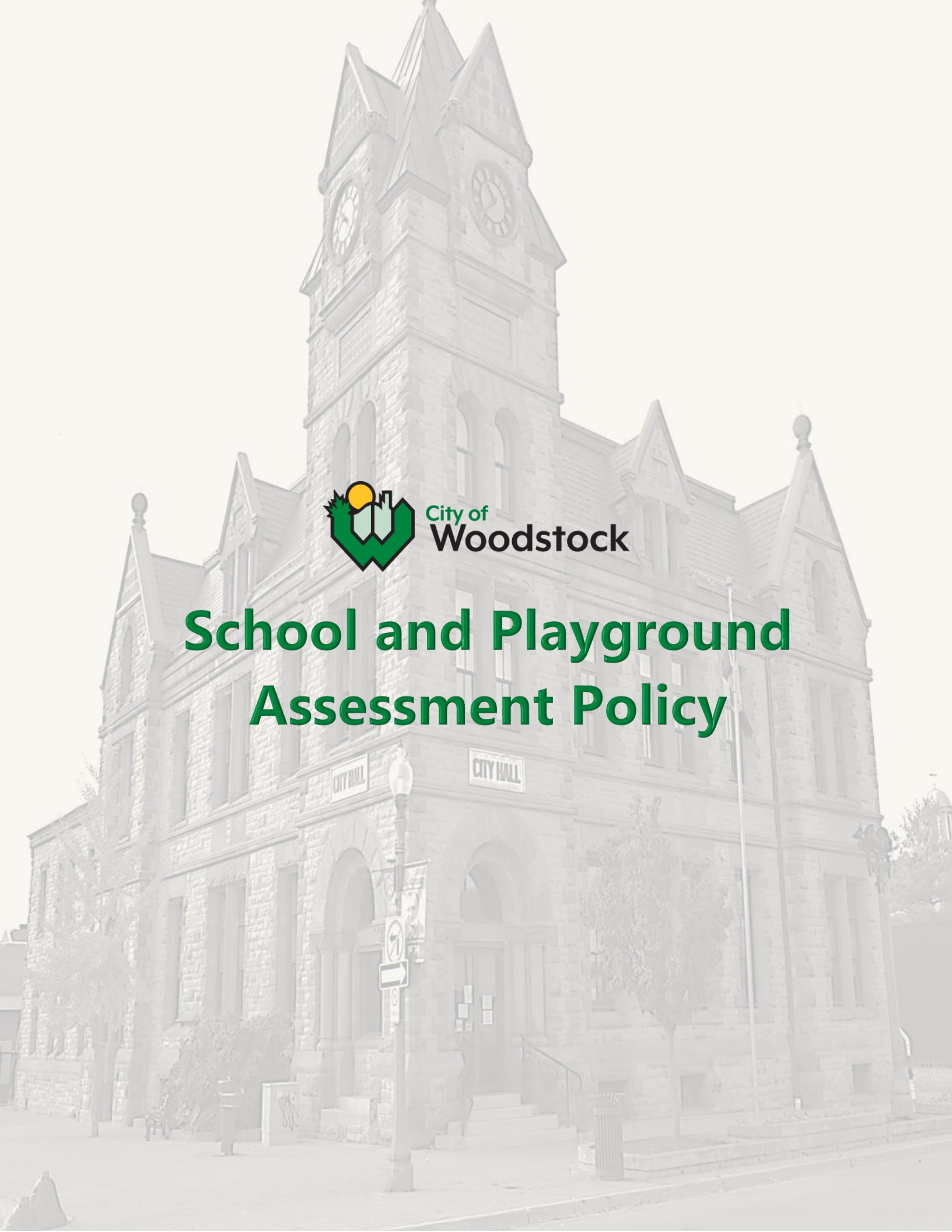

City of Woodstock

School and Playground Assessment Policy

Notice regarding referenced materials

This policy refers to guidelines and standards adopted from the Transportation Association of Canada (TAC) and the Ontario Ministry of Transportation (MTO) through the Ontario Traffic Manual (OTM). In particular, the policy references the document *School and Playground Areas and Zones: Guidelines for Application and Implementation* (Transportation Association of Canada, October 2006), as well as *Ontario Traffic Manual Book 5 – Regulatory Signs*. The TAC guidelines provide national guidance on establishing and implementing school and playground areas and zones, while OTM Book 5 provides guidelines for selecting, applying, and placing regulatory traffic signs. All referenced materials remain the property of the respective owners.

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1.0 Introduction

Creating safe, inclusive, and engaging environments for children is the fundamental responsibility of any community. Schools and playgrounds typically attract high concentrations of children who may be vulnerable to roadway hazards. Therefore, it is important to implement clear and consistent signage that informs motorists of their proximity to a school or playground, with the aim of making motorists more aware of the City of Woodstock's expectation (particularly as it relates to speed, preparedness, and stopping / parking prohibitions).

Robust and uniform school / playground signing strategies (and accompanying policies) minimize conflicts between motorists and "weaker users". Accordingly, this School and Playground Assessment Policy is based on principles outlined by the Transportation Association of Canada (TAC) and provides an objective, systematic framework for evaluating when School and Playground Areas and Zones are warranted; this policy supports consistent, transparent, and evidence-based decision-making through the consideration of site-specific factors, such as road classification, land use, pedestrian activity, and other miscellaneous site conditions. Through a structured evaluation process, this policy will ensure that school and playground areas and zones are implemented where needed (while also avoiding overuse that could reduce effectiveness); ultimately, this policy reflects the City of Woodstock's commitment to protecting children, supporting safe mobility, and improving traffic safety near schools and playgrounds.

2.0 Purpose

Traffic conditions near schools / playgrounds require greater safety measures due to the presence of children and pedestrians. School and playground areas and zones alert drivers that the roadway has increased pedestrian activity, and they encourage drivers to reduce their speeds where appropriate. National guidance emphasizes the use of objective and consistent criteria to determine whether a school or playground should be designated as an Area or Zone. Accordingly, the purpose of the Woodstock School and Playground Assessment Policy is to provide a consistent and objective framework for identifying, evaluating, and implementing School and Playground Areas and Zones within the City of Woodstock, while also addressing operational considerations, such as parking, stopping, and pick-up/drop-off activity. However, engineering judgment and site-specific conditions should also be factored into the structure of the following steps:

- Establish School and Playground Areas and Zones;
- Implement consistent signage; and
- Address parking, stopping, and pick-up / drop-off activity.

3.0 Definitions

3.1 School

An educational institution attended primarily by children, which includes elementary and secondary, both public and private; post-secondary institutions are not included in school area and zone designations.

3.2 Playground

A recreational facility used primarily by children, including outdoor playgrounds with equipment, sports fields, ball diamonds, tot lots (areas with equipment and benches/picnic tables), and indoor or enclosed facilities where children are common users (e.g., skating rinks and swimming pools).

3.3 School or Playground Area

A School or Playground Area is used to alert drivers that children may be present, with warning signage only (**Wc-1 (School Area)** or **Wc-3 (Playground Area),** as shown below) and no speed reduction; school or playground areas are applicable where children's activity exists but the risk is moderate.

Wc-1 (School Area)

Wc-3 (Playground Area)

Ontario Traffic Manual – Book 6 (Warning Signs)

3.4 School or Playground Zone

A School or Playground Zone is used to alert drivers that children may be present and to reduce their driving speed with warning signage and a maximum speed sign (TAC, 2006). **School Zones (Rb-6)** are indicated by the **Wc-1 (School Area)** sign together with the **Rb-1a (Maximum Speed)** regulatory sign; Playground Zones are indicated by the **Wc-3 (Playground Area)** and **Rb-1a regulatory signs**. The **Rb-7t (Km/h Tab)** sign can also be included under. Zones are implemented where children's activity and roadway conditions indicate a higher level of risk.

Rb-6 (School Zone)

Wc-3 and Rb-1a (Playground Zone)

Ontario Traffic Manual – Book 5 (Regulatory Signs)

3.5 Community Safety Zone

A Community Safety Zone is a designated road segment (established by municipal by-law) where the safety of children is paramount and where speeding fines are increased. The zone is implemented in areas where there is a higher potential risk to public safety, such as near schools, playgrounds, and other community facilities. A community safety zone is not required for all school or playground areas or zones; rather, it is implemented where there is a need for enhanced enforcement. The **Community Safety Zone sign (Rc-9)** indicates that increased penalties (fines) apply to traffic violations within the zone.

Rc-9 (Community Safety Zone)

Ontario Traffic Manual – Book 5 (Regulatory Signs)

The purpose of Community Safety Zones is to increase penalties (fines) and to emphasize that safety is critical in those areas. The BEGINS tab (Rb-84t) and the ENDS tab (Rb- 85t) must be appended to the sign at the corresponding start and finish points of the zone.

