



2001 SOUTH CAROLINA



COMMERCIAL MOTOR VEHICLE TRAFFIC COLLISION FACT BOOK

This publication was produced by the South Carolina Department of Public Safety's Office of Highway Safety Statistical Analysis Section, with support from the South Carolina State Transport Police.



South Carolina Department of Public Safety

Office of the Director

The South Carolina Department of Public Safety is proud to present the third edition of the South Carolina Commercial Motor Vehicle Traffic Collision Fact Book. This 2001 edition covers a wide range of information on traffic collisions involving commercial motor vehicles. This publication should serve as a valuable tool for law enforcement, legislators, traffic safety advocates, industry leaders, and others striving to improve highway safety.

Over the past two decades, the number and volume of commercial motor vehicles using South Carolina's highways has increased substantially. Freight transportation in the United States is predominantly interstate and trucking is the dominant freight mode. This growth in the industry occurred while there was only a limited expansion of South Carolina's highway network.

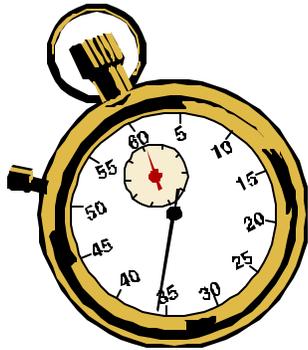
The challenge, then, is for government, industry, and the general public, to join together to emphasize the need to safely share the road in South Carolina. We are embarking on public/private ventures with leaders in the trucking and bus industry and our federal partners to raise awareness of the issues arising from increased commercial motor vehicle traffic. This fact book is one step in those efforts. The information contained within this book should assist with the current driving conditions found on our roads.

Only working together can we improve the safety of South Carolina's highways and, more importantly, save lives.

Sincerely,

B. Boykin Rose
Director

SOUTH CAROLINA CMV CRASH STATISTICS CLOCK 2001



1 CMV traffic crash every **3.9** hours

1 injury or fatal crash every **7.3** hours

1 property damage crash every **8.2** hours

1 person killed every **3.1** days

1 person injured every **4.3** hours

CMV TRAFFIC COLLISION QUICK FACTS

	<u>2000</u>	<u>2001</u>	<u>% CHANGE</u>
FATAL COLLISIONS	107	103	-3.7%
INJURY COLLISIONS	1,284	1,093	-14.9%
PROPERTY DAMAGE ONLY COLLISIONS	1,243	1,068	-14.1%
TOTAL COLLISIONS	2,634	2,264	-14.0%
FATALITIES	132	115	-12.9%
NON-FATAL INJURIES	2,455	2,050	-16.5%
ECONOMIC LOSS	\$168,400,000	\$153,996,900	-8.6%
TRUCK VEHICLE MILES TRAVELED	4,700,000,000	4,200,000,000	-10.6%
ROADWAY MILES	64,921	66,168	1.9%
TRUCK MILEAGE DEATH RATE*	2.8	2.7	-3.6%

*Mileage Death Rate (MDR) is the number of fatalities in CMV collisions per 100 million Large Truck Vehicle Miles Traveled (VMT). Truck VMT is estimated by South Carolina Department of Transportation (SCDOT).



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For the purposes of this publication, a collision is defined as a Commercial Motor Vehicle (CMV) collision only if it meets the definition set forth by SAFETYNET. SAFETYNET is a computer software program in which states upload uniform crash data elements of CMV collisions to a national database maintained by the Federal Motor Carrier Safety Administration. The following is the SAFETYNET definition of a CMV collision:

A CMV collision is a reportable collision¹ that involved at least one of the following vehicles:

- 1. A vehicle whose Gross Vehicle Weight Rating of the power unit equals 10,001 pounds or greater OR**
- 2. A vehicle displaying a hazardous material placard OR**
- 3. A passenger vehicle that is designed to carry, or is carrying, 16 or more persons, including the driver.**
- 4. A motor vehicle that is designed to carry, or is carrying, 9 or more passengers for compensation.**

AND...

- 1. Involves one or more fatal injuries OR**
- 2. At least one person is transported for immediate medical care OR**
- 3. One or more vehicles (not necessarily the CMV) are towed from the scene due to disabling damage.**

¹ A collision that results in at least \$1,000 in total property damage, or results in injury or death, and occurs on a public roadway.

NOTE: As of January 2001, the SAFETYNET criteria for a qualifying vehicle changed to the definitions given above. Therefore, the criteria of a qualifying vehicle differ from those of previous years.

KEY DEFINITIONS

Bus - A motor vehicle designed to transport sixteen (16) or more persons, including the driver.

Collision - Throughout this publication the terms collision and traffic collision are equivalent to the term motor vehicle traffic collision as defined below.

CMV – Commercial Motor Vehicle: A vehicle whose GVWR of the power unit equals 10,001 pounds or greater OR A vehicle displaying a hazardous material placard OR A passenger vehicle that is designed to carry 16 or more persons, including the driver OR A motor vehicle that is designed to carry 9 or more passengers for compensation.

CMV Collisions - A collision involving a CMV in which there are fatal injuries OR persons transported for medical care OR a vehicle is towed from the scene due to disabling damage or is provided assistance.

Disabling Damage – Damage which precludes departure of a motor vehicle from the scene of the collision in its usual manner in daylight after simple repairs.

1. Inclusions: Damage to motor vehicles that could have been driven, but would have been further damaged if so driven.
2. Exclusions:
 - i. Damage which can be remedied temporarily at the scene of the collision without special tools or parts.
 - ii. Tire disablement without other damage even if no spare tire is available.
 - iii. Headlamp or taillight damage.
 - iv. Damage to turn signals, horn, or windshield wipers which makes them inoperative.

Driver – An occupant who is in actual physical control of a transport vehicle, or for an out-of-control vehicle, an occupant who was in control until control was lost.

Economic Loss - All figures reported are rounded to the nearest \$100. Based on the 2000 National Safety Council's Formula which applies with the following factors:

Each fatality	\$1,000,000
Each incapacitating injury	\$ 47,900
Each non-incapacitating injury	\$ 16,000
Each possible injury	\$ 9,100
Each *PDO accident	\$ 6,500

Fatal Traffic Collision - Any traffic collision that results in the death of at least one occupant or pedestrian as a direct result of injuries sustained in the collision within 30 days of the collision date.

First Harmful Event - The first event in a traffic collision to result in injury or property damage.

Hazardous Material – A substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety and property when transported in commerce and which has been so designated.

HP – Highway Patrol.

Incapacitating Injury - Any injury, other than a fatal injury, which prevents the injured person from walking, driving or normally continuing the activities he/she was capable of performing before the injury occurred.

Manner of Collision - The identification in a crash of how the motor vehicle(s) initially came together in a traffic collision.

KEY DEFINITIONS

Motor Vehicle - Any motorized (mechanically or electrically powered) road vehicle not operated on rails, excluding mopeds, minibikes and other vehicles not subject to motor vehicle licensing regulations. These include: automobiles, trucks, buses, vans and motorcycles.

Most Harmful Event - The event for an individual unit involved in a traffic collision that results in the most severe injury or property damage.

Motor Vehicle Traffic Collision - A transport collision that involves at least one motor vehicle in transport, in which the unstabilized situation originates on a trafficway or at least one harmful event occurs on a trafficway. This definition excludes any collision on a private way.

Non-Incapacitating Injury - Any injury, other than a fatal injury or incapacitating injury, which is evident to observers at the scene of the collision in which the injury occurred.

Occupant - Any person who is part of a transport vehicle (automobile, bicycle, etc.)

Passenger - Any occupant of a vehicle other than its driver.

PDO - An abbreviation for property damage only. A PDO collision is one with some property damage but no injuries or fatalities.

Pedestrian - Any person who is not an occupant as defined above. Includes persons on foot, roller skates, and skateboards.

Possible Injury - Any injury that is reported or claimed which is not a fatal injury, incapacitating injury or non-incapacitating injury.

Primary Contributing Factor - Refers to the primary contributing factor of the traffic collision. This is the presumptive factor that created the collision situation.

Road - The part of a trafficway which includes both the roadway and any shoulder alongside the roadway.

Rural Area - Any area which is not within a defined urban area.

STP- State Transport Police.

Traffic Collision - Used in this publication interchangeably with Motor Vehicle Traffic Collision.

Traffic Unit (Unit) - Any motorized road vehicle (includes vehicles that do and do not qualify as motor vehicles in the above definition), pedestrians, animal drawn vehicle and animals with human riders.

Trafficway - Any land way open to the public as a matter of right or custom for moving persons or property from one place to another.

Unit - Used interchangeably with traffic unit (see definition above).

Source for most definitions: Manual on Classifications of Motor Vehicle Traffic Collisions, Fifth Edition, published by the National Safety Council. The definition for disabling damage comes from the Federal Motor Carrier Safety Regulations Handbook.

Part I - General Information

The following pages contain descriptive statistics regarding collisions involving commercial motor vehicles (CMV's) in South Carolina for the year 2001. This includes applicable information regarding drivers, occupants, vehicles, and any other information necessary to obtain a better assessment of the safety of our roadways.

The number of CMV involved collisions has decreased from 2,634 in 2000 to 2,264 in 2001. This equates to a 14% decrease over this time period. Accompanying these collisions are immense personal and financial losses. While CMV collisions only accounted for 2.6% of the total collisions in South Carolina in 2001, they made up 12.5% of the total fatalities on our roadways. Total fatalities in CMV involved collisions have decreased from 132 in 2000 to 115 in 2001, a 12.9% decrease.

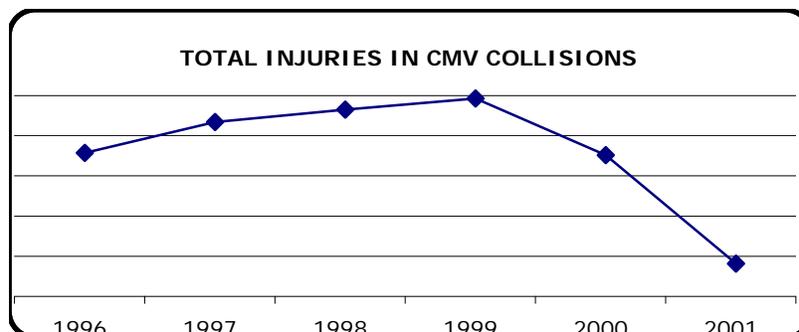
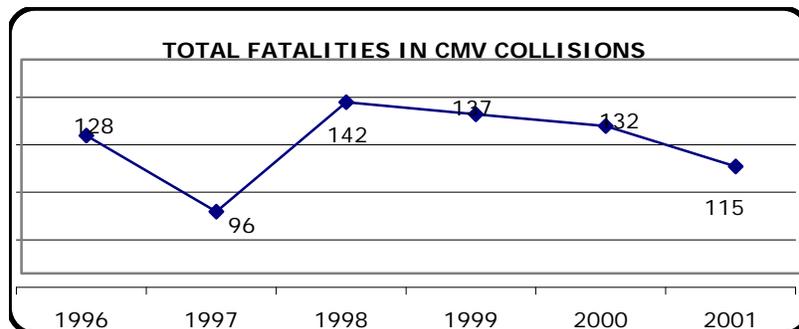
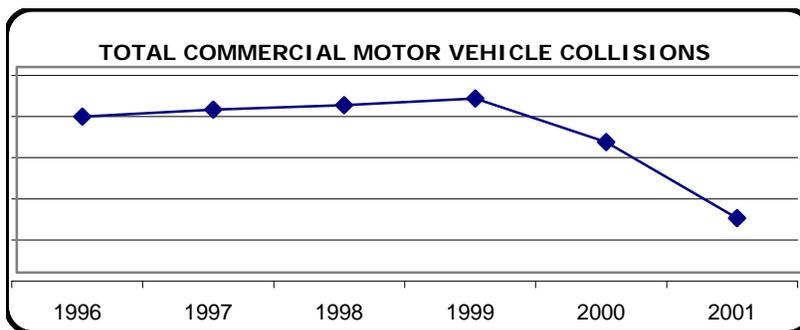
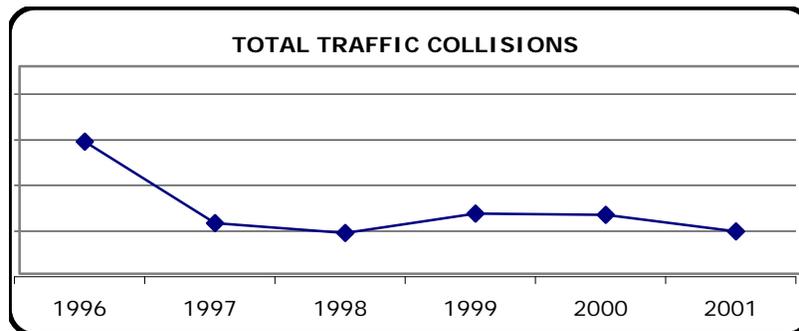
Fatalities are the most severe consequence of motor vehicle collisions, but even in non-fatal collisions, the cost in human suffering can be severe. Injuries sustained in CMV involved collisions have decreased from 2,455 in 2000 to 2,050 in 2001, a 16.5% decrease.

CMV involved collisions are responsible for hundreds of millions of dollars in economic losses to South Carolina each year. Economic losses as estimated in this publication include property damage, medical costs and lost productivity, but do not include intangible costs such as grief and suffering. In 2001, \$154 million dollars in estimated losses were incurred in CMV collisions. This means that CMV collisions made up 6.9% of the total economic loss that occurred on South Carolina roadways in 2001.

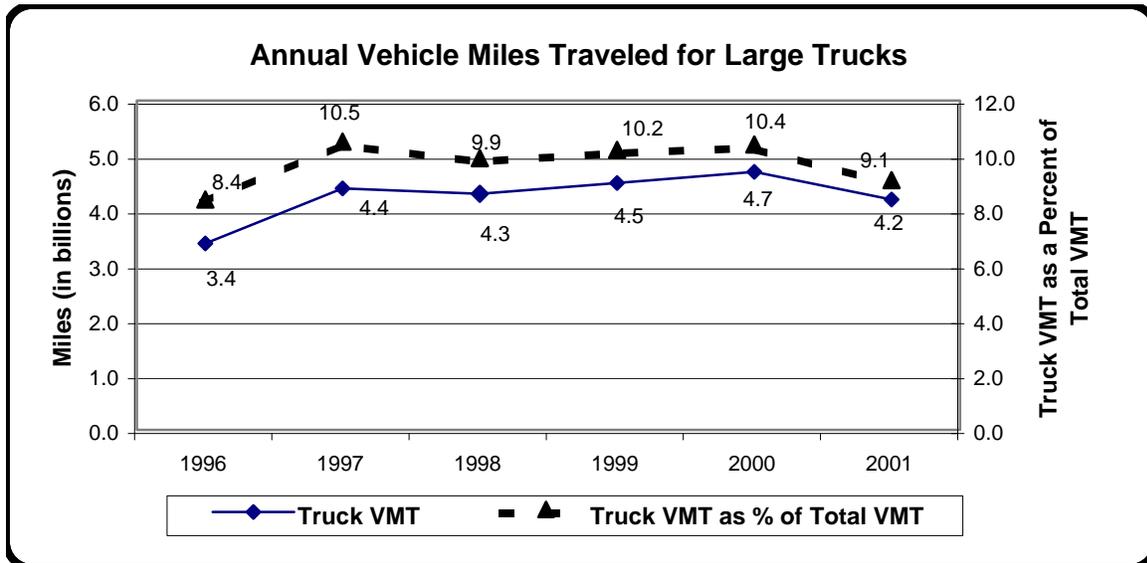
All collision statistics included in this publication are based on data obtained via the Uniform Traffic Collision Report (Form TR-310) and the Supplemental Bus and Truck Collision Report from investigating officers. By law, any collision that results in at least \$1,000 in total property damage, or results in injury or death and occurs on a public highway must be reported to the South Carolina Department of Public Safety on the appropriate form. If these collisions occur on private property or are reported on any form other than the TR-310, they are excluded. In order for a vehicle to be defined as a "Commercial Motor Vehicle" it must meet the SAFETYNET threshold explained on page 1. **Only collisions involving at least one CMV are included in this publication, unless otherwise noted.**

The statistics contained in the South Carolina Commercial Vehicle Traffic Collision Fact Book are based on the latest available information at the time that they were compiled. Due to the complex nature of the data, occasionally new information is received after the publication cut-off date. It is therefore possible that some discrepancies may exist between the data published here and other sources.

