EVALUATING NEEDS FOR SCHOOL CROSSING ASSISTANCE

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POLICY STATEMENT
ON
SCHOOL CROSSING ASSISTANCE

I. ***It is the policy of the Village of Wilmette and its Transportation Commission to follow a set of comprehensive, reasonable and uniform standards for the placement of adult school crossing guards.***

Commentary:

Decisions for the placement of school crossing guards which are not based on uniform standards can create confusion which result in complaints from parents, lessen respect by both motorists and pedestrians, and drain Village resources. The Commission believes that the uniform application of reasonable standards will result in decisions which are most likely to provide assistance where it is needed, and to be accepted by school officials, parents, school children, and motorists.

II. ***The standards adopted by the Transportation Commission are based on accepted professional standards tailored to meet the needs of Wilmette. The Commission has elected not to adopt by reference the standards or guidelines of any specific organization, but to draw upon available knowledge and accepted practice in developing its own.***

Commentary:

The Commission's study included a systematic review of the standards and suggested guidelines published by several professional organizations. The standards and guidelines adopted by the Commission and described herein have been drawn from those organizations.

III. ***The Transportation Commission will conduct a study on request for a school crossing guard only after it has been demonstrated by the petitioning group or individual that the location for the requested crossing guard is along an approved safe school walking route, as determined by the school district and the Wilmette Police Department.***

Commentary:

The safe walking route should be reviewed and updated annually by the school district in cooperation with the Wilmette Police Department. Changes in walking routes should be considered when school boundaries change, when the distribution of children within the boundaries changes significantly, or when traffic or roadway engineering changes occur.

The safest walking routes are generally those which minimize conflicts with traffic while taking advantage of the protection afforded by existing traffic controls. Children may be required to walk a longer distance to avoid hazardous crossings. In selecting the safest route, however, children should not be required to detour excessively or the selected route may be ignored.

School children should be thoroughly instructed by the schools and their parents on the purpose and proper use of the safe walking route plan. Parents are responsible for seeing that their children follow the correct route to school. Checks should be made periodically along school routes by both parents and the school's safety committee to determine that they are being properly used.

See end of manual for a Sample Safe School Walking Route Plan.

IV. ***The Transportation Commission will recommend approval of an adult crossing guard only after engineering and traffic studies have shown that special conditions exist which establish a need for adult assistance. At those locations where adult supervision is not deemed necessary, the Commission will consider whether signs and street markings are needed to increase driver awareness of the crossing.***

Commentary:

Adult crossing guards should be used when unusual circumstances exist which require proper handling by an adult. These circumstances would include traffic volumes that are high and gaps in traffic so short and infrequent that assistance is needed to select adequate gaps and control waiting children.[1]

When the delay between adequate gaps becomes excessive, children may become impatient and endanger themselves by attempting to cross the street during an inadequate gap.

Other criteria must also be considered in a comprehensive study of the need for a crossing guard. These factors fall into three general categories:

ROADWAY CHARACTERISTICS

TRAFFIC FLOW CHARACTERISTICS

CHILD PEDESTRIAN CHARACTERISTICS

Each of these categories is discussed in detail in the following section.

[1]See Glossary for definition of "Adequate Gap Length".

V. ***The Wilmette Transportation Commission will review adult crossing guard assignments periodically to assure that they correspond to current needs and conditions. Where appropriate, guard assignments may be altered to provide the best protection for all of the children of Wilmette.***

Commentary:

Central School

Location	Crossing Status
Ninth Street and Lake Avenue	Existing
Ninth Street and Central Avenue	Existing
Ninth Street and Greenleaf Avenue	Existing
Forest Avenue and Wilmette Avenue	Existing

McKenzie School

Location	Crossing Status
Wilmette Avenue and Prairie Avenue	Existing
15th Street and Lake Avenue	Existing
16th Street and Wilmette Avenue	Existing
Highland Avenue and Ridge Road	Existing

