TO: Mayor and Council February 9, 2009

FROM: Engineering & Public Works Departments

SUBJECT: **Updated Policy for Installation of Pedestrian Safety Devices**

RECOMMENDATION:

MOTION #37/09 Moved by Lindstrand – seconded by Throndson that City Council adopt the attached Policy for the installation of Pedestrian Safety Devices (PED-1 Policy) dated February 9, 2009 and that Motion #306/91 be rescinded.

Policy for the Installation of Pedestrian Safety Devices

1. Preamble

Installation of pedestrian safety devices can result in improvements to pedestrian safety when properly installed in appropriate locations. These devices do not relieve pedestrians from the responsibility of "following the rules of the road" as set out in the Alberta Traffic Safety Act and Regulations, or from taking responsibility for their own safety when crossing a roadway.

Pedestrian safety devices, as described in this policy, have the ability to influence driver's behaviour, but do not "control" drivers or their vehicles. Any driver can be distracted, or have their visibility of signs, signals, or markings blocked by other vehicles, or weather conditions.

Inappropriate installation of pedestrian safety devices, or the over use of these devices, can lead to a reduction of effectiveness, and a general reduction in pedestrian safety.

In all cases, this policy provides the overall guideline which the City of Camrose should follow. The City, at the discretion of the City Engineer, reserves the right to vary from this policy in exceptional circumstances.

2. Marked Crosswalks

2.1 Marked crosswalks will be considered according to the criteria outlined in Schedule A.

2.2 Crosswalks may be marked with signs and/or pavement markings at the discretion of the City of Camrose Engineer.

2.3 Standards for pavement markings include:

2.3.1 The current standard for crosswalk pavement markings in Camrose is the "Traditional Crosswalk", consisting of two parallel lines, each 200 millimeters (mm) in width.

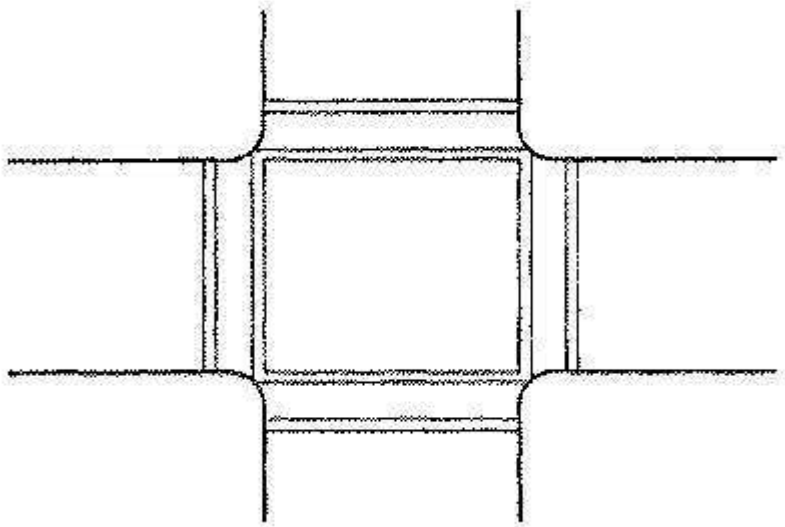


Figure 2.3.1 – Traditional Crosswalk

2.3.2 In addition to the "Traditional Crosswalk" which is the current standard in Camrose, the City of Camrose will consider also using either of the following alternate crosswalk designs.