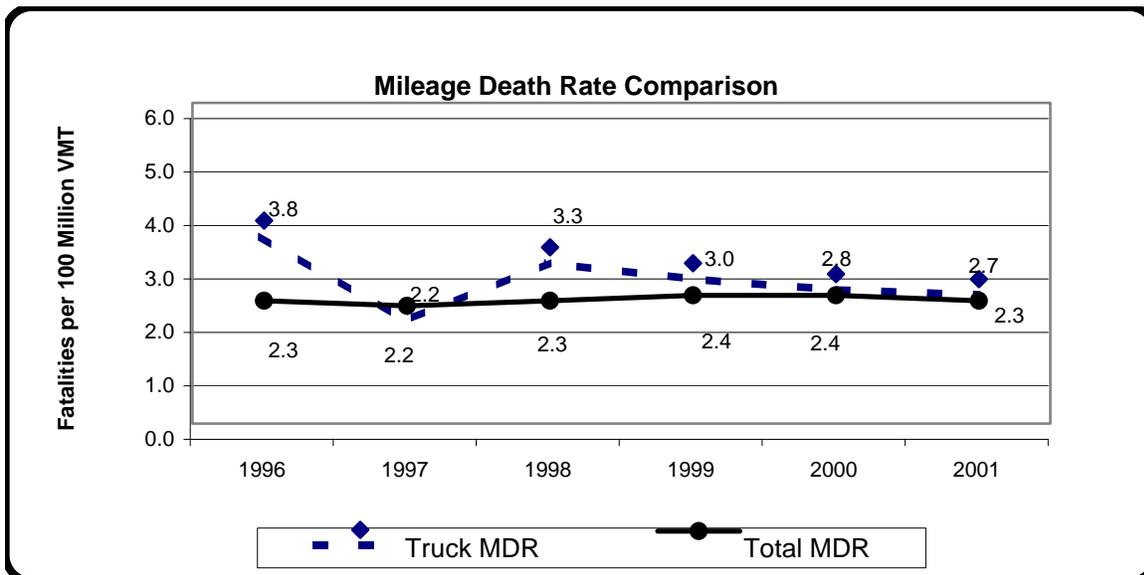
TRAFFIC TRENDS 1996-2001



VEHICLE MILES TRAVELED (VMT)

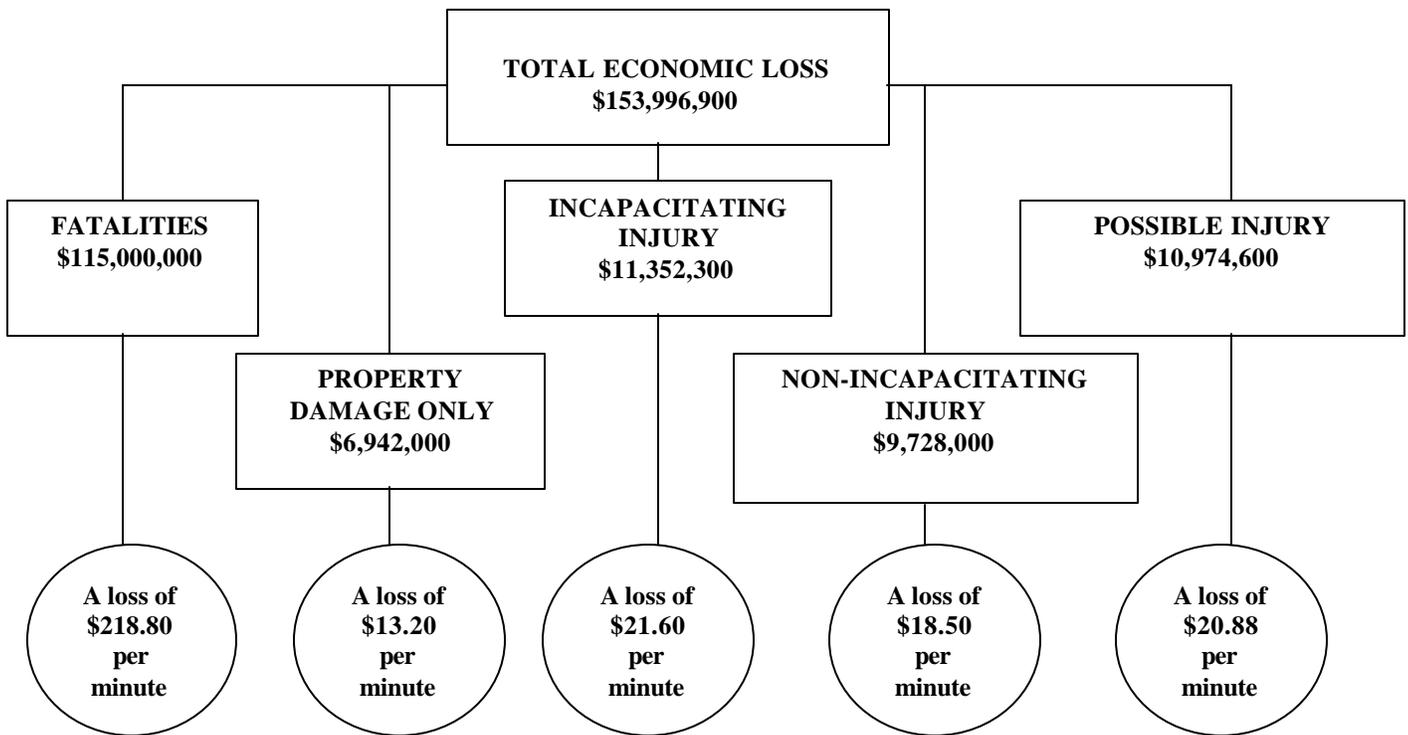
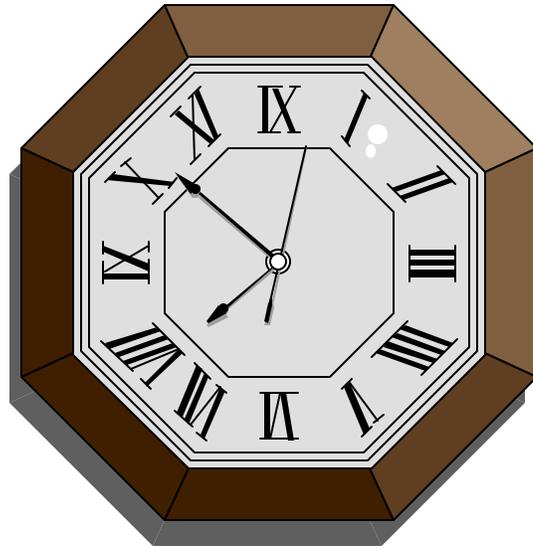


Mileage Death Rate (MDR) is the number of fatalities per 100 million Vehicle Mile Traveled (VMT). "Total MDR" is the MDR for all motor vehicles. "Truck MDR" is the MDR for trucks. Truck Vehicle Miles Traveled (VMT) is estimated by the South Carolina Department of Transportation.* Truck MDR is computed using fatalities in CMV collisions and VMT for trucks. Truck MDR is computed using fatalities in CMV collisions and VMT for trucks.



* Source: South Carolina Department of Transportation estimates Truck VMT.

SOUTH CAROLINA CMV ECONOMIC LOSS STATISTICAL CLOCK 2001



PRIMARY CONTRIBUTING FACTOR

(pages 10-11)

Some action (or inaction) by one or more of the drivers was cited as the Primary Contributing Factor in 2,034 of the 2,264 reported CMV traffic collisions in 2001. This accounted for 89.8% of all primary contributing factors of crashes. "Too fast for conditions" was the greatest of these, accounting for 27.5% of collisions. Vehicle factors accounted for the next largest category of collision causes with 113 or 5% of the total. "Brakes", "Tires/Exhaust", and "Cargo" composed most of these vehicle factors. CMV's seem to have a greater propensity to have vehicle malfunctions as collision factors than do passenger vehicles. In two vehicle collisions between a CMV and a Non-CMV, 25 collisions in which the CMV was the sole contributor to the crash had vehicle related causes, compared to 20 crashes where the Non-CMV vehicle was the only contributor. For fatal collisions in 2001, some type of driver error was considered the probable cause in 96 of the 107 collisions, accounting for 89.7% of all collisions in which someone was killed. This percentage is slightly higher than for all South Carolina traffic collisions.

When dealing with these collisions, it becomes necessary to know which vehicle caused the collision. In two vehicle collisions between a CMV and a Non-CMV, the Non-CMV was the only contributor to the crashes in 796 of 1,532 collisions, or 52% of the time. The CMV was the only contributor in 642 of 1,532 collisions, or 41.9% of the time. Non-CMV's were the only contributor in 79.8% of all fatal crashes and 51.3% of injury collisions. CMV's were the only contributor in 15.2% of fatal collisions and 42.8% of injury collisions.

FIRST HARMFUL EVENT

(pages 12-13)

The first harmful event (FHE) in a traffic collision is defined by the National Safety Council as the first occurrence of injury or damage in a collision. In 2001, the FHE in 1,501 of the 2,264 reported CMV traffic collisions (66.3%) involved some type of collision where the FHE was a collision with a motor vehicle in transport. The second most common FHE was "Overturn" accounting for 152 of 2,264 crashes, or 6.7% of the total. The third FHE was a collision with a stopped vehicle with 145 collisions (6.4%). Combined, these three accounted for more than 79% of all reported CMV collisions.

Collisions with a motor vehicle in transport (78%) and collisions with a pedestrian (5.8%) were the top two FHE's in fatal crashes. Collisions with a tree was the third highest FHE in fatal crashes (2.9%), followed by a tie between overturns/rollovers and collisions with a stopped vehicle (1.9%).

MANNER OF COLLISION

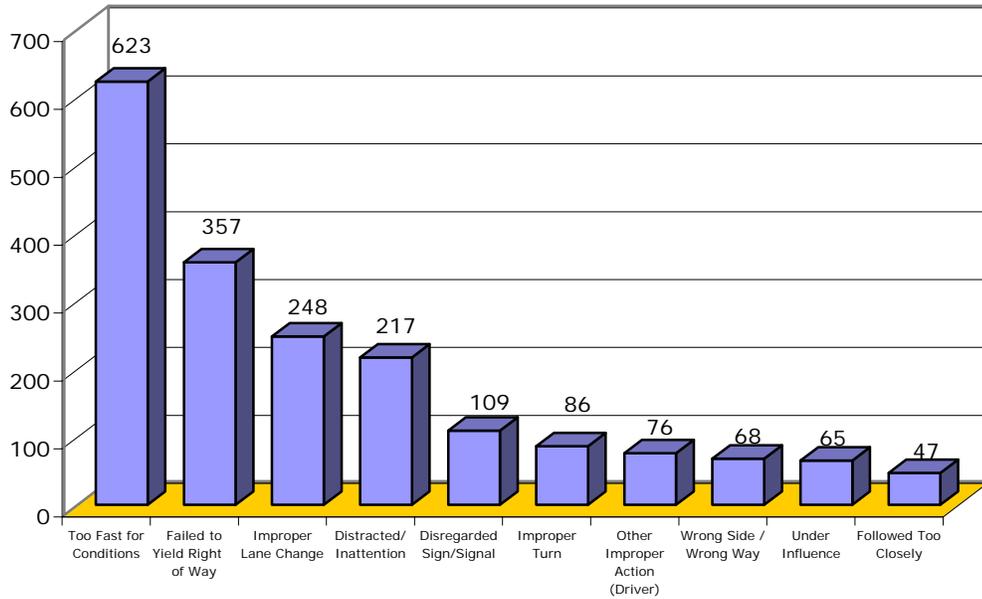
(page 14)

The manner of collision (MOC) should refer to the vehicle that was struck in a collision. It is how the vehicle was impacted in the first harmful event of the collision. If the first harmful event does not involve two or more motor vehicles in transport, then the manner of collision is not applicable. If, for example, the first harmful event in a traffic collision involves a motor vehicle colliding with a train, the manner of collision should be "not collision with motor vehicle in transport" since a train is not classified as a motor vehicle.

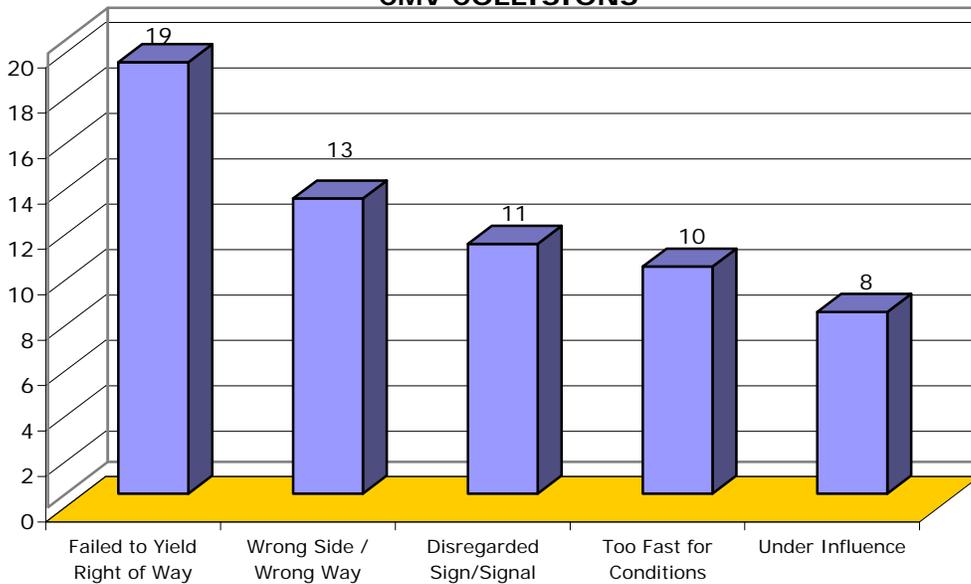
In 2001, the leading manner of collision for all CMV crashes was "not collision with motor vehicle in transport", accounting for 54% of all reported CMV crashes during the year. Angle collisions and rear end collisions followed this. Nearly one third of the fatal collisions were "not collision with motor vehicle in transport" collisions, followed by angle collisions (17%).

Head-on CMV collisions are, by far, the most devastating, with 18.5% of these crashes resulting in fatalities. A distant second to head-on collisions, "angle" collisions comprise 7.6% of fatal CMV collisions.

TOP TEN PRIMARY CONTRIBUTING FACTORS FOR ALL CMV COLLISIONS



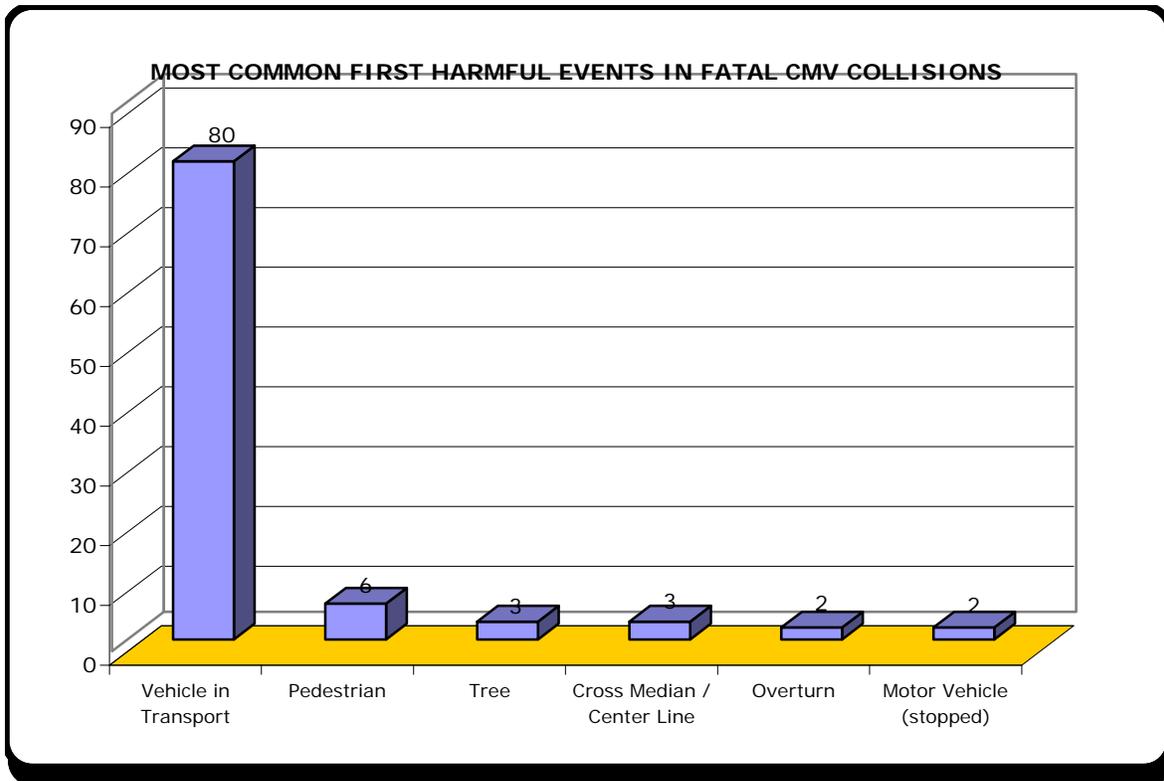
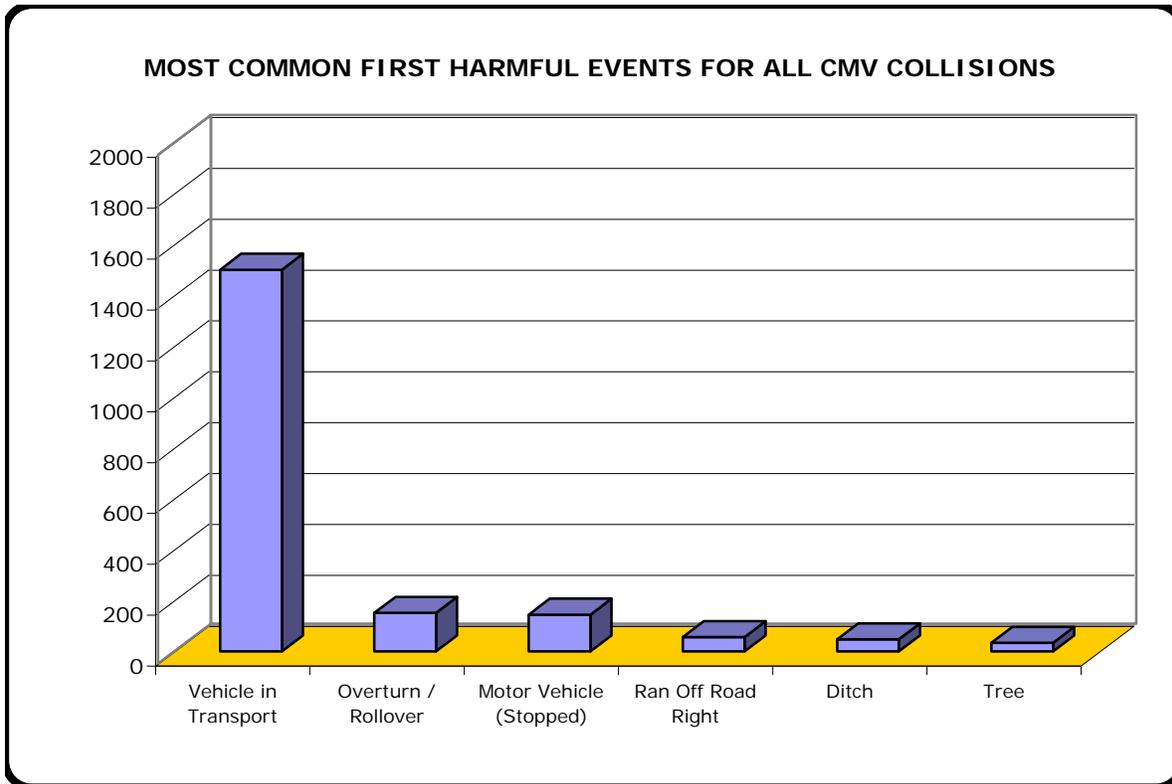
TOP FIVE PRIMARY CONTRIBUTING FACTORS FOR FATAL CMV COLLISIONS



TRAFFIC COLLISIONS BY PRIMARY CONTRIBUTING FACTORS

PRIMARY CONTRIBUTING FACTORS	COLLISION TYPE				PERSONS	
	Fatal	Injury	PDO*	Total	Killed	Injured
DRIVER FACTORS						
Disregarded Signs, Signals	11	71	27	109	12	127
Distracted/Inattention	8	97	112	217	9	242
Too Fast for Conditions	10	324	289	623	10	569
Exceeded Speed Limit	1	8	3	12	1	15
Failed to Yield Right-of-Way	19	185	153	357	22	359
Ran Off Road	5	12	17	34	7	25
Fatigued/Asleep	2	22	9	33	3	40
Followed Too Closely	1	25	21	47	1	50
Improper Turn	0	41	45	86	0	81
Medical Related	0	10	6	16	0	10
Aggressive Driving	3	4	10	17	3	13
Over-correcting/Over-steering	3	5	6	14	3	9
Swerving to Avoiding Object	0	4	9	13	0	8
Wrong Side or Wrong Way	13	36	19	68	14	76
Under the Influence	8	43	14	65	8	74
Improper Lane Usage/Change	4	107	137	248	6	178
Vision Obscured (within unit)	1	1	2	4	1	2
Other Improper Action (Driver)	0	32	44	76	0	59
Unknown	3	9	16	28	4	19
SUBTOTAL	92	1,036	939	2,067	104	1,956
ROADWAY FACTORS						
Debris	0	2	6	8	0	3
Non-Highway Work	0	1	0	1	0	1
Obstruction In Road	0	3	4	7	0	4
Road Surface Condition (i.e., Wet)	0	1	2	3	0	1
Rut, Holes, Bumps	0	0	0	0	0	0
Shoulders (None, Low, Soft, High)	0	0	1	1	0	0
Traffic Control Device (i.e., Missing)	0	0	0	0	0	0
Work Zone (Constr./Maint./Utility)	0	1	1	2	0	3
Worn Travel-Polished Surface	0	0	0	0	0	0
Curve in Roadway	0	0	0	0	0	0
Other	0	2	0	2	0	2
Unknown	0	0	0	0	0	0
SUBTOTAL	0	10	14	24	0	14
NON-MOTORIST FACTORS						
Inattentive	0	0	1	1	0	0
Lying and/or Illegally in Roadway	2	3	1	6	2	3
Failure to Yield Right of Way	0	0	0	0	0	0
Not Visible (Dark Clothing)	1	0	0	1	1	0
Disregarded Sign/Signal	0	0	0	0	0	0
Improper Crossing	0	0	0	0	0	0
Darting	0	0	0	0	0	0
Wrong Side of Road	0	0	0	0	0	0
Other	1	4	0	5	1	4
Unknown	1	0	0	1	1	0
Under Influence	0	0	0	0	0	0
SUBTOTAL	5	7	2	14	5	7
ENVIRONMENTAL FACTORS						
Animal in Road	2	4	9	15	2	5
Glare	1	0	1	2	1	1
Obstruction	0	0	2	2	0	0
Weather Condition	1	2	4	7	1	20
Other	0	1	1	2	0	2
Unknown	0	0	0	0	0	0
SUBTOTAL	4	7	17	28	4	28
VEHICLE DEFECT FACTORS						
Brakes	0	10	13	23	0	11
Steering	0	0	0	0	0	0
Power Plant	0	0	11	11	0	0
Tires/Wheel	2	11	28	41	2	15
Lights	0	2	1	3	0	3
Signals	0	1	0	1	0	1
Windows/Shield	0	0	0	0	0	0
Restraint Systems	0	0	0	0	0	0
Truck Coupling	0	1	7	8	0	1
Cargo	0	3	13	16	0	3
Fuel System	0	0	0	0	0	0
Other	0	5	23	28	0	11
Unknown	0	0	0	0	0	0
SUBTOTAL	2	33	96	131	2	45
OTHER CAUSES						
TOTALS	103	1,093	1,068	2,264	115	2,050

*Property Damage Only



*Also with two (2) fatal collisions are motorcyclist and ditch.

