

2004

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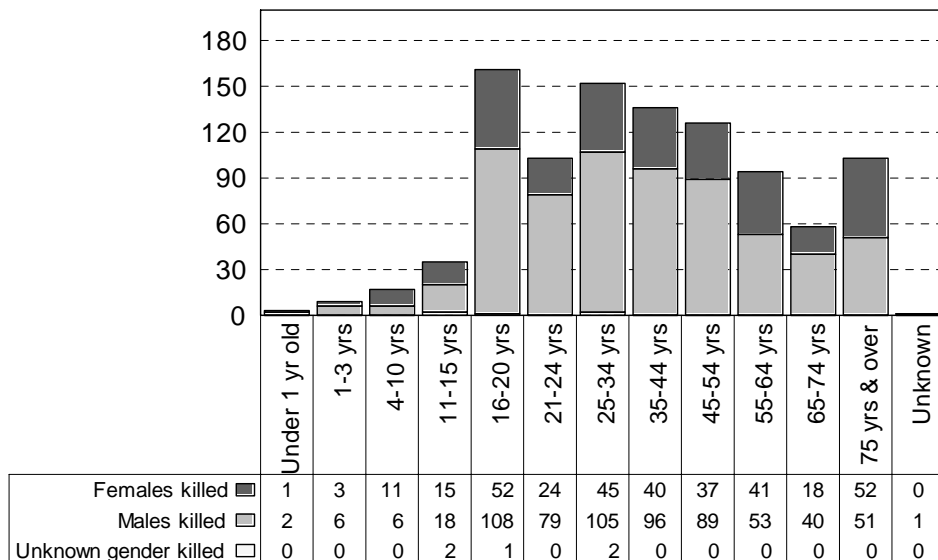
2004

