

Adult School Crossing Guard Guidelines



Prepared by the National Center for Safe Routes to School and the Pedestrian and Bicycle Information Center, both part of the University of North Carolina Highway Safety Research Center, with funding from the National Highway Traffic Safety Administration

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Safely Crossing the Street

Adult school crossing guards play an important role in the lives of children who walk or bicycle to school. They help children safely cross the street at key locations. They also remind drivers of the presence of pedestrians. The presence of adult crossing guards can lead to more parents feeling comfortable about their children walking or bicycling to school. While the primary role of an adult school crossing guard is to guide children safely across the street, children also remain responsible for their own safety. In this manner, a guard plays another key function—a role model helping children develop the skills necessary to cross streets safely at all times.

The design and implementation of an adult school crossing guard program is largely the decision of local communities. Some federal guidance exists and there are some state and local requirements pertaining to the operation of guard programs, but these vary across the country. State or local law enforcement, education or transportation agencies can provide information on state and local requirements.

Ideally, the development of an adult school crossing guard program should involve a community partnership that includes the expertise of law enforcement agencies, traffic engineering or planning departments and school systems. Working together with parents, this lead organization or group identifies the locations where adult school crossing guards are needed and the appropriate number of guards for each location. The group establishes crossing procedures for a variety of traffic situations as well as hires, trains and equips the guards and secures long-term funding for the program.

This document describes federal standards and recommendations for adult school crossing guard practices and provides examples of how some states and communities address these issues.



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The Role of the Adult School Crossing Guard

The primary responsibility of an adult school crossing guard is to help children safely cross the street as they walk or bicycle to and from school.

A well-trained adult school crossing guard can help to accomplish the following goals:

- Discourage children from behaving unsafely near traffic, such as darting into the street without looking or crossing against a traffic signal. A guard can encourage safe behavior by all pedestrians at the school crossing.
- Use existing gaps in traffic to help students cross safely. When the natural traffic flow does not allow enough time for children to safely cross a street, a guard may need to create gaps by stopping traffic temporarily. The guard stops traffic with hand signals or a STOP paddle, then verbally directs children to cross the street. A guard is always the first person in the street and the last person out of the street.
- Alert motorists that pedestrians are in the process of using the school crossing.
- Observe and report any incidents or conditions that present a potential safety hazard to the school children or the guard.

An adult school crossing guard should not direct traffic unless specifically trained as a traffic control officer.

Adult School Crossing Guards are Eyes on the Street for:

- Unsafe driver behaviors
- Unsafe pedestrian behaviors
- Unlawful parking
- Construction interfering with safe crossing
- Unsafe street conditions
- Damaged signs
- Poor visibility
- Suspicious activity
- Improper or lack of safety belt or bicycle helmet use



Wilmington, DE

Elements of an Adult School Crossing Guard Program

Bringing together the right members of the community is the first step in creating a successful adult school crossing guard program. The school administration, teachers, local traffic engineers, law enforcement officers and parents are among the partners that bring information and expertise to the process and make the steps in setting up an adult school crossing guard program an easier process to manage. A local committee consisting of this group along with other interested members of the community should be established to oversee an adult school crossing guard program.

The adult school crossing guard lead organization is responsible for:

- identifying locations where guards are needed, the number of guards and proper signage for each location, and the time period for crossings;
- hiring and training guards in their responsibilities;
- providing uniforms and equipment to help guards effectively perform their duties; and
- securing funds to manage the program.