3.6 Urban

A roadway surrounded by developed land use, more frequent access points, pedestrian infrastructure (e.g., sidewalks), and lower posted speeds.

3.7 Rural

A roadway surrounded by lower development density, less frequent access points, limited pedestrian infrastructure, and higher posted speeds.

3.8 Parking

When a vehicle is left (with or without a driver) for a period longer than necessary to drop off passengers immediately or to load / unload**. No Parking (Rb-51) signs** allow temporary stopping to load/unload passengers actively, but drivers cannot leave the vehicle.

Rb-51 (No Parking)

Ontario Traffic Manual – Book 5 (Regulatory Signs)

3.9 Stopping

When a vehicle is motionless but occupied, typically for a very short duration to quickly load / unload passengers. **No Stopping (Rb-55) signs** mean there is no stopping, standing, or parking permitted, even briefly.

Rb-55 (No Stopping)

Ontario Traffic Manual – Book 5 (Regulatory Signs)

3.10 Pick-up / Drop-off

The temporary stopping and standing of vehicles to load or unload passengers, typically during school arrival and dismissal. Pick-up and drop-off may occur within designated areas on school property or along marked curbside locations.

4.0 Establishment of School Zones and Areas

School Areas and Zones should be implemented on roadways adjacent to elementary schools (as well as secondary schools with an elementary school component). School Areas and Zones are generally not applied to secondary schools, post-secondary institutions, and preschools because of their limited effectiveness for these respective user groups *(TAC School and Playground Areas and Zones: Guidelines for Application and Implementation, 2006)*. Nevertheless, secondary schools may warrant School Areas or Zones based on site specific conditions, including pedestrian activity, operating speeds, traffic volumes, and collision history.

School Zones are generally discouraged under the following conditions:

- On arterial roads or freeways
- School grounds are fully enclosed by continuous, non-traversable fencing
- The school is located a significant distance from the roadway (e.g., greater than 50 metres)
- There are no school entrances or access points along the candidate roadway
- The school frontage along the roadway is limited (e.g., less than 50 metres)

The assessment process is summarized as follows:

- **Step 1:** Identify School or Playground
- **Step 2:** Complete Assessment Sheet
- **Step 3:** Calculate Score
- **Step 4:** Determine Area or Zone
- **Step 5:** Apply Signage

The following factors should be considered when determining the need for a School Area or Zone:

4.1 School Type

A school is an educational institution; schools that can be categorized as School Zones and Areas are elementary and secondary. Post-secondary schools (Adult / College / University) do not require designated School Areas or Zones, as students are more aware of vehicular movements. Younger children (elementary school age) are the most vulnerable and warrant greater protection because of their limited ability to understand and anticipate vehicular traffic movements and their tendency to enter the roadway accidentally, whereas secondary schools require context-specific evaluation because students are older pedestrians who are better able to understand traffic and control their own movements.

4.2 Road Classification

Roads adjacent to schools can be classified into these four categories:

- **Local Roads:** Connect directly to homes and neighbourhoods; posted speed limits of 50 km/h and lower, with lower traffic volumes.
- **Collector Roads:** Link local roads to busier streets; provide access to nearby properties and typically implement posted speed limits of 50 km/h or greater.
- **Arterial Roads:** Move large volumes of traffic across the city and tend to be multi-lane roads with posted speed limits of 50 km/h or greater; school zones should be avoided on arterial roads (as they conflict with the roadway's function).

- **Expressways / Freeways:** Designed to move traffic quickly over long distances without providing direct property access; since these are typically multi-lane roads carrying high volumes of traffic, including trucks, and have posted speed limits of 100 km/h and greater, school zones should be avoided on expressways and freeways (as they conflict with the roadway's function).

4.3 School Proximity to Roadway

The distance between the school and the roadway influences how children interact with traffic; the residual impact of internal circulation should also be considered. School sites fall into the following categories:

- Property line adjacent to roadway;
- Setback less than 50m;
- Setback greater than 50m.

4.4 Fencing

Having a fence around a school reduces the risk of children entering the roadway directly from the school. Fencing conditions are generally classified as follows:

- Fully traversable fencing
  - Fencing that is absent or can easily be traversed.
- Partially traversable fencing
  - Fencing is low-mounted or has many openings.
- Non-traversable fencing
  - Fencing is continuous, high-mounted, and has limited openings.

4.5 Entrances

The main entrance of a school is where pedestrian and vehicular activity is concentrated. Secondary entrances generally generate less activity. The location of entrances relative to the roadway and the level of activity associated with each entrance (i.e., main or secondary) should be considered when determining the need for a School Area or Zone.

4.6 Sidewalks

When sidewalks are present between the school and the roadway, children are less likely to walk in the roadway.

5.0 Assessment of School Zones and Areas

An assessment worksheet, adapted from national guidance *(TAC School and Playground Areas and Zones: Guidelines for Application and Implementation, 2006)* was developed to aid decision-makers in evaluate the need for School Areas and School Zones within the City of Woodstock. The worksheet is provided in **Appendix A** and assigns point values to roadway and site characteristics that influence children's safety near schools. The total score helps decision-makers determine whether a School Zone, a School Area, or no additional treatment is appropriate. Engineering judgment and site-specific conditions should also be considered.

Currently, School Zones in the City of Woodstock operate at 40 km/h posted speed limit (throughout the day and overnight). The reduced speed limit is applied on all roads within the defined School Zone limits (150 metres before and 150 metres beyond the school property).

6.0 School Parking and Stopping Controls

As mentioned in the historical (2017) City of Woodstock school zone policy, pick-up and drop-off traffic during school arrival and dismissal periods is the main source of congestion around schools. Improper stopping and parking behaviour can lead to queues and traffic jams, block driveways and crossings, and ultimately obstruct visibility for children crossing the road, thereby increasing the risk of collisions for pedestrians and cyclists. In that document, the following considerations were identified regarding management of pick-up and drop-off activity at schools:

6.1 Pick-up and Drop-off Areas

A pick-up and drop-off area is a designated space for short stops (typically two minutes or less), where parents and guardians can quickly load and unload their children without parking or leaving their vehicles. If possible, these areas should be on school property and separated from school bus loading zones to reduce conflicts and delays (and enhance safety and efficiency). These areas should include a clearly defined circulation pattern that allows vehicles to enter, drop off, or pick up children efficiently (and exit the site without interfering with other movements). If on-site pick-up and drop-off areas are not available, a curbside area along the street (adjacent to the school property) should be selected. Signage and / or pavement markings should be provided, and “No Parking” or “No Stopping” controls should be implemented where necessary to manage curbside activity and maintain safe traffic operations.

Pick-up and drop-off areas should generally:

- Be separate from general parking areas, with a dedicated drop-off lane;
- Be located adjacent to a sidewalk to allow children to enter and exit vehicles safely;
- Be designed to prevent queues from extending onto adjacent streets;
- Avoid conflicts with school bus loading zones and pedestrian crossings;
- Include clear signage and pavement markings.

The following issues should be considered when reviewing pick-up / drop-off areas:

- Vehicles stopping or parking on streets that have short widths;
- Conflicts between school buses and parent vehicles;
- Insufficient on-site pick-up and drop-off capacity;
- Parents parking on nearby streets and crossing mid-block;
- Illegal or unsafe pedestrian crossings;
- Confusing circulation patterns (e.g., one-way operations);
- Need for staff or crossing guard supervision during peak periods.

The following measures should be considered / implemented:

- Improving on-site circulation and minimizing queues;
- Adding signage and pavement markings;
- Requesting staff supervision or crossing guards during peak periods;
- Communicating with the parents about pick-up and drop-off rules.

6.2 Bus Loading

School bus loading zones should be clearly visible to ensure safe and efficient student loading and unloading. Where feasible, bus loading zones should be located on school property to reduce conflicts with general traffic and pick-up / drop-off operations. If on-site bus loading zones are not available, a curbside zone can be designated along the roadway adjacent to the school, preferably on the same side of the school. The **School Bus Loading Zone sign (Rb-89)** should be used to identify the limits of the bus loading zone. School bus loading zones should generally:

- Be on the same side of the street as the school property;
- Be close to the main school entrance;
- Decrease the need for students to cross the roadway after exiting the bus;
- Provide enough space for buses to enter, stop, and exit safely; and
- Be clearly signed and, where appropriate, supported by pavement markings.

To prevent congestion and to allow buses to enter / exit the loading area efficiently and safely, “no stopping zones” should be added on the opposite side of the street of a school bus loading zone.