a) "Diagonal Crosswalk", consisting of diagonal lines at a 45 degree angle

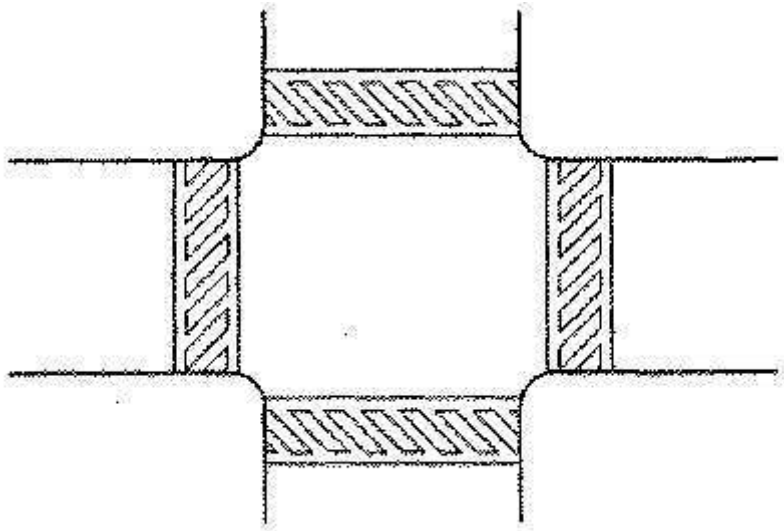


Figure 2.3.2 a) – Diagonal Crosswalk

b) "Zebra Crosswalk", consisting of longitudinal lines parallel to traffic flow

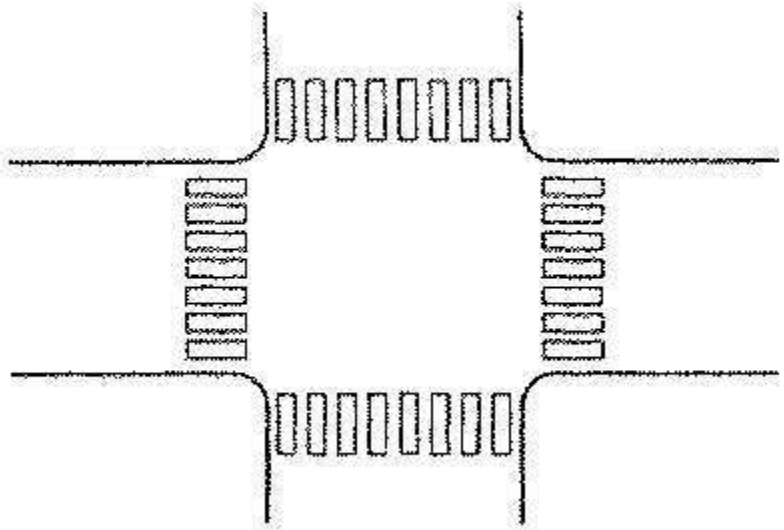


Figure 2.3.2 b) – Zebra Crosswalk

2.3.3 Longitudinal or diagonal lines should be 300 mm to 600 mm wide and spaced 300 mm to 1500 mm apart.

2.3.4 The marking design should avoid traffic wheel paths, where possible. Spacing between lines should not be more than 2.5 times the width of the line.

2.4 All crosswalks should be at least 2.5 meters wide.

3. Flashing Pedestrian Signals

3.1 A flashing pedestrian signal consists of an overhead davit with sign and double flasher, centered on the roadway and facing each direction of traffic.

3.2 When a flashing pedestrian signal is installed within a reduced speed zone, a sign with white legend and black background and reading “30 km/hr When Flashing” will be mounted on the davit.

3.3 Flashing signals are used only in exceptional circumstances, as outlined in Schedule B.

4. Pedestrian Signals

4.1 Installation includes standard pedestrian-activated traffic control signals facing drivers on the major road, and stop signs facing drivers on the minor streets. Standard *WALKING PEDESTRIAN* (RB-4 of MUTCDC) and flashing *HAND* indicators face pedestrians crossing the major road.

4.2 Pedestrian signals may be installed either at intersections or at mid-block pedestrian crossings.

4.3 Pedestrian signals will be considered according to the criteria outlined in Schedule C.

RB-4 (Pedestrian Crossing)

5. Pedestrian Crosswalks at Full Traffic Signals

5.1 A full traffic signal is a signal installed primarily for the control of traffic, and where at least two primary roadways intersect.

5.2 All full traffic signals will provide pedestrian crosswalks on at least one side in each direction of the intersecting streets.

5.3 Pedestrian crosswalks at full traffic signals will be considered according to the criteria outlined in Schedule D.

6. Playground Zones and Areas

6.1 **Preamble** – Playground zones and areas do not make a playground or adjacent roadways safe. It is not designed to extend the play area into the roadway, and does not relieve parents from the responsibility of ensuring that their children are safely transported to and from the playground. If a playground zone or area makes parents more comfortable in allowing their children to play on the roadway, jaywalk across the roadway, or not be careful to watch for cars when legally crossing the roadway, then the installation can actually make the area less safe. Children must be told of the dangers of playing on the road, and should be taught how to cross safely.

6.2 A **Playground Area** is identified with a *PLAYGROUND AREA* (WC-3) sign only, and no speed change is required.

6.3 A **Playground Zone** is a "reduced speed zone" on a roadway.

6.3.1 Signs include:

a) at the start of the zone, a *PLAYGROUND AREA* (WC-3) and a *MAXIMUM SPEED* (RB-1) sign; and

b) at the end of the zone, either a *MAXIMUM SPEED* (RB-1) sign on Arterial and Collector Roadways, or an *END PLAYGROUND ZONE* sign on Local Roadways, to re-instate the original speed.

6.3.2 A *PLAYGROUND AREA* (WC-3) sign may be used ahead of the Playground Zone.

6.3.3 Speed limits in a Playground Zone are in effect from 8:30 AM until one hour after sunset, seven (7) days a week. (Use of *Highway and Rules of the Road Regulation*, *Traffic Safety Act*, Section 6)

6.4 Playground zones and areas will be considered according to the criteria outlined in Schedule E.

WC-3 (Playground Area)

WC-3 & RB-1 (Playground Zone)

7. School Zones and Areas

7.1 **Preamble** – School Zones and School Areas are not designed to make it safe for Children to play on a road, or jaywalk across a road. Where School Zones are installed, constant education is required by the School to ensure that students and parents understand the "Rules of the Road" and how to safely and legally cross the road.

7.2 A **School Area** is identified with a *SCHOOL AREA* (WC-1) sign only, and no speed change is required.

7.3 A **School Zone** is a "reduced speed zone" on a roadway.

7.3.1 Signs include:

a) at the start of the zone, a *SCHOOL AREA* (WC-1) and a *MAXIMUM SPEED* (RB-1) sign; and

b) at the conclusion of the zone, a *MAXIMUM SPEED* (RB-1) sign on Arterial or Collector Roads or an *END SCHOOL ZONE* sign on local roads, to re-instate the original speed.

7.3.2 A *SCHOOL AREA* sign may be used in advance of the start of the School Zone.

7.3.3 Speed limits in a school zone are in effect from 8:00 am to 9:30 am, 11:30 am to 1:30 pm and 3:00 pm to 4:30 pm on school days only. (Use of *Highway and Rules of the Road Regulation*, *Traffic Safety Act*, Section 5)

7.4 School zones and areas will be considered according to the criteria outlined in Schedule F.

WC-1 (School Area)

WC-1 & RB-1 (School Zone)

Useful Resources

1. Transportation Association of Canada, *Pedestrian Crossing Control Manual,* March 1998
2. Province of Alberta, *Use of Highway and Rules of the Road Regulation, Traffic Safety Act,* May 20, 2003
3. Alberta Transportation, *Guidelines for School and Playground Zones and Areas,* December 2007

Schedule A: <u>Criteria for Marked Crosswalks</u>

Marked crosswalks will be used sparingly and only at crossings where there are high volumes of pedestrians or in extraordinary circumstances and considering;

a) the type of user, and
b) the physical aspects of the roadway.