Brichta Elementary School, Tucson, AZ

MUTCD Provides National Guidance

The Manual on Uniform Traffic Control Devices 2003 (MUTCD) contains national standards for the installation and maintenance of traffic control devices and is published by the Federal Highway Administration under the Code of Federal Regulation. Some MUTCD statements are considered mandatory, while others are recommended practices, permissive practices, or simply statements of support. Part 7 of the MUTCD addresses Traffic Controls for School Areas (See Resources)

Identifying the Locations Where Adult School Crossing Guards are Needed

No absolute national criteria exist for identifying which street crossings in a community require an adult school crossing guard. The Manual on Uniform Traffic Control Devices (MUTCD) provides some general federal guidance on how to determine the need for a guard at a particular location. Some states and local governments provide further guidance or recommendations, but the conditions under which a guard is assigned to a particular location vary around the country. The local lead organization decides the selection criteria by which adult school crossing guards are assigned to crossings. Location decisions reflect relevant federal, state and local policies and funding issues, and are tailored to the individual conditions and needs of a community.

Defining “A Safe Gap in Traffic”

The MUTCD 2003 Section 7E.02 states that adult school crossing guards “may be used to provide gaps in traffic at a school crossing where an engineering study has shown that adequate gaps need to be created and where authorized by law.” An acceptable gap may be defined as the minimum time between vehicles that 85 percent of all groups of pedestrians waiting to cross a street will accept as adequate to cross the street, according to the Institute of Transportation Engineer’s “School Trip Safety Program Guidelines.”

If there is at least one safe gap per minute of crossing time, there may be no need for any special traffic controls. If, however, there is not at least one safe gap per minute, officials should consider using an adult crossing guard or traffic signal to create safe gaps.

In practice, this analysis is time-consuming to calculate and may discourage agencies from attempting such an evaluation. Traffic speed, width of the street and the age of the children are also important considerations in determining if a crossing location will benefit from an adult school crossing guard.

er’s perspectives and for actual vehicle operating speeds. Sight distance can be affected by temporary obstructions, such as parked vehicles and piled snow near the crossing.

Safe gaps in traffic.

Are the gaps long enough and frequent enough to allow safe crossing opportunities? The ITE “School Trip Safety Program Guidelines” (See Resources) states that on the average, at least one adequate gap should occur each minute to allow for children to cross without undue delay or risk. However, other factors, such as volume of child pedestrians or pedestrian groups should also be considered when determining the need for adult school crossing guards or

The local lead organization identifies locations for guards by establishing criteria and gathering information to help them determine the need. Adult school crossing guards should be assigned to school crossings only after the need is established. Consistently applied local criteria allow a community to provide guard service where schools need them the most. No set of guidelines, however, can cover all the unique conditions that may exist. There are times when traffic engineering judgment is needed to determine when and where an adult school crossing guard should be used.

Information to consider when identifying guard placement includes:

The age of the students who are crossing.

Generally, younger children need more assistance than older children because they have a more difficult time judging the speed and distance of approaching vehicles and may be tempted to cross during an unsafe gap.

The width of the street and the number of lanes of traffic students must cross.

Wide streets with multiple lanes of traffic typically require the use of two or more adult school crossing guards.

The sight distance at the crossing.

These conditions are measured from the student’s and driver’s perspectives and for actual vehicle operating speeds. Sight distance can be affected by temporary obstructions,

other traffic control. If traffic volumes during crossing hours do not correspond to enough safe gaps, some method to interrupt traffic should be considered, such as a crossing guard or traffic signal.

Presence of traffic control devices, including traffic signals, signs and pavement.

If present, are the traffic controls sufficient? For example, a signalized intersection at a school crossing location should have WALK/DON'T WALK signals, and a pedestrian push button may also be appropriate. Guards and students should be properly trained on traffic signals relative to safe street crossings.

The speed of vehicles at the crossing.

Vehicles that travel faster require greater stopping distances, and younger children have more difficulty than adults judging the speed of a fast-approaching vehicle.

Volumes of traffic and pedestrians.

Local transportation planning or engineering departments can provide or help collect these data. Vehicle counts may be readily available, but pedestrian counts will likely need to be made during this process. The number of students

California Criteria for the Placement of Adult School Crossing Guards

The State of California provides criteria for the placement of adult school crossing guards in the MUTCD 2003, California Supplement. Adult school crossing guards normally are assigned where at least 40 school pedestrians over the course of two hours each day cross a public highway on the way to or from school. Guards also should be considered when special situations make it necessary to assist elementary school pedestrians in crossing the street.