Harper School

Location	Crossing Status
Illinois Road and Iroquois Road	Existing
Thornwood Avenue and Hunter Road	Existing
Hunter Road and Lake Avenue	Existing

Romona School

Location	Crossing Status
Wilmette Avenue and Romona Road	Existing
Skokie Blvd and Wilmette Avenue	Existing

Highcrest Middle School

Location	Crossing Status
Illinois Road and Hunter Road	Existing

St. Joseph's School

Location	Crossing Status
Lake Avenue and Ridge Road	Existing

GUIDELINES FOR DETERMINING THE NEED FOR ADULT CROSSING GUARDS

The Village of Wilmette cannot guarantee the protection from all hazards to pedestrian school children. However, with the proper assistance and guidance of a trained adult crossing guard, the hazards associated with crossing a dangerous street, as determined by the guidelines listed below, can be reduced. The following factors should not be viewed as a set of rigid requirements. Rather they should be considered in their entirety when analyzing the need for adult supervision.

I. ROADWAY CHARACTERISTICS

A. PROXIMITY TO A PROTECTED CROSSING

No consideration should be given for an adult school guard when the proposed site is within 600 feet of an existing school crossing under adult supervision.[2]

B. EXISTING TRAFFIC CONTROL DEVICES

Adult supervision is not normally warranted at a signalized intersection unless the turning volume through the crossing exceeds 300 vehicles per hour during the crossing period,[3] or at least one of the streets to be crossed presents four or more lanes of traffic with free flowing traffic volume exceeding 750 VPH during the crossing period. Under such conditions, consideration should be given to adult supervision, especially for younger children.[4]

At stop controlled intersections on undivided roadways of four or more lanes with volumes greater than 500 VPH during any crossing period, consideration should be given to adult supervision.[5] As with the signalized crossings, special consideration may be given to younger children when addressing this standard.

C. ROADWAY FUNCTIONAL CHARACTERISTICS

Arterial streets carrying larger volumes of through traffic present greater hazards than residential or collector streets. When a street actually serves a higher function than that for which it was intended, for instance, if a roadway is designated as a local street and is being used as a "cut through", effectively changing its intended use, then this should be taken into consideration.

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[2]Traffic Manual, California Department of Transportation, 1987.

[3]Traffic Manual, California Department of Transportation, 1987.

[4]See section III B for further details regarding child age characteristics.

[5]Traffic Manual, California Department of Transportation, 1987.

D. STREET WIDTH

The width of the roadway measured curb to curb affects the time required for a child to cross the street. This is addressed and accounted for when determining the "adequate gap length" for that particular section of roadway (See page 10).

E. CURVES AND SIGHT DISTANCE

School crossings, whether supervised or not, should not be placed in close proximity (e.g. 500') to a curve, hillcrest, bridge, or at any location where sight distance is limited. Straight line sight distance measured in feet to any crossing shall not be less than five times the designated speed limit, measured and expressed in miles per hour.[6]

F. PARKING LANES

Adult supervision can be considered when parked vehicles or other objects interfere with the sight distance of children or approaching motorists. Parking should be prohibited within 30 feet of any designated school crossing whether supervised or not.

G. INTERSECTION DESIGN

The design of the intersection should be carefully evaluated when assessing the need for adult supervision. When the design is such that the number of roadway legs making up the intersection exceeds four or the number of traffic lanes traversing the intersection exceeds five, then consideration may be given to adult supervision.

H. CROSSWALK DESIGN

The design of the crosswalk should be taken into consideration when assessing the need for adult guards. The location of the crosswalk in relation to sidewalks should be considered. The crosswalk should align with a sidewalk on the opposite side of the roadway and not require children to cross another leg of the intersection to reach a sidewalk.