Requests from a school board for marked crosswalks within 200 meters of a school property will be considered if warranted by the volume of pedestrian and vehicular traffic and approved by the City Engineer.

Requests from individuals or organizations for marked crosswalks shall be considered if an engineering study finds that both these criteria are met:

A. On a typical day, at least 15 pedestrians cross the street during any four one-hour periods or at least 35 pedestrians cross during any single hour;

B. In the same time periods when criterion A is satisfied, there are less than 120 pedestrian crossing opportunities (defined by the Transportation Association of Canada, *Pedestrian Crossing Control Manual, March 1998* as instances when traffic allows time for a pedestrian to safely cross*).*

   Note: 120 pedestrian crossing opportunities per hour roughly corresponds to total traffic volumes of:
   - 800 to 1,000 vehicles per hour, for a two-lane roadway,
   - 200 to 300 vehicles per hour, for a four-lane roadway, and
   - Less than 200 vehicles per hour, for a six-lane roadway.

   On a divided street with a median wide enough to allow pedestrians to wait, the requirement applies separately to each direction of vehicular traffic.

The accident history of the intersection will also be considered.

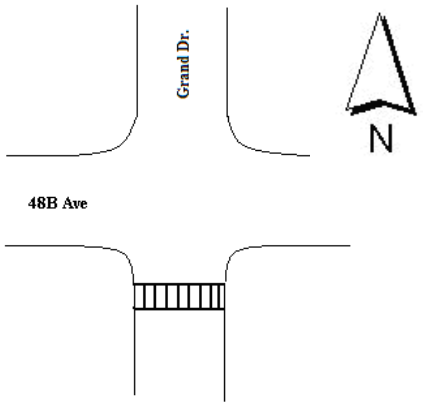
Marked crosswalks are to be located at intersections. Mid-Block crosswalks will only be used in exceptional circumstances where no other reasonable alternatives are available.

Schedule A-1

How to read this section:

- Directions denoted by a single direction, for example "South side", refer to a crossing that is located on the south side of the intersection.

  Example: "48B Ave/Grand Drive, South side" locates the crosswalk on the south side of the intersection of 48B Avenue and Grand Drive.



- Directions denoted by two directions separated by a backslash refer to the actual direction of the crosswalk. Example: 65 St / 48 Ave, North / South (across service road)

Existing locations of Marked Crosswalks (as of August 12, 2008)

1. Painted or thermoplastic crosswalk markings are maintained at crosswalks in the general area of 48 Avenue – 51 Avenue and 48 Street – 52 Street.

2. Painted or thermoplastic crosswalk markings are maintained at Pedestrian Flasher or Signal locations throughout the City.

3. Painted crosswalks are presently located at:
   - 43 St / 49 Ave (near school), West side
   - 43 St South of 49 Ave (near school), East/West (to school entrance)
   - 46 St / 50 Ave, South side
   - 50 St / 44 Ave, North side
   - 50 St, North of 44 Ave, East / West, mid-block.
   - 50 St / 54 Ave, West side
   - 52A St / 48A Ave, North and East sides
   - 53 St / 48A Ave, North and East sides
   - 53 St / 49 Ave, North sides
   - 53 St / 50 Ave, All four sides
   - 53 St / 51 Ave, All four sides

- 53 St / 52 Ave, West, East and North sides (off set intersection)
- 53 St Hospital crossing to Rosehaven, Mid-Block, East/West
- 55 St / 48 Ave, East side
- 65 St / 43 Ave, North and South sides
- 65 St / 48 Ave, North / South across north service road mid block.
- 65 St South of 48 Ave, East / West across 65th
- Grand Drive/48B Avenue, South side
- Mount Pleasant Drive / Montcalm Ave (near school), East / West (across Mt. Pleasant)
- Mount Peasant Drive / Montclare Ave (near school), East / West (across Mt. Pleasant)
- Mount Pleasant Drive / 43 Ave, North side
- Mount Pleasant Drive / 58 St, South East and South West sides
- Marler Drive, East of 73 St (near playground), North/South (mid block)
- Enevold Drive, East of Erickson Drive (near playground), North / South
- Parkview Drive / Enevold Drive, South side

4. Thermoplastic crosswalks are currently located at:
   - 41 St / 48 Ave, West and South sides
   - 46 St / 49 Ave, North and West sides
   - 46 St / 49 Ave (near school), South and East sides
   - 47 St / 52 Ave, North and West sides, plus turning lanes attached to North and South sides.
   - 48 St / 52 Ave, West and North sides
   - 49 St / 53 Ave (near school), East and West sides
   - 50 St / 47 Ave, North sides
   - 52A St / 50 Ave, East sides
   - 53 St / 43 Ave, North sides
   - 53 St / 47 Ave, North and South sides
   - 53 St / 50 Ave, All four sides
   - 53 St / 52 Ave (near school), West and North sides
   - 53 St / 53 Ave (near school), all four sides
   - 53 St / 54 Ave, all four sides
   - 55 St / Parkview Drive, West side
   - 56 St / 48 Ave, East side
   - 60 St / 54 Ave, West side
   - 62 St / 43 Ave (near school), East side
   - 62 St / 54 Ave, North and West sides
   - 63 St / 43 Ave (near school), East side
   - 64 St / 54 Ave, East side
   - 65 St, North of 48 Ave, North / South across service road
   - Comp Road / 45 Ave, North side
   - Comp Road / 48 Ave, North / South across service road on West Side
   - Comp Road / 48 Ave, East / West across Comp Road
   - Comp Road, South of 48 Ave (near school), East / West, midblock
   - Parkview Drive / Mount Pleasant Drive, South side

Schedule B: Criteria for Flashing Pedestrian Signals

Flashing Pedestrian Signals may be installed to define the start and end of school zones, at the request of a School Board considering:

- the volume of pedestrian and vehicular traffic
- budget constraints
- the approval of the City Engineer.

