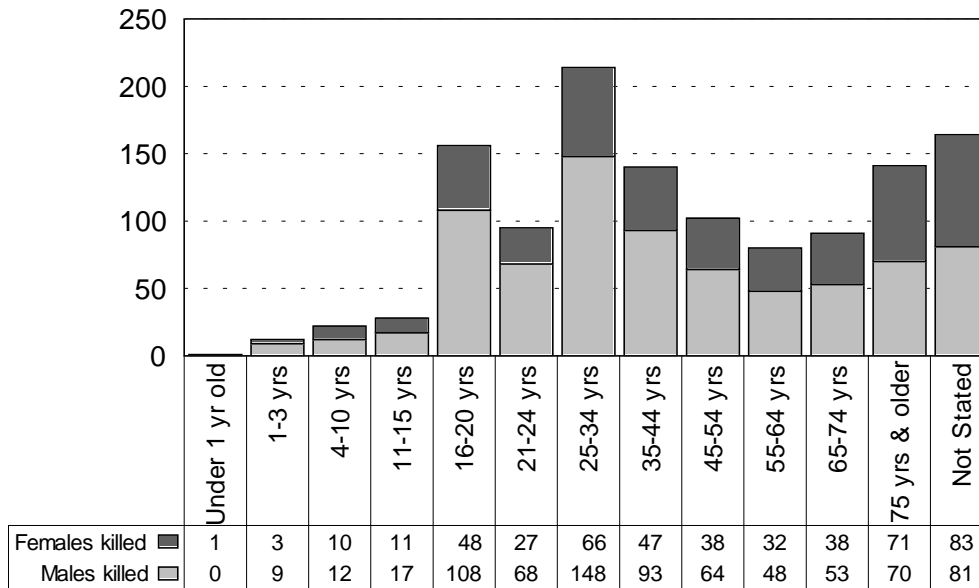


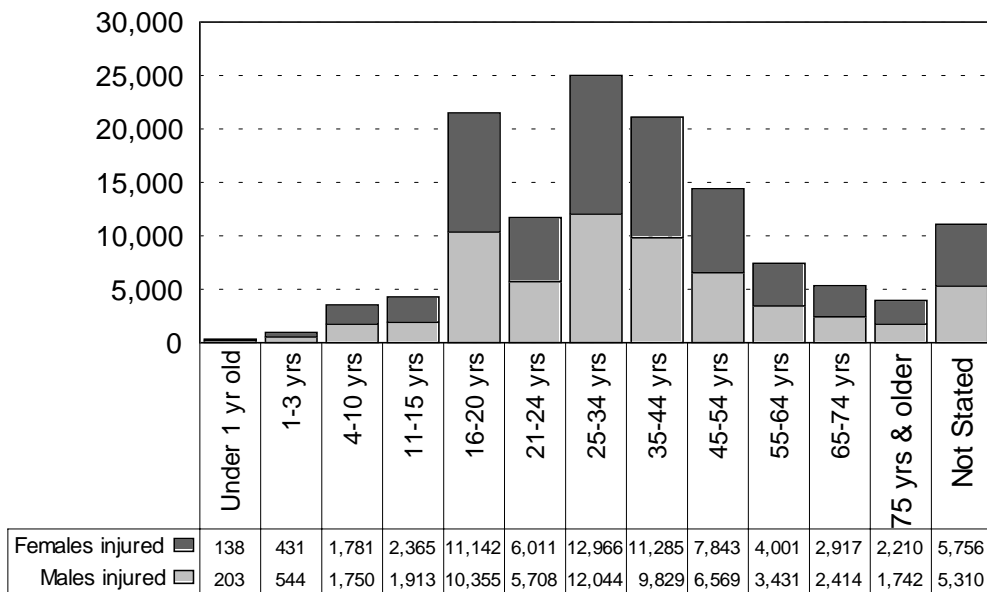
AGE AND GENDER OF OCCUPANTS KILLED & INJURED IN MOTOR VEHICLE CRASHES

Occupants Killed



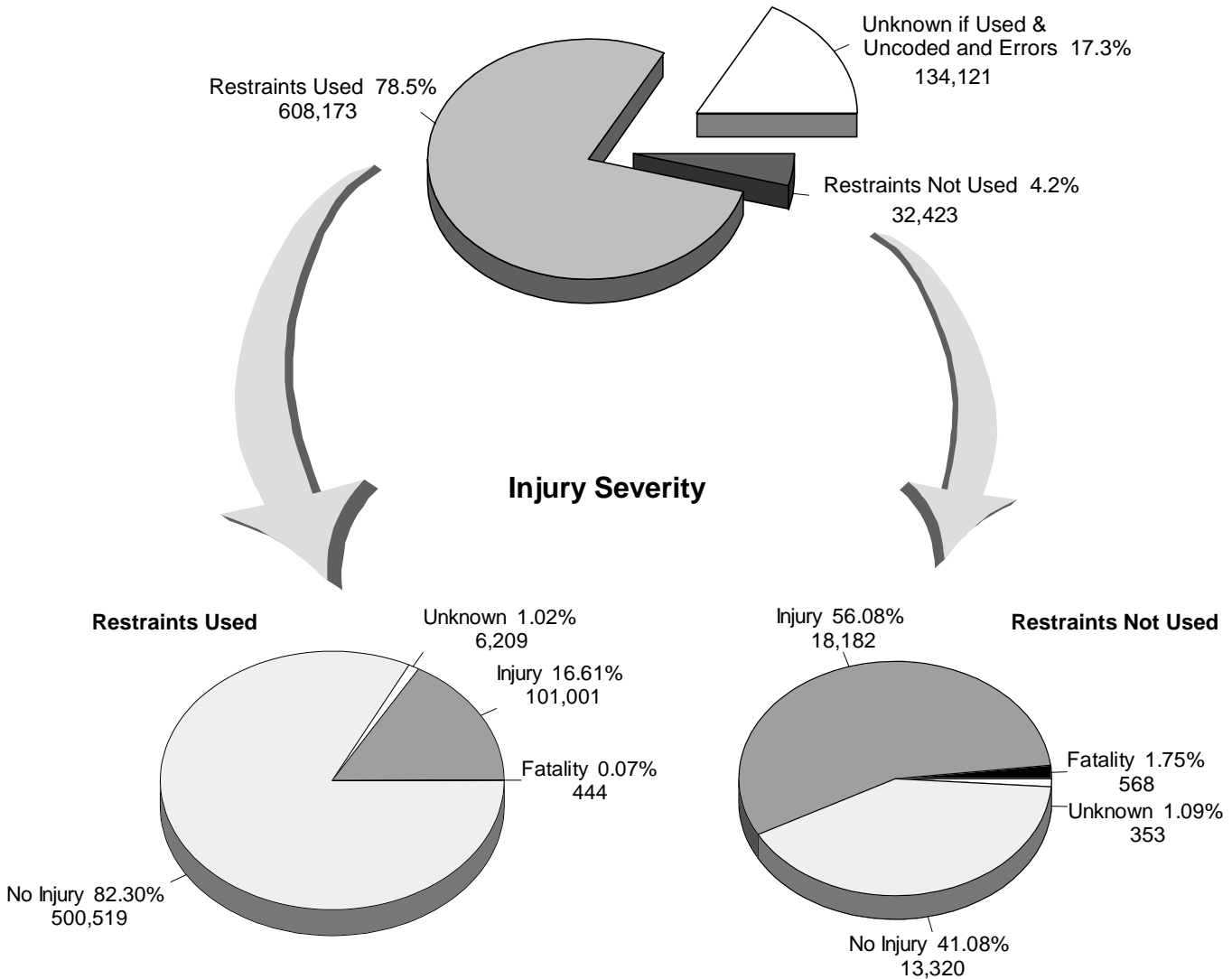
The majority (61.9%) of occupants killed in traffic crashes in 1997 were male.

Occupants Injured



The majority (52.7%) of occupants injured in traffic crashes in 1997 were female.

REPORTED OCCUPANT RESTRAINT USAGE FOR ALL DRIVERS AND INJURED PASSENGERS

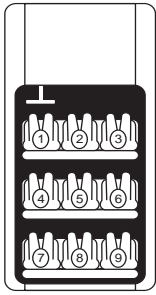


Restraint use by motorists is measured two ways: by what motorists **REPORT** to police at the scene of a traffic crash (reported usage), and by **DIRECT OBSERVATION** studies where motorists are totally unaware of the presence of researchers (observed usage). As expected, reported usage is routinely much higher than observed usage.