Rb-89 (School Bus Loading Zone)
Ontario Traffic Manual – Book 5 (Regulatory Signs)

The following issues should be reviewed:

- Conflicts between school buses and other vehicles;
- Vehicles blocking bus loading zones;
- Insufficient space for buses to maneuver;
- Bus circulation disrupted by pick-up and drop-off activity;
- Queues interfering with bus access or egress.

The following measures should be considered:

- Dedicated school bus loading areas;
- No stopping zones near bus loading areas;
- Separation of bus and parent pick-up / drop-off areas;
- Review of school bus routing and operations;
- Improved signage and pavement markings to guide vehicles.

6.3 No Stopping Zones

Per the Ontario Traffic Manual (OTM) Book 5, “No Stopping” controls prohibit stopping, standing, or parking (even briefly), except when required to avoid conflict with traffic or comply with the directions of a police officer or traffic control devices. No Stopping controls are more restrictive than No Parking controls because they prohibit vehicles from stopping even momentarily. These controls should be applied at locations where stopped vehicles create safety hazards, reduce visibility, or contribute to traffic congestion.

"No Stopping" zones should generally be implemented at the following locations:

1. **Near School Entrances**
   Directly in front of school entrances or along sections of roadway with high pedestrian activity.

2. **Opposite School Frontage**
   On the side of the roadway opposite the school property, particularly where pick-up and drop-off activity occurs; this helps to maintain clear sightlines and discourages unsafe mid-block crossings. These restrictions could apply only during school days.

3. **Opposite School Bus Loading Zones**
   On the side of the street opposite the school bus loading zones to prevent congestion and to allow buses to enter / exit safely.

4. **Near Pedestrian Crossings**
   Within 20m of a school crosswalk, within 20m of a Pedestrian Crossover (PXO), and at locations where crossing guards operate.

5. **Locations with Restricted Visibility**
   Within 10 m of an intersection, driveway, or school entrance, and at locations where trees, curves, or parked vehicles reduce sightlines.

6. **Areas with High Pick-Up and Drop-Off Activity**
   Areas that should not be designed for pick-up and drop-off, as they obstruct traffic flow or interfere with designated pick-up and drop-off operations.

7. **Road Segments Where Stopping Creates Congestion**

8. **Near Emergency Access Points or Fire Routes**
   Where stopped vehicles obstruct emergency vehicle access to the school.

9. **Near School Driveway Entrances**
   Where stopping obstructs vehicles entering / exiting school parking areas.

Notes:

- Where appropriate, "No Stopping" zones may operate only on school days, typically between 8:00 a.m. and 4:00 p.m. The **No Stopping regulatory sign (Rb-56)** should be used with applicable days and times shown (or **Rb-55A** with days).
- Engineering judgment should be applied when determining the appropriate location and extent of any "No Stopping" restrictions.

Rb-55A (No Stopping with Days)

Rb-56 (No Stopping with Days and Times)

Ontario Traffic Manual – Book 5 (Regulatory Signs)

6.4 No Parking Zones

Per the Ontario Traffic Manual (OTM) Book 5, "No Parking" controls prohibit vehicles from parking or remaining stationary for extended periods, but they allow brief stopping for passenger loading / unloading where appropriate. "No Parking" controls should be applied where longer-term parking is not allowed.

No Parking zones should generally be implemented at the following locations:

1. **Along the School Frontage**
   On the side of the roadway which is directly adjacent to the school property, particularly where pedestrian access to the school frontage is limited. Parking adjacent to school property (along the curb) is typically prohibited during school hours, between 8:00 a.m. and 5:00 p.m. on school days, except on weekends and holidays. This may be enforced as a specific offence (to park adjacent to a school during a prohibited time).

2. **Locations Where Short-Term Stopping is Acceptable**
   Where brief passenger loading and unloading is allowed, but any longer parking would reduce visibility or obstruct traffic operations.

3. **Areas Near Pick-Up and Drop-Off Zones**
   On roadway segments where curbside activity occurs and where parked vehicles would interfere with efficient school pick-up and drop-off circulation.

4. **Near School Bus Stops**
   Where parked vehicles would obstruct bus loading / unloading for students.

5. **At/Near Intersections, Driveways, Pedestrian Crossings, or Curves in the Road**
   Where parked vehicles reduce sightlines for drivers and children.

6. **Opposite School Frontage**
   Where parked vehicles create congestion and reduce sightlines.

7. **Locations Where On-Street Parking Conflicts with School Operations**
   Where on-street parking interferes with school access, traffic circulation, or emergency vehicle access.

8. **Emergency Access**
   Fire routes should remain unobstructed, and "No Parking" or "No Stopping" controls should be enforced near emergency access areas; signage should clearly indicate fire routes.

Notes:

- No Parking controls should be used where brief stopping is permitted, while "No Stopping" controls should be used where stopping is prohibited.
- Where feasible, "No Parking" should be applied along the school frontage, while "No Stopping" should be applied on the opposite side of the roadway.
- Apply part-time restrictions (e.g., school days or arrival / dismissal times) when full-time restrictions are not necessary.
- On-site parking is preferred; where possible, parent parking, staff parking, and school bus loading areas should be accommodated within school property to reduce curbside conflicts and to improve traffic operations.
- If on-site parking is not possible, parents should, where feasible, park on designated nearby streets and walk their students to school rather than stopping directly in front of school entrances.
- Engineering judgment should be applied when determining the appropriate location and extent of "No Parking" restrictions.

The following operational issues should be addressed during site-specific review:

- Vehicle(s) parked too close to intersections and on travel lanes;
- Sightline obstructions caused by parked vehicles;
- Vehicles parked in fire routes or emergency access areas;
- Vehicles parked along nearby streets creating operational issues;
- Lack of "No Stopping" or "No Parking" signage to control and / or manage non-compliant driver behaviour.

Where adverse operational conditions exist, the following countermeasures should be considered:

- No Stopping zones near intersections, entrances, and crossings;
- No Parking restrictions near school frontage;
- Fire route enforcement;
- Additional signage and pavement markings;
- Periodic monitoring and enforcement where necessary.

6.5 Enforcement and Compliance

Effective enforcement is necessary to ensure compliance with traffic regulations and maintain safe conditions in School Zones and Areas. Parking and stopping should be enforced regularly by municipal by-law officers and / or local police services.

Education and communication are important components of effective enforcement. The City of Woodstock should work with the school boards and administrators to inform parents, guardians, and students of the traffic regulations and safety benefits associated with School Zone and Area controls.

Consistent enforcement can improve compliance and reduce unsafe and prohibited behaviours, such as illegal parking, stopping in “No Stopping” zones, and unsafe pick-up and drop-off behaviours.

Enforcement should focus on vehicles that are:

- Stopping in “No Stopping” zones;
- Parking in “No Parking” zones;
- Blocking driveways, intersections, or crossings;
- Conducting unsafe pick-up and drop-off behaviour during school arrival and dismissal periods.

School staff and crossing guards can assist by reporting recurring violations or safety concerns to the City for enforcement follow-up. The City can also periodically monitor schools to identify issues and determine whether more traffic control or operational measures are required.

7.0 Pedestrian Crossing Safety

The 2017 City of Woodstock policy identifies concerns related to pedestrian safety and congestion around schools. Pedestrian safety at schools focuses on protecting children walking or cycling to and from school. Appropriate pedestrian crossing treatments should be provided to help students cross roadways safely. The selection and implementation of pedestrian crossing treatments should follow the OTM Book 15 (Pedestrian Crossing Treatments) and Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGFCR).

The selection and implementation of pedestrian crossing treatments should follow applicable provincial warrants and guidelines, including those provided in the Ontario Traffic Manual (OTM). Where warranted, pedestrian crossing safety measures may include:

- Marked crosswalks (where treatments are controlled);
- Pedestrian crossovers (PXOs);
- Adult school crossing guards;
- Pedestrian signals at signalized intersections;
- Curb extensions or other design features that reduce crossing distance;
- Pedestrian refuge islands on wider roadways;
- Pavement markings to improve driver awareness.

These measures help improve pedestrian visibility, reduce vehicle speeds, and provide safer crossing opportunities for children travelling to and from school. When reviewing pedestrian safety near schools, the following conditions should be considered:

- Mid-block crossings;
- Unsafe or illegal crossing behaviour;
- Lack of crossing controls;
- Busy intersections near schools;
- Sightline obstructions caused by parked vehicles;
- Lack of sidewalks, pathways, or shoulder markings; and
- High pedestrian volumes during arrival and dismissal periods.

Where these conditions exist, the aforementioned pedestrian safety measures should be considered, along with the following additional measures, where appropriate:

- All-way stop control;
- Shoulder markings or walkway improvements;
- Curb extensions or other traffic calming measures; and
- Additional signage and pavement markings.