The accident history of the intersection will also be considered.

Marked pedestrian crosswalks will be maintained at all Flashing Pedestrian Signals (Schedule D).

Schedule B-1

Location of Pedestrian Flashing Signals (as of August 12, 2008)

50 Street – Midblock between 48A Avenue and 49 Avenue
50 Street – Midblock between 49 Avenue and 50 Avenue
50 Street – Midblock between 50 Avenue and 51 Avenue
53 Street – Sparling School – Two Flashing Signals
Mount Pleasant Drive – Our Lady of Mount Pleasant School – Two Flashing Signals
Parkview Drive – Jack Stuart School – Two Flashing signals

Schedule C: Criteria for Pedestrian Signals

A traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that both of the following criteria are met:

A. On a typical day, at least 55 pedestrians cross the street during any four one-hour periods or at least 100 pedestrians cross during any single hour;

B. In the same time periods when criterion A is satisfied, there are less than 60 pedestrian crossing opportunities (defined by the Transportation Association of Canada, *Pedestrian Crossing Control Manual, March 1998* as instances when traffic allows time for a pedestrian to safely cross*).*

Note: 60 pedestrian crossing opportunities per hour roughly corresponds to total traffic volumes of:

a. 1,200 to 1,600 vehicles per hour, for a two-lane roadway,
b. 550 to 1,000 vehicles per hour, for a four-lane roadway, and
c. 300 to 500 vehicles per hour, for a six-lane roadway.

On a divided street with a median wide enough to allow pedestrians to wait, the requirement applies separately to each direction of vehicular traffic.

The accident history of the intersection will also be considered.

City Council and budget approval will be required prior to pedestrian signal installation.

Schedule C-1

Location of Pedestrian Signals (as of August 12, 2008)

65 Street / 43 Avenue
68 Street / Marler Drive
Mount Pleasant Drive / 43 Avenue
Mount Pleasant Drive / 58 Street
Parkview Drive (Valleyview Drive) / Camrose Drive

Schedule D: Criteria for Pedestrian Crosswalks at Full Traffic Signals

Marked pedestrian crosswalks will be maintained at the site of all full traffic signals where sidewalks or walkways are available, on at least one side of the intersection for each direction of traffic.

Schedule D-1

Existing Locations of Full Signals with Pedestrian Crossings (as of August 12, 2008)

Exhibition Drive / 48 Ave – South side
39 Street / 48 Avenue – All four sides
46 Street / 48 Avenue – All four sides
48 Street / 48 Avenue – All four sides
50 Street / 48 Avenue – All four sides
51 Street / 48 Avenue – All three sides
53 Street / 48 Avenue – All three sides
65 Street / 48 Avenue – West and South sides
66 Street / 48 Avenue – All four sides
68 Street / 48 Avenue – All four sides
73 Street / 48 Avenue – North, South and East sides
Mount Pleasant Drive / 48 Avenue – All three Sides
Grand Drive / 48 Avenue – North and East sides

Schedule E: <u>Criteria For Playground Zones and Areas</u> (adapted from Alberta Transportation's "Guidelines for School and Playground Zones and Areas" manual)

Playground Zones or Areas can be considered for play facilities where there is a likelihood of young children entering the roadway in an uncontrolled manner as a result of play activity. These include lots with play equipment and outdoor or indoor athletic facilities such as sport fields, ball diamonds, tot lots, skating rinks and green areas.

Playground Areas (with warning signs) can be considered adjacent to where there is a likelihood of young children entering the roadway. Playground Areas will not be considered for walking routes to playgrounds, or along alleys, cul-de-sacs, or arterial roadways.

Playground Zones (reduced speed limits near playgrounds) will not be installed on arterial roadways, alleys, or cul-de-sacs. In the future, playground zones adjacent to collector roadways will be discouraged.

Playground Zones are generally discouraged along roadways where any of the following conditions exist:

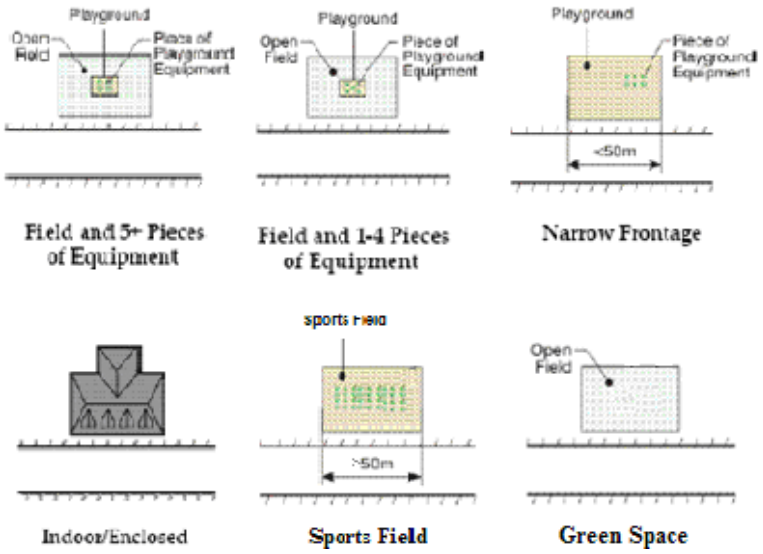
- Playground or field is fully fenced
- Playground equipment is located an appreciable distance from the roadway
- Playground entrance is not located along the subject roadway