In some cases, a change in the school crossing location is underway, but prevailing conditions require crossing supervision until the change is completed, so a guard should be considered. Additional criteria are provided for specific situations, including uncontrolled crossings, stop sign-controlled crossings and traffic signal-controlled crossings. The criteria are based on vehicular traffic volume, vehicle speed and the number of vehicular turning movements.

Pedestrian Signal Heads

Pedestrian signal heads provide information to control pedestrian traffic. Chapter 4E of the MUTCD lists the meaning of pedestrian signal indicators. A steady WALK (walking person) signal means that a pedestrian facing the signal may start to cross the street. A flashing DON'T WALK (upraised hand) signal means that a pedestrian shall not start to cross the street, but that any pedestrian who has started to cross shall finish crossing. A steady DON'T WALK (upraised hand) signal means that a pedestrian shall not enter the street.

Arizona Requirements for the Placement of Adult School Crossing Guards

Arizona State Law (ARS Section 28-797-D) mandates an adult school crossing guard at a yellow 15 mph school crosswalk if the school crosswalk is not adjacent to the school site. These guards are employed by the school district. Adult school crossing guards are recommended, but not required, by state law at 15 mph school zone crossings that are adjacent to the school site. These guards may be either employed by the school district or be volunteers, who have been trained and approved by the school district. (Traffic Safety for School Areas Guidelines, ADOT)

The City of Phoenix requires adult school crossing guards for elementary school crossings on busy collector streets and arterial streets. In some cases, two guards may be recommended. At white-painted crosswalks and signalized crossings, guards can be recommended using a method based on observation and engineering judgment using specific criteria such as street classification and the age of students.

currently using pedestrian facilities as well as the projected pedestrian demand based on school demographics should be determined.

The attendance boundary and walk zone for each school.

The distances that walk zones extend from schools as well as policies regarding the provision of bus service differ among states and communities. Both can impact the number of children walking to school and the routes they take.

The distance the crossing is from a school and the type of adjacent land use.

A crossing in close proximity to a school within a residential neighborhood may attract more student pedestrians than, for example, a crossing located further from a school surrounded by non-residential land uses.

Crash history of the crossing.

The number, type and time of day that each crash occurs at a specific location should be recorded and analyzed.

Hiring and Training Adult School Crossing Guards

The hiring, training, supervising and funding of adult school crossing guards is typically the responsibility of local law enforcement agencies, traffic engineering departments, individual schools or school districts.

An adult school crossing guard can be a paid employee or a volunteer member of the community. Paid employees may be preferred because an employer has the ability to train, evaluate and discipline an employee. Every prospective guard should undergo a basic physical examination and criminal background check. A guard should have good vision, hearing and mobility, be able to stand for long periods of time outdoors and to communicate well with others.

It is critical that a guard can communicate clearly with the children he or she supervises at the crossing. If a guard cannot adequately read or understand English, training materials must be provided in a language in which the guard is proficient. Ideally, a guard should have good English language skills.

Adult school crossing guard training is an essential step to help insure that the guard is performing properly. Training should be extended to substitute guards as well as those who supervise the crossing guards. Training methods include both classroom instruction and field exercises and should address:

- The basic traffic laws of the community.
- School zone signage and pavement markings.

Training in Florida

The State of Florida's Department of Transportation has developed uniform training guidelines, and each local government in Florida that administers a school crossing guard program is required to provide training for its guards according to the guidelines. For more information visit http://www.dot.state.fl.us/Safety/ped_bike/brochures/pdf/xingguard.pdf

Training in North Carolina

According to the office of the North Carolina Attorney General, school crossing guards may be considered traffic control officers when proper training is provided as specified in North Carolina GS 20-114.1, the law that addresses the training and appointment of traffic control officers. In 1998, The North Carolina Department of Transportation's Division of Bicycle and Pedestrian Transportation developed a program to train the local law enforcement officers who are responsible for training adult school crossing guards in their jurisdictions.

