



Community Education Series

# Traffic Safety

Motor vehicle traffic crashes are the leading cause of death for people from age 4 to age 33. There were over 6,316,000 automobile crashes in the US in 2002, over 42,000 of which were fatal.

RANK		Cause and Number of Deaths										Years of Life Lost <sup>2</sup>	
		Young Children		Children		Youth		Older Adults			Fifty-5to		All Ages
		Infants Under 1	Toddlers 1-4	4-7	8-13	14-20	21-24	25-34	35-44	45-64			
1	Fornatal Period 15,734	Congenital Anomalies 800	MV Traffic Crashes 525	MV Traffic Crashes 1,344	MV Traffic Crashes 3,376	MV Traffic Crashes 4,136	MV Traffic Crashes 8,158	Malignant Neoplasms 9,569	Malignant Neoplasms 139,765	Heart Disease 382,730	Heart Disease 790,142	Malignant Neoplasms 2074,674,121	
2	Congenital Anomalies 5,593	MV Traffic Crashes 421	Malignant Neoplasms 400	Malignant Neoplasms 629	Homicide 2,414	Homicide 2,730	Homicide 5,204	Heart Disease 15,328	Heart Disease 56,805	Malignant Neoplasms 393,298	Malignant Neoplasms 553,858	Heart Disease 22%5,193,571	
3	Heart Disease 479	Accidental Drowning 300	Exposure to Smoke/Fire 176	Suicide 447	Suicide 1,076	Suicide 1,924	Suicide 5,076	MV Traffic Crashes 8,491	Stroke 15,018	Stroke 144,486	Stroke 163,028	MV Traffic Crashes 17%1,702,040	
4	Homicide 330	Homicide 300	Congenital Anomalies 166	Homicide 304	Malignant Neoplasms 514	Accidental Poisoning 771	Malignant Neoplasms 3,094	Suicide 6,035	Diabetes 14,013	Chronic Lvt. Resp. Dis. 190,904	Chronic Lvt. Resp. Dis. 123,013	Stroke 5%1,081,083	
5	Septicemia 312	Malignant Neoplasms 287	Accidental Drowning 168	Congenital Anomalies 324	Accidental Poisoning 580	Malignant Neoplasms 768	Heart Disease 3,168	MV 5,887	Chronic Lvt. Resp. Dis. 14,436	Influenza/Pneumonia 55,515	Diabetes 71,372	Chronic Lvt. Resp. Dis. 4%1,484,740	
6	Influenza/Pneumonia 289	Heart Disease 200	Homicide 133	Accidental Drowning 280	Heart Disease 288	Heart Disease 343	Accidental Poisoning 2,507	Accidental Poisoning 5,036	Chronic Liver Disease 13,008	Diabetes 52,707	Influenza/Pneumonia 62,034	Suicide 2%1,079,800	
7	MV Traffic Crashes 130	Exposure to Smoke/Fire 130	Heart Disease 82	Heart Disease 273	Accidental Drowning 326	Accidental Drowning 211	MV 2,101	Homicide 4,288	Suicide 9,268	Alzheimer's 53,245	Alzheimer's 53,882	Perinatal Period 3%1,030,184	
8	Hepatitis/ Hepatitis 100	Septicemia 98	MV Traffic Crashes 55	Exposure to Smoke/Fire 140	Congenital Anomalies 244	Congenital Anomalies 200	Stroke 691	Chronic Liver Disease 3,336	MV Traffic Crashes 6,168	Hepatitis/ Hepatitis 33,121	MV Traffic Crashes 42,445	Diabetes 3%1,064,201	
9	Stroke 100	Influenza/Pneumonia 90	Birds/ Neoplasms 40	MV Traffic Crashes 125	Accidental Falls 114	MV 167	Diabetes 585	Stroke 2,491	MV 5,437	Septicemia 25,415	Hepatitis/ Hepatitis 30,480	Homicide 3%604,283	
10	Measles 78	Perinatal Period 63	Septicemia 33	Ch. Lvt. Resp. Dis. 102	Acc. Ditch/ O/Pneumonia 114	Accidental Falls 134	Congenital Anomalies 46	Diabetes 1,999	Hepatitis/ Hepatitis 5,936	Hypertension/Stroke/Dis. 14,267	Septicemia 32,236	Chronic Liver Disease 2%623,086	
ALL <sup>1</sup>	27,968	4,289	2,705	6,872	95,851	14,948	41,083	91,874	412,206	1,798,430	2,418,426	All Causes 100%3,886,347	