The factors to be considered in the establishment of Playground Areas and Zones are:

- Playground type
- Road classification
- Fencing characteristics
- Property line separation
- Location of playground entrance
- Location of sidewalks
- Accident history

These criteria are described in the following section, along with some of the possible zone or area layouts and how they influence the need for a Playground Zone. The illustrations attempt to generically depict the more common arrangements for playground facilities, but do not cover all possible layouts.

1. Playground Type



Definitions:

Outdoor facilities include play areas with play equipment, sports fields, ball diamonds, basketball courts, tot lots, sand boxes and green space. Enclosed and indoor facilities include lacrosse boxes, skating rinks and swimming pools.

A piece of equipment is defined as a standalone piece, not connected with other pieces. Separate pieces are more likely to gain more use, and are typically part of a larger playground.

Active green space is an area that children are likely to utilize as a play space.

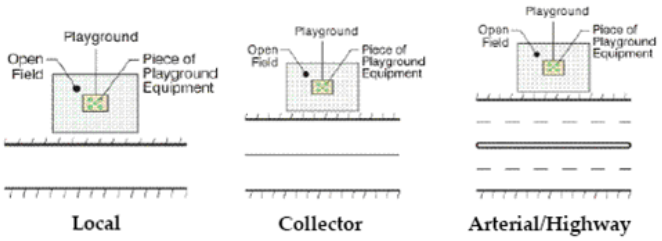
Passive green space is an area that children likely will not utilize as play space.

Considerations:

The playground type reflects the likely level of utilization of the playground facility and its exposure to the roadway. Playgrounds that have more equipment, that are part of a field, and that are not enclosed are more likely to warrant a reduced speed zone.

Passive green space such as a walking trail or heavily treed area will not be considered a playground area or zone due to the decreased likelihood of children accidentally entering the roadway.

2. Road Classification



Definitions:

Arterial roads and highways are typically multi-lane roads that carry high volumes of traffic, possibly including trucks, and have posted speed limits of 50 km/hr or greater.

Collector roads are usually narrower and have lower, but still significant traffic volumes, direct frontage to developments, including playgrounds, and have posted speed limits of 50 km/hr or greater.

Minor Collector roads usually have lower traffic volumes than collector roadways, but are busier than local roadways. Minor collector roads typically share a variety of characteristics of either collector and/or local roadways.

Local roads are often narrower still, provide direct access to homes and driveways, and may contain traffic calming devices, or parked cars, which create a narrower passageway resulting in lower traffic speeds.

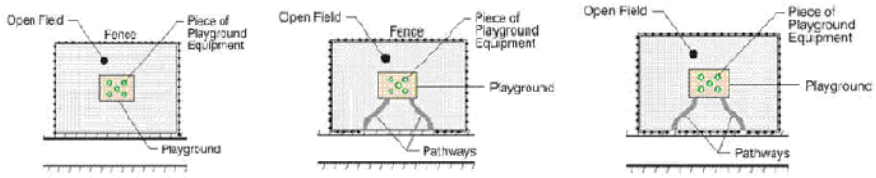
Alleys / Cul-de-sacs are roadways with minimal local traffic. An alley is very narrow with a speed limit of 20 km/hr, and often has intrinsic traffic calming features such as limited visibility. Cul-de-sacs are located at end of crescents with only one main entrance in and out, leading to naturally slower speeds.

Considerations:

Playground Zones should be avoided on collector and arterial roads. They can appear to contradict the roadway function, and hence may be unexpected and disrespected by motorists. They can provide children and parents with a false sense of security on a potentially hazardous roadway.

Playground Zones and Playground Areas will not be considered on alleys and cul-de-sacs, due to relatively slow driving speeds.

3. Fencing



Fully Accessible | Partially Accessible | Non-Accessible

Definitions:

For the purpose of this evaluation, fencing can be defined as any type of physical barrier between the play facility and the roadway.

The accessibility of fencing is governed by:

- the extent of fencing between the roadway and the playground
- the effectiveness of the playground's internal pathway system in guiding children to a safe opening in the fence
- the height and type of fencing.

Low-height fencing (such as post and cable type), and fencing that has openings (such as widely spaced trees) or is easily damaged or mounted is considered accessible.

Fully accessible fencing includes fencing that is absent or easily accessible.

Partially accessible describes fencing that is lower or has several openings.

Non-accessible describes higher fencing with no openings or occasional openings at defined points.

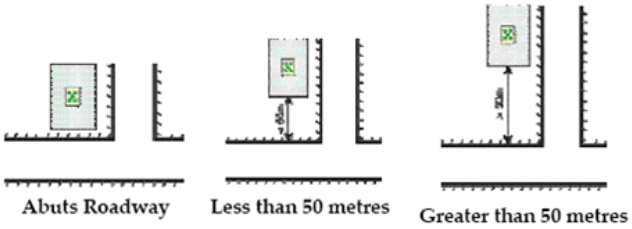
Considerations:

The presence of fencing can significantly reduce the need for a Playground Zone. Fencing acts as a physical barrier that prevents errant movements of children onto the roadway. The effectiveness of fencing depends on its accessibility, i.e. how easily it can be bypassed or traversed to access the roadway.