TRAFFIC COLLISIONS BY FIRST HARMFUL EVENT

FIRST HARMFUL EVENT (FHE)	COLLISION TYPE			TOTAL	PERSONS	
	FATAL	INJURY	PDO*		KILLED	INJURED
NON-COLLISION						
CARGO / EQUIP LOSS OR SHIFT	1	10	10	21	1	12
CROSS MEDIAN / CENTER LINE	3	4	6	13	3	7
DOWNHILL RUNAWAY	0	0	1	1	0	0
EQUIPMENT FAILURE	0	3	16	19	0	9
OVERTURN / ROLLOVER	2	80	70	152	2	99
SPILL (2 WHEEL VEHICLE)	0	1	0	1	0	1
JACK-KNIFE	0	7	15	22	0	8
RAN OFF ROAD LEFT	0	10	19	29	0	13
RAN OFF ROAD RIGHT	0	28	29	57	0	32
SEPARATION OF UNITS	0	0	5	5	0	0
OTHER NON-COLLISION	0	7	4	11	0	8
UNKNOWN NON-COLLISION	0	1	2	3	0	2
SUBTOTAL	6	151	177	334	6	191
OBJECT NOT FIXED						
PEDESTRIAN	6	2	2	10	6	2
OTHER OBJECT NON-FIXED	0	7	21	28	0	8
VEHICLE (PARKED)	1	9	7	17	1	19
VEHICLE (STOPPED)	2	82	61	145	2	172
VEHICLE IN TRANSPORT	80	772	649	1,501	91	1,570
VEHICLE (OTHER ROADWAY)	0	3	9	12	0	4
RAILWAY TRAIN	1	2	2	5	1	3
PEDALCYCLIST	0	3	0	3	0	3
WORK ZONE MAINT. EQUIPMENT	0	2	0	2	0	4
UNKNOWN MOVABLE OBJECTS	0	0	2	2	0	0
ANIMAL (DEER ONLY)	1	0	3	4	1	1
ANIMAL (ALL OTHERS)	1	1	2	4	1	1
SUBTOTAL	92	883	758	1,733	103	1,787
FIXED OBJECT						
HIGHWAY GUARDRAIL END	0	1	5	6	0	1
HIGHWAY GUARDRAIL FACE	0	6	19	25	0	6
CRASH CUSHION	0	2	0	2	0	2
UTILITY POLE	0	1	4	5	0	1
TREE	3	11	20	34	3	16
HIGHWAY TRAFFIC SIGN POST	0	3	1	4	0	7
OTHER (POST, POLE, SUPPORT, ETC.)	0	1	3	4	0	1
OTHER (WALL, BLDG, TUNNEL, ETC.)	0	1	8	9	0	1
CULVERT	0	2	1	3	0	2
CURBING	0	1	2	3	0	2
MEDIAN BARRIER	0	7	11	18	0	8
FENCE	0	0	1	1	0	0
DITCH	0	13	35	48	0	13
OVERHEAD STRUCT/UNDERPASS	0	3	5	8	0	3
OTHER FIXED OBJECTS	0	0	6	6	0	0
EMBANKMENT	0	4	11	15	0	4
BRIDGE/PIER/ABUTMENT	1	0	0	1	2	2
BRIDGE PARAPET END	1	0	0	1	1	0
BRIDGE RAIL	0	3	1	4	0	3
SUBTOTAL	5	59	133	197	6	72
YEAR TOTALS	103	1,093	1,068	2,264	115	2,050

*Property Damage Only

TRAFFIC COLLISIONS BY MANNER OF COLLISION

MANNER OF COLLISION	COLLISION TYPE			TOTAL	PERSONS	
	FATAL	INJURY	PDO*		KILLED	INJURED
NOT COLLISION WITH VEH. IN TRANSPORT	30	561	641	1,232	32	931
REAR END	6	117	86	209	6	237
HEAD-ON	12	33	20	65	13	60
REAR TO REAR	0	0	0	0	0	0
ANGLE	29	215	140	384	34	541
SIDESWIPE - SAME DIRECTION	1	50	65	116	2	73
SIDESWIPE - OPPOSITE DIRECTION	2	22	9	33	2	33
BACKED INTO	0	1	7	8	0	1
UNKNOWN	0	5	4	9	0	8
MISSING**	23	89	96	208	26	166
TOTALS	103	1,093	1,068	2,264	115	2,050

*Property Damage Only

**Missing a code in the MOC section of the TR-310 form. This could also be a collision of a vehicle not struck.

MANNER OF COLLISION	COLLISION TYPE			TOTAL	PERSONS	
	FATAL	INJURY	PDO*		KILLED	INJURED
NOT COLLISION WITH VEH. IN TRANSPORT	29.1%	51.3%	60.0%	54.4%	27.8%	45.4%
REAR END	5.8%	10.7%	8.1%	9.2%	5.2%	11.6%
HEAD-ON	11.7%	3.0%	1.9%	2.9%	11.3%	2.9%
REAR TO REAR	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
ANGLE	28.2%	19.7%	13.1%	17.0%	29.6%	26.4%
SIDESWIPE - SAME DIRECTION	1.0%	4.6%	6.1%	5.1%	1.7%	3.6%
SIDESWIPE - OPPOSITE DIRECTION	1.9%	2.0%	0.8%	1.5%	1.7%	1.6%
BACKED INTO	0.0%	0.1%	0.7%	0.4%	0.0%	0.0%
UNKNOWN	0.0%	0.5%	0.4%	0.4%	0.0%	0.4%
MISSING**	22.3%	8.1%	9.0%	9.2%	22.6%	8.1%
TOTALS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*Property Damage Only

**Missing a code in the MOC section of the TR-310 form. This could also be a collision of a vehicle not struck.

DRIVERS IN CMV COLLISIONS WHO CONTRIBUTED TO COLLISION

COLLISION	COLLISION TYPE					
	FATAL	% FATAL	INJURY	PDO*	TOTAL	% OF TOTAL
CMV	12	15.2	316	314	642	41.9
NON-CMV	63	79.7	379	354	796	52.0
BOTH	2	2.5	28	20	50	3.3
NEITHER	2	2.5	16	26	44	2.9
TOTALS	79	100.0	739	714	1,532	100.0

Property Damage Only

This table counts only **two vehicle collisions between a CMV and a Non-CMV .

CMV COLLISIONS WITH OTHER MOTOR VEHICLES

70% of CMV crashes involved a non-cmv vehicle. 89% of the fatalities in commercial motor vehicle crashes were the result of a cmv versus non-cmv crash. Nearly 11% of fatal collisions in South Carolina involved a commercial motor vehicle. Almost 11% of all traffic fatalities resulted from a CMV crash. **Yet**, commercial vehicles were involved in 2% of all collisions. Of those drivers who contributed to the cause of a fatal cmv collision, 76% were non-cmv drivers. Yet, non-cmv drivers made up only 55% of contributing drivers in all cmv collisions. Suggestion: don't hang out in the "no-zone".

WHAT IS A NO-ZONE?

The "No-Zone" represents the danger areas around trucks and buses where crashes are more likely to occur. Some No-Zones are actually blind spots or areas around trucks and buses where a car disappears" from the view of the drivers. These blind spots are the Side No-Zone, Rear No-Zone, and Front No-Zone areas. Side No-Zones are blind spots on both sides of trucks and buses. If you are driving a car and can't see the driver's face in the side-view mirror, then the driver (of the truck) can't see you. Rear No-Zones are directly behind trucks and buses. Never cross behind a truck that is backing up and avoid tailgating! Truck drivers have no rear-view mirror and may not see you cutting in behind them. Front No-Zones could cause you to get "rear-ended" by a truck or bus if you cut in front too soon after passing, then immediately slow down. When passing a cmv, look for the whole front of the vehicle in your rear-view mirror before pulling in front, and then don't slow down! Wide right turns are also dangerous. CMV's swing wide to safely make a right turn. Trying to squeeze in between the cmv and the curb is an invitation for disaster.

Part II - Collision Characteristics

There are many characteristics associated with CMV collisions. Patterns in these characteristics can provide insight into the cause of collisions and may ultimately lead to effective countermeasures for reducing the number of collisions that occur and minimizing the severity of those that will still occur. The data provided on the following pages may raise interesting questions for those interested in highway safety. These questions may in turn lead to research, which addresses a particular collision characteristic. Here are some examples of CMV collision characteristics for 2001:

A. Driver

- ◆ Males make up the vast majority of CMV drivers in collisions, likely mirroring the population of CMV drivers.
- ◆ Female drivers were involved in 41.4% of all traffic collisions in S.C. in 2001, yet they made up 8.5% of CMV drivers involved in collisions with CMV's.

B. Time

- ◆ Fatal collisions occurred much more often during the day than at night.
- ◆ The month of May had the most fatal collisions (16), followed by January (13).
- ◆ CMV collisions are much more likely to occur during the week (Monday-Friday) as opposed to weekend. More fatal CMV collisions occurred on Tuesday (26) and Wednesday (19).

C. Location

- ◆ More CMV collisions and fatal CMV collisions occurred on U.S. primary routes than any other route category.
- ◆ U.S. primary routes account for 4.3% greater proportion of fatal CMV collisions than it does for all CMV collisions.
- ◆ Richland (174) and Spartanburg (159) had more CMV collisions than any other county. Aiken had the most fatal collisions (9), followed by Spartanburg (7).

D. Environment

- ◆ The vast majority of CMV collisions occurred during the day in clear weather, and on dry, straight, and level roads.

E. Vehicles

- ◆ Tractors with Semi-Trailers comprised 63.8% of CMV's involved in collisions.
- ◆ Less than 4% of CMV's involved in all CMV collisions were carrying hazardous materials.

A. The Driver

Numerous decisions are required of drivers in the operation of a commercial motor vehicle. All too often, poor judgement, inattention, carelessness or even deliberate intent on the part of a driver results in a dangerous driving decision, which leads to a traffic collision. The primary contributing factor in over 90% of all reported traffic crashes was driver-related in 2001. Often, the officer investigating the collision will issue a citation to one or more of the drivers involved. Driver violations charged to drivers involved in traffic collisions reported during 2001 are as follows:

Summary of Serious Traffic Enforcement Violations

Violation	# CITATIONS		
	FY 2000	FY 2001	FY 2001
1. Speeding > 10 MPH Over Speed Limit	4,357	4,777	3,429
2. Improper Lane Change	69	101	79
3. Following Too Close	71	94	68
4. Failure To Yield Right of Way	17	60	17
Total	4,514	5,032	3,593

Enumerated on the following pages are the numbers of drivers involved in collisions by age and sex and commercial driver licenses issued by county. For the entire licensed population, approximately 7.6% of the CDL's were issued in Greenville County. Spartanburg issued 8,883 out of the 138,291 CDL's, which accounted for 6.4%, in the state of South Carolina.

SOUTH CAROLINA COMMERCIAL DRIVER'S LICENSE ANALYSIS BY COUNTY

COUNTY	CDL DRIVER LICENSE			TOTALS
	A	B	C	
ABBEVILLE	660	213	100	973
AIKEN	3,580	1,096	367	5,043
ALLENDALE	353	95	22	470
ANDERSON	3,967	1,419	443	5,829
BAMBERG	488	125	50	663
BARNWELL	758	193	51	1,002
BEAUFORT	1,357	865	196	2,418
BERKELEY	3,929	1,312	266	5,507
CALHOUN	632	178	29	839
CHARLESTON	4,562	2,061	464	7,087
CHEROKEE	1,381	522	113	2,016
CHESTER	1,271	349	95	1,715
CHESTERFIELD	1,414	552	104	2,070
CLARENDON	1,176	357	50	1,583
COLLETON	1,663	458	90	2,211
DARLINGTON	1,809	540	127	2,476
DILLON	1,068	283	71	1,422
DORCHESTER	2,474	899	175	3,548
EDGEFIELD	715	245	67	1,027
FAIRFIELD	958	348	54	1,360
FLORENCE	3,347	1,076	318	4,741
GEORGETOWN	1,099	541	81	1,721
GREENVILLE	6,599	3,038	835	10,472
GREENWOOD	1,355	410	209	1,974
HAMPTON	610	229	47	886
HORRY	4,203	2,298	371	6,872
JASPER	609	239	48	896
KERSHAW	1,684	493	114	2,291
LANCASTER	1,524	576	180	2,280
LAURENS	1,692	591	194	2,477
LEE	662	245	38	945
LEXINGTON	5,377	2,158	566	8,101
MCCORMICK	265	113	53	431
MARION	1,056	328	83	1,467
MARLBORO	793	286	47	1,126
NEWBERRY	1,275	337	117	1,729
OCONEE	1,515	728	116	2,359
ORANGEBURG	3,059	916	197	4,172
PICKENS	2,548	1,083	185	3,816
RICHLAND	5,049	2,311	635	7,995
SALUDA	797	220	57	1,074
SPARTANBURG	5,787	2,451	645	8,883
SUMTER	2,441	1,108	139	3,688
UNION	852	297	81	1,230
WILLIAMSBURG	1,178	434	89	1,701
YORK	3,793	1,646	266	5,705
TOTALS	93,384	36,262	8,645	138,291

AGE AND SEX OF CMV DRIVERS INVOLVED IN CMV TRAFFIC COLLISIONS

TOTAL COLLISIONS				
AGE	FEMALE	MALE	UNKNOWN	TOTAL
UNDER 15	0	5	1	6
15 to 24	8	93	0	101
25 to 34	47	526	0	573
35 to 44	79	582	0	661
45 to 54	44	559	2	605
55 to 64	14	281	1	296
65 to 74	2	52	0	54
75 to 84	2	10	0	12
85 & OLDER	2	2	0	4
UNKNOWN	3	6	21	30
TOTALS**	201	2,116	25	2,342

FATAL COLLISIONS				
AGE	FEMALE	MALE	UNKNOWN	TOTAL
UNDER 15	0	0	0	0
15 to 24	1	6	0	7
25 to 34	0	30	0	30
35 to 44	3	22	0	25
45 to 54	3	25	0	28
55 to 64	0	16	0	16
65 to 74	0	0	0	0
75 to 84	0	1	0	1
85 & OLDER	0	0	0	0
UNKNOWN	0	0	0	0
TOTALS**	7	100	0	107

INJURY COLLISIONS				
AGE	FEMALE	MALE	UNKNOWN	TOTAL
UNDER 15	0	3	1	4
15 to 24	4	52	0	56
25 to 34	27	246	0	273
35 to 44	51	273	0	324
45 to 54	31	269	0	300
55 to 64	11	125	0	136
65 to 74	2	26	0	28
75 to 84	2	1	0	3
85 & OLDER	0	1	0	1
UNKNOWN	1	4	5	10
TOTALS**	129	1,000	6	1,135

PROPERTY DAMAGE ONLY COLLISIONS				
AGE	FEMALE	MALE	UNKNOWN	TOTAL
UNDER 15	0	2	0	2
15 to 24	3	35	0	38
25 to 34	20	250	0	270
35 to 44	25	287	0	312
45 to 54	10	265	2	277
55 to 64	3	140	1	144
65 to 74	0	26	0	26
75 to 84	0	8	0	8
85 & OLDER	0	1	0	1
UNKNOWN	2	2	16	20
TOTALS**	63	1,016	19	1098

**Includes drivers whose age and sex were not recorded on the report, hit and run collisions for which driver information was not available and also includes parked cars with no drivers.