- Proper use and purpose of traffic signs and signals.
- Methods of signaling drivers and taking advantage of traffic gaps.
- Crossing procedures and ways to teach them to children.
- Site-specific traffic factors and potential traffic hazards.
- Professional work responsibilities, including agency rules and regulations, who the guard's supervisor is, the proper chain of command and legal aspects of the job.
- Proper attire and behavior to remain safe and to project a positive public image. For example, while on the job, a guard should not wear clothing that is in poor taste or that promotes alcohol, tobacco or similar products. Also, a guard should not carry or use tobacco products or use foul language. Adult school crossing guards project a positive public image and serve as a role model for children. (For more information see Uniforms and Equipment)
- Proper use of safety equipment.
- The safety issues and limitations of children as pedestrians.
- Procedures for crashes involving adult school crossing guards and children on their way to or from school.
- Emergency procedures. (For specific information see When an emergency situation arises under Crossing procedures)
- Protecting the health and welfare of the guard while working, including topics such as proper attire to increase visibility, the need for hydration, sun protection, bee sting treatment and how to respond to threats from loose dogs.

Uniforms and Equipment for Adult School Crossing Guards

An adult school crossing guard wears a uniform and uses equipment that is highly visible and easily identifiable by the general public. This enhanced visibility allows motorists and pedestrians to see the guard and the signal the guard presents more clearly.

The Manual on Uniform Traffic Control Devices (MUTCD) recommends that an adult school crossing guard be uniformed so that street users and pedestrians can recognize the guard and respond to the guards' signals. The guard uniform should be distinctively different from those worn by regular law enforcement officers. Adult school crossing guards should wear retro-reflective traffic vests. The MUTCD provides guidelines for such high-visibility retro-reflective safety apparel to be worn by guards.

The MUTCD recommends that a guard use a STOP paddle as the primary hand-signaling device. States and local governments address hand-signaling devices in a variety of ways. Some jurisdictions require the use of a STOP paddle, others recommend its use, and yet others recommend its use in conjunction with hand-signals. If a STOP paddle is used, the MUTCD sets guidelines on the shape, size and design

National Stop Paddle Requirements

The MUTCD only recommends the use of a STOP paddle. If a paddle is used, the following standard applies.

The MUTCD states: "The STOP paddle shall be an octagonal shape. The background of the STOP face shall be red with at least 150 mm (6 in) capital white letters and border. The paddle shall be at least 450 mm (18 in) in size and have the word message STOP on both sides. The paddle shall be retro-reflectorized or illuminated when used during hours of darkness." Finally, the MUTCD provides options for modifications to the STOP paddle, including the addition of flashing lights, to improve its visibility.

of the paddle. Other potential pieces of guard equipment include gloves, a hat and a whistle. Wearing a hat gives a guard a more official appearance and can enhance his or her visibility, as well as protect the guard from the sun, cold, and rain. Whistles may help a guard gain the attention of children at noisy intersections.

If a guard is equipped with two-way radios or cell phones, they must be used only in emergencies. A guard should never answer the phone or radio while crossing children. In fact, some agencies prohibit cell phones to avoid distractions.

As the local committee identifies what type of equipment to use, it should also decide on guidelines that will explain when equipment is considered unsuitable for use. For example, a guard should not use old, defaced or worn out STOP paddles or safety vests that are no longer reflective or that have faded.

Funding the Adult School Crossing Guard Program

Stable and sufficient funding is important to the effective operation of any adult school crossing guard program. Across the nation, a variety of sources have been used. Communities have obtained financial resources through taxes, local school boards, sheriff, police, public works and traffic engineering departments, and through surcharges on parking fines. Public and private organizations as well as Parent-Teacher Associations or Organizations also have contributed funding for guard programs.