Of the 774,717 drivers and injured passengers involved in crashes, 608,173 (78.5%) were **REPORTED** to be using occupant restraints.

However, a **DIRECT OBSERVATION** study by the University of Michigan Transportation Research Institute [16] estimated overall safety belt use was 70.1 percent for passenger cars, 69.5 percent for sport-utility vehicles, 68.7 percent for vans, and 56.6 percent for pickup trucks in 1997.

Occupants in crashes were twenty-five 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			PDO
	Number	% of Total		A	B	C	
Left Front	575,125	95.7	285	5,538	14,737	54,585	499,980
Center Front	713	0.1	2	52	155	474	30
Right Front	19,101	3.2	124	1,557	3,864	13,330	226
Left Rear	2,178	0.4	8	124	502	1,408	136
Center Rear	579	0.1	3	56	136	373	11
Right Rear	2,344	0.4	12	143	499	1,686	4
Left Rear Third Seat	309	0.1	1	24	63	202	19
Center Rear Third Seat	114	0.0	0	13	34	64	3
Right Rear Third Seat	359	0.1	0	34	68	249	8
Unknown	117	0.0	0	5	14	46	52
TOTAL	600,939*	100.0	435	7,546	20,072	72,417	500,469

* 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 146-147.

* This total does not include 6,209 occupants with unknown injury severity.

Seating Position	Belts Not Used*		Fatal	Injury			PDO
	Number	% of Total		A	B	C	
Left Front	23,036	72.4	381	2,391	3,675	3,880	12,709
Center Front	328	1.0	3	76	97	131	21
Right Front	4,419	13.9	107	918	1,638	1,702	54
Left Rear	1,372	4.3	11	161	319	517	364
Center Rear	459	1.4	7	102	150	192	8
Right Rear	1,159	3.6	25	174	354	606	0
Left Rear Third Seat	159	0.5	4	29	41	84	1
Center Rear Third Seat	113	0.4	0	28	27	58	0
Right Rear Third Seat	206	0.6	6	34	62	95	9
Unknown	579	1.8	19	67	144	283	66
TOTAL	31,830*	100.0	563	3,980	6,507	7,548	13,232

* 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 146-147.

* This total does not include 352 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 one year of age** riding in either the front or back seat of a vehicle must be in a Child Restraint Device (CRD).*

Sitting in all seats excluding Left Front Seats:

Restraint Usage	Children age 0		Fatal	Injury			No Injury
	Number	% of Total		A	B	C	
Belts Used	37	12.8	0	2	7	28	0
No Belts Used	11	3.8	0	4	4	3	0
CRD Used	221	76.2	1	11	40	169	0
CRD Not Used	14	4.8	0	1	4	9	0
Restraint Failed	0	0.0	0	0	0	0	0
Restraint Use Unknown	5	1.7	0	2	1	2	0
Uncoded & Errors	2	0.7	0	0	0	2	0
TOTAL	290	100.0	1	20	56	213	0

*Any child between the **ages of one and four** must be in a CRD when riding in the front seat of a vehicle and must either be in a CRD or restrained with a safety belt when riding in the back seat.*

Sitting in the Front Right and Front Center Seats:

Restraint Usage	Children age 1-3		Fatal	Injury			No Injury
	Number	% of Total		A	B	C	
Belts Used	130	51.0	2	14	46	68	0
No Belts Used	31	12.2	0	7	7	16	1
CRD Used	63	24.7	0	3	22	38	0
CRD Not Used	25	9.8	1	2	11	9	2
Restraint Failed	0	0.0	0	0	0	0	0
Restraint Use Unknown	5	2.0	0	3	2	0	0
Uncoded & Errors	1	0.4	0	0	1	0	0
TOTAL	255	100.0	3	29	89	131	3

REPORTED RESTRAINT USE - CHILDREN (continued)

Sitting in the Rear Seats and Other:

Restraint Usage	Children age 1-3		Fatal	Injury			No Injury
	Number	% of Total		A	B	C	
Belts Used	241	33.6	2	14	73	152	0
No Belts Used	68	9.5	2	7	24	35	0
CRD Used	351	49.0	4	16	108	223	0
CRD Not Used	26	3.6	0	5	7	14	0
Restraint Failed	0	0.0	0	0	0	0	0
Restraint Use Unknown	11	1.5	1	3	5	2	0
Uncoded & Errors	20	2.8	0	2	9	9	0
TOTAL	717	100.0	9	47	226	437	0

*Any child between the **ages of four and sixteen** must wear a 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	% of Total		A	B	C	
Belts Used	5,163	71.7	16	352	1,297	3,495	3
No Belts Used	1,612	22.4	22	277	555	756	2
CRD Used	95	1.3	1	4	23	67	0
CRD Not Used	38	0.5	3	6	12	17	0
Restraint Failed	4	0.1	0	0	3	1	0
Restraint Use Unknown	173	2.4	0	29	68	76	0
Uncoded & Errors	118	1.6	1	16	37	64	0
TOTAL	7,203	100.0	43	684	1,995	4,476	5

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

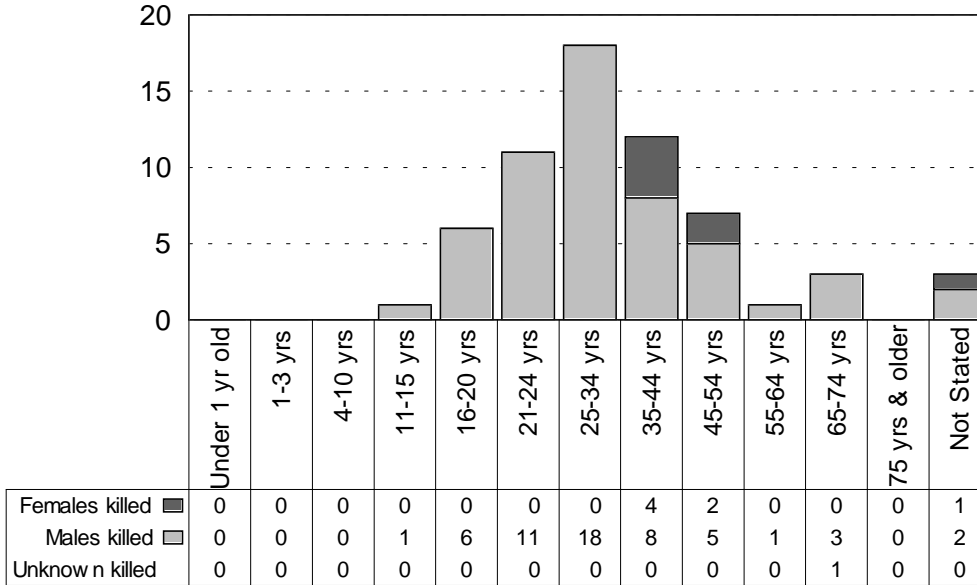
In a pilot study of Child Restraint Device (CRD) use and misuse in Michigan [17] at the University of Michigan Transportation Research Institute, researchers discovered at least some degree of improper CRD use in 88.5 percent of case studies.

The driver of the vehicle will receive a citation for any child not restrained.

Placing a CRD in the front seat is not recommended in vehicles with passenger side airbags.