AGE AND SEX OF NON-CMV DRIVERS INVOLVED IN CMV TRAFFIC COLLISIONS

TOTAL COLLISIONS				
AGE	FEMALE	MALE	UNKNOWN	TOTAL
UNDER 15	2	2	0	4
15 to 24	207	259	0	466
25 to 34	189	227	0	416
35 to 44	168	250	0	418
45 to 54	137	196	0	333
55 to 64	62	120	0	182
65 to 74	41	66	0	107
75 to 84	21	43	0	64
85 & OLDER	2	6	0	24
UNKNOWN	3	10	5	18
TOTALS**	832	1,179	5	2,032

FATAL COLLISIONS				
AGE	FEMALE	MALE	UNKNOWN	TOTAL
UNDER 15	0	0	0	0
15 to 24	10	15	0	25
25 to 34	3	13	0	16
35 to 44	8	8	0	16
45 to 54	5	12	0	17
55 to 64	1	9	0	10
65 to 74	1	11	0	12
75 to 84	0	3	0	3
85 & OLDER	0	2	0	2
UNKNOWN	0	0	0	0
TOTALS**	28	73	0	101

INJURY COLLISIONS				
AGE	FEMALE	MALE	UNKNOWN	TOTAL
UNDER 15	2	2	0	4
15 to 24	108	125	0	233
25 to 34	106	114	0	220
35 to 44	111	121	0	232
45 to 54	88	100	0	188
55 to 64	38	56	0	94
65 to 74	20	24	0	44
75 to 84	9	20	0	29
85 & OLDER	0	2	0	2
UNKNOWN	2	3	11	16
TOTALS**	484	567	11	1,062

PROPERTY DAMAGE ONLY COLLISIONS				
AGE	FEMALE	MALE	UNKNOWN	TOTAL
UNDER 15	0	0	0	0
15 to 24	89	119	0	208
25 to 34	80	100	0	180
35 to 44	49	121	0	170
45 to 54	44	84	0	128
55 to 64	23	55	0	78
65 to 74	20	31	0	51
75 to 84	12	20	0	32
85 & OLDER	2	2	0	4
UNKNOWN	1	7	11	19
TOTALS**	320	539	11	870

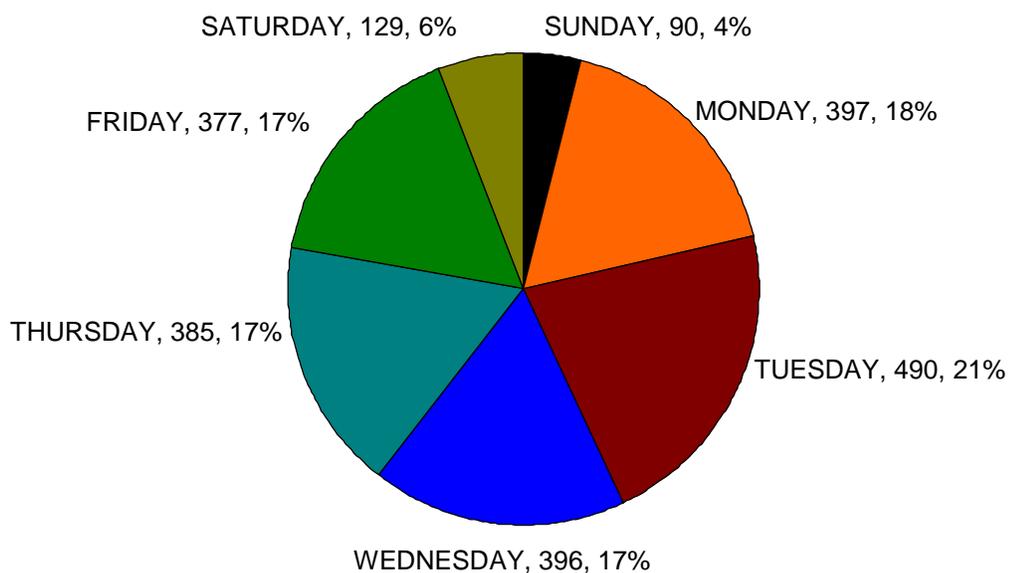
**Includes drivers whose age and sex were not recorded on the report, hit and run collisions for which driver information was not available and also includes parked cars with no drivers.

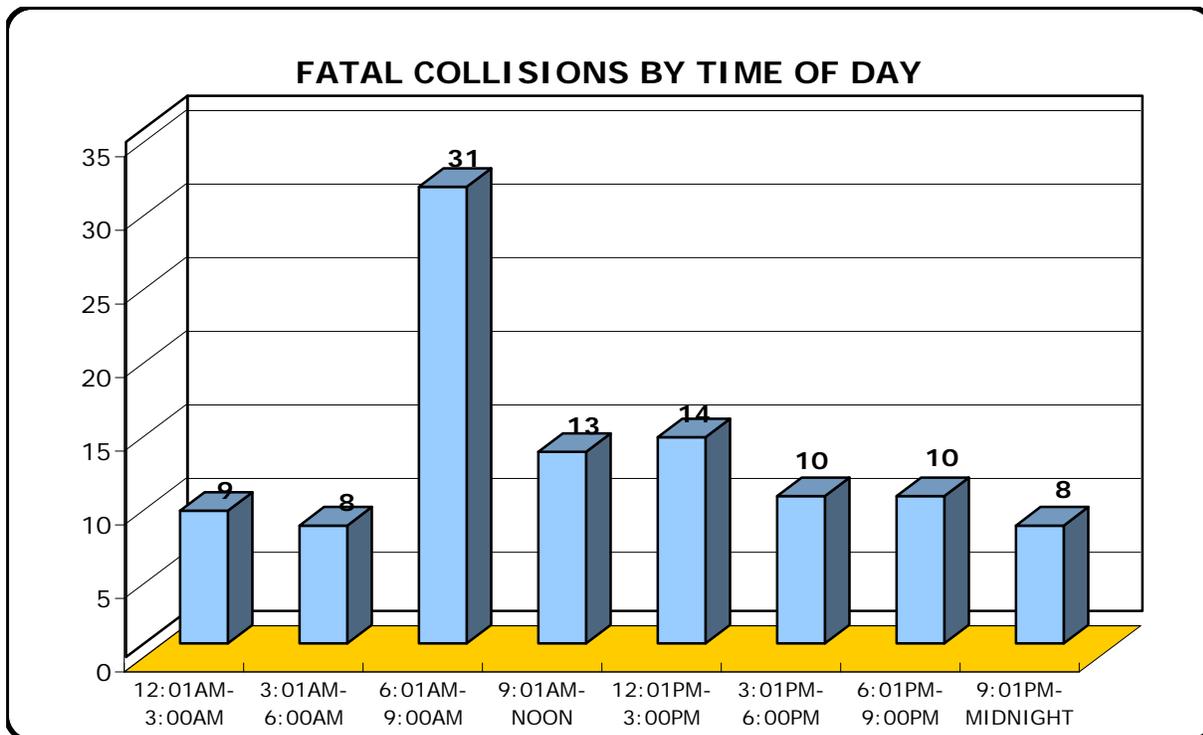
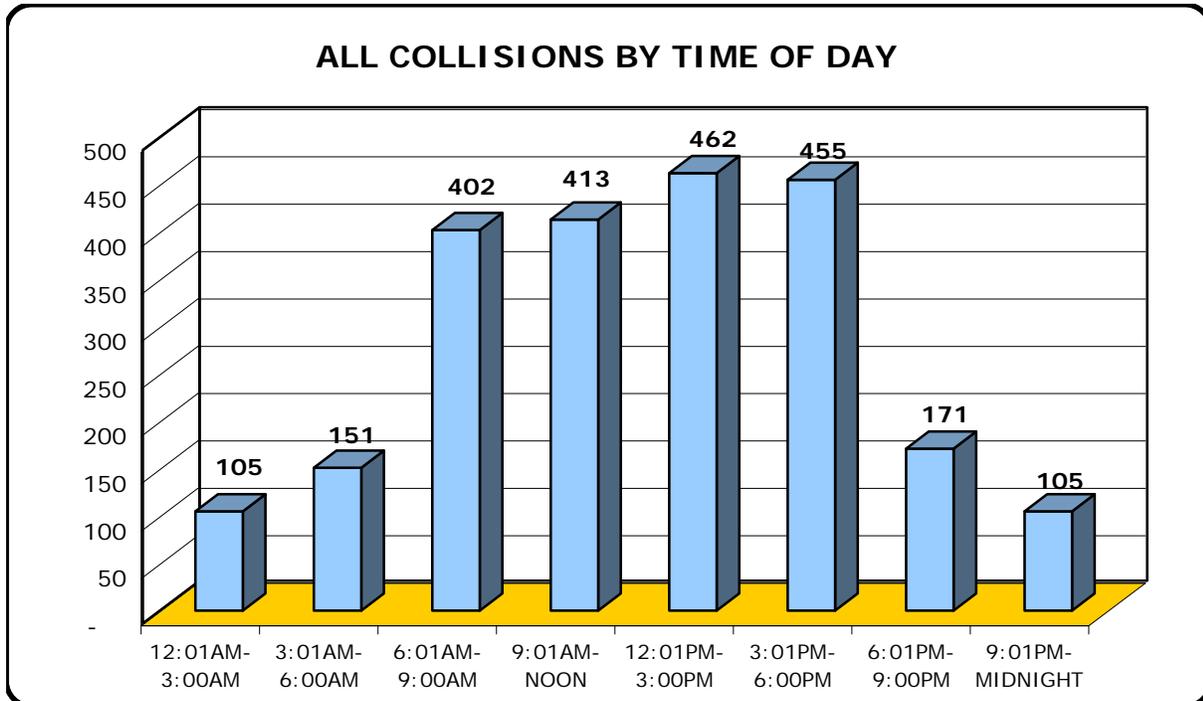
B. Time

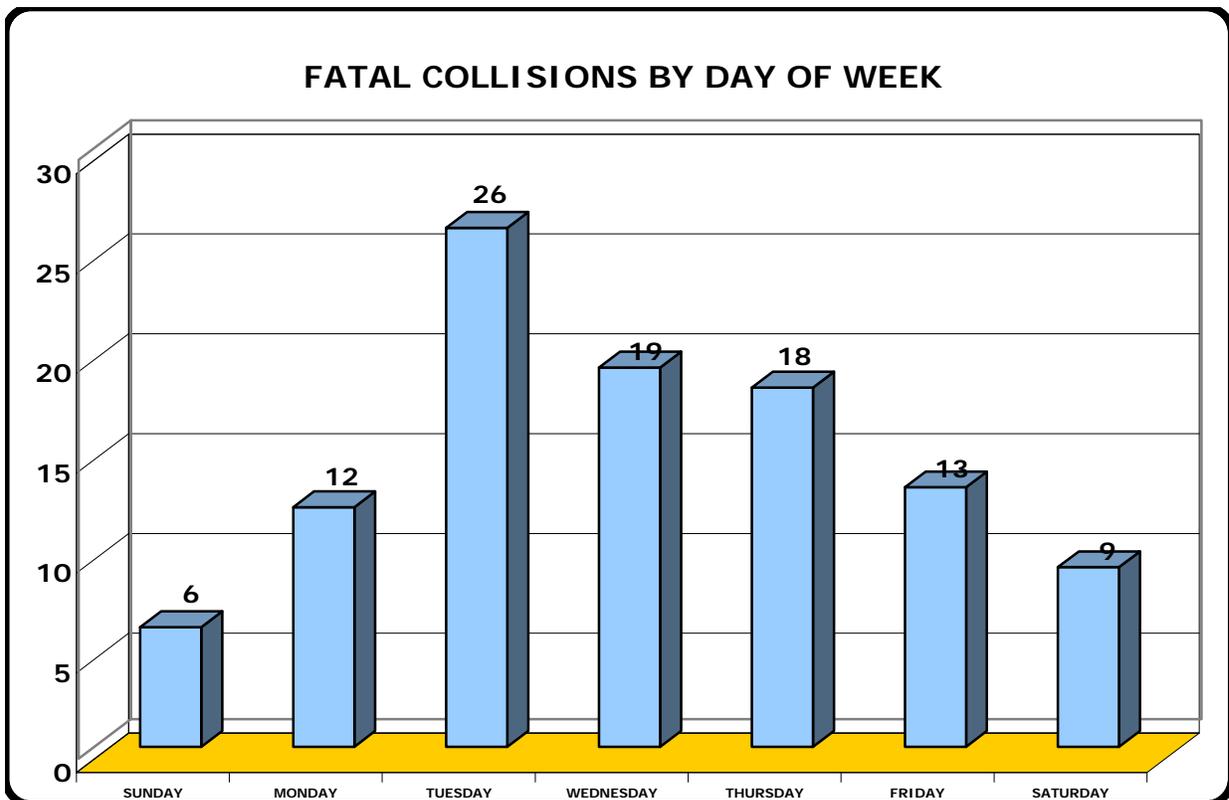
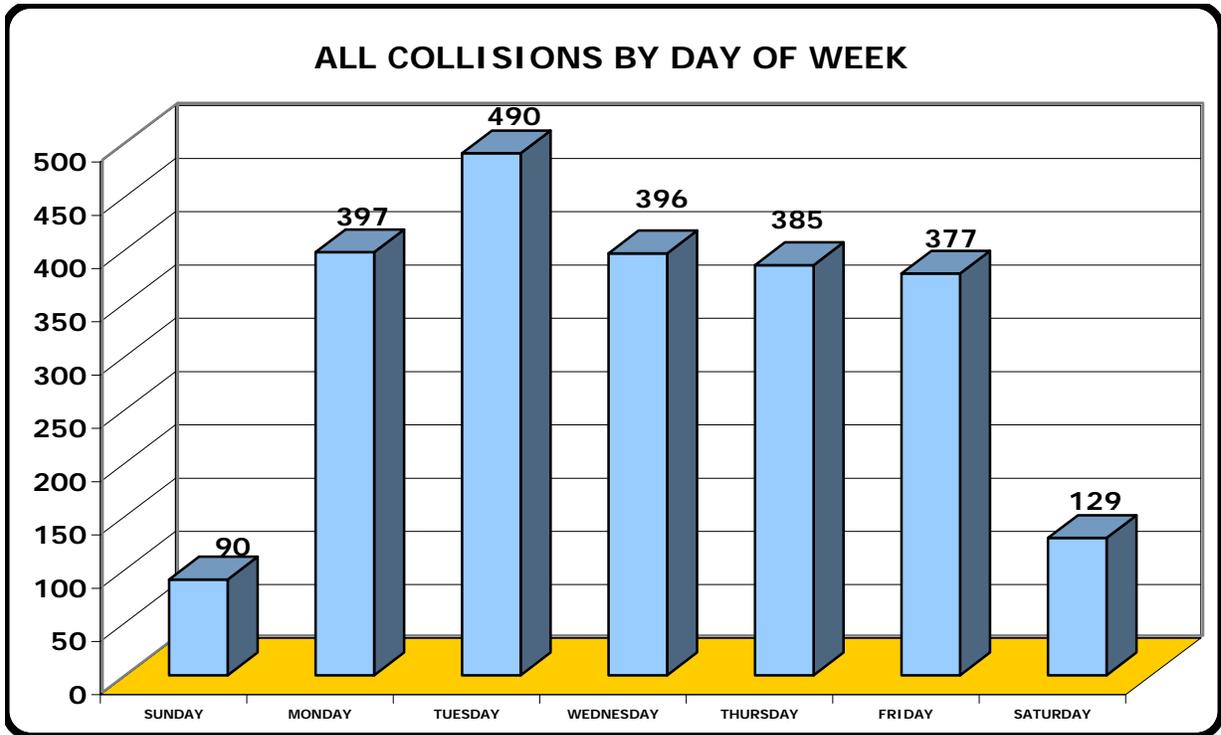
The frequency of traffic collisions is affected by the settings of the clock and calendar. The concentration of traffic, for example, is heavier at certain times of the day, days of the week and month. Driver attitudes, vision and behavior are influenced by time factors. In addition, weather may be influenced by time of year. On the following pages, statistics are presented which indicate observable time variables. Some of the important observations in the 2001 data are as follows:

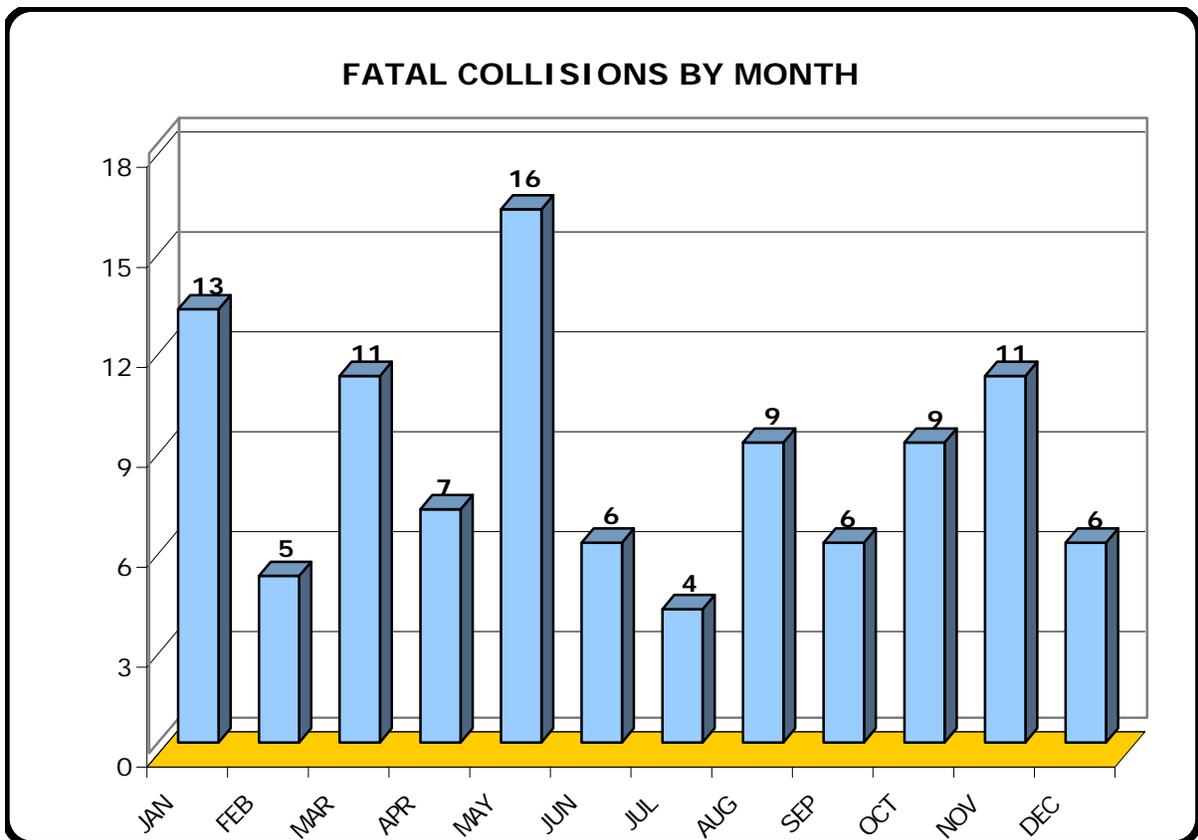
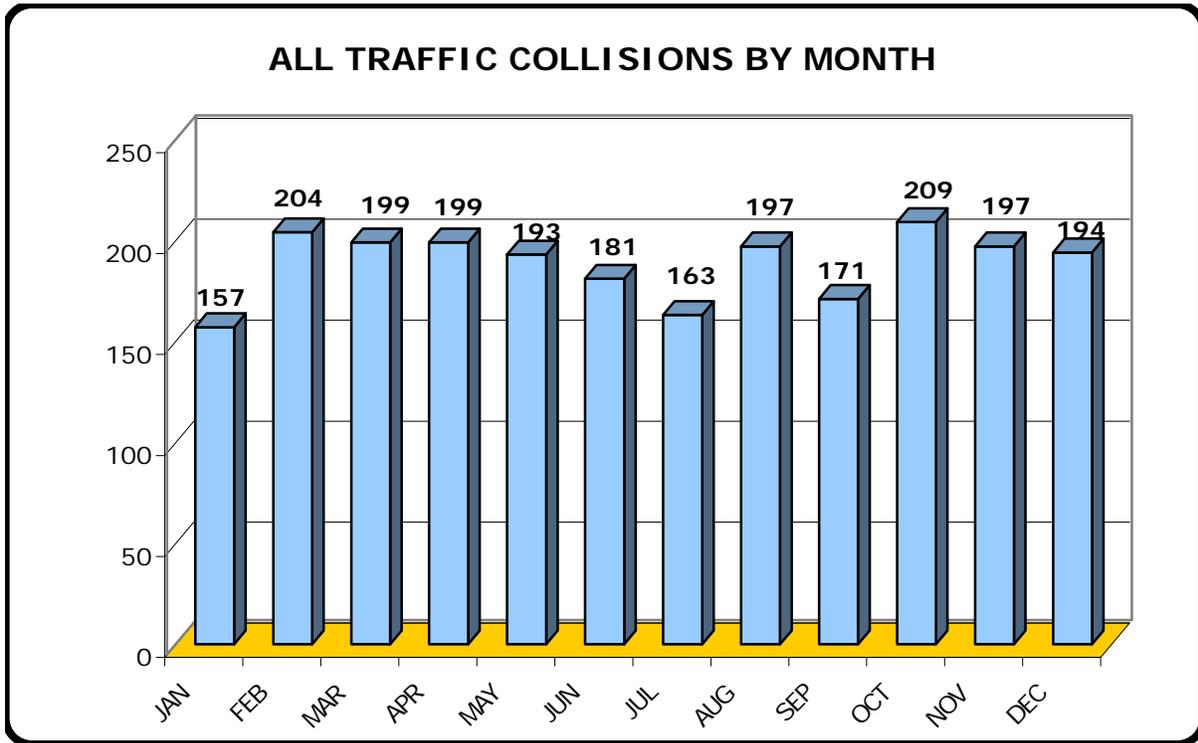
- ◆ More CMV crashes were reported on Tuesday than any other day of the week. There were 490 collisions during 2001, accounting for more than 20% of the total. The fewest number of CMV traffic collisions were reported on Sundays with 90, or 4%.
- ◆ More CMV fatal collisions occurred in the month of May (16) than any other month of the year. The fewest number of CMV fatal collisions occurred within the month of July (4).
- ◆ Fatal collisions occurred more frequently in the daytime hours between 6:00 AM and 3:00 PM. Approximately 56% of all fatal collisions occurred during this nine-hour period.

