Pedestrians

Each year for the last five years, there were more than 600 pedestrian fatalities and more than 7,000 pedestrian injuries in Florida. Here are some things to consider to help you reduce your chances of being involved in a car/pedestrian crash.

The major crash types most often associated with pedestrians are:

- Mid-block dart-outs
- Multiple-lane crossing
- Intersection dash
- Vehicle turn/merge
- Vendor/Ice cream truck and backup

How to avoid car/pedestrian mishaps

- **Walk defensively—**Be prepared for the unexpected. Don't let cars surprise you even if a motorist does something wrong like running a stop sign or making an unsignaled or sudden turn.
- **Walk facing oncoming traffic**—when there are no sidewalks, walk near the curb or off the road if necessary.
- **Cross streets at intersections whenever possible**—Look in all directions before entering the street. Be especially alert to vehicles that may be turning right on a red signal. If there are crosswalks, use them but don't assume that you are completely safe in a crosswalk. Don't cross at mid-block because "jaywalking" is dangerous and against the law.
- **At intersections, look for the signs or signals**—They will help to cross safely. Use the push buttons for crossing protection at signalized intersections that have pedestrian indications. The lighted "Walk" and "Don't Walk" signals are meant for the pedestrian. If the "Don't Walk" light is blinking while you are in the street, continue quickly and carefully. If there are no pedestrian signals, watch the traffic signals. When there are only Stop or Yield signs, look in all directions and cross when traffic has cleared.
- **Be careful in parking lots**—Pedestrians are supposed to have the right-of-way but many drivers don't wait for pedestrians. Parking lots can be as dangerous as streets. On streets, the direction of cars is usually known but in parking lots, cars might be moving in all directions, including backwards.
- **Avoid dangerous moves**—Any movement a pedestrian makes that drivers aren't expecting could be dangerous. When leaving a school bus, wait a second before crossing. Drivers don't always stop for unloading school buses, so stop, look both ways and then cross. Don't step into traffic from between parked cars since this is a sure way of surprising drivers.
- **Keep your view of traffic clear at all times**—A pedestrian needs to be able to see cars around him. Don't block your view with packages, umbrellas or other objects.
- **After dark, wear light-colored or white clothes**—Drivers can see you better if you wear light-colored or white clothes. Carry a lighted flashlight and swing it back and forth to improve your chances of being seen by drivers. Although only a relatively small percentage of pedestrian travel after dark, more than one-third of pedestrian crashes occur during that time.

Following these tips will greatly improve your chances of safely walking your estimated lifetime average of 75,000 miles.

Speed Limits

In Florida, speed limits are set by Chapter 316 of the Florida Statutes that deals with the "State Uniform Traffic Control."
Florida Statutes Chapter 316.187 authorizes the Florida Department of Transportation (FDOT) to set maximum and minimum speed limits for travel on the roadways under its authority as it deems safe and advisable, not to exceed 55 miles per hour, 65 mph on certain designated segments of interstate highways.

Florida Statutes, Chapter 316.189 authorizes the establishment of municipal and county speed zones maintained by these agencies. This section sets the maximum speed on any municipal or county maintained road at 30 mph. However, the municipality or county may set higher or lower speed zones for such roads if such a change is reasonable and in conformity with the criteria established by the FDOT.

Traffic engineers throughout the country use a normal driver's speed as a guide in setting speed limits since most drivers tend to regulate their own speed according to traffic, road and weather conditions.

For a speed limit to be effective, at least 85 percent of drivers must voluntarily comply with the law. It is important to remember that the speed regulation informs the driver of the limits in which one can safely operate a vehicle under

normal circumstances and within which the driver can be expected to react safely. Setting speed limits at appropriate levels will create a reasonable uniform flow of traffic, discourage violation of the law and help keep streets and highways safe.

Regulatory and warning speed limit signs

Speed limit signs with a black message on a white background are regulatory signs. Regulatory signs are used to impose legal restrictions for a particular location and/or situation and the restrictions are not enforceable without these signs being posted.

Speed limit signs with a black message on a yellow background are warning signs. Warning signs are used to advise and call attention to a hazardous location and/or condition. Since these signs are only used as an advisory, they are not enforceable. These warning speed limit signs are typically utilized for horizontal alignments on the roadway, such as turns and curves. The advisory speed limit placard which is attached to curve and/or turn signs Many years of research have proven establish a safe and comfortable advisory speed which is based on a "Safe Curve Speed Study.'