II. TRAFFIC FLOW CHARACTERISTICS

A. TRAFFIC VOLUME PER HOUR

Volume of traffic directly affects the frequency and distribution of acceptable gaps in the traffic flow. When the volume of traffic through an uncontrolled intersection during the crossing period exceeds 350 VPH, then consideration should be given for an adult crossing guard.[7]

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[6] Adult School Crossing Guard Manual, American Automobile Association of Michigan, Division of Safety and Traffic Engineering, 1 Auto Club Drive, Dearborn, MI 48126, 1978.

[7] Evaluating the Need for School Crossing Assistance, The Traffic Institute, Northwestern University, 1991.

B. VEHICLE TYPES

Consideration for an adult crossing guard may be given at locations where there are large numbers of trucks or commercial vehicles using the roadway. These vehicles present special problems such as requiring a larger turn radius, obstructing sight distances, and disrupting gap distribution.

C. ACCIDENT HISTORY

The accident records for the location under study should be reviewed to determine the history of accidents during the crossing periods. An excessive accident rate is a clear indication of hazards, which may or may not warrant adult crossing guards.

D. APPROACH SPEED

Evaluation of both the measured speed of the vehicles using the roadway and the designated speed limit should be accomplished. Higher speeds do not result in shorter and fewer gaps, but they do increase the complexity of the decision to accept the gap and cross the street. If the 85th percentile speed is shown to be considerably higher than the designated speed limit, then adult supervision may be considered.

E. VEHICLE TURNING MOVEMENTS

Large numbers of turning movements can confuse both motorists and children alike. Although these vehicles are counted as part of traffic volume through intersections, they should be considered carefully when evaluating the need for adult supervision.

F. GAPS PER MINUTE

Adequate gaps in traffic must occur on an average of at least one per minute during the crossing period.[8] Anything less than one adequate gap per minute may warrant adult supervision. This ratio is calculated[9] by conducting field studies to determine the following:

a. Adequate Gap Length (The minimum time required to cross the street)

b. The portion of the crossing period during which adequate gaps are available

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[8] A Program for School Crossing Protection, Institute of Traffic Engineers, 1815 N. Fort Meyer Drive, Suite 905, Arlington, VA 22209, 1971.

[9] This procedure is described in detail in the next section entitled "Quantitative Analysis of Field Study Data".

III. CHILD PEDESTRIAN CHARACTERISTICS

A. VOLUME OF CHILDREN

The number of school children currently using (or reasonably expected to use) the crossing during each crossing period should be evaluated. This will not only assist in determining the need for adult supervision, but will also help determine and assess safe walking routes. This in turn can be used to evaluate the feasibility of consolidating several crossing locations into one.

B. AGES OF CHILDREN

The age or grade levels of the children using the crossing also should be considered. Young children are not capable of consistently making even simple decisions about traffic conditions and when it is safe to cross. Special attention should be focused on the youngest ages (5 to 9 year olds).[10]

[10]Evaluating the Need for School Crossing Assistance, The Traffic Institute, Northwestern University, 1991.

QUANTITATIVE ANALYSIS OF FIELD STUDY DATA

The field studies and associated quantitative analysis are conducted to determine:

1) The adequate gap time required to cross the street, and

2) Whether or not there is a sufficient number of adequate gaps to assure that delay times are not excessive.

Adequate gap length is determined by street width and walking speed. The number of adequate gaps is considered sufficient if there is an average of at least one such gap in each minute of the crossing period. **It is not intended that these analyses be used as the SOLE criteria for determining need for an adult crossing guard,** but rather they are to be used collectively with other criteria which were outlined in the prior section to reach a reasonable and informed decision.

COMPUTING ADEQUATE GAP LENGTH

Divide the width of the street by the assumed walking speed of a child (3.5 ft/sec)[11] and add 3 seconds to account for perception time and reaction time.[12]

This is expressed by the formula:

$$G = W/3.5 + 3$$

where

G = Adequate Gap Length (Seconds)

W = Width of the Roadway (Feet)

Example:

W = 30 feet

G = 30/3.5 + 3 = 12 seconds (rounded up)

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[11] A Program for School Crossing Protection, Institute of Traffic Engineers, 1815 N. Fort Meyer Drive, Suite 905, Arlington, VA 22209, 1971.