State Variations on Stop Paddle Requirements and Uniforms

The MUTCD 2003 California Supplement requires the STOP paddle to be the primary hand-signaling device and allows for the use of a larger paddle where speeds are 30 mph or more and guards need greater visibility.

The State of Florida requires an adult school crossing guard to wear or use a retro-reflective stop paddle that adheres to the MUTCD guidelines and/or fluorescent or retro-reflective orange gloves, a fluorescent and retro-reflective vest, and a whistle. A uniform crossing guard patch and clothing are recommended.

The State of North Carolina strongly recommends the use of hand-held signs or STOP paddles, but allows the local governing agency to decide whether a guard uses either a STOP paddle or an orange-gloved hand, or both.



Photo by Paul Kendall

Estes Hills Elementary School, Chapel Hill, NC

Crossing Procedures for a Variety of Situations

Recommended procedures are described below for an adult school crossing guard to follow when crossing children in a variety of traffic situations. The information was compiled from the Arizona Handbook for Adult School Crossing Guards, the Florida School Crossing Guard Training Guidelines and the North Carolina School Crossing Guard Program: Training Manual (See Resources at end of this document for further information.)

Procedures are described for guards in situations at un-signalized crosswalks and signalized crosswalks, when two or more adult school crossing guards are needed, and when an emergency arises. Some intersection configurations, including T-intersections, roundabouts or free-flow right turn lanes, require that the local committee consider these unique situations when establishing the procedure for crossing children.

In every situation, a guard uses the proper search pattern for crossing a street and encourages student pedestrians to follow these safety steps. This pattern is:

1. Stop at the curb or edge of the street.
2. Look left, right, then left again for traffic.
3. Look over the shoulder for possible turning vehicles if the pedestrian is standing at an intersection.
4. Walk directly across the street at a consistent pace and continue scanning the street while crossing the street.

For stopping motorists, the MUTCD recommends that an adult school crossing guard use a STOP paddle as the primary hand-signaling device. However, many jurisdictions around the country allow guards to use clearly delivered hand signals, alone or in conjunction with the STOP paddle, to alert traffic to activity at school crossings. The proper hand signal for a guard to alert and stop traffic requires a guard to raise his or her arm forward and toward traffic, and parallel to the ground with the palm and fingers flexed upward. The use of hand signals requires a higher level of training than the use of STOP paddles, and guards using hand signals will benefit from wearing white or bright orange gloves to attract drivers' attention.



State Street School, Windsor, VT

An Unsignalized Crosswalk

At unsignalized crosswalks, it is the responsibility of the crossing guard to determine when children cross based on gaps in traffic flow. A guard who is assigned to an unsignalized crosswalk on an undivided street should:

- Stand near the curb or edge of the street, on the side from which children are approaching.
- Stop children a safe distance back from the curb or edge of the street, or behind a “stand-back” line (see bottom photo). Instruct children to cross only on the guard’s signal.
- Teach children who approach a crossing on a bicycle, scooter, or skateboard to dismount and push the bicycle or scooter or carry the skateboard across the street as a pedestrian.
- A guard enters the street in the following sequence:
 1. Wait for a gap in traffic on the guard’s side of the street.
 2. Face the closest oncoming traffic and make eye contact with the approaching drivers.
 3. Walk to the center of street with the STOP paddle held high. If not using a STOP paddle, walk to the center of the street with an arm raised toward traffic and parallel to the ground with the palm and fingers extended upward.
 4. Where there are more than two lanes, enter the street and alert the traffic one lane at a time.
 5. Face opposite approaching traffic and make eye contact with those drivers.
 6. Stand on the crosswalk line close to the center of the street and make sure that all traffic has stopped, including any turning vehicles.
 7. Face the intersection.
 8. Verbally instruct the children to cross and tell them to look left-right-left while crossing and proceed across the street within the marked crosswalk.
 9. Do not allow any cars to cross the crosswalk until all the students have crossed.
 10. Remain in the center of the street until the last child reaches the opposite side of the street.
 11. Walk to the curb or edge of the street with the STOP paddle and/or stop-arm held high the entire way. When back at the curb or edge of the street, lower hand(s) and allow traffic to flow again.
 12. Remain near the curb or edge of the street for the next group of children to assemble.