**Occupant/  
Person**



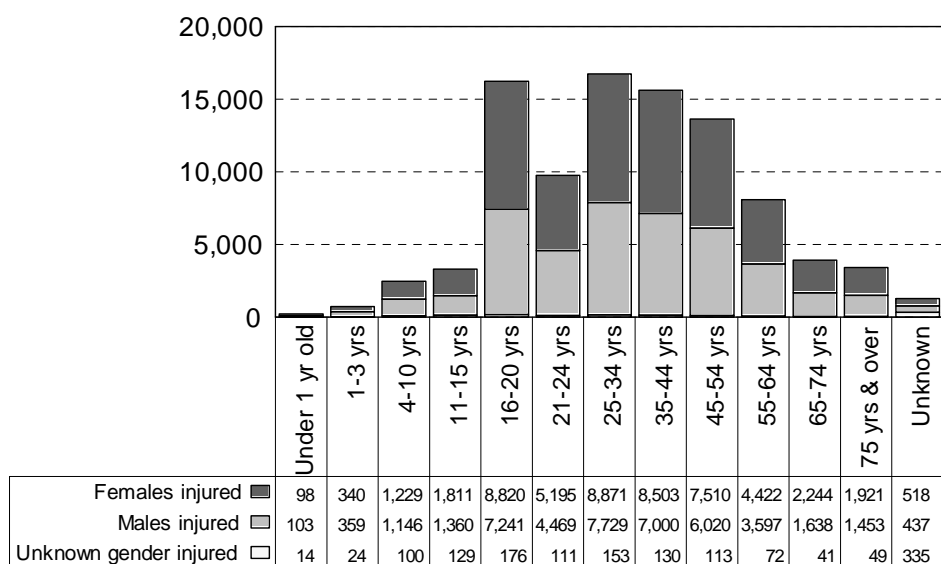
## AGE AND GENDER OF OCCUPANTS KILLED & INJURED IN MOTOR VEHICLE CRASHES

### Occupants Killed



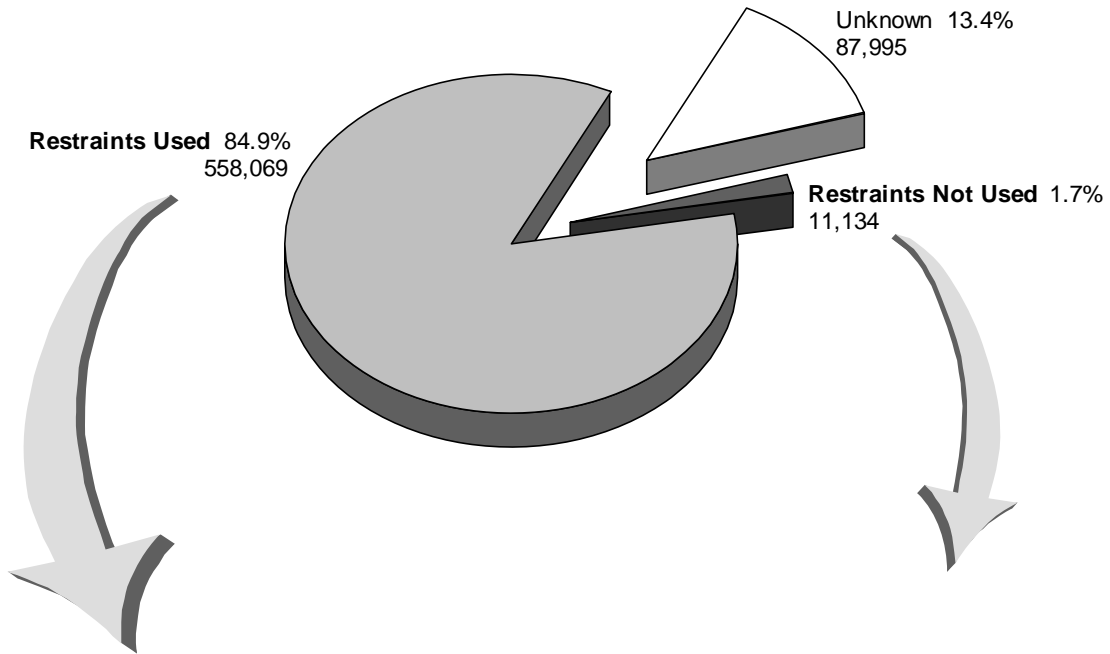
There were 654 male occupants, 339 female occupants, and 5 occupants of unknown gender killed in motor vehicle crashes in 2004. The majority (65.5%) of occupants killed in traffic crashes in 2004 were male.

### Occupants Injured

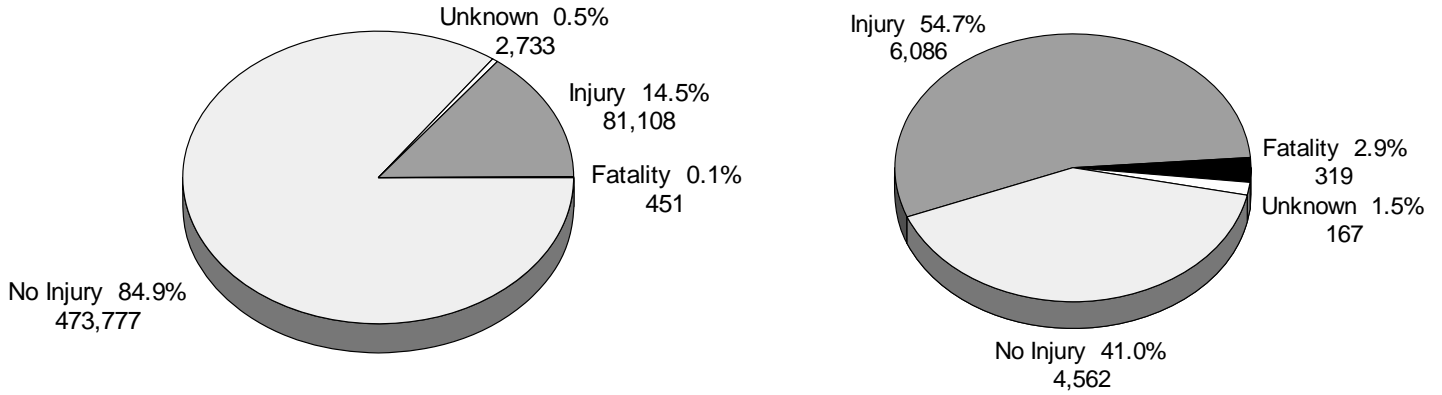


There were 42,552 male occupants, 51,482 female occupants, and 1,447 occupants of unknown gender injured in motor vehicle crashes in 2004. The majority (53.9%) of occupants injured in traffic crashes in 2004 were female.

## REPORTED OCCUPANT RESTRAINT USAGE FOR ALL DRIVERS AND INJURED PASSENGERS

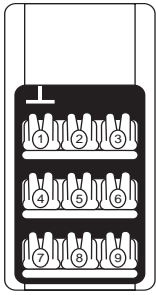


### Injury Severity



Of the 657,198 drivers and injured passengers involved in crashes, 558,069 (84.9%) were REPORTED to be using occupant restraints.