CMV COLLISIONS BY DAY OF THE WEEK







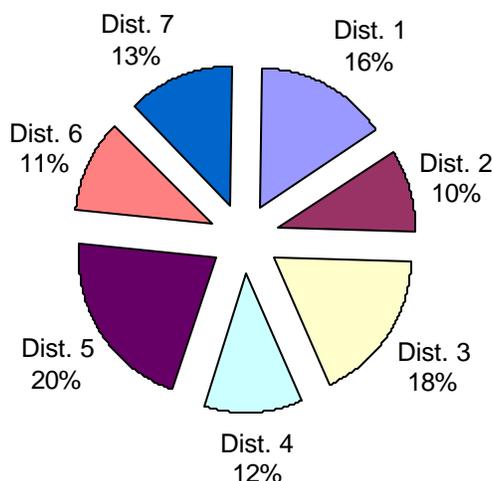


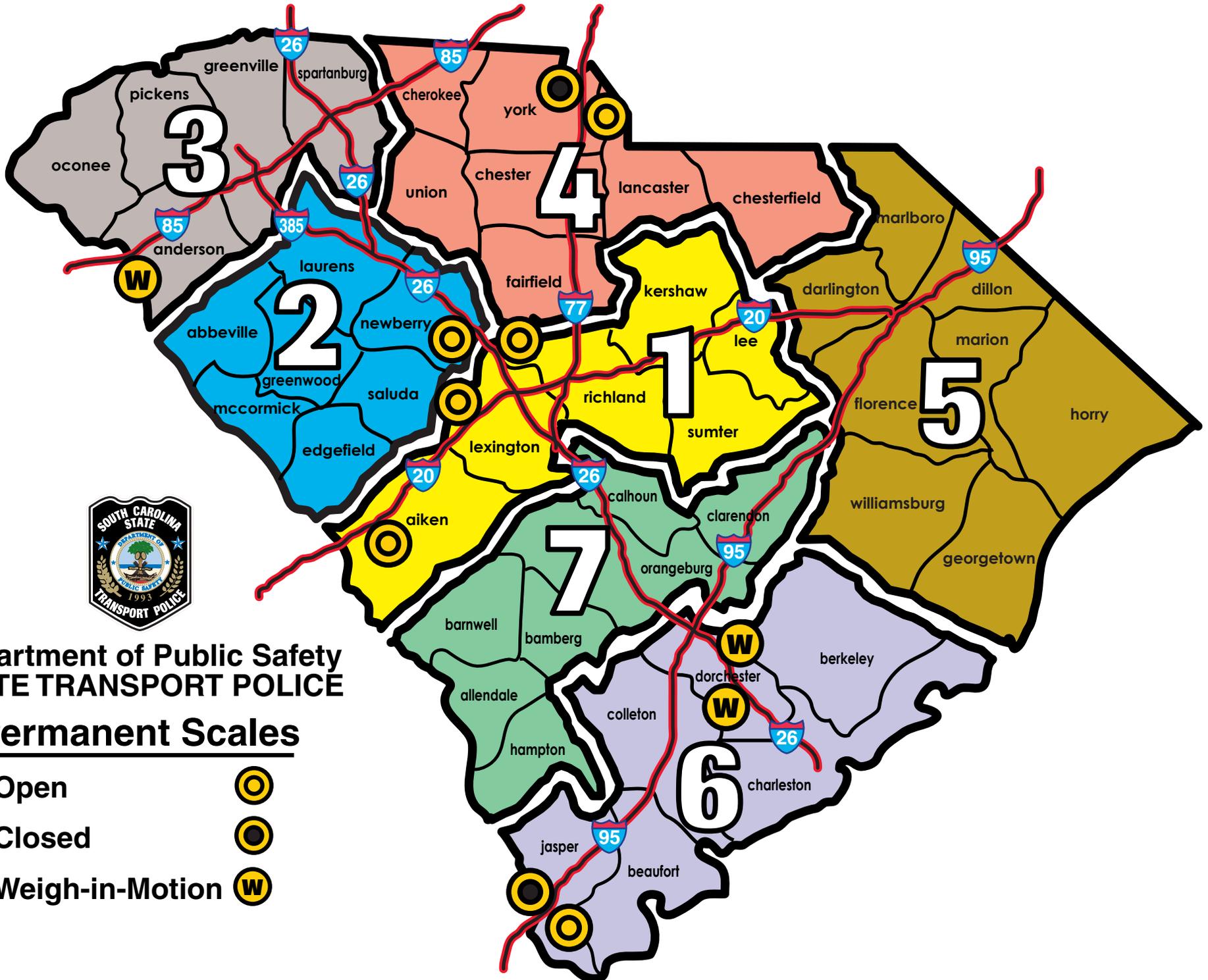
C. Location

South Carolina is a major distribution center for the southern United States. The state is traversed by six interstate highway systems, totaling 809 miles; the state also has 9,442 miles of primary roads and 31,214 miles of secondary roads. A variety of factors influence where traffic collisions, injuries and fatalities occur including the volume of traffic on a particular highway, weather variations and travel patterns. Statistics are presented on the following pages, which indicate observable differences in the occurrence of traffic collisions with relation to various location categories. Some important observations in the data are as follows:

- ◆ In 2001, Richland County had the most CMV traffic collisions (174), injury collisions (92) and non-fatal injuries (204). Aiken County had the most fatal collisions (9). Aiken also had the most fatalities (10).
- ◆ About 1 in every 5 fatalities that resulted from a CMV collision occurred in District 5, which includes the counties of Darlington, Marlboro, Dillon, Marion, Horry, Florence, Williamsburg, and Georgetown. 40% of the fatalities from a CMV collision occurred in the upper state area of SC.

CMV FATALITIES BY DISTRICT





**Department of Public Safety
STATE TRANSPORT POLICE**

Permanent Scales

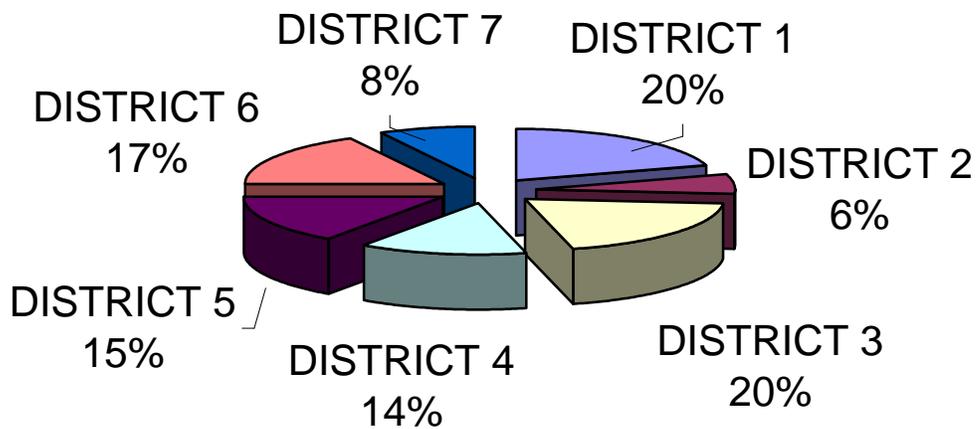
- Open 
- Closed 
- Weigh-in-Motion 

CMV COLLISIONS BY STATE TRANSPORT POLICE DISTRICT

STATE TRANSPORT POLICE DISTRICT	COLLISION TYPE			TOTAL	PERSONS	
	FATAL	INJURY	PDO*		KILLED	INJURED
1	16	238	202	456	17	481
2	10	71	62	143	12	135
3	19	197	228	444	20	287
4	12	142	155	309	13	218
5	22	156	168	346	25	371
6	11	206	173	390	13	378
7	13	83	80	176	15	180
TOTALS	103	1,093	1,068	2,264	115	2,050

*Property Damage Only

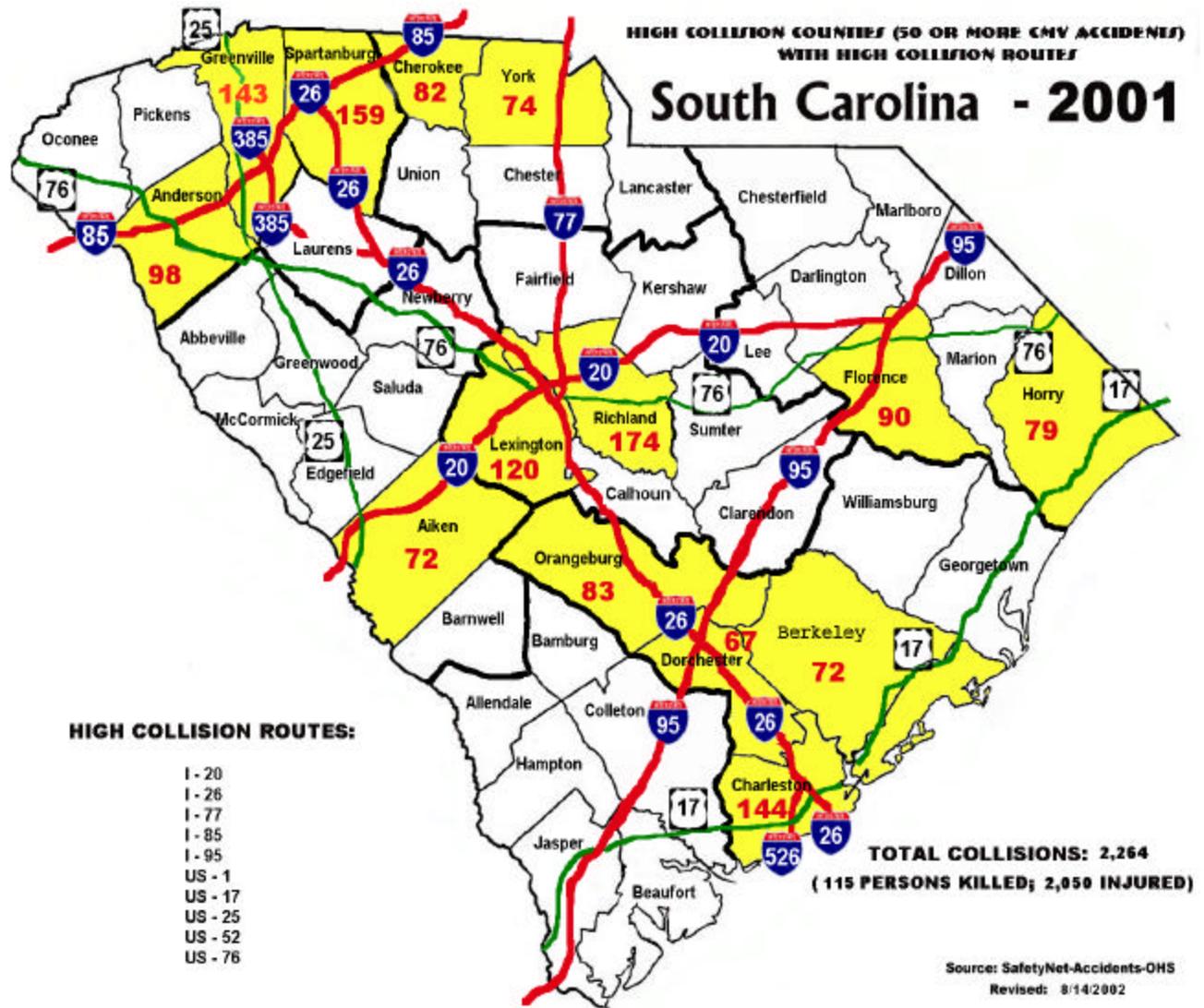
TOTAL CMV COLLISIONS BY DISTRICT: 2001



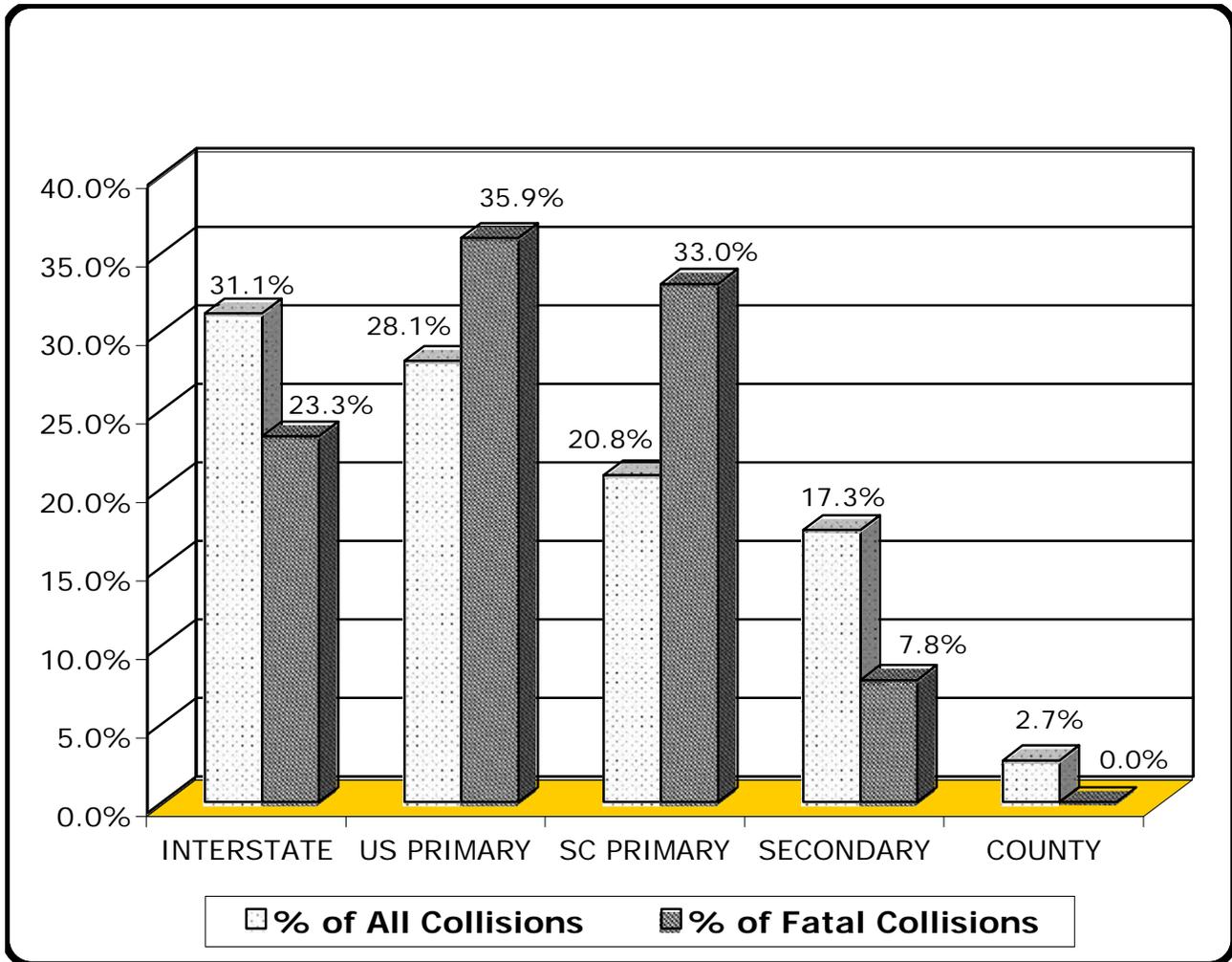
CMV COLLISIONS BY COUNTY (FROM HIGHEST TO LOWEST)

COUNTY	COLLISION TYPE			TOTAL	PERSONS	
	FATAL	INJURY	PDO*		KILLED	INJURED
RICHLAND	2	92	80	174	2	204
SPARTANBURG	7	69	83	159	7	95
CHARLESTON	4	77	63	144	4	142
GREENVILLE	5	70	68	143	6	96
LEXINGTON	2	66	52	120	2	132
ANDERSON	6	41	51	98	6	73
FLORENCE	2	42	46	90	2	100
ORANGEBURG	3	45	35	83	3	60
CHEROKEE	1	36	45	82	1	53
HORRY	5	40	34	79	6	80
YORK	4	29	41	74	4	53
AIKEN	9	31	32	72	10	58
BERKELEY	1	42	29	72	1	74
DORCHESTER	0	37	30	67	0	63
COLLETON	4	24	19	47	6	41
DARLINGTON	4	18	21	43	4	32
LANCASTER	2	22	19	43	3	29
SUMTER	3	19	20	42	3	35
NEWBERRY	3	18	19	40	4	27
LAURENS	4	16	18	38	4	32
GEORGETOWN	0	18	20	38	0	26
CHESTER	1	16	20	37	1	28
CHESTERFIELD	4	20	13	37	4	29
JASPER	1	11	21	33	1	25
KERSHAW	0	20	13	33	0	33
MARION	5	11	14	30	6	87
CALHOUN	4	6	17	27	4	11
BEAUFORT	1	15	11	27	1	33
DILLON	0	10	16	26	0	18
MARLBORO	2	10	14	26	3	15
OCONEE	1	12	11	24	1	17
CLARENDON	3	13	7	23	5	46
PICKENS	0	5	15	20	0	6
GREENWOOD	0	11	8	19	0	23
FAIRFIELD	0	8	10	18	0	12
UNION	0	11	7	18	0	14
EDGEFIELD	2	10	5	17	2	20
HAMPTON	1	6	10	17	1	12
LEE	0	10	5	15	0	19
SALUDA	0	9	6	15	0	19
WILLIAMSBURG	4	7	3	14	4	13
ALLENDALE	2	5	6	13	2	39
BAMBERG	0	5	4	9	0	8
ABBEVILLE	1	4	4	9	2	8
MCCORMICK	0	3	2	5	0	6
BARNWELL	0	3	1	4	0	4
TOTAL	103	1,093	1,068	2,264	115	2,050