If a play area with equipment is the focal point of activity within a much larger field, it may also be appropriate to consider the presence of fencing around the play area itself, particularly if fencing is not provided along the roadside.

Playground areas and zones will be discouraged for playgrounds that are fully fenced from the adjacent roadway.

4. Property Line Separation



Definitions:

A roadway that is separated from the playground by only a sidewalk or fence is said to abut the roadway.

A playground boundary that is separated from the roadway by other land use may or may not be located within 50 meters of the roadway.

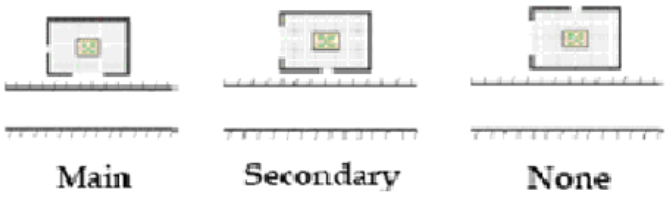
Considerations:

A playground often abuts at least one roadway, and it may also be close to an intersecting roadway. The separation between the property line of the playground and the intersecting roadway influences the likelihood of children entering the roadway, particularly in the absence of fencing.

When a play area containing equipment is the focal point for activity within a much larger field, the distance between the play equipment itself and the roadway should also be taken into consideration.

While the property line represents the most objective indication of the point where activity involving children begins, if there is appreciable distance between the roadway and a playground's equipment, the City will discourage the creation of a playground area or zone on the roadway.

5. Playground Entrance



Definitions:

Where a playground has multiple access points from the road, the activity is typically concentrated at one entrance, referred to as the **main entrance**. For playgrounds that are unfenced between the play area and a road, it can be said to have a main entrance along that road.
A **secondary entrance**, if it exists, typically has less activity than the main entrance.

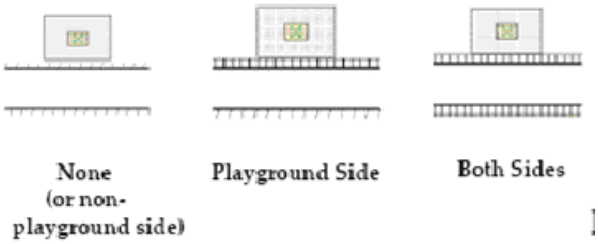
For a playground that is situated behind a school and can only be accessed from the front of the school, the playground can be said to have **no entrance** from any of the surrounding roads.

Considerations:

A playground entrance can be a driveway to the playground, the closest point along the road to an indoor facility's main door, or a designated on-street pick-up and drop-off area.

The playground entrance can become a focal point of congestion and pedestrian activity such as moving vehicles at the driveway and within the parking lot and stopped vehicles on the road, particularly during special events.

6. Location of Sidewalks



Sidewalks allow children to move safely between a playground or opening in the fence and a defined crossing point on the road, or to a network of sidewalks further from the playground. Where there are sidewalks between the playground and the road, children are less likely to walk on the road.

Application of Criteria

Use the above criteria to complete the following Input Worksheet and use the Worksheet Results Matrix to identify the need for a playground area, a playground zone or nothing.

Playground Input Worksheet

INSTALLATION CRITERION	MAX POINT VALUE (MPV)	DESCRIPTION			WEIGHTING FACTOR (WF)	SCORE (MPV*WF)
Playground Type	40	Frontage	Equipment	Class	N/A	
		>50m	5+	1	1.0	
			1 to 4	2	0.6	
			Sports Field or Active Green Area	3	0.2	
		<50m	Any or None	4	0.2	**T =**
Fencing	20	Fully Accessible			1.0	
		Partially Accessible			0.5	
		Non-Accessible/Indoor Facility			0.1	**F =**
Road Classification	20	Local			1.0	
		Minor Collector			0.75	
		Collector			0.5	**C =**
Property Line Separation	10	Abuts Roadway			1.0	
		Within 50 meters			0.5	
		Further than 50 meters			0.0	**L =**
Playground Entrance	5	Main Entrance			1.0	
		Secondary Entrance			0.6	
		None			0.0	**E =**
Sidewalks	5	None (or non-playground side)			1.0	
		Playground Side			0.4	
		Both Sides			0.0	**S =**
TOTAL SCORE (sum of T,F,C,L,E, and S)						

Playground Results Matrix

TOTAL SCORE	AREA OR ZONE?
0 - 40	Nothing
41 - 80	PLAYGROUND AREA
81 - 100	PLAYGROUND ZONE

A playground zone or area will not be considered under any of the following circumstances:

- **Along an arterial roadway**
- **Along an alley or a cul-de-sac**
- **For areas which have no active play area**
- **When the active play area is an appreciable distance from the roadway**

Schedule E-1

Existing Playground Zones (as of January 22, 2008)

41 Avenue between 59 Street and 60 Street
42 Avenue between 60 Street and 59 Street
50 Avenue between 64 Street and 65 Street
53 Avenue between East of 55 Street and 53 Street
54 Avenue between 62 Street and 63 Street
55 Avenue between 50 Street and 51 Street
50 Street between the lane South of 55 Avenue and 55 Avenue
51 Street between the lane South of 55 Avenue and 55 Avenue
54 Street between South of 54 Avenue and South of 53 Avenue
60 Street between 41 Avenue and 42 Avenue
64 Street between 49 Avenue and 50 Avenue – Creative Playground
Marler Drive between 73 Street and 69A Street Close
Enevold Drive between 64 Street and West of 62A Street
Edgewood Drive between East of 400 Edgewood Cl. and West of 200 Edgewood Cl.

