

School Zone Traffic Control Policy

CITY OF BILLINGS

SCHOOL ZONE TRAFFIC CONTROL POLICY

(Approved by Traffic Control Board 10/27/99)

(Approved by Billings City Council on 6/25/01)

I. GENERAL

This policy has been established for use as a guide in determining where school crossings should be located and what other traffic control devices may be appropriate for a given school zone or crossing. This policy is intended to supplement the *Manual on Uniform Traffic Control Devices*, the "School Trip Safety Program Guidelines" and "A Program for School Crossing Protection" recommended practices published by the Institute of Transportation Engineers (ITE), and the "School Crossing Protection Manual" published by the Montana Office of Public Instruction. The warrants listed are not meant to be hard and fast limits, and are not a substitute for engineering judgment. The following statements taken from the "School Crossing Protection Manual" are central to the application of this policy:

Children must be taught that they alone are responsible for their safety and that they must be vigilant at all times. They must be convinced that a traffic sign, a traffic signal, or even a school crossing supervisor does not relieve them of that responsibility; that all street crossing locations are dangerous; and that only through safe crossing habits and practices will they remain safe. It is also important that children be taught to walk correctly on sidewalks and, when they are not available, to walk on the shoulder or the far left side of the street or highway.

Most children of school age are injured or killed at locations other than at school crossings and other than when going to and from school.

It is true, of course, that the saving of even a few lives and preventing a few injuries is desirable, but it is also possible that protection of the school child pedestrian while going to and from school can be overdone and result in children having a false sense of security in the crossing of streets, which they must do by themselves at other times of the day.

II. SCHOOL CROSSINGS

The criteria contained herein are intended for evaluation of school crossings used primarily by elementary age school children. It should be noted again at this point that, regardless of what protective measures are present, the prime responsibility for safely crossing the street rests with the pedestrian, regardless of age. Before children ever start school, they should be taught how to cross the street safely. Children must be taught the meanings of the various

traffic control devices used to protect them. They should be encouraged to follow set paths to and from school. The responsibility for teaching children where and how to cross a street begins at home before children reach school age and continues at school and at home. No amount of engineering or enforcement can protect the careless or untaught pedestrian. All school crossings within the City of Billings, shall be established, perpetuated, or altered only in accordance with the warrants and requirements detailed below.

From each school, a map will be maintained in the City Traffic Engineer’s files showing the school area boundaries and suggested pedestrian routes to the school. Every effort will be made to make these routes as direct as possible although there will be instances where a longer route is preferred for safety reasons. The routes will be developed by the City Traffic Engineer in conjunction with the school officials. All school crossings must be located on these routes. If the need for a crossing arises at a location not on a designated route, the entire route system for that school shall be reviewed.

For purposes of this policy, the following definitions are established:

Gap	A break in the traffic stream, measured in seconds.
Adequate Gap	A gap of sufficient length to allow a safe crossing of the street. This will normally be based on a walking speed of 3.5 feet per second plus a perception-reaction time of 2 seconds for gap selection.
Crossing Period	The period (thirty to ninety minutes) during which the majority of students on a given route travel to or from school. There may be three such periods if the lunch period is considered. The morning crossing period will normally start 30 minutes prior to the scheduled start of school and the afternoon crossing period will normally extend 30 minutes beyond the final dismissal time. These times may be adjusted for crossings located away from the school.
Pedestrian Delay	The percentage of time not available for pedestrians to cross the street, comprised of gaps shorter than the adequate gap.
Critical Delay	The percentage of pedestrian delay for a given street width which mathematically equates to an average of one adequate gap per minute in the traffic stream (a point on the boundary line between the "control needed" and the "control not needed" regions of the pedestrian delay graph).

Additional information on the proper interpretation and calculation of these values is available in the Institute of Transportation Engineers (ITE) recommended practice "A Program for School Crossing Protection."

Warrants for Installation of Signs and Pavement Markings

1. The location shall be on a designated route to the school.
2. On two-lane through streets, a minimum of twenty (20) students must cross during one of the daily crossing periods.
3. On multi-lane through streets, marked school crosswalks are discouraged. (The school routes should be relocated to use signalized intersections.)
4. There is an average of at least one adequate gap per minute during the crossing period, as evidenced by the measured pedestrian delay being less than the critical delay.
5. Pavement markings shall not be installed without the appropriate crossing signs and advance warning signs.

Warning Flashers

As provided in the *Manual on Uniform Traffic Control Devices*, circular yellow warning flashers are used as a supplement to the standard advance warning signs. Because the over use of warning flashers detracts from their effectiveness at all locations, it is intended that they be used only at crossings where substantial conflict between pedestrians and motor vehicles may exist. Flashers shall operate only during crossing periods, and shall not be operated continuously throughout the school day. Because warning flashers do not create additional gaps, they shall not be used as a substitute for a traffic signal. At locations where a reduced school speed limit is imposed only during crossing periods, the flashers may be placed on the speed limit sign instead of the advance crossing sign, but in no case shall flashers be used on both signs.