<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2003/809-695.pdf>

On highways, there is one automobile crash every 5 seconds.

<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSFAnn/TSF2002Final.pdf>

For out of state students it is important to know the traffic laws of Massachusetts in order to avoid danger and to avoid problems with law enforcement officials. In state students should review these materials as often as needed in order to avoid injury and problems as well.

Please see the Massachusetts Driver's Handbook for more information on Driver Safety

<http://www.state.ma.us/rmv/dmanual/dmanual.pdf>

## Seat Belts and Airbags

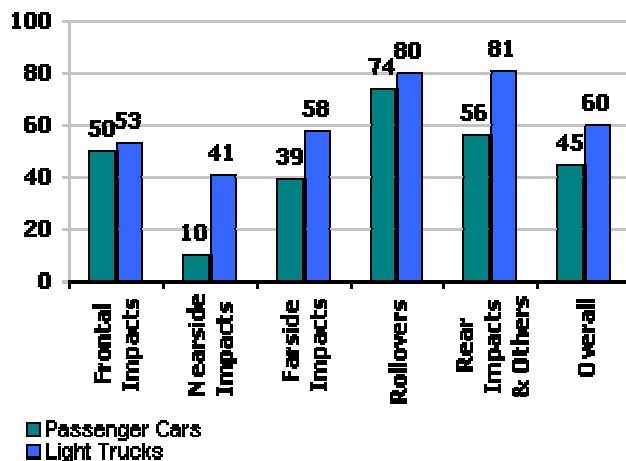
<http://www.actsinc.org/stateLaws.cfm>

### Safety Belts

Out of the nearly 39,000 fatalities in automobile crashes in 2002, 34% of the people killed were not wearing seatbelts, whereas in crashes that caused injury, only 8% of the injured people were not wearing restraints.

<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSFAnn/TSF2002Final.pdf>

Safety belts are the single most effective occupant protection device available for adults in motor vehicles today. According to the National Highway Traffic Safety Administration, here is how effective safety belts are in reducing your chances of being killed in a crash:



### Wearing Your Safety Belt Correctly

To be effective, safety belts must be worn correctly. The lap belt should be worn low and snug across the hips. The shoulder belt should be placed over the shoulder and across the chest, adjusted according to the instructions in the vehicle owner's manual.

Pregnant women should always wear safety belts with the lap belt as low as possible across the hips throughout pregnancy.

Never place the shoulder belt under your arm or behind your back. Doing so could result in serious or fatal injury.

### Massachusetts Seatbelt Laws:

- All persons operating or riding in a passenger vehicle must be secured in a safety belt.
- The statewide fine for violation is \$25. Additional fines of \$25 apply for each additional unrestrained person in the car. Violations are recorded on driver's record, however, this is not defined as a moving violation.

## **Airbags**

(<http://www.actsinc.org/airbags.cfm>)

Front airbags are designed to deploy in moderate to severe frontal collisions and side airbags are designed to deploy in side impact collisions. Frontal airbags are not designed to deploy in side impact, and neither type of airbag is designed to deploy in rear impact or rollover collisions. Safety belts provide your best protection in these types of crashes. Safety belts also help keep vehicle occupants away from frontal airbags when they are deploying, thus reducing the chances of airbag-induced injuries. In addition, safety belts help position the occupant properly to get the maximum benefit from the deploying airbag.