Should speed limits be lowered to reduce accidents?

Many years of research have proven that lower speed limits do not appreciably alter traffic speeds. Tests have been conducted where the numbers on speed signs have been arbitrarily raised and lowered to see what effect this would have on traffic. Speed checks taken before and after such changes revealed that speeds remained nearly the same regardless of the posted speed limit. These studies validate the notion that drivers select driving speeds intuitively based on the environment around them and the speeds with which they feel comfortable and safe.

Other research studies have shown that speed limits set arbitrarily below the reasonable speeds adopted by the majority of drivers do not significantly reduce the number of accidents. In fact, the opposite appears to be the case; accidents may increase with unreasonably low speed limits.

Stop Signs

A stop sign requires a driver to come to a full stop, and to yield the right-of-way to vehicles and pedestrians in or approaching an intersection. The driver must come to a stop before the stop line, if there is one. If not, the driver must stop before entering the crosswalk. If neither a stop line nor crosswalk is present, then vehicles must stop prior to entering the intersection controlled by the stop sign.

If you notice that a stop sign has been knocked down, please report it to Traffic Operations at (772) 871-5177. Please provide the location or intersection where the stop sign is located.

Here are answers to some common questions we receive about stop signs:

Why can't a stop sign be installed to stop speeding on my street?

Stop signs installed in the wrong places for the wrong purposes usually create more problems than they solve. One common misuse of stop signs is to arbitrarily interrupt traffic, either by causing it to stop or by causing such an inconvenience that motorists are forced to use other routes.

Studies show that there is a high incidence of intentional stop-sign violations when stop signs are installed as "nuisances" or "speed breakers." These studies reveal that although speeds were reduced in the immediate vicinity of the "nuisance" stop sign, speeds were higher between intersections than they would have been if these signs had not been installed.

Nationally recognized standards are employed to determine when and where stop signs should be installed. These standards, or "warrants," take into consideration traffic speed and volume, sight distance, and the frequency of traffic "gaps," which will allow safe vehicle entry or pedestrian crossing. Most drivers are reasonable and prudent. But when confronted with unreasonable restrictions, they frequently violate them and develop a general contempt for all traffic controls—often with tragic results.

Will the installation of a four-way stop at intersections reduce crashes?

Many people believe that installing stop signs on all approaches to an intersection will result in fewer crashes. This is not always the case. Although the crash severity may be lessened, drivers are penalized by the additional delay and higher vehicle operating costs (fuel, brakes, etc.). There is no real evidence to indicate that stop signs decrease the speed of traffic. Impatient drivers view the additional delay caused by unwarranted stop signs as "lost time" to be made up by driving at higher speeds between stop signs. Unwarranted stop signs breed disrespect by motorists who tend to ignore them or slow down without stopping. This again can lead to tragic outcomes.

State law governs the installation of all traffic control devices, including stop signs to meet state standards adopted by the Florida Department of Transportation (FDOT). Florida Statutes, Section 316.0745, states: "The Department of

Transportation shall adopt a uniform system of traffic control devices for use on the streets and highways of the State." The statutes also state: "All official traffic control signals or official traffic control devices purchased and installed in this State by any public body or official shall conform with the manual and specifications published by the Department of Transportation."

The installation of multi-way stop signs must first meet warrants as specified in the Manual of Uniform Traffic Control Devices (published by the U.S. Department of Transportation and adopted by FDOT as the state standard for traffic devices). These warrants include traffic volumes, approach speeds, site distance, and crash history. Stop signs should not be viewed as a cure-all for solving all safety concerns.

Why are stop signs placed so high?

The Manual on Uniform Traffic Control Devices states that "in business, commercial and residential districts where parking and/or pedestrian movement is likely to occur or where there are other obstructions to view, the clearance to the bottom of the sign shall be at least 7 feet."

The Manual further states that "Signs erected at the side of the road in rural districts shall be mounted at a height of at least 5 feet, measured from the bottom of the sign to the near edge of the pavement."

One major reason for the height of traffic signs is to improve visibility. In urban areas, parked cars and other obstructions often obscure signs that are too low. Also, pedestrians are not likely to collide with properly mounted signs under conditions of reduced visibility (darkness).

