CITY OF MADISON
TRAFFIC ENGINEERING

ELEMENTARY SCHOOL CROSSING PROTECTION CRITERIA

December 2025

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Amended on September 14, 1976, by Resolution #29,569
Amended on September 28, 1976, by Resolution #29,650
Amended on June 30, 1981, by Resolution #37,137
Amended on July 10, 1990, by Resolution #46,920
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Amended on December 9, 2025, by Resolution # RES-25-00674

By
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City of Madison, Wisconsin

Introduction

Elementary school-age children are in the process of learning how to safely travel to and from school. The City of Madison utilizes several safety tools to help protect elementary school-age pedestrians, including the use of Adult School Crossing Guards at crosswalks on busy streets where large numbers of children cross. This document describes how locations are evaluated for the need for an Adult School Crossing Guard where one is not currently placed and for evaluation of existing Adult School Crossing Guard locations for discontinuance.

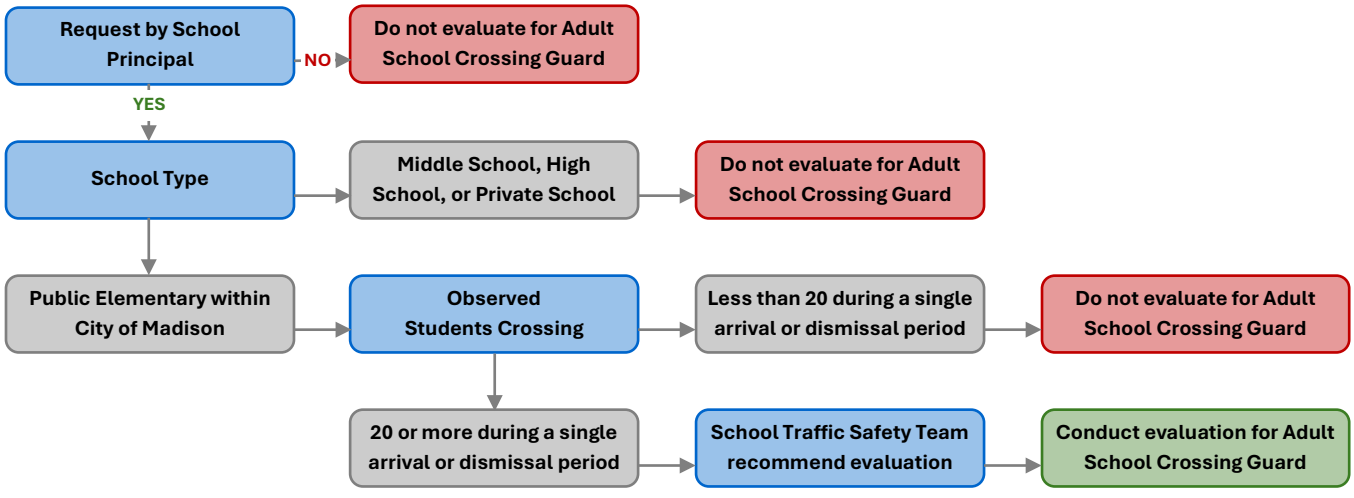
Criteria and Process for Evaluation of New Adult School Crossing Guard Placement

Three basic criteria must be met before evaluating a location for an Adult School Crossing Guard:

1. The request for an Adult School Crossing Guard must be submitted to Traffic Engineering or the School Traffic Safety Team by the school principal.
2. The request must be for a public elementary school located within the City of Madison.
3. A minimum of 20 elementary school students are observed crossing at the location during a single school arrival or dismissal period.

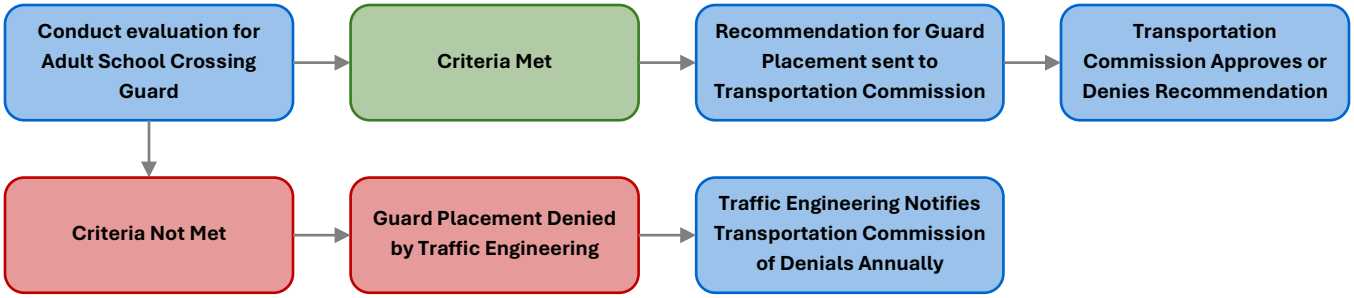
Pedestrian counts are made during the peak school crossing periods (both morning and afternoon). The exact hours counted will vary depending upon school start and dismissal times. Only elementary school children are counted. Crossing by single children may be tallied together, but groups should be noted by a numeral indicating the size of the group. Totals will be made by quarter hours. The count will be conducted on a warm, sunny day, if possible, during the fall or spring of the year. If doubt arises as to the accuracy and validity of the count, a second count will be made and higher count will be used. The wintertime school pedestrian traffic will also be considered, especially in borderline situations.