*Property Damage Only



CMV COLLISIONS BY ROUTE CATEGORY



CMV TRAFFIC COLLISIONS ON SOUTH CAROLINA INTERSTATES

INTERSTATE 85 COUNTY	COLLISION TYPE			TOTAL	PERSONS		MILES
	FATAL	INJURY	PDO*		KILLED	INJURED	
ANDERSON	3	19	31	53	3	39	36.57
CHEROKEE	0	26	35	61	0	41	22.80
GREENVILLE	1	19	13	33	2	26	15.29
OCONEE	0	1	3	4	0	1	4.03
SPARTANBURG	3	19	34	56	3	23	27.59
I-85 TOTALS	7	84	116	207	8	130	106.28

INTERSTATE 26 COUNTY	COLLISION TYPE			TOTAL	PERSONS		MILES
	FATAL	INJURY	PDO*		KILLED	INJURED	
BERKELEY	0	9	4	13	0	13	17.55
CALHOUN	3	4	11	18	3	8	17.44
CHARLESTON	1	22	15	38	1	32	16.95
DORCHESTER	0	7	6	13	0	10	17.42
LAURENS	0	2	11	13	0	3	15.58
LEXINGTON	0	17	13	30	0	25	21.83
NEWBERRY	1	6	10	17	1	8	27.76
ORANGEBURG	0	8	7	15	0	11	28.28
RICHLAND	0	5	8	13	0	5	12.45
SPARTANBURG	1	10	11	22	1	13	45.69
I-26 TOTALS	6	90	96	192	6	128	220.95

INTERSTATE 95 COUNTY	COLLISION TYPE			TOTAL	PERSONS		MILES
	FATAL	INJURY	PDO*		KILLED	INJURED	
CLARENDON	2	3	5	10	3	11	34.22
COLLETON	2	7	10	19	3	14	28.30
DARLINGTON	0	1	1	2	0	1	1.57
DILLON	0	2	9	11	0	4	23.77
DORCHESTER	0	4	8	12	0	4	16.04
FLORENCE	1	12	16	29	1	27	26.65
HAMPTON	0	5	3	8	0	10	6.61
JASPER	1	6	11	18	1	18	33.90
ORANGEBURG	0	3	8	11	0	3	14.84
SUMTER	0	4	3	7	0	6	12.86
I-95 TOTALS	6	47	74	127	8	98	198.76

INTERSTATE 20 COUNTY	COLLISION TYPE			TOTAL	PERSONS		MILES
	FATAL	INJURY	PDO*		KILLED	INJURED	
AIKEN	2	4	10	16	2	6	37.17
DARLINGTON	0	0	0	0	0	0	13.01
FLORENCE	0	1	0	1	0	1	2.36
KERSHAW	0	3	1	4	0	3	21.26
LEE	0	6	1	7	0	6	20.33
LEXINGTON	0	5	12	17	0	5	26.95
RICHLAND	0	17	16	33	0	24	20.43
I-20 TOTALS	2	36	40	78	2	45	141.51

INTERSTATE 77 COUNTY	COLLISION TYPE			TOTAL	PERSONS		MILES
	FATAL	INJURY	PDO*		KILLED	INJURED	
CHESTER	0	6	8	14	0	10	18.82
FAIRFIELD	0	3	3	6	0	5	21.46
LEXINGTON	0	0	0	0	0	0	3.16
RICHLAND	0	9	17	26	0	11	26.27
YORK	2	3	17	22	2	8	21.34
I-77 TOTALS	2	21	45	68	2	34	91.05

*Property Damage Only

TOP 5 HIGHWAYS FOR CMV TRAFFIC COLLISIONS**

U.S. 17	COLLISION TYPE			TOTAL	PERSONS		MILES
COUNTY	FATAL	INJURY	PDO*		KILLED	INJURED	
BEAUFORT	1	1	1	3	1	2	12.65
BERKELEY	0	6	6	12	0	16	38.37
CHARLESTON	2	10	10	22	2	20	74.72
COLLETON	0	8	3	11	0	16	17.31
DORCHESTER	0	3	2	5	0	4	16.42
GEORGETOWN	0	13	13	26	0	21	38.02
HORRY	0	4	6	10	0	6	35.88
JASPER	0	2	2	4	0	2	32.39
U.S. 17 TOTALS	3	47	43	93	3	87	265.76

U.S. 76	COLLISION TYPE			TOTAL	PERSONS		MILES
COUNTY	FATAL	INJURY	PDO*		KILLED	INJURED	
ANDERSON	1	3	1	5	1	4	38.18
FLORENCE	0	4	4	8	0	6	30.96
GREENVILLE	0	0	0	0	0	0	2.16
HORRY	0	0	0	0	0	0	7.32
LAURENS	1	1	0	2	1	3	34.87
LEE	0	0	0	0	0	0	9.76
LEXINGTON	0	0	0	0	0	0	4.96
MARION	1	4	6	11	1	13	26.03
NEWBERRY	0	2	3	5	0	2	29.83
OCONEE	0	4	3	7	0	8	34.11
PICKENS	0	0	0	0	0	0	4.37
RICHLAND	0	6	2	8	0	11	35.10
SUMTER	1	6	3	10	1	8	28.66
U.S. 76 TOTALS	4	30	22	56	4	55	286.31

U.S. 1	COLLISION TYPE			TOTAL	PERSONS		MILES
COUNTY	FATAL	INJURY	PDO*		KILLED	INJURED	
AIKEN	1	6	2	9	1	8	39.75
CHESTERFIELD	1	4	0	5	1	5	34.19
KERSHAW	0	5	6	11	0	14	36.54
LEXINGTON	0	7	5	12	0	10	31.40
MARLBORO	0	0	0	0	0	0	7.71
RICHLAND	0	4	5	9	0	28	18.45
SALUDA	0	0	0	0	0	0	2.32
U.S. 1 TOTALS	2	26	18	46	2	65	170.36

U.S. 52	COLLISION TYPE			TOTAL	PERSONS		MILES
COUNTY	FATAL	INJURY	PDO*		KILLED	INJURED	
BERKELEY	0	11	3	0	0	21	37.76
CHARLESTON	0	5	2	7	0	15	15.06
CHESTERFIELD	0	2	1	3	0	5	19.36
DARLINGTON	1	3	5	9	1	6	20.73
FLORENCE	0	10	6	16	0	23	30.57
WILLIAMSBURG	1	0	0	1	1	0	29.05
U.S. 52 TOTALS	2	31	17	36	2	70	152.53

U.S. 25	COLLISION TYPE			TOTAL	PERSONS		MILES
COUNTY	FATAL	INJURY	PDO*		KILLED	INJURED	
AIKEN	2	5	5	12	2	10	7.93
EDGEFIELD	1	4	1	6	1	12	32.24
GREENVILLE	0	13	13	26	0	16	53.89
GREENWOOD	0	1	2	3	0	1	36.99
LAURENS	0	1	0	1	0	1	8.88
U.S. 25 TOTALS	3	24	21	48	3	40	139.93

*Property Damage Only

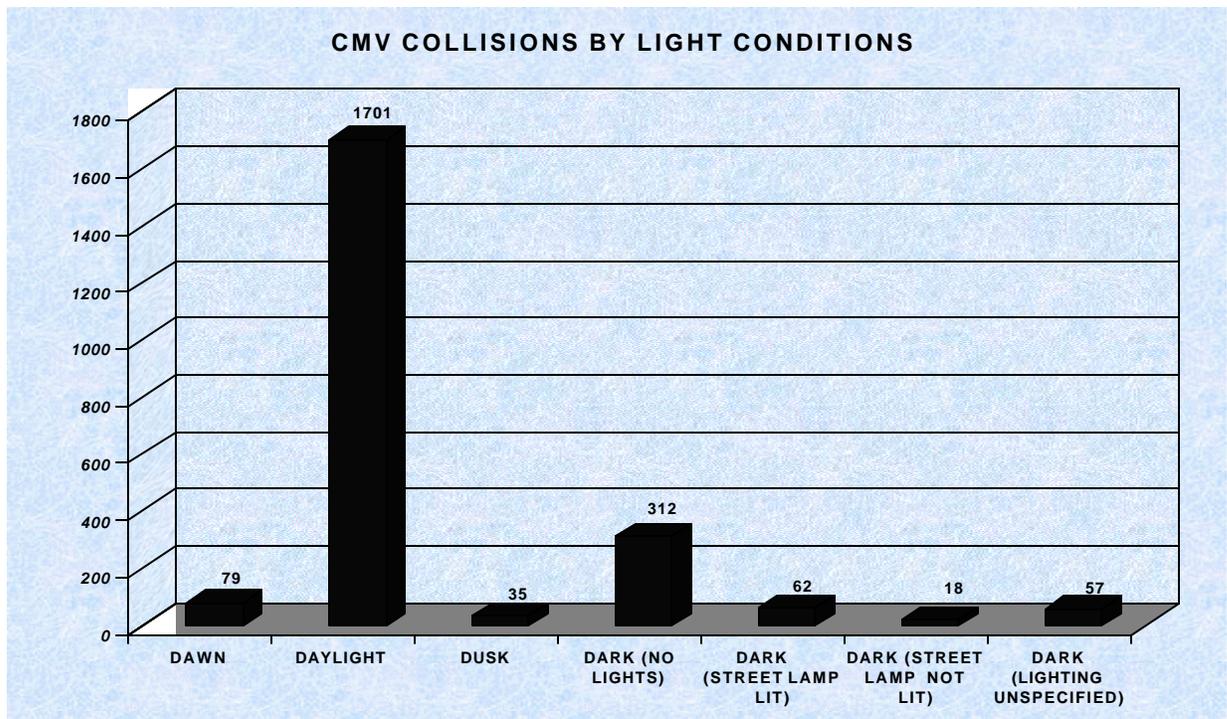
**These are collisions on the highway's mainline and alternate routes.

D. Environment

The environment in which motorists operate their commercial motor vehicles can contribute to the occurrence of traffic crashes. Environment is defined herein as the combination of external or extrinsic physical conditions that affect and influence the operation of a motor vehicle. These include road surface, weather, light conditions, traffic control, and road character for each driver.

One or more of the environmental factors can be the primary cause of a collision or may be a contributing factor in a given crash. Weather, light, surface conditions and locales are substantially beyond the control of engineering or law enforcement efforts. Changes in traffic controls, and road character factors can all be effected by traffic engineering efforts.

As reflected in the statistics on the next two pages, most collisions occur under favorable environmental conditions: dry roadway (84.5%); clear weather (78.7%); daylight (74%); no traffic control device (63.8%); straight-level road (77.8%); and no junction (57.6%).



Conditions

ROAD SURFACE CONDITIONS

ROAD SURFACE CONDITIONS	COLLISION TYPE			TOTAL	PERSONS	
	FATAL	INJURY	PDO*		KILLED	INJURED
Dry	91	911	877	1,879	101	1,729
Wet	12	179	183	374	14	318
Icy	0	0	0	0	0	0
Slushy	0	1	2	3	0	1
Snowy	0	0	2	2	0	0
Muddy	0	0	0	0	0	0
Debris	0	0	0	0	0	0
Other	0	1	2	3	0	1
Unknown		1	2	3	0	1
TOTALS	103	1,093	1,068	2,264	115	2,050

*Property Damage Only

WEATHER CONDITIONS

WEATHER CONDITIONS	COLLISION TYPE			TOTAL	PERSONS	
	FATAL	INJURY	PDO*		KILLED	INJURED
Clear/ No Adverse Conditions	84	845	802	1,731	93	1,583
Rain	8	127	142	277	9	229
Cloudy	6	99	105	210	7	189
Sleet or Hail	0	0	1	1	0	0
Snow	0	0	1	1	0	0
Fog/Smog	5	21	14	40	6	48
Blowing Sand, Soil, Dirt or Snow	0	0	2	2	0	0
Severe Cross Wind, High Wind	0	1	1	2	0	1
Other	0	0	0	0	0	0
Unknown	0	0	0	0	0	0
TOTALS	103	1,093	1,068	2,264	115	2,050

*Property Damage Only

LIGHT CONDITIONS

LIGHT CONDITIONS	COLLISION TYPE			TOTAL	PERSONS	
	FATAL	INJURY	PDO*		KILLED	INJURED
Daylight	61	824	816	1,701	68	1,607
Dawn	8	36	35	79	10	88
Dusk	2	21	12	35	2	35
Dark (Lighting Unspecified)	4	31	22	57	4	45
Dark (Street Lamp Lit)	3	36	23	62	3	56
Dark (Street Lamp Not Lit)	1	11	6	18	1	17
Dark (No Lights)	24	134	154	312	27	202
Unknown	0	0	0	0	0	0
TOTALS	103	1,093	1,068	2,264	115	2,050

*Property Damage Only

TRAFFIC CONTROLS

TRAFFIC CONTROLS	COLLISION TYPE			TOTAL	PERSONS	
	FATAL	INJURY	PDO*		KILLED	INJURED
Stop Sign	17	129	110	256	19	353
Stop and Go Signal	7	134	110	251	9	255
Yield Sign	1	11	15	27	1	12
Officer or Flagman	0	8	1	9	0	11
RR Crossing: Gates/Lights	0	4	2	6	0	18
RR Flashing Lights	0	3	1	4	0	5
None	65	732	749	1,546	70	1,254
Other Regulatory Signs	13	63	75	151	16	124
RR Crossbucks Only	0	2	2	4	0	4
Unknown	0	7	3	10	0	14
TOTALS	103	1,093	1,068	2,264	115	2,050

*Property Damage Only

Type

ROAD CHARACTER

ROAD CHARACTER	COLLISION TYPE			TOTAL	PERSONS	
	FATAL	INJURY	PDO*		KILLED	INJURED
Straight - Level	63	822	755	1,640	70	1,537
Straight - On Grade	20	159	172	351	22	309
Straight - Hillcrest	2	21	30	53	2	31
Curve - Level	14	46	51	111	17	90
Curve - On Grade	3	40	47	90	3	75
Curve - Hillcrest	1	5	13	19	1	8
TOTALS	103	1,093	1,068	2,264	115	2,050

*Property Damage Only

WORK ZONE TYPE

WORK ZONE TYPE	COLLISION TYPE			TOTAL	PERSONS	
	FATAL	INJURY	PDO*		KILLED	INJURED
None**	97	1,037	999	2,133	108	1,930
Shoulder/Median Work	1	26	44	71	1	38
Lane Shift/Crossover	1	6	4	11	2	16
Intermittent/Moving Work	0	9	5	14	0	9
Lane Closure	1	6	10	17	1	7
Other	3	9	6	18	3	50
TOTALS	103	1,093	1,068	2,264	115	2,050

*Property Damage Only

Type

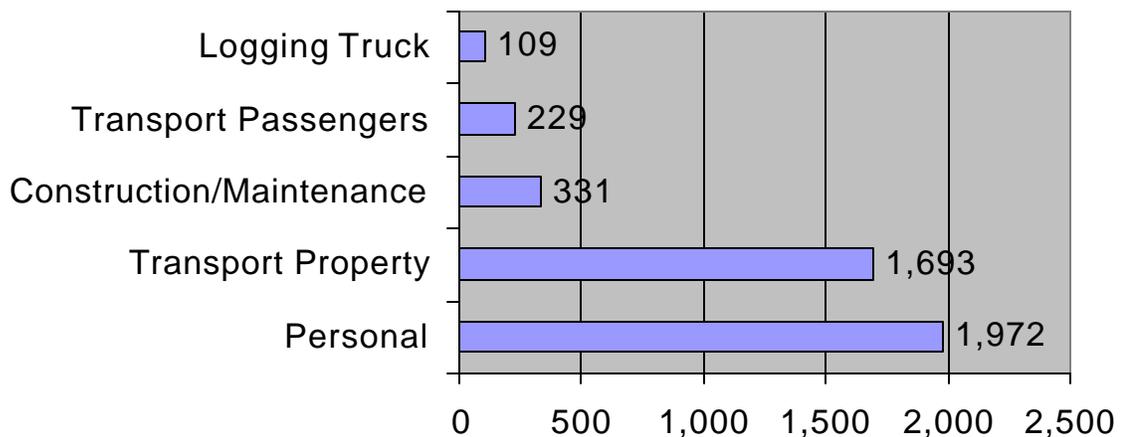
** Includes collisions where no work zone type was recorded.

E. Units

The types of 'units' that are involved affect the consequences of traffic collisions. This section presents information on large trucks involved in fatal, injury, and property damage only crashes. Some of the key findings in the 2001 data are as follows:

- ◆ The most common unit involved in CMV traffic crashes in 2001 was the truck tractor. Out of 4,529 units involved in CMV traffic collisions during the year, 1,765 were truck tractors. This represents 39% of the total units involved in commercial motor vehicle crashes.
- ◆ For fatal collisions, a smaller percentage of units were truck tractors. Of the 221 units involved in fatal collisions, 82 or 37.1% were truck tractors.
- ◆ A total of 10 pedestrians were involved in fatal CMV collisions in 2001. This represents 4.5% of all units involved in CMV traffic crashes during the year, which is the same for SUV's in CMV collisions.
- ◆ Automobiles were the second most common unit involved in CMV traffic crashes in 2001. 1,341 automobiles were involved in CMV traffic collisions in 2001, accounting for 30% of all units in CMV traffic collisions.