### **Seat Belts and Airbags**

Even if your car has an airbag, it is still important to wear a safety belt because it helps keep you in the correct position to receive the maximum benefits of a deploying airbag. Airbags are called supplemental restraints because they work in combination with safety belts. They are designed to deploy in moderate to severe frontal or near-frontal crashes and therefore, do not reduce the risk of injury in rear, side or rollover crashes. Safety belts help keep the occupant away from the airbag module during deployment and provide protection in front, side, rear and rollover crashes.

Unbelted or improperly belted occupants can come into contact with the airbag module during pre-crash braking. Very close or direct contact with an airbag module during deployment can result in serious or fatal injury.

Front seat occupants should sit upright against the back of the seat with the seat adjusted as rearward as practical. NHTSA recommends leaving at least 10 inches between the steering wheel hub, where the airbag module is located, and the driver's breastbone. To avoid the chance of serious or fatal injury, children age 12 and under should ride in a rear seat in vehicles with passenger airbags. Never place a rear-facing child restraint in the front seat of a vehicle with a passenger airbag unless the airbag has been disconnected.

## Aggressive Driving

(<http://www.nysgtsc.state.ny.us/aggr-ndx.htm>)

Aggressive driving can refer to any display of aggression by a driver. It is often used to describe more extreme acts of physical assault that result from disagreements between drivers. "Road Rage" is a term believed to be coined by the American media, originally to describe the most violent events.

There is a difference between aggressive driving and so called "road rage". "Road Rage", such as using the vehicle as a weapon or physically assaulting a driver or their vehicle, is NOT aggressive driving. These are criminal offenses, and there are laws in place to deal with these violent crimes.

Aggressive driving may be characterized by the following traffic violations:

- Excessive Speed
- Frequent or Unsafe Lane Changes
- Failure to Signal
- Tailgating
- Failure to Yield the Right of Way
- Disregarding Traffic Controls
- Impaired Driving

If you encounter an aggressive driver...

Some basic tips for dealing with an aggressive driver:

- Remain calm
- Keep your distance
- Do not pass unless you have to
- Change lanes once it is safe (don't jump lanes without looking)
- If you cannot change lanes and an aggressive driver is behind you, stay where you are, maintain the proper speed and do not respond with hostile gestures.
- You may call **911** (or **\*911** from a cell phone) to report an aggressive driver or a driver you believe may be impaired.

Of special note: If you witness an act of aggressive driving, the police cannot issue a ticket simply because you've gotten a plate number. A police officer must witness the infraction and positively identify the driver of the vehicle in order to issue a ticket. However, if you travel a route on a regular basis and witness aggressive behavior at certain times, or all of the time, the State Police would be interested in knowing about the locations.

Please use the form found at <http://www.state.ma.us/rmv/forms/21171.pdf> to file a complaint of improper operation with the Registry of Motor Vehicles.

## **Driving under the Influence Alcohol and Operating a Vehicle**

Some Facts on Drinking and Driving:

(<http://www.madd.org/stats/0,1056,1112,00.html>)

- According to data from the National Highway Traffic Safety Administration (NHTSA), in 2000 America experienced the largest percentage increase in alcohol-related traffic deaths on record. 17,380 people were killed in alcohol-related crashes - an average of one every half-hour. These deaths constituted approximately 41 percent of the 41,945 total traffic fatalities. For fatal crashes occurring from midnight to 3 a.m., 76 percent involved alcohol. (<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSFAnn/TSF2002Final.pdf>)
- In Massachusetts in 2002, there were 221 alcohol related driving fatalities, making up 48% of all traffic fatalities that year.
- About three in every ten Americans will be involved in an alcohol-related crash at some time in their lives. (NHTSA, 2001)
- Those drivers 21 to 24 years old were most likely to be intoxicated (Blood Alcohol Content of 0.08 g/dl or greater) in fatal crashes in 2002. Thirty-three percent of drivers 21 to 24 years old involved in fatal crashes were intoxicated, followed by ages 25 to 34 (28 percent) and 35 to 44 (26 percent). (NHTSA, 2003)