Existing Playground Areas (as of January 22, 2008)

44 Street CL. North of 50 Avenue
57 Street between 35 Avenue and 36 Avenue
36 Avenue between 58 Street and 57 Street
Green Area along lane East of 46 Street between 54 Avenue and 52 B Avenue
Green Area between 47 Street and 48 Street and 47 Avenue and 46 Avenue
Green Area between 43 Avenue and 37 Ave and 65 Street and 64 Street
Green Area between 62 Street and Mount Pleasant Drive and 39 Avenue and 36 Avenue
Elliott Drive between 31 Avenue and 63 Street
Enevold Drive between 57 Street and Parkview Drive
Parkridge Drive along Tot Lot

Schedule F: <u>Criteria for School Zones and Areas</u> (adapted from Alberta Transportation's "Guidelines for School and Playground Zones and Areas" manual)

School Zones and Areas may be installed at the request of a School Board. Requests from individuals or groups other than School Boards will not be considered.

School Areas (warning signs only):

- Considered for roadways near Elementary and Middle Schools, where there is a likelihood of children entering the roadway.
- Will not be considered for High Schools, Post Secondary Institutions and Pre-Schools, due to the widespread recognition of their limited effectiveness for these age groups.

School Zones (warning signs and reduced speed limits):

- Will not be considered along "walk-to-school routes" away from the school vicinity, and will be discouraged on roadways where any of the following conditions exist:
    - School is located on an arterial road or highway;
    - School grounds are fully fenced;
    - School is located more than 50 meters from the roadway;
    - The roadway does not a have a school entrance; and
    - The length of the school frontage is less than 50 meters.

The factors to be considered in the establishment of School Areas and Zones are:

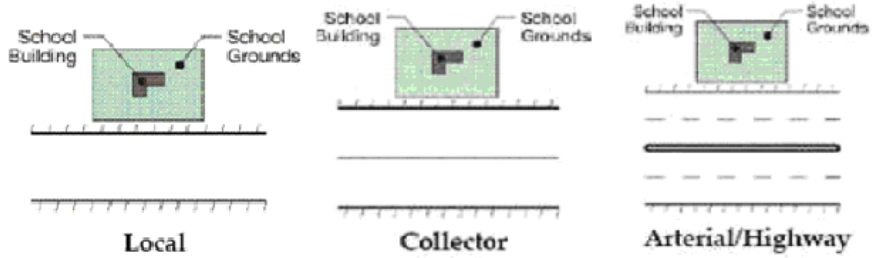
- School type
- Road classification
- Fencing characteristics
- Property line separation
- Location of school entrance
- Location of sidewalks
- Accident history

These criteria are described and illustrated as follows, along with descriptions and how they influence the need for a school zone. These criteria are to be evaluated according to the procedure presented after the criteria descriptions.

1. School Type

Without parental or school supervision, elementary school children are typically the most vulnerable due to their limited abilities to understand and anticipate vehicular traffic movements, and their tendency to accidentally enter roadways. Children in higher grades are typically better able to understand traffic and to control their own movements. School Zones or Areas will not be considered at high-schools or at post-secondary institutions.

2. Road Classification



Definitions:

Arterial roads and highways are typically multi-lane roads that carry high volumes of traffic, possibly including trucks, and have posted speed limits of 50 km/hr or greater.

Collector roads are usually narrower and have lower, but still significant traffic volumes, provide direct frontage to developments including schools, and have posted speed limits of 50 km/hr or greater.

Minor Collector roads usually have lower traffic volumes than collector roadways, but are busier than local roadways. Minor collector roads typically share a variety of characteristics of either collector and/or local roadways.

Local roads are often narrower still, provide direct access to homes and driveways, and may contain traffic calming devices, or parked cars, which create a narrower passageway resulting in lower traffic speeds.

Alleys / Cul-de-sacs are roadways with minimal local traffic. An alley is very narrow with a speed limit of 20 km/hr, and often has intrinsic traffic calming features such as limited visibility. Cul-de-sacs are located at end of crescents with only one main entrance in and out, leading to naturally slower speeds.

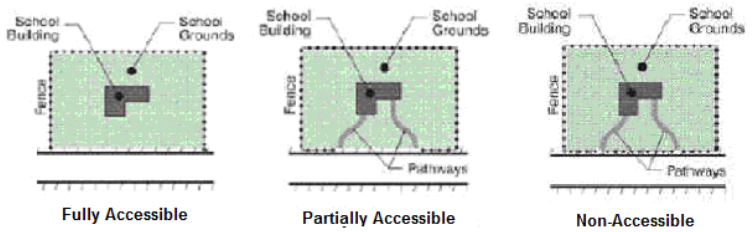
Considerations:

School Zones will not be installed on arterial roads. They can appear to contradict the roadway function, and hence may be unexpected and disrespected by motorists. They can provide children and parents with a false sense of security on a potentially hazardous roadway.

School Zones are discouraged on collector roadways for the reasons above, and will not be installed on collector roadways when the main access for the school is not adjacent to the collector roadway.

School Zones and School Areas will not be considered on alleys and cul-de-sacs, due to relatively slow driving speeds.

3. Fencing



Because it acts as a physical barrier that can prevent student movements onto the roadway, fencing can significantly reduce the need for a School Zone.

The effectiveness of fencing depends on its accessibility, i.e. how easily children can bypass or climb over it to gain access to the roadway.