TOP FIVE VEHICLE USES BY UNITS IN CMV COLLISIONS



UNIT TYPES**

UNIT TYPES	COLLISION TYPE			TOTAL
	FATAL	INJURY	PDO*	
Truck Tractor	82	815	868	1,765
Automobile	54	713	574	1,341
Other Truck	20	247	220	487
Pickup Truck	26	179	160	365
School Bus	4	109	57	170
SUV	10	84	56	150
Mini Van	4	42	43	89
Passenger Bus	3	31	13	47
Full Size Van	2	26	14	42
Other	3	12	7	22
Pedestrian	10	6	1	17
Motorcycle	3	8	0	11
Pedalcycle	0	8	0	8
Unknown (Hit & Run Only)	0	4	4	8
Train	0	2	4	6
Other Motorbike	0	1	0	1
TOTALS	221	2,286	2,021	4,529

*Property Damage Only

**This table includes all units involved in CMV collisions.

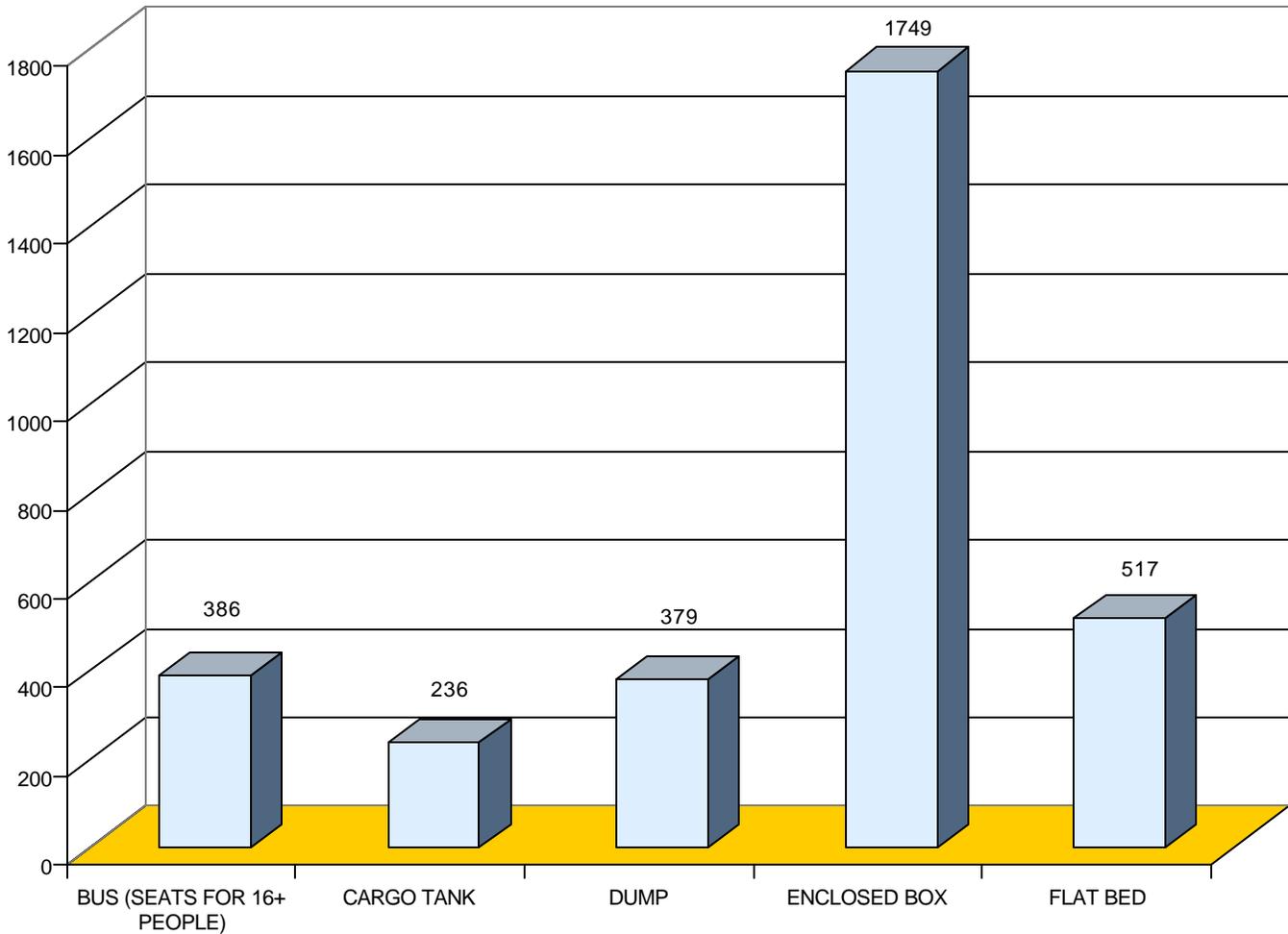
VEHICLE USE IN TRAFFIC COLLISIONS (EXCLUDES PEDESTRIANS) **

VEHICLE USE	COLLISION TYPE			TOTAL
	FATAL	INJURY	PDO*	
Personal	107	1,035	830	1,972
Transport Property	71	771	851	1,693
Construction/Maintenance	13	175	143	331
Transport Passenger	6	146	77	229
Logging Truck	9	56	44	109
Other	1	42	31	74
Government	2	20	10	32
Wrecker or Tow	2	12	12	26
Police	0	5	6	11
Farm Use	0	5	5	10
Fire Fighting	1	5	2	8
Driver Training	0	3	4	7
Ambulance	0	3	3	6
Military	0	2	2	4
TOTALS	212	2,280	2,020	4,512

*Property Damage Only

**Excluding pedestrians, this table includes all units involved in CMV collisions

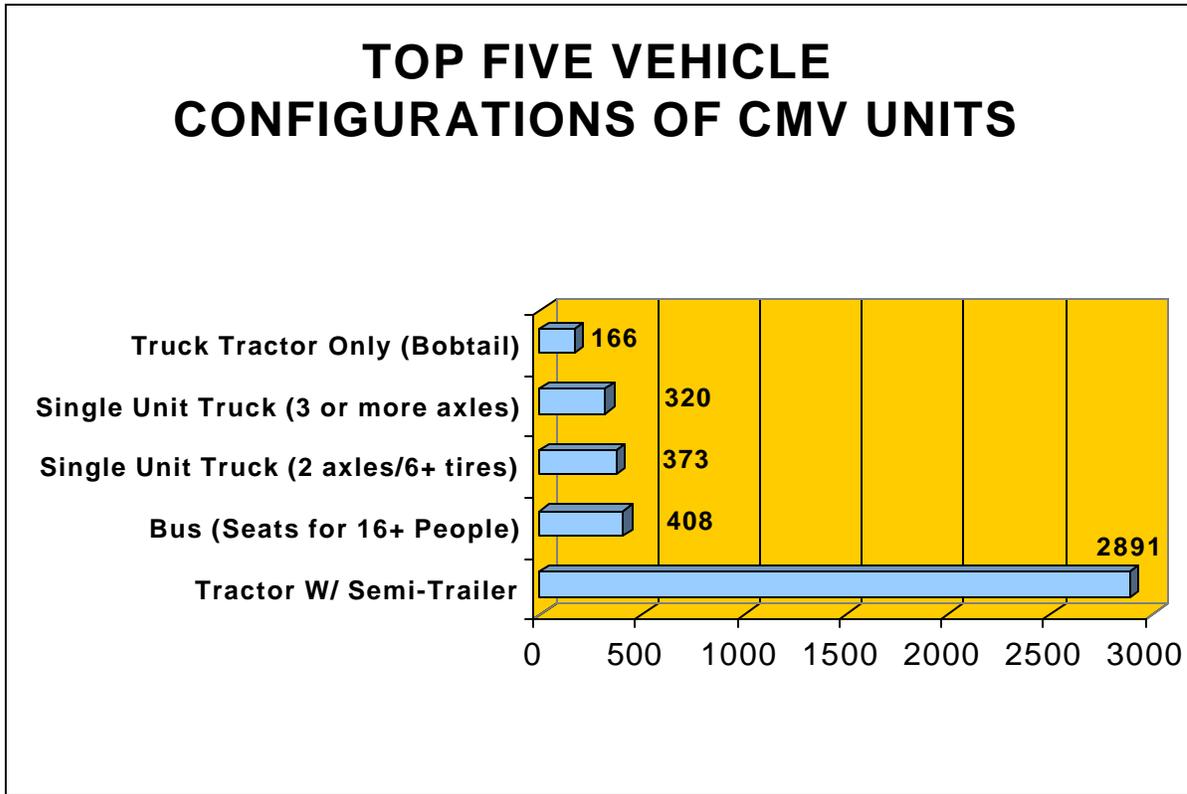
CARGO BODY TYPE OF CMV UNITS



This chart refers to the top 5 categories of cargo body types of CMV units involved in collisions. This is the number of units.

There are 14 categories of cargo body type:

- | | |
|---------------------------------|---------------------------|
| Auto Transporter | Flatbed |
| Bus (Seats for 9-15 passengers) | Garbage/Refuse |
| Bus (Seats for 16+ passengers) | Grain, Chips, Gravel |
| Cargo Tank | Intermodal Container |
| Concrete Mixer | Pole |
| Dump | Not Applicable |
| Enclosed Box | Other/ Unable to Classify |



The graph above shows the top 5 categories of vehicle configurations for commercial motor vehicles involved in traffic collisions. This shows the number of units.

On the Supplemental Truck and Bus Form, there are 13 ways to classify CMV units -- (the vehicle configuration, or the formation of the vehicles):

- | | |
|--|------------------------------|
| Passenger car (only with HAZMAT placard) | Truck-Tractor only (Bobtail) |
| Light Truck (only w/ HAZMAT placard) | Tractor w/ Semi-Trailer |
| Bus (Seats for 9-15 people) | Tractor w/ Double Trailers |
| Bus (Seats 16+ people) | Tractor w/ Triple Trailers |
| Single Unit Truck (2 axles/6+ tires) | Other/Unable to Classify |
| Single Unit Truck (3 or more axles) | Unknown/Hit and Run |
| Truck w/ Trailer | |

TRAFFIC COLLISIONS INVOLVING SCHOOL BUSES

COLLISIONS BY YEAR

YEAR	COLLISION TYPE				PERSONS**	
	Fatal	Injury	PDO*	Total	Killed	Injured
1997	1	152	220	373	1	580
1998	2	115	184	301	2	453
1999	3	103	235	341	4	473
2000	2	113	228	343	3	479
2001	4	136	232	372	5	494
TOTALS	12	619	1,099	1,730	15	2,479

* Property Damage Only

COLLISIONS BY MONTH

MONTH	COLLISION TYPE				PERSONS**	
	Fatal	Injury	PDO*	Total	Killed	Injured
January	0	15	28	43	0	58
February	0	12	38	50	0	29
March	1	19	26	46	1	99
April	0	17	21	38	0	28
May	0	12	25	37	0	33
June	0	2	5	7	0	3
July	0	0	5	5	0	0
August	0	12	11	23	0	38
September	1	12	20	33	1	59
October	1	12	24	37	2	95
November	1	12	12	25	1	39
December	0	11	17	28	0	13
TOTALS	4	136	232	372	5	494

* Property Damage Only

COLLISIONS BY LIGHT AND WEATHER CONDITIONS

LIGHT & WEATHER	COLLISION TYPE				PERSONS**	
	Fatal	Injury	PDO*	Total	Killed	Injured
Day & Clear/Cloudy	3	117	191	311	4	451
Dark & Clear/Cloudy	1	10	17	28	1	21
Day & Rain	0	5	18	23	0	8
Dark & Rain	0	3	3	6	0	10
Day & Other Weather	0	1	1	2	0	4
Dark & Other Weather	0	0	2	2	0	0
TOTALS	4	136	232	372	5	494

TRAFFIC COLLISIONS INVOLVING SCHOOL BUSES

COLLISIONS BY DAY OF WEEK

DAY OF WEEK	COLLISION TYPE				PERSONS**	
	Fatal	Injury	PDO*	Total	Killed	Injured
Sunday	0	0	3	3	0	0
Monday	1	28	44	73	1	73
Tuesday	1	27	59	87	1	77
Wednesday	1	29	39	69	2	203
Thursday	1	28	48	77	1	48
Friday	0	21	34	55	0	88
Saturday	0	3	5	8	0	5
TOTALS	4	136	232	372	5	494

* Property Damage Only

COLLISIONS BY TIME OF DAY

TIME OF DAY	COLLISION TYPE				PERSONS**	
	Fatal	Injury	PDO*	Total	Killed	Injured
12:01am-3:00am	0	1	2	3	0	33
3:01am-6:00am	0	1	3	4	0	3
6:01am-9:00am	4	50	67	121	5	208
9:01am-Noon	0	2	28	30	0	4
12:01pm-3:00pm	0	28	48	76	0	91
3:01pm-6:00pm	0	50	74	124	0	151
6:01pm-9:00pm	0	3	5	8	0	3
9:01pm-Midnight	0	1	5	6	0	1
TOTALS	4	136	232	372	5	494

* Property Damage Only

DRIVERS IN COLLISIONS WHO CONTRIBUTED TO COLLISION

UNITS INVOLVED	COLLISION TYPE			Totals
	Fatal	Injury	PDO*	
Bus Driver Contributed	0	50	95	145
Bus Driver Did Not Contribute	4	93	140	237
TOTAL SCHOOL BUS DRIVERS	4	143	235	382
Other Driver Contributed	4	87	131	222
Other Driver Did Not Contribute	0	58	87	145
TOTAL OTHER DRIVERS	4	145	218	367
TOTALS	8	288	453	749

* Property Damage Only

**Includes all fatalities and injuries in the collision, not just to the school bus riders.

Part III - Collision Consequences

The consequences of traffic collisions extend beyond those persons directly affected and are measured in both human and economic terms. The economic costs consider that portion of financial loss born by society, i.e. medical costs, property damage, lost productivity, etc. Opposite the economic losses are the intangible human costs associated with the grief and suffering that accompany a traffic death or injury. On the following pages, statistics related to estimated economic cost, traffic injuries, fatalities and restraint usage are presented. Some important observations in the 2001 data are as follows:

- ◆ Economic loss from CMV involved collisions decreased 8.6% from 2000 to 2001.
- ◆ Males accounted for 93% of the fatalities of CMV occupants and 75% of the fatalities of Non-CMV occupants, while females accounted for 7% and 25% respectively.
- ◆ 25.7% of Non-CMV occupant fatalities were persons under age 25. There were 14 CMV occupant fatalities and three of the people were under 25.
- ◆ There were 11 CMV occupants totally ejected from the vehicles in which they were riding. Of these, 3 or 27.3% were killed. Of the 3,040 CMV occupants not ejected, 10 or 0.33% were killed.
- ◆ There were 23 Non-CMV occupants in CMV collisions that were totally ejected from their vehicles. Of these 10 or 43.5% were killed. Of the 2,876 Non-CMV occupants not ejected, 70 or 2.4% were killed.
- ◆ In CMV collisions, because of the sheer size and weight of the vehicles involved, restraint usage becomes a major factor in predicting injury severity. Of the 277 Non-CMV occupants in CMV collisions that were not restrained, 42 or 15% sustained fatal injuries. Of the 2,559 Non-CMV occupants that were using some form of restraint device, 39 or 1.5% sustained fatal injuries.
- ◆ 1% of CMV occupants that were not using any type of restraint equipment sustained fatal injuries. 0.26% of restrained CMV occupants were killed.

**CMV OCCUPANTS INVOLVED IN TRAFFIC COLLISIONS
TRANSPORTED TO MEDICAL FACILITY**

TRANSPORTED TO MEDICAL FACILITY	INJURY TYPE					TOTAL
	NOT INJURED	POSSIBLE INJURY	NON-IN- CAPACIT A-TING	IN- CAPACIT A-TING	FATAL	
YES						
Males	32	264	149	35	11	491
Females	6	161	65	4	1	237
Not Specified	1	1	0	0	0	2
YES SUBTOTAL	39	426	214	39	12	730
NO						
Males	1,947	42	19	1	2	2,011
Females	251	23	0	0	0	274
Not Specified	47	0	0	0	0	47
NO SUBTOTAL	2,245	65	19	1	2	2,332
UNKNOWN						
Males	1	20	10	2	0	33
Females	0	7	4	0	0	11
Not Specified	3	0	0	0	0	3
UNKNOWN SUBTOTAL	4	27	14	2	0	47
TOTALS	2,288	518	247	42	14	3,109

**NON-CMV OCCUPANTS INVOLVED IN TRAFFIC COLLISIONS WITH A
CMV**

TRANSPORTED TO MEDICAL FACILITY	INJURY TYPE					TOTAL S
	NOT INJURED	POSSIBLE INJURY	NON-IN- CAPACIT ATING	IN- CAPACIT ATING	FATAL	
YES						
Males	35	272	159	102	67	635
Females	27	317	169	91	21	625
Not Specified	0	0	0	0	0	0
YES SUBTOTAL	62	589	328	193	88	1,260
NO						
Males	983	40	14	0	8	1,045
Females	630	27	9	0	3	669
Not Specified	38	0	1	0	0	39
NO SUBTOTAL	1,651	67	24	0	11	1,753
UNKNOWN						
Males	0	13	7	2	1	23
Females	0	19	2	0	1	22
Not Specified	4	0	0	0	0	4
UNKNOWN SUBTOTAL	4	32	9	2	2	49
TOTALS	1,717	688	361	195	101	3,062

TRAFFIC COLLISION VICTIM PROFILE INJURIES* BY AGE AND SEX CMV VICTIMS ONLY

SEX	AGE	NOT INJURED	POSSIBLE INJURY	NON-INCAPACITATING	INCAPACITATING	FATAL	TOTALS
M A L E	Under 4	7	4	0	1	0	12
	4-14	46	77	43	0	1	167
	15-24	118	39	14	3	2	176
	25-34	461	63	35	7	2	568
	35-44	525	64	32	12	0	633
	45-54	493	54	37	12	5	601
	55-64	258	16	13	3	2	292
	65-74	45	7	4	0	0	56
	75-80	9	1	0	0	1	11
	85+	4	0	0	0	0	4
	UNKNOWN AGE	14	1	0	0	0	15
	SUBTOTAL	1,980	326	178	38	13	2,535

F E M A L E	Under 4	6	3	0	0	0	9
	4-14	42	74	40	1	0	157
	14-24	28	46	7	0	0	81
	25-34	42	13	7	0	1	63
	35-44	70	26	4	2	0	102
	45-54	40	15	7	0	0	62
	55-64	10	7	2	1	0	20
	65-74	3	2	1	0	0	6
	75-84	4	1	1	0	0	6
	85+	1	1	0	0	0	2
	UNKNOWN AGE	11	3	0	0	0	14
	SUBTOTAL	257	191	69	4	1	522

GRAND TOTAL	2,237	517	247	42	14	3,057
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* See Definitions for a description of each injury type.

**TRAFFIC COLLISION VICTIM PROFILE
INJURIES* BY AGE AND SEX
NON-CMV VICTIMS ONLY**

SEX	AGE	NOT INJURED	POSSIBLE INJURY	NON-INCAPACITATING	INCAPACITATING	FATAL	TOTALS
M A L E	Under 4	29	9	3	1	1	43
	4-14	64	20	7	2	1	94
	15-24	226	77	55	31	13	402
	25-34	166	62	35	12	13	288
	35-44	202	52	28	29	10	321
	45-54	149	43	25	18	15	250
	55-64	78	33	11	6	5	133
	65-74	50	13	7	1	11	82
	75-84	31	8	7	3	5	54
	85+	2	2	1	0	2	7
	UNKNOWN AGE	21	6	1	1	0	29
SUBTOTAL		1,018	325	180	104	76	1,703

F E M A L E	Under 4	35	11	2	0	0	48
	4-14	44	22	7	4	2	79
	14-24	165	90	45	26	9	335
	25-34	122	59	39	13	3	236
	35-44	91	60	36	22	4	213
	45-54	88	60	26	17	2	193
	55-64	45	30	10	2	2	89
	65-74	38	17	7	5	3	70
	75-84	24	9	5	2	0	40
	85+	3	1	3	0	0	7
	UNKNOWN AGE	2	4	0	0	0	6
SUBTOTAL		657	363	180	91	25	1,316

GRAND TOTAL		1,675	688	360	195	101	3,019
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*See definitions for a description of each injury type.