Engineering judgment should be applied when determining the appropriate pedestrian safety measures based on site-specific conditions.

8.0 Guidelines for New Schools

New schools have an opportunity to incorporate safe, efficient site designs and traffic operations to help mitigate future issues with parking, stopping, and pick-up / drop-off. School site design should consider the safe movement of students, cyclists, school buses, and vehicles.

New schools should accommodate:

- On-site parent pick-up and drop-off areas (kiss-and-ride);
- School bus loading zones;
- Connections from the school's entrances to area sidewalks and pathways;
- Safe walking / cycling routes that encourage students to choose active transportation;
- Parking areas for staff and visitors on school property; and
- Accessible parking spaces and paths that meet provincial accessibility standards.

If feasible, school sites should separate walking paths, bus areas, and pick-up / drop-off areas to reduce conflicts with the different transportation modes. New schools should avoid curbside pick-up and drop-off on nearby streets and make on-site pick-up and drop-off the main option. School boards should ensure that the designs for on-site circulation areas include clear and consistent signage and pavement markings to reduce congestion on adjacent streets and to improve safety for children, cyclists, and vehicles.

9.0 Signage / Markings for School Areas and Zones

Signage and pavement markings for identifying School Areas and Zones are shown in **Figures 1 and 2**, which illustrate how School Areas and Zones should be configured on an urban roadway. All traffic control devices should follow the guidance outlined in the Ontario Traffic Manual (OTM). Flashing beacons or illumination of the Rb-1 Maximum Speed sign may be used as a supplementary warning device to draw drivers' attention to important warning signs, according to the Manual of Traffic Control Devices for Canada (MUTCDC).

Regulatory signs (e.g., No Parking, No Stopping, pedestrian crossovers, speed limits) and warning signs (e.g., school area signs, pedestrian crossing signs) should be consistent across all schools. Clear signage and pavement markings are essential for guiding drivers and pedestrians (and improving safety) near schools.

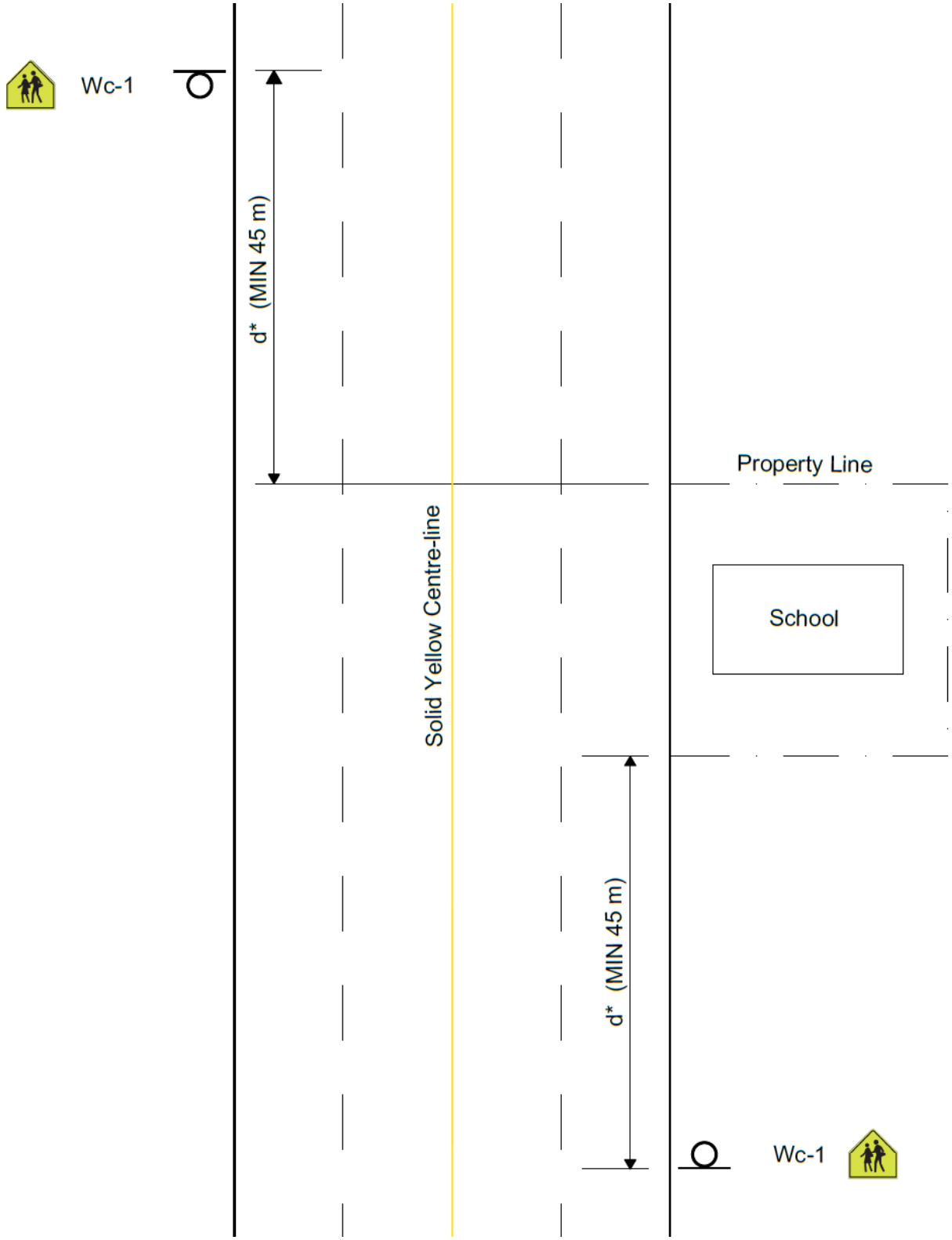

Figure 1: School Area (Urban Road)

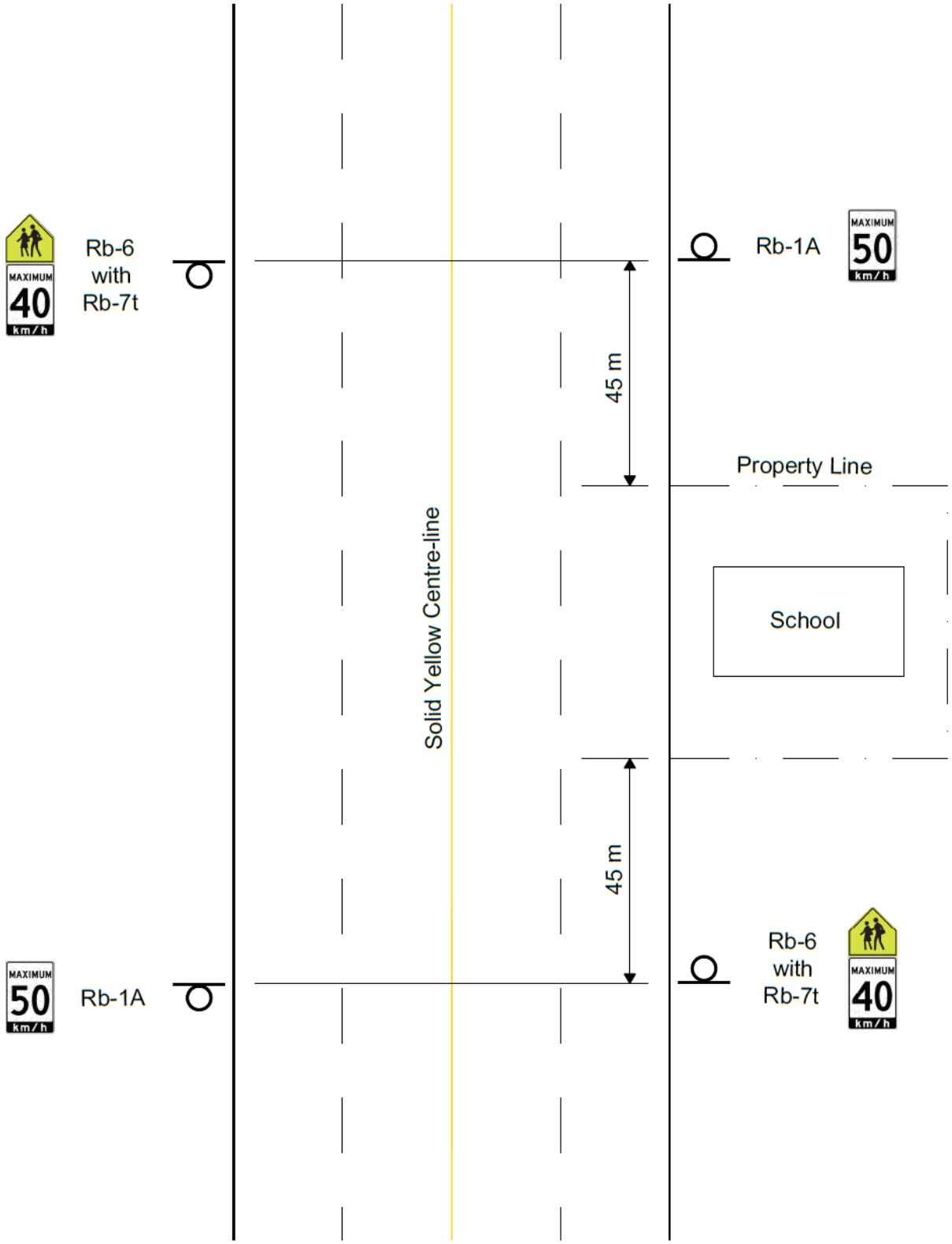

Figure 2: School Zone (Urban Road)

On urban, undivided two-lane roadways, School Areas and Zones should generally restrict passing movements by using solid yellow centre-line markings throughout the extent of the area / zone. Where additional emphasis is warranted, double-yellow centre-line markings may be considered.