### **Massachusetts drunk driving laws/penalties**

(<http://www.madrunkdrivingdefense.com/drunck-driving.htm>)

#### **Massachusetts OUI Law First Offense**

- Jail: Not more than 2 1/2 years House of Correction
- Fine: \$500-\$5,000
- License suspended for 1 year; work/education hardship considered in 3 months; general hardship in 6 months

#### **Alternative Disposition (1st Offense OUI)**

- Probation with mandatory participation in alcohol-drug education program paid for by defendant
- License suspended for 45 to 90 days (210 days for drivers under age 21)
- Available for 2<sup>nd</sup> offenses from over 10 years prior

#### **Massachusetts OUI Law Second Offense**

- Jail: Not less than 60 days (30 day mandatory), not more than 2 1/2 years
- Fine: \$600-\$10,000
- License suspended for 2 years, work/education hardship considered in 6 months; general hardship in 1 year.

#### **Alternative Disposition (2nd Offense OUI)**

- 2 years probation

- 14 day confined treatment program paid for by the defendant
- License suspended for two years, work/education hardship considered in 6 months; general hardship in 1 year

**Massachusetts OUI Law Third Offense (3rd)**

- Jail: Not less than 180 days (150 day mandatory), not more than 5 years State Prison (felony status)
- May be served in a prison treatment program
- Fine \$1,000-\$15,000
- License suspended for 8 years, work/education hardship considered in 2 years; general hardship in 4 years

**Massachusetts OUI Law Fourth Offense (4th)**

- Jail: Not less than 2 years (1 year minimum mandatory), not more than 5 years (felony status)
- Fine \$1,500-\$25,000
- License suspended for 10 years, work/education hardship considered in 5 years; general hardship in 8 years

**Massachusetts OUI Law Fifth Offense (5th)**

- Jail: Not less than 2 1/2 years (24 mos. minimum mandatory), not more than 5 years (felony status)
- Fine \$2,000-\$50,000
- License for life, no possibility of hardship

## **Drowsy Driving and Fatigue**

<http://www.nysgtsc.state.ny.us/drow-ndx.htm>

Drowsy driving can mean a number of things, including falling asleep while driving or simply not paying attention while driving due to fatigue or lack of sleep.

The U.S. National Highway Traffic Safety Administration (NHTSA) estimates that approximately 100,000 police-reported crashes annually (about 1.5 percent of all crashes) involve drowsiness or fatigue as a principal causal factor. A conservative estimate of related fatalities is 1,500 annually or 4 percent of all traffic crash fatalities. At least 71,000 people are injured in fall-asleep crashes each year. The economic costs are immense: NHTSA estimates that these crashes represent \$12.5 billion in monetary losses each year.

### **Who is most susceptible to drowsy driving?**

#### **Young Adults -**

Young people 16-24 years old often need more sleep than a baby! They typically require an average of 9.2 hours of sleep per night. However, because of a variety of factors including school, part-time jobs, late night television and a busy social life, young adults get less sleep than any other age group. This leads to a sleep deficit that puts young adults at high risk for driving while drowsy. You may personally know someone who has fallen asleep behind the wheel. Many young adults have died due to drowsy driving. It is a real threat that you should take seriously.

### **Warning Signs Of Drowsiness And Fatigue**

If you:

- can't remember the last few miles driven
- have wandering or disconnected thoughts
- experience difficulty focusing or keeping your eyes open
- have trouble keeping your head up
- drift from lanes or hit a rumble strip
- yawn repeatedly
- tailgate or miss traffic signs
- find yourself jerking your vehicle back into lane

then you may be suffering from drowsiness or fatigue. Continuing to drive in this condition puts you at serious risk of being involved in a fatigue-related crash. You should pull over in a safe place and get some rest before resuming your trip.

### **What You Can Do To Stay Alert While Driving:**

- **Sleep/take naps:** Your best bet is to get enough sleep every day. If you must stay up late, afternoon naps are a great way to get more sleep. If you feel drowsy while driving, a 15-minute nap can be very effective. Make sure to pull over in a safe place.