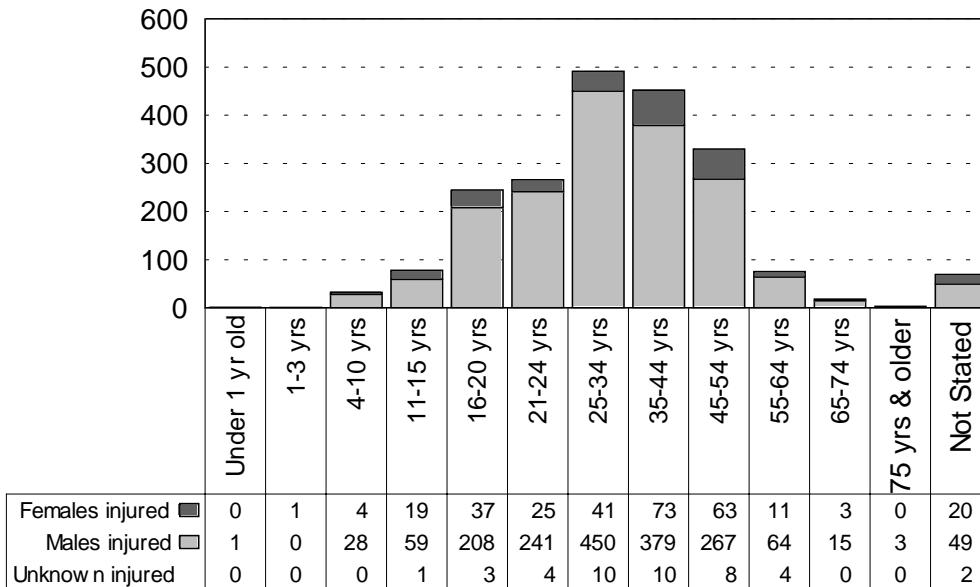
AGE AND GENDER OF MOTORCYCLISTS KILLED & INJURED IN MOTOR VEHICLE CRASHES

Motorcyclists Killed



87.3 percent of the motorcyclists killed in traffic crashes in 1997 were male.
 In comparison, 63.5 percent of all persons killed in crashes were male.

Motorcyclists Injured



83.9 percent of the motorcyclists injured in traffic crashes in 1997 were male.
 In comparison, 48.2 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	0	1	0	1
4 - 10 years	0	3	5	4	1
11 - 15 years	0	10	17	8	1
16 - 20 years	3	43	78	39	37
21 - 24 years	8	51	68	64	50
25 - 34 years	11	83	139	108	66
35 - 44 years	5	103	133	87	79
45 - 54 years	5	74	116	56	61
55 - 64 years	0	26	25	12	15
65 - 74 years	2	5	3	3	1
75 years and over	0	0	0	1	1
Not Stated	1	4	4	3	0
Subtotal	35	402	589	385	313



Drivers killed 32
Passengers killed 3

Helmet Not Worn Age of Motorcyclist	Fatality	Injury			No Injury
		A	B	C	
3 years and under	0	0	0	0	0
4 - 10 years	0	2	3	3	0
11 - 15 years	0	6	7	6	1
16 - 20 years	1	8	9	1	4
21 - 24 years	2	7	5	3	1
25 - 34 years	0	5	5	2	2
35 - 44 years	1	4	6	1	3
45 - 54 years	1	1	1	1	0
55 - 64 years	0	0	2	0	0
65 - 74 years	2	0	2	1	0
75 years and over	0	0	0	0	0
Not Stated	0	1	0	0	1
Subtotal	7	34	40	18	12

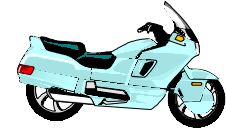


Drivers killed 5
Passengers killed 2

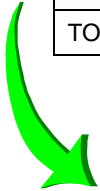
Helmet Use Unknown Age of Motorcyclist	Fatality	Injury			No Injury
		A	B	C	
3 years and under	0	1	0	0	1
4 - 10 years	0	1	7	4	2
11 - 15 years	1	3	9	13	6
16 - 20 years	2	17	26	27	20
21 - 24 years	1	17	28	27	32
25 - 34 years	7	60	55	44	56
35 - 44 years	6	39	53	36	45
45 - 54 years	1	28	36	25	34
55 - 64 years	1	3	4	7	7
65 - 74 years	0	2	1	1	5
75 years and over	0	1	1	0	0
Not Stated	2	19	21	19	33
Subtotal	21	191	241	203	241
TOTAL	63	627	870	606	566

In Michigan, helmet use law (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 [18], 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 Types	Killed	A Injured	B Injured	C Injured	Total KABC	% of All Crash Involved KABC Occupants
Passenger Car and Station Wagon	918	10,130	22,594	68,196	101,838	77.2
Van (Minivan) and Motorhome	68	881	2,060	6,501	9,510	7.2
Pickup	148	1,600	3,650	8,416	13,814	10.5
Small Truck (under 10,000 lbs.)	12	191	411	1,117	1,731	1.3
Cycle	60	606	824	571	2,061	1.6
Moped	3	39	89	54	185	0.1
Go Cart	1	5	2	3	11	0.0
Snowmobile	16	128	76	91	311	0.2
Off Road Vehicle	5	47	54	30	136	0.1
Other	5	37	40	101	183	0.1
Uncoded	5	106	147	556	814	0.6
CDL Truck/Bus (breakdown below)	5	120	262	923	1,310	1.0
TOTAL	1,246	13,890	30,209	86,559	131,904	100.0