Note: This figure used for the "assumed walking speed" is the most conservative of all resource material.

[12] See Page 19 of this Manual for graph depicting adequate gap lengths (crossing times) vs street width.

FIELD STUDY GUIDELINES

Gap availability data should be collected on at least one day during all school crossing periods (morning, lunch if applicable, and after school). The total number and actual lengths of all inter-vehicle gaps equal to or exceeding the adequate gap length should be recorded. This field study should be conducted on a day deemed typical for school attendance, vehicular traffic, and weather.[13]

COMPUTING THE GAPS PER MINUTE

The number of adequate gaps per minute should be computed separately for each crossing period (morning, lunch, and after school). This is accomplished as follows:

Add the lengths of all gaps which are of adequate length or longer, divide this sum by the length of the adequate gap, and then divide this number by the length of the study period.

This is expressed by the formula:

GPM = T/G*M

where

GPM = Average number of adequate gaps per minute

T = Total length of all adequate gaps measured during the study period, in seconds

G = Length of the adequate gap, as determined using the method described previously

M = The duration (in minutes) of the study period

Example:

T = 1,305 seconds, the total length of all adequate gaps measured during the study period

G = 12 seconds, the gap length required to cross the street

M = 60 minutes, the length of the study period in minutes

GPM = 1,305/(12*60) = 1.8 adequate gaps per minute

[13] A Program for School Crossing Protection, Institute of Traffic Engineers, 1815 N. Fort Meyer Drive, Suite 905, Arlington, VA 22209, 1971.

GLOSSARY

ADEQUATE GAP	Same as "ADEQUATE GAP LENGTH".
ADEQUATE GAP LENGTH	The minimum crossing time necessary for a child to cross the street. This is derived from a formula which takes into consideration width of the roadway, walking time, perception time and reaction time (See Formula on Page 10).
CROSSING PERIOD	The time interval or anticipated time interval during which the crossing will be active, ie: 8:00am - 9:00am.
GAP	A naturally formed longitudinal space between vehicles in the two way traffic stream.
GAP LENGTH	The size of the gap measured in SECONDS.
GAPS PER MINUTE	The average number of adequate gaps during the crossing period expressed as a ratio of adequate gaps to the total minutes under study (See formula on Page 11).
ROADWAY WIDTH	The width of the roadway measured in feet from curb to curb.
STUDY PERIOD	The amount of time spent collecting field data **WITHIN** the designated crossing period. This is usually equal to the crossing period, but can be less.
VEHICLE VOLUME PER HOUR (VPH)	The number of vehicles passing through the crossing during the crossing period expressed as a ratio of total vehicles to total hours.
WALKING SPEED	The average walking speed of a child expressed in number of feet travelled per second. This is assumed to be 3.5 ft/sec.[14]

[14] A Program for School Crossing Protection, Institute of Traffic Engineers, 1815 N. Fort Meyer Drive, Suite 905, Arlington, VA 22209, 1971.