Where the posted speed reduction is 20 km/h or greater (i.e., 60 km/h to 40 km/h), particularly on collector or arterial roadways, or where operating speeds and/or 85th percentile speeds are high, the **Maximum Speed Ahead sign with km/h included (Rb-5A)** should be considered in advance of School Zones. The following **Figure 3** illustrates the expected configuration.

In accordance with OTM Book 5, the regulatory Rb-5A sign should be placed 100m to 250m in advance of the reduced speed zone (and followed by a Maximum Speed sign with a "Begins" tab at the start of the zone). Transition speed limits in increments not exceeding 20 km/h should be used where speed reductions exceed 20 km/h (e.g., 80 km/h to 60 km/h to 50 or 40 km/h). Standard sign size (600 mm x 900 mm) should be used for posted speeds of 60 km/h or less, while oversize signs (900 mm x 1500 mm) should be used for posted speeds of 70 km/h or greater, or where additional emphasis is required. Use of the Rb-5A sign should remain site specific and based on engineering judgment.

Rb-5A (Maximum Speed Ahead Sign with KM/H Included)

Ontario Traffic Manual – Book 5 (Regulatory Signs)

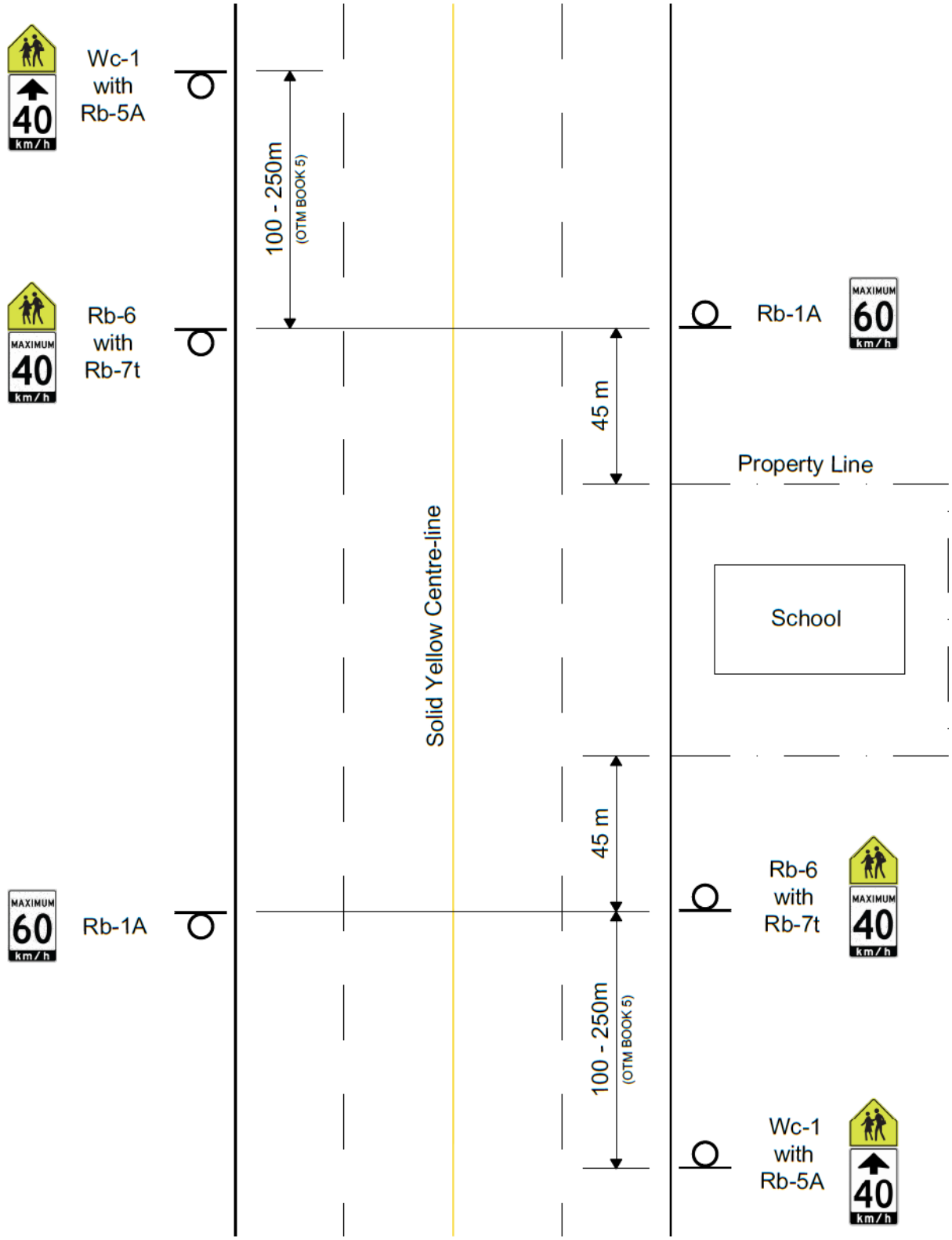

Figure 3: School Zone with 20km/h Reduction (Urban Road)

Site-specific review should consider remediation of the following potential deficiencies:

- Missing or unclear pavement markings (where warranted);
- Missing regulatory (pedestrian crossover, speed limit, etc.) signs;
- Missing School Zone advance and / or other warning signs;
- Missing “Do Not Enter” signage;
- Lack of pavement marking at entrances and exits.

Where deficiencies are identified, signage and pavement markings should be installed in accordance with the Ontario Traffic Manual. Engineering judgment should be applied when determining the appropriate signage and pavement markings based on site-specific conditions.

10.0 Establishment of Playground Zones and Areas

Playground Areas and Zones should be implemented where children are likely to be present near roadways and where there is a risk of children entering the roadway. Playground Areas consist of warning signage only (Wc-3), while Playground Zones include both warning signage and a reduced speed limit for higher-level risk locations. Playground Areas and Zones should be applied selectively based on demonstrated need, local conditions, and engineering judgment.

10.1 Playground Type

A playground is an area with either of the following: equipment, sports fields, ball diamonds, tot lots, and indoor recreational facilities, such as arenas or swimming pools, where children can use them. The type and level of playground activity influence the need for a Playground Area or Zone. A playground with higher usage and greater exposure to roadways is more likely to warrant a Playground Zone, while a smaller playground with less usage and exposure poses a lower risk. Outdoor playgrounds typically generate higher levels of activity. In contrast, indoor or enclosed facilities, such as arenas, swimming pools, or enclosed recreation areas, may result in lower exposure to roadway traffic, depending on access and site configuration. The capacity (number of children) of a playground is of interest because it indicates the need for Playground Areas or Zones, as more children are exposed to traffic. The capacity of the playground equipment is usually provided in the playground. Commercial playground equipment manufacturers usually specify the number of pieces of equipment/activities, the age range, and the capacity per equipment. When not specified, the capacity of playground equipment should be determined based on the context, site observations, and surrounding land uses *(TAC School and Playground Areas and Zones: Guidelines for Application and Implementation, 2006)*.

Open fields (without playground equipment) should be evaluated by surveying the number of children using them to determine whether they need a designated Playground Area or Zone. The City of Woodstock should document the specific reasons to prevent all open fields from becoming candidates for Playground Areas or Zones.