In rural areas, bushes and even weeds can block signs that are installed too low. Another reason for installing signs high enough is the improved condition and life of the sign. A sign seven feet above ground is less susceptible to vandalism. It is also less likely to be sprayed with dirt from passing cars. And finally, signs mounted at their correct height have been found to command more respect than those that are too low.

Traffic Signals

The Traffic Operations Division ensures that all city traffic signals are in operable condition. If you notice a traffic signal that is inoperable or a bulb burned out, please report it to Traffic Operations at (772) 871-5177. Please make sure you provide the location or intersection where the problem exists.

Here are some commonly asked questions about traffic signals:

Do cameras mounted on traffic signals record, and can I get a copy of such a recording?

No, the cameras in place throughout the city are utilized for vehicle detection and traffic monitoring only. The cameras are not equipped to tape or record.

Why does it take so long for a signal to change?

Traffic engineers attempt to move the greatest amount of vehicles in the shortest amount of time. Signals are usually programmed so that each intersection is timed to work with other intersections. When fewer cars wait for a signal to change on a minor street, a greater number of vehicles can move on the intersecting major street. Based on traffic volume data, it is often better to prolong a red signal governing the minor street for a greater length of time causing some traffic to stack up, while allowing a greater number of vehicles to travel through a green signal on the major street.

Why doesn't the traffic signal change when I push the pedestrian button?

Traffic signals are programmed to change at certain intervals. Pushing the pedestrian button informs the signal controller that you are waiting to cross the street. At the next programmed interval the traffic signal will change and allow enough time for you to cross safely.

What are the "'warrants" for a traffic signal?

In order to assure traffic signals are installed only where necessary, a series of 11 warrants have been developed and accepted by traffic engineers throughout the country. Traffic signal warrants are contained in a manual developed by the U.S. Department of Transportation, entitled "Manual on Uniform Traffic Control Devices" (MUTCD). For state approval, a signal must meet one of the warrants presented in the MUTCD.

Will a traffic signal reduce crashes at an intersection?

Traffic signals don't always prevent crashes. In many instances, the total number of crashes and injuries increase after a signal is installed. Installation of a traffic signal may reduce right-angle collisions, but there may still be an increase in total crashes caused by a substantial increase in rear-end collisions.

In determining whether to install a signal, traffic engineers compare existing conditions against nationally accepted minimum standards. At intersections where standards have been met, signals generally operate effectively with good public compliance. Where standards are not met, compliance generally lags resulting in additional hazards. While a properly placed traffic signal improves the flow of traffic and decreases crashes, an unnecessary one can be a source of danger and annoyance to all who use the intersection.

Can you synchronize the traffic signals along a particular roadway?

Traffic signal synchronization is a method of timing groups of traffic signals along an arterial roadway to provide smooth movement of traffic with minimal stops. The quality of the resulting progression is a function of the spacing of the signals, the prevailing speeds, the amount of traffic coming in and out of driveways between traffic signals, the uniformity of intersection sizes, and the cycle length.

What should a driver do when approaching an intersection in which traffic lights are not working?

Florida Statutes, Section 316.1235, provides that the driver of a vehicle approaching an intersection in which the traffic lights are inoperative shall stop, except when directed to proceed by a police officer.

The driver shall stop at a clearly marked stop line, or if none; before entering the crosswalk on the near side of the intersection, or if none; then at the point nearest the intersecting roadway where the driver has a view of approaching traffic on the intersecting roadway before entering the intersection.

After having stopped, the driver shall yield the right-of-way to any vehicle which has entered the intersection from another highway, or which is approaching so closely as to constitute an immediate hazard during the time when the driver is moving across or within the intersection. The traffic signal malfunction should be reported to the police as soon as possible.

How do pedestrian signals work?

A pedestrian signal allows a safe way for pedestrians to cross the street at signalized intersections. The pedestrian signal, when activated, provides time for the pedestrian to enter the street on the steady "Walk" signal and finish crossing the street on the flashing "Don't Walk" signal. The pedestrian signal is activated by a pedestrian detector push-button, which causes the controller to operate a pre-programmed timed sequence of steady "Walk" and flashing "Don't Walk" indications.

Pedestrian signal indications consist of " Walk" and "Don't Walk" signals or international symbols displaying a person walking for the "Walk" indication and an open-palm hand for the "Don't Walk" indication. The " Walk" or person walking symbol is displayed in white and the "Don't Walk" or hand symbol is displayed in orange.