The accessibility of fencing is governed by:

- the extent of fencing between the roadway and the school
- the effectiveness of the school's internal pathway system in guiding children to a safe opening in the fence
- the height and type of fencing. Post and cable type fencing or other low-height fencing, and fencing that contains openings or is easily damaged or mounted is more accessible.

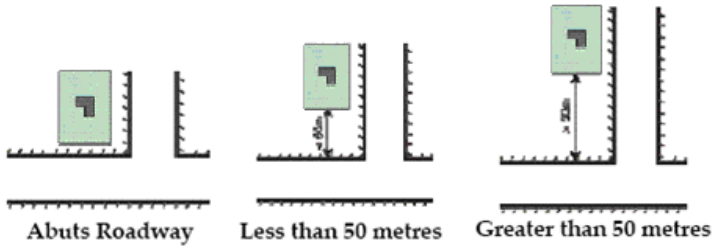
Definitions:

Fully accessible describes fencing that is absent or easily accessed.

Partially accessible describes fencing that is lower or has several openings, or, for example, widely spaced trees.

Non accessible describes higher fencing with limited openings at defined points.

4. Property Line Separation



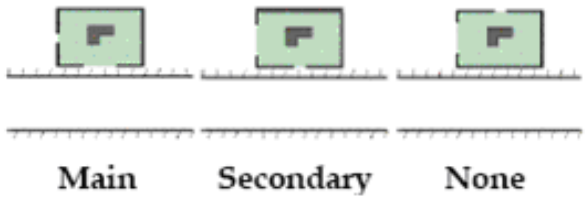
A school typically abuts at least one roadway. If the school is located near an intersection, it may also be located close to an intersecting roadway.

When the need for a School Zone on the intersecting roadway is assessed, the separation between the property line of the school and the roadway should be considered. The separation influences the likelihood of children entering the roadway, particularly if it is unfenced.

A roadway that is separated from the school property by only a sidewalk or fence is said to abut the roadway.

If a school is located within 50 meters, there is a greater likelihood that children may enter the roadway. The school property line represents the most objective indication of the point where school activity involving children begins. If it is known that the main area of activity occurs well back from the property line, further judgment may be used to assess the potential hazard to school children.

5. School Entrance

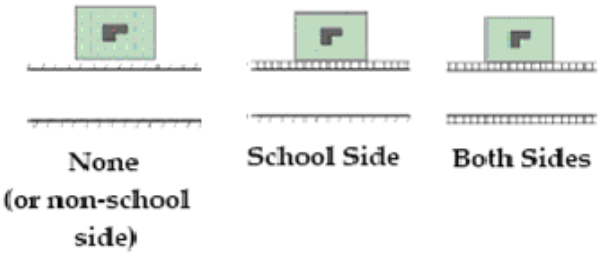


A school entrance can be a driveway to the school, the closest point along the road to the school's main door, or a designated on-street pick-up and drop-off area.

The school entrance becomes a focal point of congestion and pedestrian activity, including vehicle turning movements at the driveway, maneuvers within the parking lot, stoppages on the roadway and children crossing the road, particularly during pick-up and drop-off times.

Where a school has multiple access points from the road, the activity is typically concentrated at one entrance, referred to as the main entrance. A secondary entrance, if it exists, typically has far less activity than the main entrance.

6. Location of Sidewalks



The purpose of sidewalks is to

- provide safe route for children between the school grounds, or opening in the fence, and a defined crossing point on the roadway
- provide a link to the surrounding sidewalk network further from the school grounds.

If sidewalks are provided between the school and the roadway, children are less likely to walk in the roadway.

Application of Criteria

Use the previous criteria to complete the following Input Worksheet and use the Worksheet Results Matrix to identify the need for a school area, a school zone or nothing.

School Zone Input Worksheet

INSTALLATION CRITERION	MAX POINT VALUE (MPV)	DESCRIPTION	WEIGHTING FACTOR (WF)	SCORE (MPV*WF)
School Type	40	Elementary	1.0	
		Middle / Junior High	0.4	
		High-School	0.2	**T =**
Fencing	20	Fully-Accessible	1.0	
		Partially Accessible	0.5	
		Non-Accessible / Indoor Facility	0.1	**F =**
Road Classification	20	Local	1.0	
		Minor Collector	0.75	
		Collector	0.5	**C =**
Property Line Separation	10	Abuts Roadway	1.0	
		Within 50 meters	0.5	
		Further than 50 meters	0.0	**L =**
Entrance	5	Main	1.0	
		Secondary	0.6	
		None	0.0	**E =**
Sidewalks	5	None or Non-School Side	1.0	
		School Side Only	0.6	
		Both Sides	0.0	**S =**
TOTAL SCORE (sum of T,F,C,L,E, and S)				

School Results Matrix

TOTAL SCORE	AREA OR ZONE?
0-40	Nothing
41-80	SCHOOL AREA
81-100	SCHOOL ZONE

A school zone or area will not be considered under any of the following circumstances:

- **Along an arterial roadway**
- **Along an alley or a cul-de-sacs**

Schedule F-1

Existing School Zones (as of January 22, 2008)

43 Avenue – Chester Ronning School
Mount Pleasant Drive – Jack Stuart School
49 Avenue – Charlie Killam School, Sifton School
43 Street – Charlie Killam School, Sifton School
53 Street – Sparling School
53 Avenue – St. Pat's School
46 Street – Charlie Killam School
Mount Pleasant Drive – Our Lady of Mount Pleasant School
Comp Road – Camrose Composite High School

Existing School Areas (as of January 22, 2008)

South of 44B Ave – Chester Ronning School
52 Avenue – Sparling School