Occupants in crashes were **twenty-nine times** more likely to be killed if they were not wearing their restraints.



## MOTOR VEHICLE OCCUPANTS & INJURY SEVERITY BY SEATING POSITION AND KNOWN BELT USAGE

Seating Position	Belts Used*		Fatal	Injury			No Injury
	Number	% of Total		A	B	C	
Left Front	527,081	95.2	309	3,864	11,763	45,083	466,062
Center Front	453	0.1	1	27	104	281	40
Right Front	13,572	2.5	108	1,005	2,821	9,535	103
Left Rear	1,516	0.3	5	114	319	1,078	0
Center Rear	403	0.1	4	22	110	267	0
Right Rear	1,762	0.3	8	125	383	1,246	0
Left Rear Third Seat	248	0.0	2	18	53	175	0
Center Rear Third Seat	118	0.0	0	8	26	84	0
Right Rear Third Seat	294	0.1	2	30	60	202	0
Unknown	8,229	1.5	3	76	259	926	6,965
<b>Total</b>	<b>553,676**</b>	<b>100.0</b>	<b>442</b>	<b>5,289</b>	<b>15,898</b>	<b>58,877</b>	<b>473,170</b>

\* Lap belt, shoulder belt or a combination of lap and shoulder belts used. Children who were coded as using or not using a child restraint device appear in separate tables on pages 174-175.

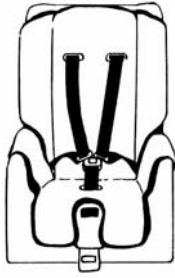
\*\*This total does not include 2,723 occupants with unknown injury severity.

Seating Position	Belts Not Used*		Fatal	Injury			No Injury
	Number	% of Total		A	B	C	
Left Front	7,387	70.1	225	887	1,236	1,144	3,895
Center Front	109	1.0	4	29	31	38	7
Right Front	1,065	10.1	51	237	373	383	21
Left Rear	436	4.1	11	85	125	215	0
Center Rear	200	1.9	8	39	68	85	0
Right Rear	443	4.2	12	84	116	231	0
Left Rear Third Seat	66	0.6	0	18	16	32	0
Center Rear Third Seat	54	0.5	1	13	11	29	0
Right Rear Third Seat	83	0.8	0	15	26	42	0
Unknown	700	6.6	4	64	80	196	356
<b>Total</b>	<b>10,543**</b>	<b>100.0</b>	<b>316</b>	<b>1,471</b>	<b>2,082</b>	<b>2,395</b>	<b>4,279</b>

\* No belts available or no belts used. Children who were coded as using or not using a child restraint device appear in separate tables on page 174-175.

\*\*This total does not include 154 occupants with unknown injury severity.

*Michigan law requires that all persons must wear a safety belt when riding in the front seat of a motor vehicle.*



## REPORTED RESTRAINT USE - CHILDREN

**Michigan law requires:**

Any child **under four years of age** riding in either the front or back seat of a vehicle must be in an approved Child Safety Seat (CSS)/Child Restraint Device (CRD).

Sitting in all seats excluding Left Front Seats:

Restraint Usage	Children Age 0		Fatal	Injury			No* Injury
	Number	% Total		A	B	C	
Belts Used	19	9.5	0	2	1	16	0
No Belts Used	2	1.0	0	0	0	2	0
Child Restraint Used	163	81.5	2	6	31	124	0
Child Restraint Not Used	7	3.5	1	2	0	4	0
Restraint Failed	0	0.0	0	0	0	0	0
Unknown	9	4.5	0	0	0	9	0
<b>Total</b>	<b>200</b>	<b>100.0</b>	<b>3</b>	<b>10</b>	<b>32</b>	<b>155</b>	<b>0</b>

### Children Age 1

Belts Used	29	12.5	0	1	6	22	0
No Belts Used	2	0.9	0	0	2	0	0
Child Restraint Used	169	72.8	0	5	45	119	0
Child Restraint Not Used	13	5.6	0	4	7	2	0
Restraint Failed	0	0.0	0	0	0	0	0
Unknown	14	6.0	0	2	5	7	0
<b>Total</b>	<b>227</b>	<b>100.0</b>	<b>0</b>	<b>12</b>	<b>65</b>	<b>150</b>	<b>0</b>