- **Caffeine:** Avoid caffeine during the last half of your workday as it may contribute to sleeping problems. You can gain short-term alertness by drinking coffee or other caffeine sources if driving, but it usually takes 30 minutes to take effect and wears off after a few hours.

- **Regular stops:** You should stop every 100 miles or 2 hours. Switch drivers if you can.

- **Avoid Alcohol:** If you have been drinking, please don't drive! In addition to being illegal, alcohol makes you sleepy and amplifies your fatigue.

### **If you are planning a long trip, AAA offers the following tips for avoiding fatigue:**

- Prepare for your trip by getting a good night's sleep the night before. Plan to drive during the time that you are normally awake, and stay overnight rather than traveling straight through.
- Avoid driving during the body's "down time". According to AAA, this is generally in the mid-afternoon and between midnight and 6:00 a.m.
- If you have passengers, talk to them. It will help to keep you alert, and they will also be able to tell if you are showing signs of getting sleepy.
- Schedule a break every 2 hours or every 100 miles. Take a nap, stretch, take a walk and get some exercise before resuming your trip.
- Stop sooner if you show any danger signs of sleepiness.

### **"Tricks" That Do Not Work**

Opening the window, turning on the air conditioning, or playing loud music are not effective in keeping drivers alert for any extended period of time.

## Bicycle Traffic Laws

(<http://www.massbike.org/bikelaw/masumm.htm>)

### Where bicyclists may ride

Bicyclists may ride on "all public ways in the commonwealth except limited access and express state highways where signs specifically prohibiting bicycles have been posted." [See MGL Ch. 85, §11B, 720 CMR 9.08 (2b), 720 CMR 9.01 (31, 32).] Bicyclists may also ride on designated bicycle paths [MGL Ch. 90E § 1] and on sidewalks outside business districts except where prohibited by local ordinance [MGL Ch. 85, §11B]. These rules do not require a bicyclist to use a bicycle path or sidewalk that parallels a roadway. Regulations and ordinances that apply to bicycling off-road are too varied to summarize here.

### Lane use

Motorists are generally excluded from designated bicycle lanes [MGL Ch. 90E § 14], but must prepare a right turn "as close as practicable to the right-hand curb or edge of the roadway" [MGL Ch. 90 § 14] -- even in a designated bicycle lane, parking lane, bus lane etc. Bicyclists must yield to the right to allow other vehicle operators to overtake when safe, [720 CMR 9.06 (5, 6), MGL Ch. 89 § 2] and ride in the right lane except to overtake, but must move to the center to prepare a left turn. [See MGL Ch. 85, §11B, MGL Ch. 90 § 14, 720 CMR 9.01 (26, 28). 720 CMR 9.06 (2).]

### Rules of the road

The bicycle is defined as a vehicle [MGL Ch. 85, §11B, 720 CMR 9.01 (26, 28)] and so *the same traffic rules apply between motorists, between bicyclists, and as each interacts with the other*. Motorists, however, must take special care in approaching and passing bicyclists [MGL Ch. 90 § 14]. There are a few special rules for bicyclists: [MGL Ch. 85, §11B] A bicyclist may signal stops and turns with either hand; A bicyclist may overtake on the right; bicyclists shall ride single file except when passing. Also, a bicyclist riding on a sidewalk must yield right of way to pedestrians, and a bicyclist shall give an audible warning when necessary, in particular to alert pedestrians. The voice may be used, but a siren or whistle is prohibited.

### Special equipment requirements

The following bicycle equipment is required by law [MGL Ch. 85, §11B]:

- When riding in hours of darkness, a white headlight (not only a front reflector); a red taillight or rear reflector; reflectors in the pedal area or reflective leg bands; and reflectors visible from the side. A generator-powered lamp which emits light only when the bicycle is moving is permitted. Additional lights and reflectors are permitted.
- A bicycle must be equipped with a braking system that can bring it to a stop from 15 miles per hour within 30 feet on a dry, clean, level surface.