A Signalized Crosswalk

A variety of traffic and pedestrian signals are found at signalized crosswalks including traffic signals with standard pedestrian signal heads and, in some locations, traffic signals with pedestrian countdown signals which show pedestrians how much crossing time remains. Signalized crosswalks may also have pedestrian pushbuttons which are electronic buttons used by pedestrians to change the traffic signal timing. An adult school crossing guard should be trained in the proper use of the signal at the crossing where he or she will work.

In general, a guard stands in the center of the street while students cross the crosswalk. If the signal's timing is too short to allow this approach, however, the local committee should take steps to remedy the situation. For example, more guards could be assigned to the crosswalk, more time could be added to the signal or the guard could escort the students across the entire street and return to his or her original starting position on the next signal cycle. If a guard escorts students across the entire street, the guard must instruct the other children to wait until he or she returns before crossing.



A guard who is assigned to signalized crosswalks has this sequence to follow:

- Stand on the side of the street from which children are approaching. If there is a pedestrian push button, push the button for a WALK signal.
- Group children a safe distance from the curb or edge of the street or behind the “stand-back” line. Instruct children to cross only at the guard’s signal.
- Teach children who approach a crossing on a bicycle, scooter, or skateboard to dismount and push the bicycle or scooter or carry the skateboard across the street as a pedestrian.
- Enter the street in this sequence:
 1. Enter the street only with a WALK signal, and the STOP paddle or stop-arm held high. Stand on the crosswalk line closest to the intersection.
 2. Face oncoming traffic and make eye contact with drivers who are attempting to turn.
 3. Verbally instruct the students to begin their search (left, right, left and over their shoulders, for turning traffic) and cross when safe.
 4. Tell the students to continue walking if the signal changes to flashing “DON’T WALK”, but do not allow children to start crossing at this time. Help students learn that a flashing “DON’T WALK” signal means Don’t Start.
 5. Wait for children to reach the opposite side of the street.
 6. Return to the curb or edge of the street with your STOP paddle or stop-arm held high. After reaching the curb or edge of the street, a guard can lower his or her hand(s) and allow traffic to flow again.

When Two or More Adult School Crossing Guards are Needed

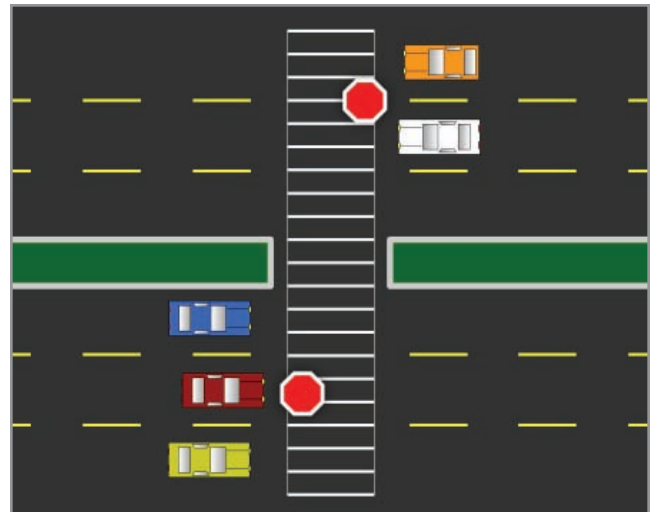
For signalized or unsignalized crossings with four or more lanes, experts recommend using two adult school crossing guards working in unison, with one guard positioned on each side of the street. Each guard stands on the crosswalk line closest to the approaching traffic for his or her half of the street and between the approaching traffic and the students.

