*	*	1,000	1.6	1,000	1.2
Total	210	100.0	13,000	100.0	37,000	100.0	50,000	100.0
All Crashes								
Front	199	62.2	4,000	29.2	9,000	21.4	14,000	23.7
Left Side	23	7.2	3,000	20.2	12,000	27.8	15,000	25.7
Right Side	26	8.1	4,000	24.5	11,000	27.0	15,000	26.2
Rear	44	13.8	4,000	25.8	9,000	21.9	13,000	22.9
Noncollision	6	1.9	*	0.3	*	0.2	*	0.2
Other/Unknown	22	6.9	*	*	1,000	1.7	1,000	1.3
Total	320	100.0	15,000	100.0	42,000	100.0	58,000	100.0

\* Less than 500 or less than 0.05 percent.