10.2 Road Classification

Roads adjacent to playgrounds can be classified into these four categories:

- **Local Roads:** Connect directly to homes and neighbourhoods; posted speed limits of 50 km/h and lower, with lower traffic volumes.
- **Collector Roads:** Link local roads to busier streets; provides access to nearby properties; often has transit routes and bike lanes; posted speed limits of 50 km/h or greater, typically narrower, and carry moderate traffic.
- **Arterial Roads:** Move large volumes of traffic across the city; typically, multi-lane roads with posted speed limits of 50 km/h or greater. Playground zones should be avoided on arterial roads, as they conflict with the roadway's function.
- **Expressways / Freeways:** Designed to move traffic quickly over long distances and does not provide direct property access; typically, multi-lane roads carrying high volumes of traffic, including trucks, and have posted speed limits of 100 km/h and greater. Playground zones should be avoided on expressways and freeways, as they conflict with the roadway’s function.

Playground Areas and Zones are more appropriate on local and collector roads, where lower speeds and higher pedestrian activity are common.

10.3 Fencing

Having a fence around the playground reduces the risk of children entering the roadway directly. For playgrounds, fencing is any physical barrier between the play facility and the roadway, and its effectiveness depends on its traversability:

- Fully traversable fencing is absent or can easily be traversed.
- Partially traversable fencing is low-height (such as post and cable type) or has many openings (or, for example, widely spaced trees).
- Non-traversable fencing is continuous, high-mounted, and has limited openings.

10.4 Playground Proximity to Roadway

The distance between the playground (or playground equipment) and the adjacent roadway should be considered when determining area or zone designation, as the separation influences the likelihood of children entering the candidate roadway, especially when there is no fence along the roadway. When evaluating proximity, both the property line and the location of play equipment should be considered. In some cases, play equipment may be located further from the roadway than the property line, which may reduce risk. The following conditions should be considered:

- Playgrounds directly adjacent to the roadway;
- Playgrounds set back within 50 metres;
- Playgrounds located more than 50 metres away.

10.5 Entrances

The main entrance of a playground can be either a driveway, parking lot access points near an indoor facility's main door, or a designated on-street pick-up and drop-off area. A secondary entrance has less activity than the main entrance.

If a playground is behind a school and has no access from the surrounding roadways, it is considered to have no entrance from those roadways. If a playground does not have a fence between the playground area and the roadway, the playground is considered to have a main entrance along the subject roadway.

10.6 Sidewalks

When sidewalks are present between the playground and roadway, children are less likely to walk in the roadway.

11.0 Assessment of Playground Zones and Areas

An assessment worksheet was developed using the national guidance *(TAC School and Playground Areas and Zones: Guidelines for Application and Implementation, 2006)* to help evaluate the need for Playground Areas and Playground Zones in the City of Woodstock. The worksheet is provided in **Appendix B** and assigns point values to roadway and playground characteristics that influence children's safety. The total score helps determine whether a Playground Zone, a Playground Area, or no additional treatment is appropriate. Engineering judgment and site-specific conditions should also be considered.

Where Playground Zones are implemented, the appropriate speed limit and zone limits should be determined based on site-specific conditions and in accordance with applicable municipal policies and the Ontario Traffic Manual (OTM).

12.0 Signage / Markings for Playground Areas and Zones

The expected signage and pavement markings within Playground Areas and Zones are illustrated in **Figures 4 to 5.**

All traffic control devices should follow the guidance outlined in the Ontario Traffic Manual (OTM). On urban, undivided two-lane roadways, Playground Areas and Zones should generally restrict passing movements by using solid yellow centre-line markings throughout the extent of the area / zone. Where additional emphasis is warranted, double-yellow centre-line markings may be considered.

Where the posted speed reduction is 20 km/h or greater (i.e., 60 km/h to 40 km/h), particularly on collector or arterial roadways, or where operating speeds and/or 85th percentile speeds are high, the **Maximum Speed Ahead sign with km/h included (Rb-5A)** should be considered in advance of Playground Zones, as shown in **Figure 6**.

In accordance with OTM Book 5, the Rb-5A sign should be placed 100m to 250m in advance of the reduced speed zone and followed by a Maximum Speed sign, with a “Begins” tab at the start of the zone. Transition speed limits in increments not exceeding 20 km/h should be used where speed reductions exceed 20 km/h (e.g., 80 km/h to 60 km/h to 50 or 40 km/h). Standard sign size (600 mm x 900 mm) should be used for posted speeds of 60 km/h or less, while oversize signs (900 mm x 1500 mm) should be used for posted speeds of 70 km/h or greater, or where additional emphasis is required. Use of the Rb-5A sign should remain site-specific and based on engineering judgment.

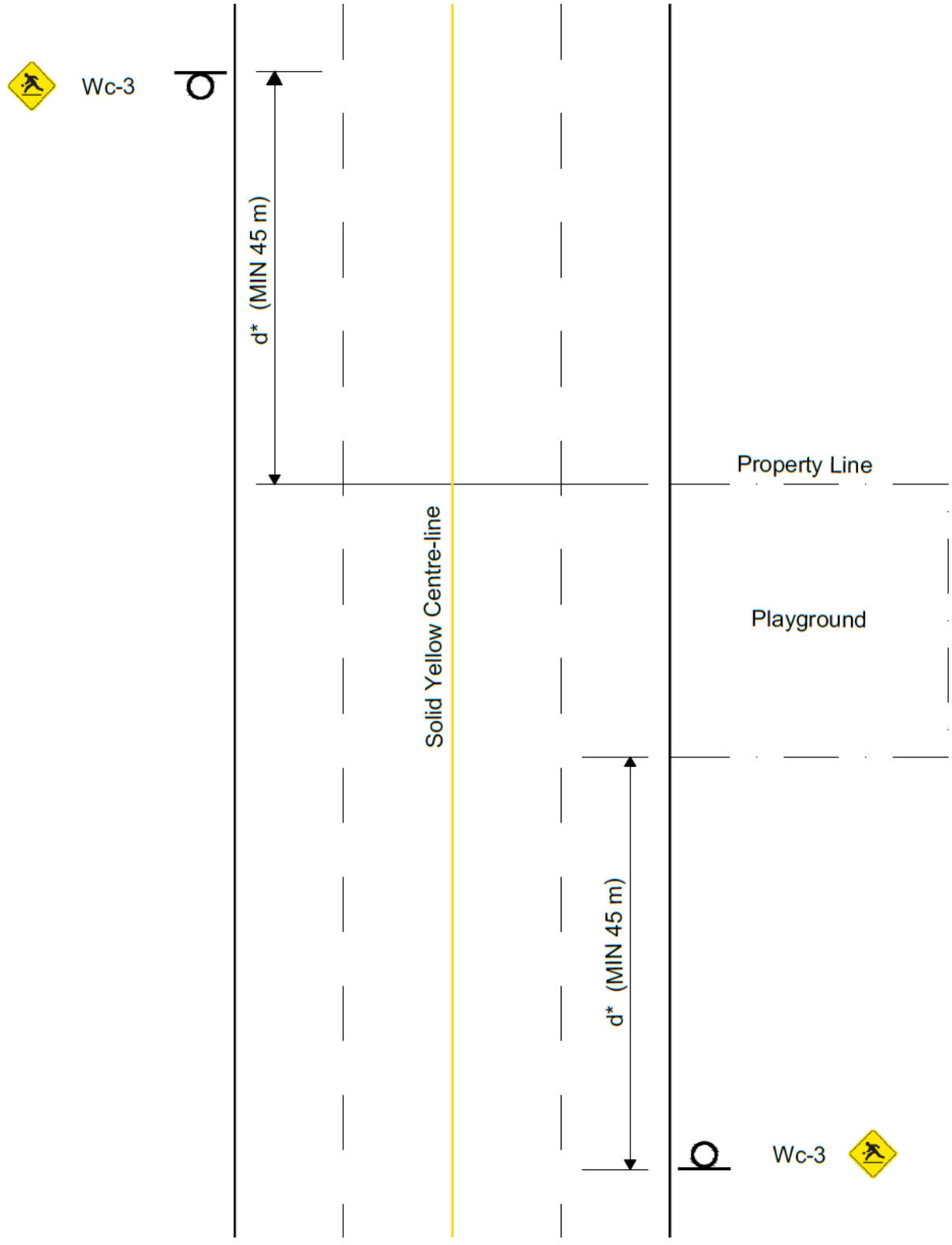

Figure 4: Playground Area (Urban Road)