A team of two or more guards should be assigned to school crossings at divided streets to help children cross safely. One guard stops one stream of traffic while the other guard stops traffic in the opposite lanes. In order to coordinate signaling, the guard on the side of the street from which children are approaching makes the decisions, with the second guard taking his or her cues from the first guard. Guards should not cross students during the protected left turn signal when the DON'T WALK signal flashes and ensure that all right-turning vehicles yield while students are crossing.

More than two guards may also be needed at an intersection of two major arterial streets where children must cross two or more legs of the intersection.



Photo by Dan Burden



Red octagons represent adult school crossing guard location on a multi-lane road.

When an Emergency Situation Arises

During a guard's duty, emergency situations, such as a sudden illness or an injury due to a crash, may occur near the school crossing. In the case of an emergency, a guard must stay at his or her post, keep control of the situation, and use the following basic procedure to ensure the children's safety:

1. Stop crossing the children.
2. Group the children away from the street to maintain control.
3. Remain at the assigned post with the children.
4. Ask several people to call 911.
5. Do not move the victim, unless the victim is in serious and immediate danger of being struck by another vehicle.
6. Use a vehicle to block the crash victim from traffic, if necessary. The vehicle should be positioned a distance away from the victim to provide protection from other vehicles but, if struck would not endanger the victim or rescue workers.
7. Always notify the supervisor as soon as possible of any emergency that occurred.



When fire trucks, ambulances or other emergency vehicles approach the crossing with emergency lights and sirens in use, the guard keeps children out of the street and a safe distance away from the crossing until the emergency vehicles have passed.

Ideally, a guard should take a first aid short course and a CPR class offered by the Red Cross or the local Fire Department to learn the best way to respond to an emergency situation.

Resources

- AAA video for sale *Between the Lines: Adult School Crossing Guard Training*. <http://www.aaafoundation.org/products/index.cfm?button=item-detail&ID=404&storeid=1> [Accessed: 08/14/06]
- *Arizona Handbook for Adult School Crossing Guards*, City of Phoenix (1-602-262-4659) and AAA Arizona (602-241-2933 or 1-800-352-5382 ext. 2933).
- *Florida School Crossing Guard Training Guidelines*, Florida Department of Transportation, Safety Office and the Florida School Crossing Guard Task Force, 1998. http://www.dot.state.fl.us/Safety/ped_bike/brochures/pdf/xingguard.pdf [Accessed: 03/07/06]
- *Manual on Uniform Traffic Control Devices for Streets and Highways, Part 7 Traffic Controls for School Areas*, U.S. Department of Transportation, Federal Highway Administration, 2003. <http://mutcd.fhwa.dot.gov/pdfs/2003r1/Ch7.pdf> [Accessed: 03/07/06]
- *Manual on Uniform Traffic Control Devices 2003: California Supplement*, State of California Business, Transportation and Housing Agency, Department of Transportation, 2004. <http://www.dot.ca.gov/hq/traffops/sign-tech/mutcdsupp/pdf/MUTCD2003CASupp.pdf> [Accessed: 03/07/06]
- *North Carolina School Crossing Guard Program: Training Manual*, North Carolina Department of Transportation, Division of Bicycle and Pedestrian Transportation, 1999.
- *School Trip Safety Program Guidelines: Recommended Practice*, Institute of Transportation Engineers, 1984. (out of print)
- *Traffic Safety for School Areas Guidelines*, Arizona Department of Transportation, 2003. http://www.azdot.gov/highways/Traffic/standards/School_Safety/Schoolsafety.pdf [Accessed 03/07/06]

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Pedestrian and Bicycle
Information Center