- Objects and packages must be carried "in or on a basket, rack or other device designed for such purposes." At least one hand must be kept on the handlebars.
- A bicycle shall not be drawn by another vehicle or tow another vehicle or person, except that a properly attached bicycle trailer which permits adequate brake functioning is allowed.
- A properly designed child seat with a safety harness may be used to transport a child between the ages of 1 year and 5 years, or below 40 pounds in weight.
- Any bicyclist or passenger 12 years of age or less shall wear a helmet which conforms to ANSI or Snell bicycle helmet standards, or subsequent standards, except for a passenger secured in a trailer or other similar device which protects the passenger's head without the need for a helmet.

## **Pedestrian Traffic Laws**

(<http://www.massbike.org/bikelaw/masumm.htm>)

In 2002, 71,000 pedestrians were injured and 4800 were killed in automobile crashes. (<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSFAnn/TSF2002Final.pdf>)

### **Massachusetts Traffic Laws as they apply to pedestrians**

Pedestrians (including bicyclists walking their bicycles and persons in or on "other human-powered conveyances," (for example inline skates) [MGL Ch. 90 § 18A] shall obey the directions of police officers, and shall cross where there is a police officer directing traffic, a traffic control signal or a marked crosswalk within 300 feet; this also applies to persons alighting from vehicles. When crossing at other places, they shall yield to motor vehicles [MGL Ch. 89 § 11, 720 CMR 9.09].

At a traffic signal, a pedestrian shall cross only on the proper pedestrian signal indication or green indication. [720 CMR 9.09 (1,2)] A pedestrian should not cross until the walk light is lit, and should check both ways for any vehicles not stopping for the signal.

Vehicle operators (including bicyclists) are required to yield to pedestrians legally crossing within a marked crosswalk [MGL Ch. 89 § 11, MGL Ch. 89 § 8, 720 CMR 9.06 (10, 27)], must stop and yield to pedestrians when emerging from an alley or private driveway [720 CMR 9.06 (20)], and must slow down and take special care when approaching a pedestrian on the roadway. [MGL Ch. 90 § 14, MGL Ch. 90 § 14A] Local ordinances may differ.

Pedestrians should not count on vehicles stopping, but should look both ways to assure any approaching traffic has indeed stopped.

Please see the Department of Public Safety's brochure on [Pedestrian Safety](#) for more information.

## Speeding Violations

(<http://www.motorists.com/ma/tic.html>)

More than half of fatal crashes occurred on roads with posted speed limits of 55 mph or more. (<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSFAnn/TSF2002Final.pdf>)

Major offenses are reckless or negligent driving, OUI, vehicular homicide, hit-and-run, operating after suspension or revocation, and refusing to stop for an officer. They are five points. You should hire a lawyer if charged with any of these except the last.

Minor offenses include speeding, expired registration, expired inspection sticker, leaving the keys in a parked vehicle on a public street, and many more.

Crashes or collisions along a roadway are often caused by a combination of vehicles traveling at different speeds. The probability of a vehicle being involved in a collision increases if it is traveling faster or slower than the average traffic flow (see Figure 1). Vehicles that collide at higher speeds experience an increase in fatalities. (<http://www.ctre.iastate.edu/pubs/tsinfo/faq3l.doc>)

Frequently Asked Questions about Speeding Tickets in Massachusetts:

**Q:** Doesn't the police officer have to appear in court?

**A:** Massachusetts law says that the ticket itself is evidence. That means you are presumed guilty because there is a piece of paper saying so. The magistrate will usually find you guilty on this basis no matter what you say. You have the right to appeal the magistrate's decision to a judge. In theory the same rules of evidence apply, but the judge will often find you not responsible if the police officer doesn't show up.

**Q:** Will my ticket affect my insurance rates?

**A:** Generally, yes. The schedule of points is found at 211 CMR 134 (Code Of Massachusetts Regulations). Each point results in an approximately 5% per year insurance surcharge for 5 or 6 years.