### Children Age 2

Belts Used	42	18.3	0	1	11	30	0
No Belts Used	5	2.2	1	2	2	0	0
Child Restraint Used	151	65.7	2	7	44	98	0
Child Restraint Not Used	17	7.4	2	1	5	9	0
Restraint Failed	1	0.4	0	0	0	1	0
Unknown	14	6.1	0	2	2	10	0
<b>Total</b>	<b>230</b>	<b>100.0</b>	<b>5</b>	<b>13</b>	<b>64</b>	<b>148</b>	<b>0</b>

### Children Age 3

Belts Used	87	31.4	3	2	24	58	0
No Belts Used	9	3.2	0	2	2	5	0
Child Restraint Used	145	52.3	1	9	31	104	0
Child Restraint Not Used	17	6.1	0	4	5	8	0
Restraint Failed	1	0.4	0	0	0	1	0
Unknown	9	3.2	0	0	3	6	0
<b>Total</b>	<b>268</b>	<b>100.0</b>	<b>4</b>	<b>17</b>	<b>65</b>	<b>182</b>	<b>0</b>

\* Information about uninjured passengers does not have to be reported by the officer on the crash report, thus these tables relate the experience of those children with injuries in crashes.

## REPORTED RESTRAINT USE - CHILDREN (continued)

*All children **ages 4 through 15** must wear a properly adjusted and fastened safety belt when riding in either the front or back seat of a vehicle.*

*Sitting in all seats excluding Left Front Seats:*

Restraint Usage	Children Age 4-15		Fatal	Injury			No Injury
	Number	% Total		A	B	C	
Belts Used	4,239	78.5	24	269	985	2,961	0
No Belts Used	533	9.9	9	90	179	255	0
Child Restraint Used	258	4.8	1	12	50	195	0
Child Restraint Not Used	29	0.5	0	8	8	13	0
Restraint Failed	2	0.0	0	0	0	2	0
Unknown	337	6.2	9	34	84	210	0
<b>Total</b>	<b>5,398</b>	<b>100.0</b>	<b>43</b>	<b>413</b>	<b>1,306</b>	<b>3,636</b>	<b>0</b>

Note: Safety equipment usage is often self-reported and may not reflect actual usage.

*It is recommended that all children age 12 and under ride in a rear seat with appropriate restraint.*

*A vehicle can be stopped if an officer observes; the driver or front seat passenger not wearing a safety belt, or, a child not properly restrained.*

*The driver of the vehicle can be stopped and will receive a citation for any child (under age 16) not restrained.*