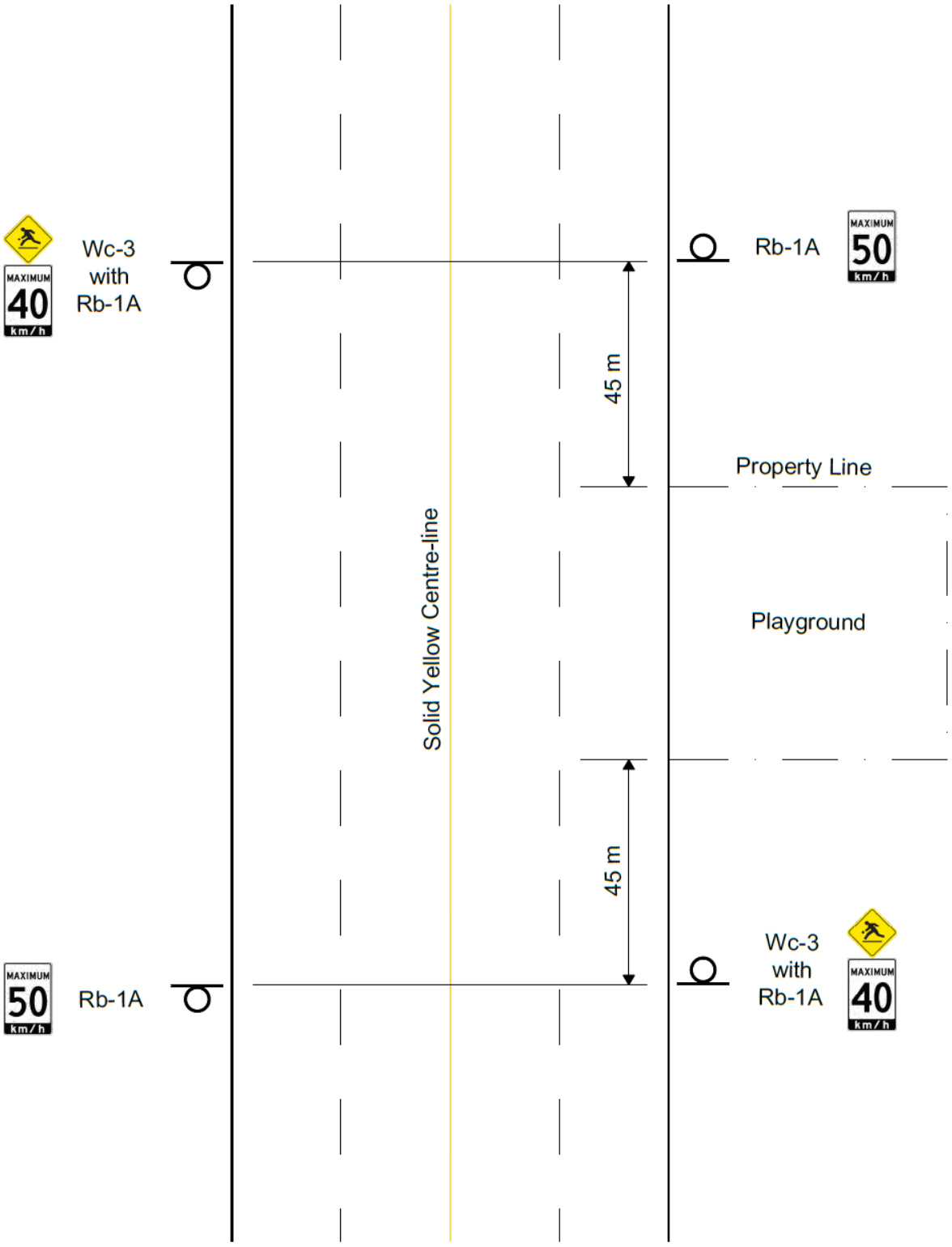

Figure 5: Playground Zone (Urban Road)

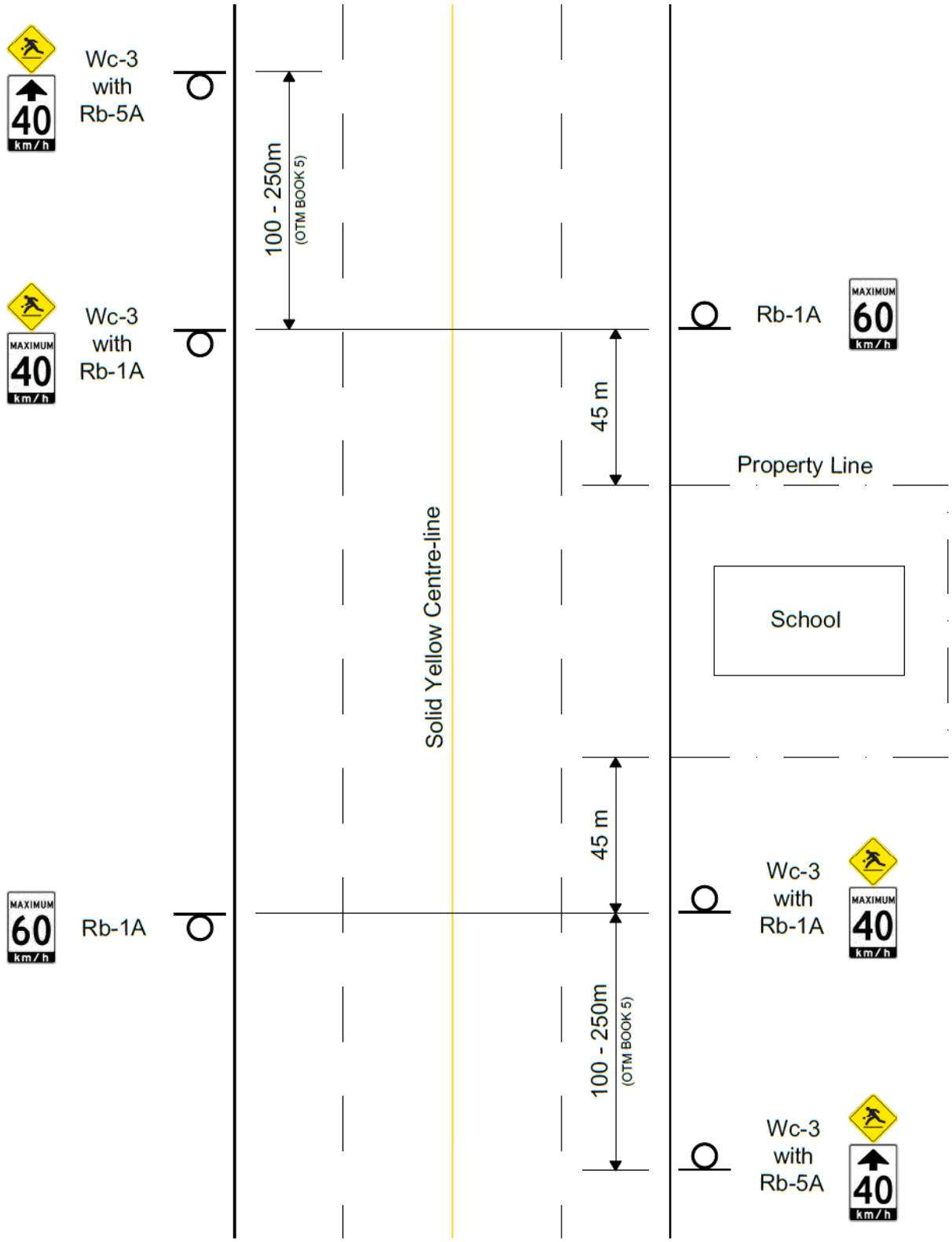

Figure 6: Playground Zone with 20km/h Reduction (Urban Road)

13.0 General Considerations for Areas and Zones

School and Playground Areas

Area signage (Wc-1 for schools or Wc-3 for playgrounds) should only be installed at the beginning of the area. No specific signage is required at the end of a School or Playground Area.

School and Playground Zones

The maximum speed sign (Rb-1) should be installed directly below the area warning sign (Wc-1 or Wc-3). To indicate the end of the zone, an Rb-1 sign re-instating the original speed limit should be installed. The reinstated speed limit sign should be placed several metres downstream of the desired end-of-zone location to discourage motorists from accelerating prior to leaving the zone. For local roads in residential areas only, an "End School Zone" or "End Playground Zone" sign may be provided. These signs can be considered where there is a higher risk of vehicles accelerating to unsafe speeds at the end of the zone.

14.0 Additional Considerations

14.1 Pavement Markings

Pavement markings are used to supplement traffic signs; they can provide more emphasis if weather conditions permit their installation and maintenance. Pavement markings that read "SCHOOL" should be placed halfway between the school property line and the nearest signs on both sides of the school (i.e., d/2); additional details of the pavement markings can be found in Ontario Traffic Manual Book 11 or the *Manual of Uniform Traffic Control Devices for Canada* (MUTCDC). At stop-controlled intersections within or adjacent to School and Playground Areas and Zones, stop bars and marked crosswalks should be provided where pedestrian activity is present. Ladder-style crosswalk markings can be used to improve visibility and emphasize pedestrian crossing locations.