When the above criteria are met, the School Traffic Safety Team will recommend that Transportation Engineering conduct a full evaluation of the site to determine if an Adult School Crossing Guard is supported. The general process to evaluate requests for an Adult School Crossing Guard is depicted below.



When a location is recommended for evaluation for an Adult School Crossing Guard, Traffic Engineering staff will gather data to assess the hazard inherent at the location, as depicted in the chart on the following page. The data gathered and the process for scoring the data are described in the following sections. If the criteria are met for placement of an Adult School Crossing Guard, Traffic Engineering Staff will make that recommendation to the

Transportation Commission for approval or denial. Traffic Engineering staff will notify the Transportation Commission annually of requests for Adult School Crossing Guards that do not meet the criteria for evaluation.



Criteria and Process for Discontinuance of an Existing Adult School Crossing Guard Assignment

Locations where Adult School Crossing Guards are currently placed will occasionally be evaluated for discontinuance to ensure the efficient use of resources for the Crossing Guard Program. The decision to review an existing Adult School Crossing Guard assignment can be made based on:

- Low numbers of elementary school aged students utilizing the crossing (less than 10/shift over two years);
- Changes to the street design, traffic patterns, or traffic counts that reduce the hazard score at a location below 20 points;
- Changes in school attendance area boundaries such that elementary school students no longer cross a particular street; and/or
- Changes in school busing policies where students who used to walk to school are now bused to school.

Locations where modifications that may improve pedestrian safety have been installed nearby shall be reevaluated within one year of the installation. Pedestrian safety modifications include, but are not limited to, traffic signals, road diets, pedestrian hybrid beacons, pedestrian refuge islands, raised crosswalks, and rectangular rapid flashing beacons. All crossing guard locations should be evaluated for continued need once every five years or more frequently; need can be demonstrated by a sufficient number of children (10 or more) utilizing the crossing.

If any of the above factors are identified, Traffic Engineering staff will evaluate the location for one year. The evaluation will consist of:

- Crossing Guards will conduct monthly student counts throughout the year.
- Traffic Engineering staff will study the Hazard Evaluation Criteria if the evaluation is based on changes to the street design, traffic patterns, or traffic counts.

Following the evaluation period, Traffic Engineering staff will either recommend the location for discontinuance or to retain the Adult School Crossing Guard. Recommendations for discontinuance will be brought to the School Traffic Safety Team for discussion and then forwarded to the Transportation Commission in late spring or early summer. Traffic Engineering will notify the school's Principal, Parent Teacher Group, area Alder, Neighborhood Association, and Neighborhood Resource Team, where applicable, when a recommendation is made to the Transportation Commission to discontinue an Adult School Crossing Guard assignment. If discontinuance is approved by the Transportation Commission, the Principal, Parent Teacher Group, Alder and Neighborhood Association will again be notified in order to allow time to plan for the change. Locations where Adult School Crossing Guards are discontinued will be added to the Safe Streets Madison project list for consideration of pedestrian safety enhancements.

Hazard Evaluation Criteria

When the School Traffic Safety Team recommends that a location be evaluated for the placement of a new Adult School Crossing Guard or the discontinuance of an existing location, the factors below will be studied. Traffic-related factors will be measured during the same time periods, but not necessarily the same dates, as the pedestrian counts conducted to recommend study of a location.

1. Vehicle Gap Availability. The criterion for this element shall be the percentage of time during the school crossing period when gaps adequate for a safe crossing are available. The safe crossing time shall be considered as the time necessary for an elementary school child to cross from one refuge point to another (usually from one curb to another) at a walking speed of 3.0 feet per second.

   At an intersection having a major through street and a minor street(s) controlled by "STOP" or "YIELD" signs, the gaps in traffic to be considered will be those for the traffic on the major street approaches. At signalized intersections, the gaps to be considered shall be those from turning movements, which conflict with the crosswalk used by the largest group of school children, and the gaps will be computed per hour of "GREEN" time. In this instance, the width of the roadway is equal to one-half of the roadway, since the children are "protected" on the other half by vehicles waiting for the green light on the cross street (except for right turns on red). Where a major street has a median strip at least ten feet in width, which can afford adequate pedestrian refuge, the major approaches shall be considered as separate one-way streets and the gaps used will be those of the heaviest traveled approach.

   Right turns on red that conflict with a crosswalk used by elementary students will be analyzed. There are both benefits and hazards to pedestrians from right turn on red, but if unusual hazards exist from right turns on red, prohibition of such turns will be posted.