EJECTION STATUS/LOCATION AFTER IMPACT CMV OCCUPANTS* ONLY

EJECTION STATUS	LOCATION AFTER IMPACT	INJURY TYPE					TOTALS
		NOT INJURED	POSSIBLE INJURY	NON-IN-CAPACITATING	IN-CAPACITATING	FATAL	
NOT EJECTED	Not Trapped	2,210	487	220	19	3	2,939
	Extricated (Mech Means)	5	2	10	7	6	30
	Freed (Non-Mech)	2	9	12	11	1	35
	Not Applicable	19	11	0	2	0	32
	Unknown	3	1	0	0	0	4
NOT EJECTED TOTAL		2,239	510	242	39	10	3,040
TOTALLY EJECTED	Not Trapped	1	2	2	2	0	7
	Extricated (Mech Means)	0	0	0	0	2	2
	Freed (Non-Mech)	0	0	0	0	1	1
	Unknown	0	0	0	1	0	1
TOTALLY EJECTED TOTAL		1	2	2	3	3	11
PARTIALLY EJECTED	Not Trapped	1	1	2	0	1	5
	Freed (Non-Mech)	0	0	1	0	0	1
PARTIALLY EJECTED TOTAL		1	1	3	0	1	6
NOT APPLICABLE	Not Trapped	5	3	0	0	0	8
	Freed (Non-Mech)	1	0	0	0	0	1
	Not Applicable	11	2	0	0	0	13
NOT APPLICABLE TOTAL		17	5	0	0	0	22
UNKNOWN	Not Trapped	1	0	0	0	0	1
	Unknown	25	0	0	0	0	25
UNKNOWN TOTAL		26	0	0	0	0	26
GRAND TOTAL		2,284	518	247	42	14	3,105

*Includes occupants seated inside the passenger compartment of the vehicle.

EJECTION STATUS/LOCATION AFTER IMPACT NON-CMV OCCUPANTS* ONLY

EJECTION STATUS	LOCATION AFTER IMPACT	INJURY TYPE					TOTALS
		NOT INJURED	POSSIBLE INJURY	NON-IN-CAPACITATING	IN-CAPACITATING	FATAL	
NOT EJECTED	Not Trapped	1,602	621	299	117	15	2,654
	Extricated (Mech Means)	2	21	22	42	43	130
	Freed (Non-Mech)	1	11	26	13	12	63
	Not Applicable	19	8	0	1	0	28
	Unknown	1	0	0	0	0	1
NOT EJECTED TOTAL		1,625	661	347	173	70	2,876
TOTALLY EJECTED	Not Trapped	0	3	1	6	9	19
	Not Applicable	0	0	0	3	1	4
	Unknown	0	0	0	0	0	0
TOTALLY EJECTED TOTAL		0	3	1	9	10	23
PARTIALLY EJECTED	Not Trapped	1	0	1	0	1	3
	Extricated (Mech Means)	0	0	0	0	3	3
	Freed (Non-Mech)	0	0	0	1	0	1
PARTIALLY EJECTED TOTAL		1	0	1	1	4	7
NOT APPLICABLE	Not Trapped	2	0	0	0	0	2
	Extricated (Mech Means)	0	0	0	0	2	2
	Freed (Non-Mech)	1	0	0	0	0	1
	Not Applicable	5	8	0	1	0	14
NOT APPLICABLE TOTAL		8	8	0	1	2	19
UNKNOWN	Not Trapped	1	2	0	0	0	3
	Unknown	25	1	0	0	0	26
UNKNOWN TOTAL		26	3	0	0	0	29
GRAND TOTAL		1,660	675	349	184	86	2,954

*Includes occupants of cars, trucks, and vans.

INJURY SEVERITY BY OCCUPANT RESTRAINT USAGE CMV OCCUPANTS* ONLY

RESTRAINT USAGE	INJURY TYPE					TOTALS
	NOT INJURED	POSSIBLE INJURY	NON-IN-CAPACITATING	IN-CAPACITATING	FATAL	
NO RESTRAINT USED						
None Used	224	259	102	11	6	602
TOTAL - NO RESTRAINT USED	224	259	102	11	6	602
RESTRAINT USED						
Shoulder Belt Only Used	29	2	1	0	0	32
Lap Belt Only Used	201	34	18	2	1	256
Shoulder & Lap Belt Used	1,718	171	112	28	5	2,034
Child Safety Seat Used	1	1	0	0	0	2
Other	1	10	0	0	0	11
TOTAL - RESTRAINT USED	1,950	218	131	30	6	2,335
UNKNOWN RESTRAINT USAGE	110	41	14	1	2	168
GRAND TOTAL	2,284	518	247	42	14	3,105

*Includes occupants seated inside the passenger compartment of the vehicle.

INJURY SEVERITY BY OCCUPANT RESTRAINT USAGE

NON-CMV OCCUPANTS* ONLY

RESTRAINT USAGE	INJURY TYPE					TOTALS
	NOT INJURED	POSSIBLE INJURY	NON-IN-CAPACITATING	IN-CAPACITATING	FATAL	
NO RESTRAINT USED						
None Used	60	63	58	54	42	277
TOTAL - NO RESTRAINT USED	60	63	58	54	42	277
RESTRAINT USED						
Shoulder Belt Only	16	15	5	1	0	37
Lap Belt Only	42	27	5	1	0	75
Shoulder & Lap Belt	1,405	540	267	117	39	2,368
Child Safety Seat	62	12	3	1	0	78
Other	1	0	0	0	0	1
TOTAL - RESTRAINT USED	1,526	594	280	120	39	2,559
UNKNOWN RESTRAINT USAGE	74	18	11	10	5	118
GRAND TOTAL	1,660	675	349	184	86	2,954

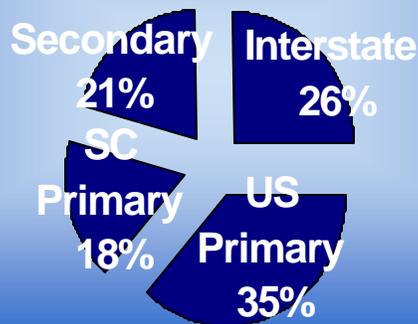
*Includes occupants of passenger cars, trucks and vans seated inside the passenger compartment of vehicle.

Part IV – Hazardous Materials



- ◆ The movement of hazardous materials in commerce is necessary to maintain economic vitality and meet consumer demands. This shall be conducted in a safe and efficient manner. Hazardous material, by definition, is any substance used in making items that can be potentially dangerous to human beings or the environment.
- ◆ Taking into account the “9-1-1” incidents, it has become even more important to evaluate the risk analysis of hazardous materials. In 2001, there were 191 CMV’s with hazard placards involved in collisions; 156 vehicles were carrying hazardous materials when a collision occurred.

CMV Collisions Involving Hazardous Materials on Collision Corridors



VEHICLES WITH PLACARDS: 1998 - 2001

	1998	1999	2000	2001
How Many Vehicles Were Displaying Hazardous Placards?				
Vehicles w/ Placards	155	154	158	191
Total CMV Units	n = 5544	n = 5718	n = 5190	n = 4529

HAZARDOUS MATERIAL INVOLVEMENT 2001

WAS VEHICLE CARRYING HAZARDOUS MATERIAL	COLLISION TYPE			TOTAL
	FATAL	INJURY	PDO*	
Yes	6	81	69	156
No	215	2167	1893	4275
Unknown/Hit and Run	0	39	59	98
TOTALS	221	2287	2021	4529

*Property Damage Only

HAZARDOUS MATERIAL PLACARD 2001

DID VEHICLE HAVE HAZARDOUS MATERIAL PLACARD	COLLISION TYPE			TOTAL
	FATAL	INJURY	PDO*	
Yes	11	96	84	191
No	210	2091	1813	4114
Unknown/Hit and Run	0	100	124	224
TOTALS	221	2287	2021	4529

*Property Damage Only

HAZARDOUS MATERIAL RELEASE 2001

WAS HAZARDOUS MATERIAL RELEASED FROM VEHICLE CARGO	COLLISION TYPE			TOTAL
	FATAL	INJURY	PDO*	
Yes	5	11	10	26
No	216	2092	1820	4128
Unknown/Hit and Run	0	184	191	375
TOTALS	221	2287	2021	4529

*Property Damage Only

APPENDIX



D.P.S. USE ONLY				Page #		SOUTH CAROLINA TRAFFIC COLLISION REPORT FORM TR-310 (Rev. 01/2001)				# Of Units	Amended - Attach Copy of Original Report	Notified	Arrived						
Date	Time	County	1- Interstate 4- Secondary 2- US Primary 5- County 3- SC Primary		Collision Location (Rt. # / Name)		0-Main 6- 2-Alternate 7-Business 5-Spur		Miles: <input type="text"/>	Dir: <input type="text"/>	In / Near City or Town of:								
Lane # / Dir.	Distance Offset	Direction	1- Interstate 4- Secondary 2- US Primary 5- County 3- SC Primary 6- Other		Base Intersection (Rt. # / Name)		0-Main 6- 2-Alternate 7-Business 5-Spur 9-Other		ASRU code	MP/Grid									
#	Or	N E S W	Miles Feet	N E S W	From	Toward	Second Intersection (Rt. # / Name)	0-Main 6- 2-Alternate 7-Business 5-Spur 9-Other	Latitude	o ' "									
R.R. Id.	From	Ramp Only	To	1- Interstate 4- Secondary 2- US Primary 5- County 3- SC Primary 6- Other		Second Intersection (Rt. # / Name)	0-Main 6- 2-Alternate 7-Business 5-Spur 9-Other	Longitude	o ' "										
K- 624151				Driver/Pedestrian's Full Name				K- 624152				Driver/Pedestrian's Full Name							
Unit #	Sex	Race	Street/R.F.D.				Unit #	Sex	Race	Street/R.F.D.									
Birth Date	City, State, & Zip				Birth Date	City, State, & Zip													
State	Driver's License #			Insurance Company:				State	Driver's License #			Insurance Company:							
Year	Body	Vehicle Make	VIN #				Year	Body	Vehicle Make	VIN #									
State	Year	License Plate #		Owner's D.L. #				State	Year	License Plate #		Owner's D.L. #							
Home Telephone ()		Owner's Full Name						Home Telephone ()		Owner's Full Name									
Bus. Telephone ()		Street/R.F.D.						Bus. Telephone ()		Street/R.F.D.									
Contributed To Collision		City, State, & Zip				Contributed To Collision		City, State, & Zip											
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No						
Estimated Speed	Speed Limit	C.D.L. Req: Yes No	T/B S Req: Yes No	Alc/Drg info (see back): Yes No	Summons #	Cod e	Summons #	Cod e	Towed By	Estimated Speed	Speed Limit	C.D.L. Req: Yes No	T/B S Req: Yes No	Alc/Drg info (see back): Yes No	Summons #	Cod e	Summons #	Cod e	Towed By
K- 624153				Driver/Pedestrian's Full Name				State	Year	License Plate #		Owner's D.L. #							
Unit #	Sex	Race	Street/R.F.D.				Home Telephone ()		Owner's Full Name										
Birth Date	City, State, & Zip				Bus. Telephone ()		Street/R.F.D.												
State	Driver's License #			Insurance Company:				Contributed To Collision		City, State, & Zip									
Yes	No	Estimated Speed	Speed Limit	C.D.L. Req: Yes No	T/B S Req: Yes No	Alc/Drg info (see back): Yes No	Summons #	Cod e	Summons #	Cod e	Towed By								
Dir. of Travel:	Unit 1: N S E W	Unit 2: N S E W	Unit 3: N S E W																
Unit 1 Dam.	Unit 2 Dam.	Unit 3 Dam.	Prop. Dam. 1	Prop. Dam. 2															
\$	\$	\$	\$	\$															
Property Owner/Witness:						Property Owner/Witness:													
Address						Address													
State		Zip:		Phone		State		Zip:		Phone									
Photo:	Describe What Happened (Refer to Units by Number)																		
Y	N																		
<p>NOTICE - THE TR-310 IS FOR STATISTICAL REPORTING PURPOSES ONLY AND IS A REFLECTION OF THE OFFICER'S BEST KNOWLEDGE, OPINION, AND BELIEF COVERING THE COLLISION, BUT NO WARRANT IS MADE AS TO THE FACTUAL ACCURACY THEREOF.</p>																			
Investigating Officer's Name			Rank	Badge #	Code	Date	Reviewer's Name			Rank	Internal Agency Code								

D.P.S. USE ONLY		South Carolina Uniform Traffic Collision Report (For Investigating Officers) Supplemental Bus & Truck Accident Report		<input type="checkbox"/> Amended-Attach Copy of Original Report	<input type="checkbox"/> Corrected
				Page _____ of _____ Pages	
Date	Time	County	Route Category	Accident Location <small>(Route Number and Name if Any)</small>	Auxiliary
			1-Interstate 2-US Primary 3-SC Primary 4-Secondary 5-County 6-Other	0-Mainline 2-Alternate 5-Spur 6-Connection 7-Business 9-Other	
SCREENING INFORMATION				Access Control	
NUMBER OF QUALIFYING VEHICLES INVOLVED				1- No Access Control 2- Full Access Control 3- Partial Access Control <input style="width:50px; height:20px;" type="text"/>	
A Truck having a GVWR of 10,001 lbs. or more for the power unit <input style="width:50px;" type="text"/>				Vehicle Information	
OR				Gross Vehicle Weight Rating Weight Rating of the Power Unit of the Truck 01- Less than or Equal to 10,000 Pounds 02- 10,001-26,000 Pounds 03- More than 26,000 Pounds 99- Unknown/ Hit and Run <input style="width:50px; height:20px;" type="text"/>	
A Vehicle with a Hazardous Materials Placard <input style="width:50px;" type="text"/>				Vehicle Configuration	
OR				00- Passenger Car (only w/ HAZMAT placard) 01- Light Truck (only w/ HAZMAT placard) 02- Bus (seats for 9-15 people) 03- Bus (seats for 16 + people) 04- Single Unit Truck (2axles/6+ tires) 05- Single Unit Truck (3 or more axles) 06- Truck w/ Trailer 07- Truck-Tractor Only (Bobtail) 08- Tractor w/ Semi-Trailer 09- Tractor w/ Double Trailers 10- Tractor w/ Triple Trailers 98- Other/Unable to Classify 99- Unknown/ Hit and Run <input style="width:50px; height:20px;" type="text"/>	
A Bus that is Designed or Used to Carry 16 or More Persons, Including Driver <input style="width:50px;" type="text"/>				Cargo Body Type	
OR				00- Bus (seats for 9-15 people) 01- Bus (seats for 16+ people) 02- Enclosed Box 03- Cargo Tank 04- Flat Bed 05- Dump 06- Concrete Mixer 07- Auto Transport 08- Garbage/Refuse 09- Grain, Chips, Gravel 10- Pole 11- Intermodal Container 97- Not Applicable 98- Other 99- Unknown/ Hit and Run <input style="width:50px; height:20px;" type="text"/>	
A Motor Vehicle Engaged in Interstate Commerce that is Designed or Used to Carry 9-15 Persons, Including the Driver, for Compensation <input style="width:50px;" type="text"/>				Trailer Length and Width	
Number of Persons Involved: Sustaining Fatal Injuries <input style="width:50px;" type="text"/> Transported for Immediate Medical Services <input style="width:50px;" type="text"/>				Length	
Number of Vehicles Towed Towed from the Scene Due to Damage <input style="width:50px;" type="text"/>				00- No Trailer 01- Less than 480 in. (40 ft) 02- 481 in. - 576 in (48 ft). 03- 577 in. or more 99- Unknown/ Hit and Run <input style="width:50px; height:20px;" type="text"/> Trailer 1 Length <input style="width:50px; height:20px;" type="text"/> Trailer 2 Length	
Do Not Complete This Form Unless: One or More Qualifying Vehicles was Involved - AND One or More Qualifying Injuries was Sustained - OR One or More Vehicles (not necessarily the truck or bus) was Towed from the Scene				Width	
Total Number of Supplemental Forms Required for this Collision : <input style="width:50px;" type="text"/>				00- No Trailer 01- Less than 60 in. (5 ft.) 02- 61 in. - 84 in. (7 ft.) 03- 85 in. or more 99- Unknown/ Hit and Run <input style="width:50px; height:20px;" type="text"/> Trailer 1 Width <input style="width:50px; height:20px;" type="text"/> Trailer 2 Width	
Unit Number _____ FR-10 Number _____				Hazardous Material Involvement	
Carrier Information				Was This Vehicle Carrying Hazardous Materials? 1- Yes 2- No 3- Unknown/Hit and Run <input style="width:50px;" type="text"/>	
Name: _____ Address: _____ City: _____ State: <input style="width:20px;" type="text"/> <input style="width:20px;" type="text"/> Zip: <input style="width:20px;" type="text"/> <input style="width:20px;" type="text"/> <input style="width:20px;" type="text"/> <input style="width:20px;" type="text"/>				Did the Vehicle Have a Hazardous Material Placard? 1-Yes 2- No 3- Unknown/Hit and Run <input style="width:50px;" type="text"/>	
Business Phone Number: <input style="width:20px;" type="text"/>				If "Yes", What Class of Hazardous Material (off placard/shipping papers)? 01- Class 1 06- Class 6 (Poison/Infectious Substance) 02- Class 2 (Gases) 07- Class 7 (Radioactive) 03- Class 3 (Flammable Liquids) 08- Class 8 (Corrosives) 04- Class 4 (Flammable) 09- Class 9 (Misc. Goods) 05- Class 5 (Oxidizing) 10- No Placard 99- Other/Unknown/Hit and Run <input style="width:50px; height:20px;" type="text"/>	
Identification Numbers				If "YES", enter 4 digit HAZMAT ID(look on placard/shipping papers) <input style="width:20px;" type="text"/> <input style="width:20px;" type="text"/> <input style="width:20px;" type="text"/> <input style="width:20px;" type="text"/>	
U.S. DOT <input style="width:20px;" type="text"/> None = 0 <input style="width:20px;" type="text"/>				Did Hazardous Material Release from this Vehicle?	
ICC MC <input style="width:20px;" type="text"/> <input style="width:20px;" type="text"/> <input style="width:20px;" type="text"/> <input style="width:20px;" type="text"/> State: <input style="width:20px;" type="text"/> <input style="width:20px;" type="text"/>				1-Yes 2- No 3- Unknown/Hit and Run <input style="width:50px;" type="text"/>	
State Number <input style="width:20px;" type="text"/>				Notification of Release:	
Was a Citation Issued to this Vehicle? <input style="width:50px;" type="text"/>				1- Yes 2- No 3- Pending <input style="width:50px;" type="text"/>	
Investigator's Name		Rank		Date	
Investigator's Name		Rank		Date	

ACKNOWLEDGEMENTS

The Office of Highway Safety and The State Transport Police of the South Carolina Department of Public Safety would like to take the opportunity to express our sincere appreciation to all persons (with special thanks to the ITO personnel of SCDPS), agencies, departments and organizations who have contributed to this publication.

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Special recognition is given to the above traffic investigative agencies, and in doing so, we cannot forget the support and cooperation of other agencies and organizations that helped make this information available.

The Office of Highway Safety, which tabulated the traffic collision data and other pertinent information for this publication, could not have done so without the untiring efforts of the above persons and organizations.