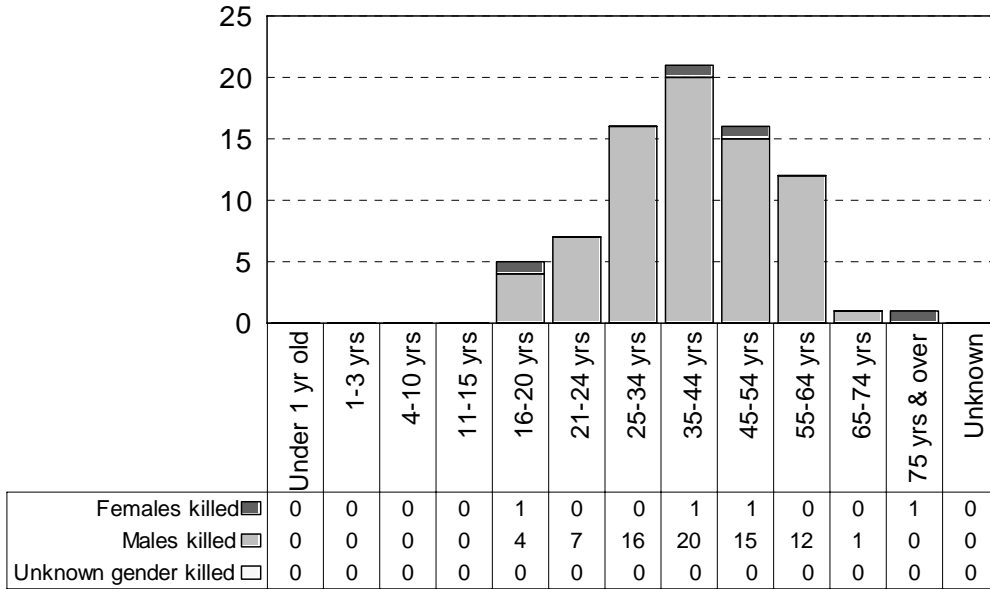
## MOTOR VEHICLE OCCUPANT INJURY SEVERITY BY KNOWN AIRBAG DEPLOYMENT

Motor Vehicle Occupant Airbag Deployment	OCCUPANT – INJURY SEVERITY						
	Occupants*		Fatal	Injury			No Injury
	Number	% Total		A	B	C	
Deployed	46,680	7.1	328	2,599	6,768	13,045	23,238
Not deployed	433,892	65.7	214	2,348	6,875	36,096	379,619
Not equipped	95,387	14.4	399	2,847	5,800	12,073	72,180
Unknown	84,611	12.8	57	617	1,472	4,941	31,252
<b>Total</b>	<b>660,570</b>	<b>100.0</b>	<b>998</b>	<b>8,411</b>	<b>20,915</b>	<b>66,155</b>	<b>506,289</b>

\* Includes 57,802 occupants (drivers and passengers) with unknown injury severity.

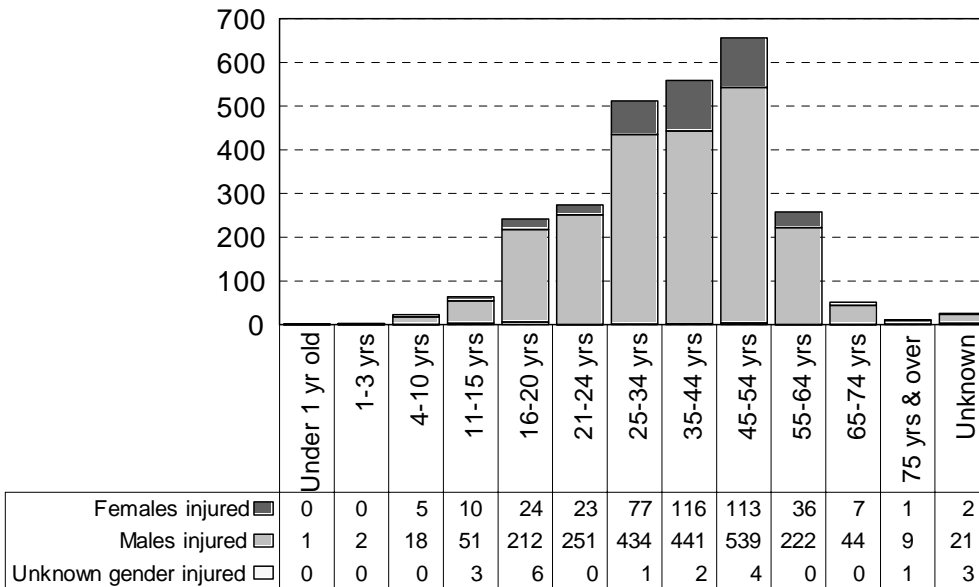
## AGE AND GENDER OF MOTORCYCLISTS KILLED & INJURED IN MOTOR VEHICLE CRASHES

### Motorcyclists Killed



94.9 percent of the motorcyclists killed in traffic crashes in 2004 were male.  
In comparison, 66.2 percent of all persons killed in crashes were male.

### Motorcyclists Injured



83.8 percent of the motorcyclists injured in traffic crashes in 2004 were male.  
In comparison, 45.5 percent of all persons injured in crashes were male.

## MOTORCYCLE HELMET USE AND INJURY SEVERITY

Helmet Worn Age of Motorcyclist	Fatality	Injury			No Injury
		A	B	C	
3 years and under	0	1	0	0	0
4 - 10 years	0	3	5	5	0
11 - 15 years	0	7	7	11	1
16 - 20 years	5	34	74	41	35
21 - 24 years	6	49	96	47	43
25 - 34 years	12	81	155	109	116
35 - 44 years	18	119	156	120	116
45 - 54 years	14	141	188	137	136
55 - 64 years	11	46	77	67	62
65 - 74 years	1	9	18	10	6
75 years and over	1	1	4	1	3
Unknown	0	0	5	5	6
<b>Subtotal</b>	<b>68</b>	<b>491</b>	<b>785</b>	<b>553</b>	<b>524</b>



Drivers killed 64  
Passengers killed 4

Helmet Not Worn Age of Motorcyclist	Fatality	Injury			No Injury
		A	B	C	
3 years and under	0	0	0	1	0
4 - 10 years	0	2	2	0	0
11 - 15 years	0	3	7	1	2
16 - 20 years	0	4	6	6	1
21 - 24 years	1	6	0	1	0
25 - 34 years	1	5	4	2	2
35 - 44 years	0	5	4	2	2
45 - 54 years	0	2	5	3	2
55 - 64 years	1	1	1	1	0
65 - 74 years	0	1	1	0	0
75 years and over	0	0	0	1	0
Unknown	0	0	2	0	3
<b>Subtotal</b>	<b>3</b>	<b>29</b>	<b>32</b>	<b>18</b>	<b>12</b>