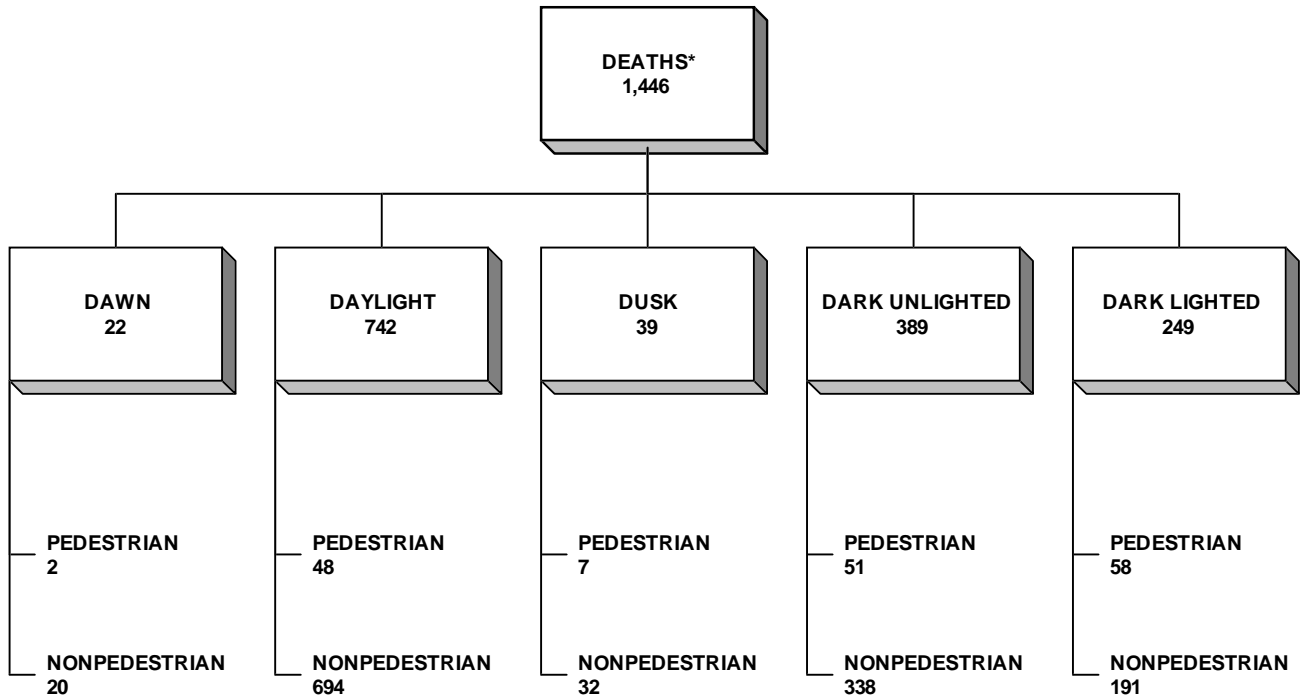
CDL Truck/Bus Sub-category Types	Killed	A Injured	B Injured	C Injured	Total KABC	% of All Crash Involved KABC Occupants
Uncoded Truck	1	15	19	94	129	9.8
Commercial Vehicle: Group A	3	47	111	279	440	33.6
Commercial Vehicle: Group B	1	35	80	380	496	37.9
Commercial Vehicle: Group C	0	8	19	56	83	6.3
Other Truck	0	8	19	51	78	6.0
Unknown Truck	0	7	14	63	84	6.4
TOTAL	5	120	262	923	1,310	100.0

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.

PRINCIPAL CLASSES OF MOTOR VEHICLE DEATHS



Of the 1,446 motor vehicle deaths in Michigan in 1997, almost half occurred in daylight crashes. Nonpedestrians (mostly occupants of motor vehicles) accounted for 88.5 percent of the deaths. *5 of the 1,446 cases were lost due to unknown lighting conditions (1 pedestrian, 4 nonpedestrians).