2. Speed of Motor Vehicles. The criterion for this element shall be the 85th percentile speed observed on the major approaches. The 85th percentile speed is determined from a speed study, generally taken approximately 250 feet in advance of the crossing. It is the speed at which only 15 percent of the motorists were observed traveling faster than, or the speed below which 85 percent of the motorists travel. Speed studies are not necessary where the crossing is at a signalized intersection or where the approach is controlled by a stop sign. Historical speed studies in the area may be sufficient for estimating motor vehicle speeds.

3. Sight Distance. The criterion for this element shall be the ratio of the sight distance of a vehicle driver observing a three-foot high object in the crosswalk to design stopping distance. The following Design stopping distances (wet pavement), as recommended by the American Association of State Highway and Transportation Officials, shall be used:

Design Speed	Design Stopping Sight Distance
< = 25 mph	155 feet
26 – 30 mph	200 feet
31 – 35 mph	250 feet
36 – 40 mph	305 feet
41 – 45 mph	360 feet
46 – 50 mph	425 feet

4. Safety History. The main criterion for this element shall be the number of pedestrian crashes occurring at the study location, involving school children going to or coming from school, during the previous five-year period. For locations where two or more such crashes have occurred, the five-year limit shall not apply. In addition, a history of other crash types that could conflict with pedestrian crossings will be considered, especially if there is a history of crashes at times of the day when elementary school children generally need to cross. However, significant geometric or traffic control changes at the crossing location need to be considered.

5. Other Factors. Certain unique factors may exist at some locations which may increase or decrease the hazard to school-age pedestrians. Such factors may include complex intersection and/or traffic signal design, existence of safer crossings nearby, the age of children crossing, the presence of stopped buses and other obstructions, and the volume of turning traffic not reflected in the gap availability criterion. In addition, the character of the street (i.e., arterial, local, etc.) and the types of traffic (e.g., truck route) will be considered and will be a factor in borderline situations. The uniformity of the hazards throughout the school year, and from morning to evening crossing periods, needs to be considered. Situations where few children desire to walk to school when the temperature drops in the fall need special consideration.

In addition to these factors, physical conditions of the crossing location will be measured or noted, including street width, median width, and length of crosswalk. The street width is the curb-to-curb width or width of paved surface where shoulder construction is used. Where there is considerable skew to the crosswalk or normal crossing path, the length of such crosswalk should be measured. Sight distance is the distance from the crossing at which the driver first receives a continuous view of a three-foot high object. This information is needed for all uncontrolled approaches.

Hazard Scoring

Evaluated locations are assigned points for each of the five criteria and a hazard score is assigned to compare the degree of hazard associated with each crossing. The hazard score is the total of points assigned to the crossing based on each of the hazard factors. The higher the hazard rating, the more hazardous the crossing is, relatively speaking.

Hazard points are assigned according to the following schedule:

1. VEHICLE GAP AVAILABILITY

% of Time when there are safe gaps	Points
Over 80%	0
70 – 79	4
60 – 69	8
55 – 59	12
50 – 54	16

% of Time when there are safe gaps	Points
45 – 49	20
40 – 44	24
30 – 39	28
20 – 29	32
Less than 20	36

2. VEHICLE SPEEDS

MPH	Points
<= 20	0
21 – 25	1
26 – 30	2
31 – 35	4

MPH	Points
36 – 40	7
41 – 45	11
Over 45	15

3. SIGHT DISTANCE

Ratio	Points
Over 2.0	0
1.5 – 2.0	1
1.0 – 1.5	5
Less than 1.0	

4. SAFETY HISTORY

Crashes	Points
School Crossing Types	
0	0
1	8
Each Additional	20
Other Types	0-5

5. OTHER FACTORS

Factor	Points
Safer crossing within one block of evaluated crossing location	-5
Intersection of two arterial streets	+4
Designated truck route	+5
Complex signal or crossing design or more than four approaches	+5 to +10
Stopped buses or other visual obstructions of the crossing	0 to +5
Frequent U-turns or non-typical vehicle movements that may impact safety	0 to +5
Large percentage (50%+) of K-2 students unaccompanied by an adult	0 to +5
Majority of children crossing multiple crosswalks at an intersection	0 to +5
Location is within or serves students who likely live within a City of Madison Equity Area	+5

Actions

Based on the assigned hazard score, the following measures may be undertaken:

1. **MARK AS A SCHOOL CROSSING** when the hazard score is greater than 15 at a crossing used by at least 20 elementary school children during the peak crossing hour. The traffic engineer is authorized to mark such a crossing with appropriate warning signs and special crosswalk markings.

2. **RECOMMEND THE ASSIGNMENT OF AN ADULT SCHOOL CROSSING GUARD** when the hazard rating is greater than 30 at a crossing used by at least 20 elementary students during the peak crossing hour. All new crossing guard locations shall be considered to be a trial and shall be evaluated during first year and after two years for continuance.

3. **RECOMMEND THE DISCONTINUANCE OF AN ADULT SCHOOL CROSSING GUARD** at a crossing where the hazard rating falls below 20 or if the number of school children crossing during the peak crossing hour is less than 10 over the course of two years.

Locations considered for an adult crossing guard, but not scoring enough hazard points may be reviewed as part of the Safe Streets Madison program for other safety treatments.