Drivers killed 3  
Passengers killed 0

Helmet Use Unknown Age of Motorcyclist	Fatality	Injury			No Injury
		A	B	C	
3 years and under	0	1	0	0	0
4 - 10 years	0	1	2	3	0
11 - 15 years	0	4	13	11	3
16 - 20 years	0	24	26	27	12
21 - 24 years	0	16	38	21	25
25 - 34 years	3	27	70	59	64
35 - 44 years	3	27	64	62	52
45 - 54 years	2	55	70	55	71
55 - 64 years	0	16	31	18	26
65 - 74 years	0	4	6	2	0
75 years and over	0	1	1	2	0
Unknown	0	3	5	6	63
<b>Subtotal</b>	<b>8</b>	<b>179</b>	<b>326</b>	<b>266</b>	<b>316</b>
<b>Total</b>	<b>79</b>	<b>699</b>	<b>1,143</b>	<b>837</b>	<b>852</b>

Michigan Vehicle Code Public Act 300 of 1949, Section 257.658 requires that all motorcycle riders wear a helmet. As a result, according to studies by UMTRI [14], approximately 99 percent of the motorcyclists in Michigan wear helmets when riding. The fact that most fatalities (where helmet use is known) are wearing their helmets does not indicate that helmets are not an effective safety device.

## OCCUPANT INJURY OUTCOME BY VEHICLE TYPE



VEHICLE TYPE	Killed	A Injured	B Injured	C Injured	Total KABC	% of All Crash Involved KABC Occupants
Passenger Car and Station Wagon	693	5,696	14,721	50,577	71,687	74.3
Van (Minivan) and Motorhome	46	486	1,344	5,017	6,893	7.1
Pickup	112	962	2,674	6,578	10,326	10.7
Small Truck (under 10,000 lbs.)	24	210	535	1,957	2,726	2.8
Motorcycle	79	682	1,098	797	2,656	2.8
Moped	1	54	84	63	202	0.2
Go Cart	0	10	4	4	18	0.0
Snowmobile	14	86	73	65	238	0.2
Off Road Vehicle	12	76	94	68	250	0.3
Other	7	29	59	101	196	0.2
Unknown	2	34	54	204	294	0.3
CDL Truck/Bus (breakdown below)	8	86	175	724	993	1.0
<b>Total Number of Occupants</b>	<b>998</b>	<b>8,411</b>	<b>20,915</b>	<b>66,155</b>	<b>96,479</b>	<b>100.0</b>

CDL Truck/Bus Sub-category Type	Killed	A Injured	B Injured	C Injured	Total KABC	% of All Crash Involved KABC Occupants
Commercial Vehicle: Group A	5	40	93	253	391	39.4
Commercial Vehicle: Group B	2	17	48	226	293	29.5
Commercial Vehicle: Group C	0	6	3	30	39	3.9
Other Truck	0	10	10	26	46	4.6
Unknown Truck	1	13	21	189	224	22.6
<b>Total Number of Occupants</b>	<b>8</b>	<b>86</b>	<b>175</b>	<b>724</b>	<b>993</b>	<b>100.0</b>

Group "A" is any vehicle that is towing a vehicle or trailer that has a gross vehicle weight rating (GVWR) over 10,000 lbs.

Group "B" is any single vehicle (including buses) with a GVWR of 26,001 lbs. or more. This would include a combination of vehicles with a combined GVWR over 26,000 lbs. when towing a trailer that has a GVWR of 10,000 lbs. or less.

Group "C" is any single vehicle with a GVWR of less than 26,001 lbs. or a combination of vehicles having a combined GVWR under 26,001 lbs. when the vehicle is required to display placards for hazardous material or designed to carry 16 passengers (including driver). Group "C" is also any vehicle carrying 15 or less people (including driver) transporting children to or from school and home on a regular basis for compensation.

**NOTES:**

1) School bus is not recorded on the UD-10 and cannot be broken out of CDL Truck/Bus.

2) These crashes involve a motor vehicle in transport on a public trafficway (in Michigan) and result in injury, death, or at least \$1,000 in property damage.