The pedestrian signal sequence begins when the " Walk" indication is illuminated. This sequence should be at least 4 to 7 seconds long and allow enough time to leave the curb and begin crossing the street before the clearance interval begins. At locations where large numbers of pedestrians are crossing, a longer " Walk" interval may be warranted.

The pedestrian clearance interval consists of a flashing "Don't Walk" indication. During this interval the pedestrian should complete his crossing, however; he should not begin crossing on the flashing "Don't Walk" signal.

The "Don't Walk" indication, steadily illuminated, means that a pedestrian should not enter the street in the direction of the pedestrian signal.

The design requirements for a pedestrian signal require that a pedestrian signal be mounted at least 8 feet, but no higher than 10 feet, above the sidewalk. The pedestrian signal shall be so positioned and adjusted as to provide maximum visibility to the pedestrian. The pedestrian detector push-button is usually found on the pole under the pedestrian signal head that faces the crossing direction. A sign shall be mounted above the detector unit explaining its purpose and the positioning of the push-button should clearly indicate which crosswalk signal is activated by each push-button.

Warning: Both pedestrians and drivers must be particularly alert while pedestrians are crossing, especially when "Right turn on Red" movements are allowed.

Traffic Volume

Traffic volume counts are basic to all phases of highway development and operation. No other single reference tells an engineer as much about a road as the number of vehicles which use it.

Traffic volumes are needed for street and highway project developments, financing considerations, project cost-benefit comparisons, project priority determinations, analyzing, monitoring and controlling traffic movement on roadways, traffic accident statistics, research purposes, street and highway maintenance, public information, highway legislation and other public and private purposes.

Traffic volumes vary from place to place, even along the same highway or roadway segment. Traffic volumes also vary from hour to hour, day to day, month to month and year to year. Both location and time elements must be properly identified and related to one another to develop accurate traffic volume data.

Traffic counts

Traffic counts are the major source of traffic data. Traffic counts are very specific in that they only apply to one location and to the time period for which they have been obtained. Some of the major types of traffic counts in general use by engineers are annual counts, peak hour counts, turning movement counts and classification counts.

Annual counts

Annual counts refer to traffic volume counts that are taken over a period of days throughout the year and converted to a single number known to engineers as Average Annual Daily Traffic (AADT). This number is reasonably close to the traffic volume that one could expect to see on any given day of the year. These volume counts are use for a number of engineering, economic and public purposes:

- As a yardstick for evaluating present highway problems
- As a criterion for safety evaluation
- As a basis for planning and design estimates
- As a tool for establishing need priorities
- As a reference for public information purposes
- As a reference for other traffic volume computations

Peak hour counts

Peak hour counts are traffic volume counts taken during the time period of the day most likely to produce the highest volumes during any particular 24-hour period. For instance, the most common peak hour counts of interest to engineers are those that occur in the morning and afternoon. These usually occur around the times that most people are traveling to and from work; however, there are times when the peaks occur at less obvious times. These peaks may be due to a large employer having a staggered starting or quitting time, a school or college, or some other out-of-the-ordinary occurrence. The traffic engineer needs to have this information to properly evaluate the impact of this traffic pattern on the roadway network. Among the uses for this type of volume count are:

- As a capacity consideration
- As a design tool for traffic signal system operations
- As an aid to determining appropriate use of traffic control devices

Turning movement counts

Turning movement counts are taken at intersections to determine the actual movement of traffic through the intersection. Traffic engineers and others have a number of uses for these counts:

- As a tool for roadway planning and alignment studies
- As a tool for intersection design
- As a tool for traffic signal system design
- As a tool for evaluating traffic volume impacts

Classification counts

Classification counts are just a little different from simple traffic volume counts. In addition to determining the numbers of vehicles passing a given point on the roadway, classification counts also separate the traffic stream into its vehicle-type components and speed components; that is, how many passenger cars, how many trucks, how many vehicles pulling trailers, etc., as well as the variations in speed of the traffic stream. As one might very well imagine, this data is very important to engineers for a variety of reasons:

- As a means of determining percentages of trucks, buses, etc. with respect to the overall traffic stream
- As a tool in neighborhood traffic calming studies with respect to "cut-through" traffic
- As an aid in speed studies
- As a tool in determining the appropriate use of traffic control devices