Warrants for Flashers

1. The location shall be a signed & marked crossing on a designated route to the school.
2. On two-lane through streets, fifty or more students cross during a crossing period, and pedestrian delay is within ten (10) percentage points of critical delay.
3. On multi-lane through streets, twenty-five or more students cross during a crossing period and pedestrian delay is within ten (10) percentage points of critical delay.
4. There is an average of at least one adequate gap per minute during the crossing period, as evidenced by the measured pedestrian delay being less than the critical delay.
5. On all streets with a posted speed limit greater than 40 MPH, alternatives to eliminate the crossing shall be investigated. If no feasible alternates exist, the flasher warrant shall be twenty-five or more students per crossing period and pedestrian delay within twenty (20) percentage points of critical delay.
6. Flashers will be removed if a traffic signal is installed at the crossing.

Traffic Signals

Because traffic signals can represent an inconvenience to motor vehicle traffic on the major street and may result in an overall increase in the number of traffic accidents at a location, traffic signals warranted only under the school crossing warrant should be installed only after adequate investigation of alternatives. Alternatives may include a change in school district boundaries to eliminate the need for the crossing, relocation of the crossing to another location, use of an underpass or overpass to separate vehicle and pedestrian traffic, or the use of curb bulbing or pedestrian refuge islands that reduce pedestrian delay below the critical delay. Traffic signals do not provide absolute protection for children crossing the street. School authorities should instruct children thoroughly in the use of traffic signals. Children should be warned about the hazard of relying too much on the WALK or green light and the hazard of turning vehicles.

Warrants for installation of a traffic signal are:

1. The location shall be on a designated route to the school.
2. There must be less than one safe gap per minute as an average, as evidenced by the measured pedestrian delay being greater than the critical delay. This is the same as stated in the *Manual on Uniform Traffic Control Devices* (Sec. 7A-3 & 7D-4).
3. Twenty-five or more students cross during a crossing period.

III. CROSSING GUARDS

The use of adult crossing guards may be considered in some situations. When used, the crossing guard should never be expected or allowed to control traffic. The functions of a crossing guard are to educate and supervise children and to assist them in choosing adequate gaps for crossing the street. The City encourages the use of crossing guards at signalized intersections to educate children about the proper use of the installations and to be sure the signal is not used as a "toy" merely to make vehicles stop when no crossing is intended. It shall be the responsibility of the School District to provide and equip all crossing guards. The City Traffic Engineer and the Police Department may assist with the training of crossing guards if requested to do so. This policy does not supplant or replace any criteria the School District may have for selecting locations where adult crossing guards will be placed.

IV. SCHOOL SPEED LIMITS

Since lower travel speeds allow drivers to stop more quickly and may result in less severe injuries if a vehicle-pedestrian accident occurs, reduced speed limits are a technique that MAY reduce the hazard present when a pedestrian unexpectedly enters the roadway. As with all speed limits, school speed limits must be perceived as reasonable or the average driver will not comply with them. Speed limits should be set based on the results of an

engineering study and not set at an arbitrarily low value in an attempt to force traffic to slow down. The implementation of school speed limits shall comply with the *Manual on Uniform Traffic Control Devices* and all applicable state and local laws. Recognizing that junior high (middle school) and high school students are expected to assume a much greater responsibility for their own safety as pedestrians in or adjacent to the roadway, the City Council eliminated all reduced speed zones at junior high and high schools in 1989.

Due to high concentrations of both pedestrian and motor vehicle traffic during arrival and dismissal periods, reduced school speed zones may be used on streets directly adjacent to elementary schools where significant pickup and drop-off activity occurs. Unless implemented with speed zone flashers or changeable message signs, reduced school speed limits shall have uniform times throughout the City. The school speed zone will be limited to the street segment adjacent to the school grounds and shall not be extended unnecessarily beyond.

Because reduced speed limits represent an inconvenience to motorists, school speed zones for elementary schools located on arterial and collector streets should be implemented with speed zone flashers (SPEED XX WHEN FLASHING) or with changeable speed signs. Reduced school speed limits on arterial and collector streets should apply only during crossing periods, and should not be in effect throughout the school day.

Because a reduced speed limit alters the natural traffic flow and may result in a reduced number of adequate gaps in the traffic stream, reduced school speed limits should not be implemented at school crossings not directly adjacent to the school grounds, unless an engineering study indicates the use is justified. Other signing exists at such locations to warn the driver of the crossing. Parking restrictions consistent with average travel speeds, to better allow drivers to see pedestrians entering the crosswalk, will provide a greater margin of safety than an artificially low speed limit that is not complied with by drivers.

The use of reduced school speed limits adjacent to elementary schools is not a substitute for properly fencing the school grounds and play areas, nor is it an excuse for not enforcing proper crossing habits with children and adults. Pedestrians are still expected to use marked crosswalks, look both ways before entering the street and practice other safe crossing habits.