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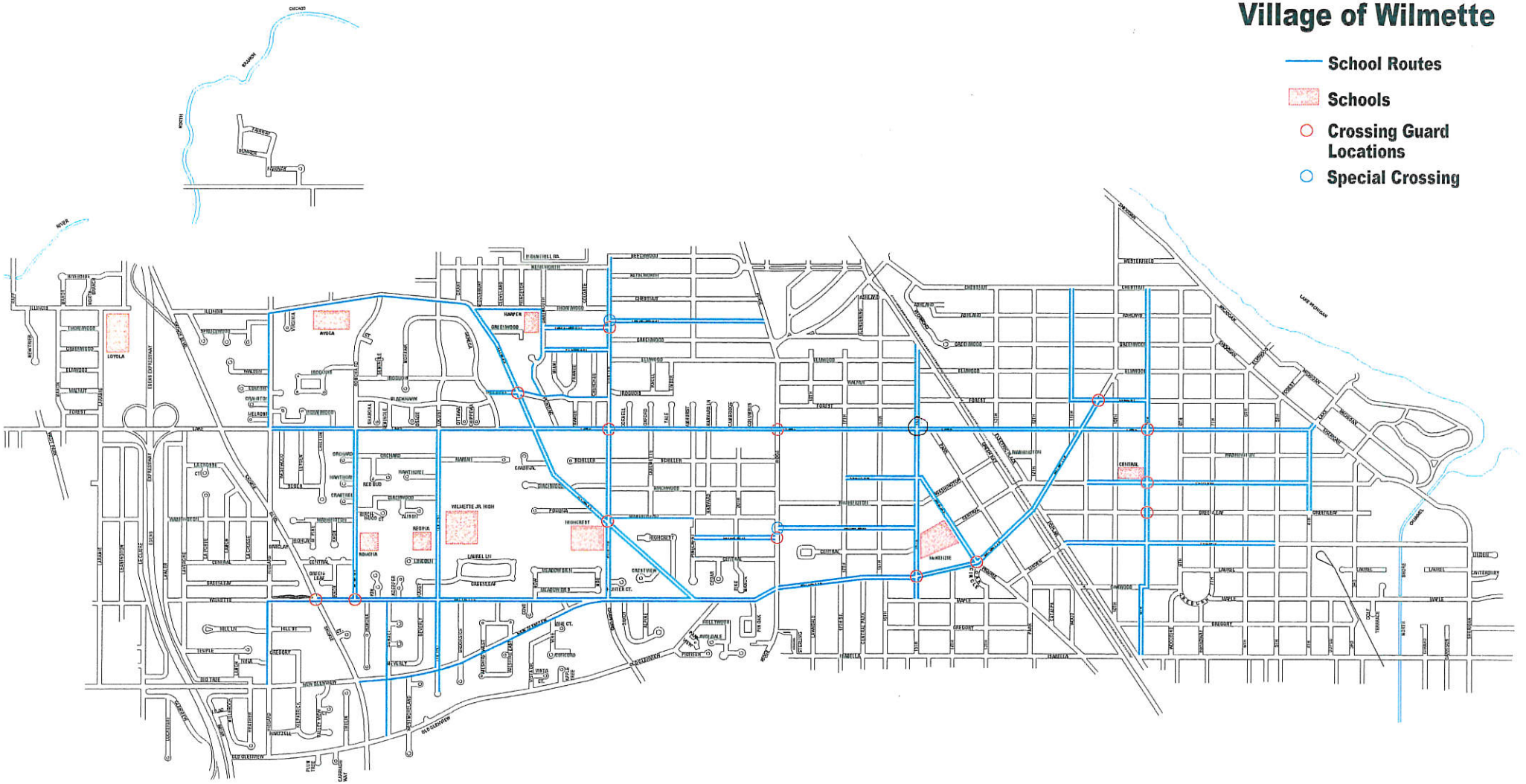
Village of Wilmette

- School Routes
- Schools
- Crossing Guard Locations
- Special Crossing



11/17/00

SCHOOL HOURS AND STREET CROSSING TIMES

School Hours

Grades 1-4

Harper	8:55am- 3:15pm
Mc Kenzie	8:55am- 3:15pm
Romona	8:55am- 3:15pm
Central	8:55am- 3:15pm

Grades 1-8

St.Francis	8:50am- 3:00pm
St. Joes	8:30am- 3:15pm

Grades 5-6

Highcrest	8:49am- 3:40pm

Grades 7-8

Jr.High	8:00am- 2:46pm

Crossing Guard Times

All morning crossings:	8:00 am- 9:00 am
Afternoon Crossings:	3:00 pm-4:00 pm
Highcrest/Afternoon:	3:15pm- 4:15 pm
Highland/Ridge Afternoon	3:10pm – 4:10 pm