14.2 Speed Limits

Speed limits influence the location of signs and pavement markings for School and Playground Zones. The distance (*d*) before and after the school or playground property limit is calculated based on perception-reaction time and the braking distance required to reduce speed from the original speed to the zone speed. The distance was determined using the methodology in Section 1.2.5.2 of the TAC *Geometric Design Guide for Canadian Roads* (1999), with wet-pavement friction values obtained from Table 1.2.5.2.

Table 1.2.5.2 Coefficient of Friction for Wet Pavements[4]

Design Speed (km/h)	Operating Speed [a] (km/h)	Coefficient of Friction (f)
30	30	0.40
40	40	0.38
50	47-50	0.35
60	55-60	0.33
70	63-70	0.31
80	70-80	0.30
90	77-90	0.30
100	85-100	0.29
110	91-110	0.28
120	98-120	0.28
130	105-130	0.28

Note: [a] The range of operating speeds recognises that some drivers slow down in wet conditions; others do not.

$$d = \frac{V^2}{2gf} = \frac{V^2}{2(9.81)f} \times \left(\frac{1000}{3600}\right)^2 = \frac{V^2}{254f} \quad (1.2.4)$$

Where d = braking distance (m)

V = initial speed (km/h)

f = coefficient of friction between the tires and the roadway

Then SSD = 0.278tV + d 1.2.5)

Where SSD = stopping sight distance (m)

t = perception and reaction time (s)

$$\boldsymbol{d = 0.278Vt + \frac{V^2 - V_r{}^2}{254f}},$$

where

- $\boldsymbol{V}$ = original posted speed (km/h)
- $\boldsymbol{V_r}$ = reduced School or Playground Zone speed (km/h)
- $\boldsymbol{t}$ = perception-reaction time (2.5 s)
- $\boldsymbol{f}$ = coefficient of friction (from TAC Table 1.2.5.2)

The following **Table 1** summarizes the calculated distances applied before and after the property limit (or point representing the beginning and end of the pedestrian activity), rounded to the nearest 5m:

Table 1: Speed Transition Distances for School and Playground Zones

Original Speed (V)	Reduced Zone Speed (V_r)	Friction (f)	Distance (d)
40 km/h	30 km/h	0.38	35 m
50 km/h	40 km/h	0.35	45 m
60 km/h	50 km/h	0.33	55 m
60 km/h	40 km/h	0.33	65 m
70 km/h	50 km/h	0.31	80 m
70 km/h	40 km/h	0.31	90 m
80 km/h	60 km/h	0.30	95 m
80 km/h	50 km/h	0.30	110 m

Speed reductions greater than 30 km/h are discouraged without a transition zone.

14.3 Roadway Cross Section

On wide roadways, divided roadways, or one-way roadways, supplementary signs should be installed on the left side of the road to improve visibility and reduce sign shadowing. On undivided two-lane roads, restrict passing within the zone using single solid yellow or double-yellow centreline markings.

14.4 Length of School and Playground Zones

The length of School or Playground Zones should be sufficient to provide adequate warning and speed reduction. Zones should be no less than 100 metres long.

15.0 Guidelines for Adjacent Zones and Areas

Schools and playgrounds are frequently located near each other. When these facilities are adjacent to each other, the following guidelines should be considered:

- When both a School Zone and Playground Zone are warranted along the same roadway, a single zone should be provided. A Playground Zone should be installed to provide coverage over a more extended period of the school day and non-school days.
- When a playground is only used and accessed during school hours and is directly associated with a school, a School Zone can be installed to cover both facilities.
- When one facility requires a Zone and the adjacent facility requires an Area, the Zone should be provided for both.
- When two schools are adjacent to one another and both require School Zones, a single zone is sufficient.

- When two schools are near each other but separated by greater than 500m, separate zones may be provided; however, if there is not enough distance between zones to allow drivers to safely return to the original speed and reduce speed again, a single zone should be installed.

Figure 7 shows typical signage for adjacent School and Playground Zones.

16.0 Guidelines for Zones / Areas Near Intersections

Schools and playgrounds are sometimes located at or near intersections. The need for School or Playground Zones can be evaluated for each roadway approaching the intersection with the use of the assessment sheet.

Where a Zone is required on one roadway but not on the intersecting roadway, motorists approaching from the cross street (and approaching from the other side of the intersection) should still be informed of the upcoming zone. Similarly, motorists leaving the zone by turning at the intersection should be informed that they are exiting the zone.

Where a School or Playground is located near an intersection, signage should be installed on intersecting approaches:

- On stop-controlled approaches, signage should be installed approximately 30 to 50 metres in advance of the intersection to allow for perception-reaction time and braking distance.
- On uncontrolled approaches, signage should be installed at least 50 metres in advance of the intersection.

Figures 8 and 9 respectively show the signage for School and Playground Zones through an intersection.

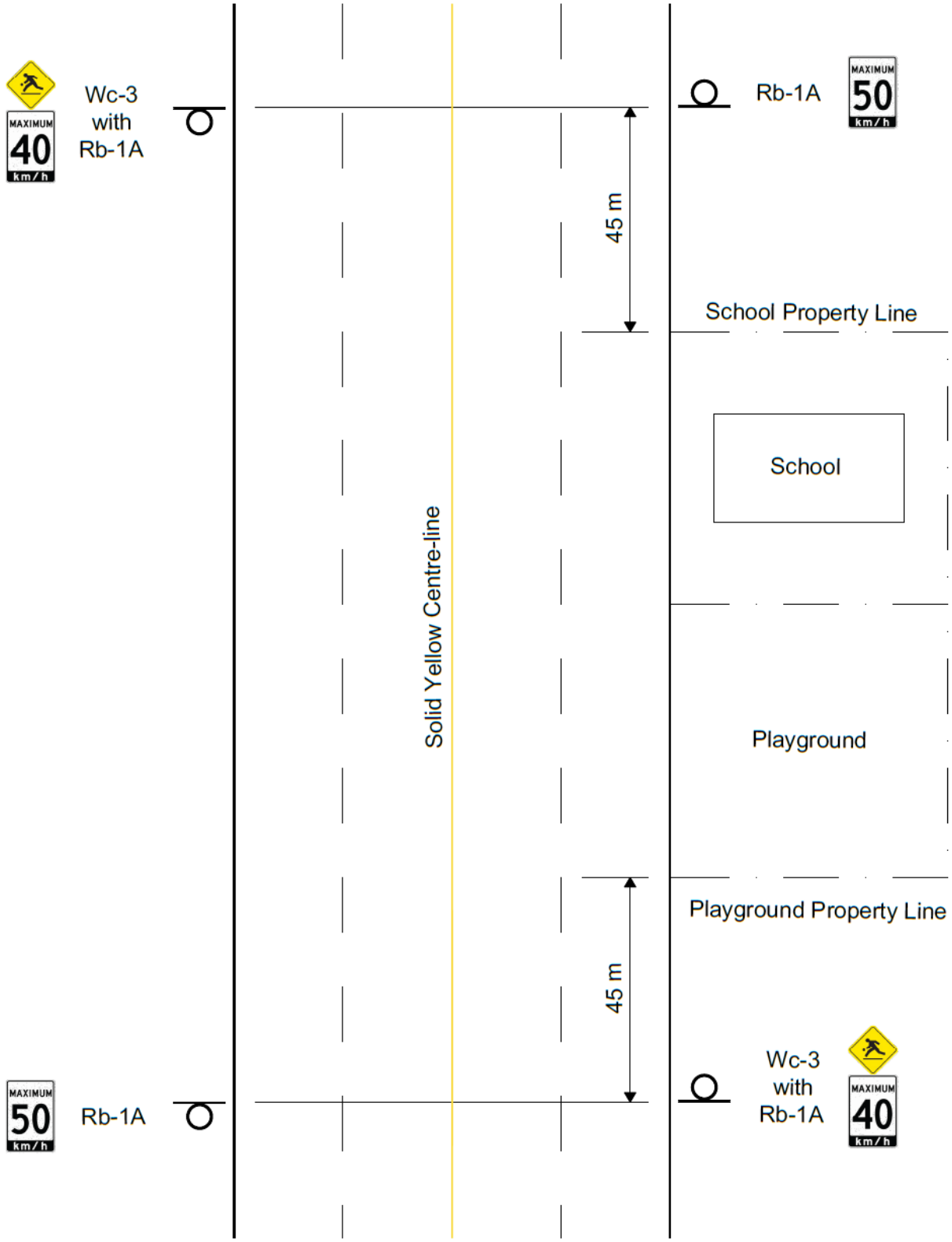

Figure 7: Adjacent School and Playground Zone

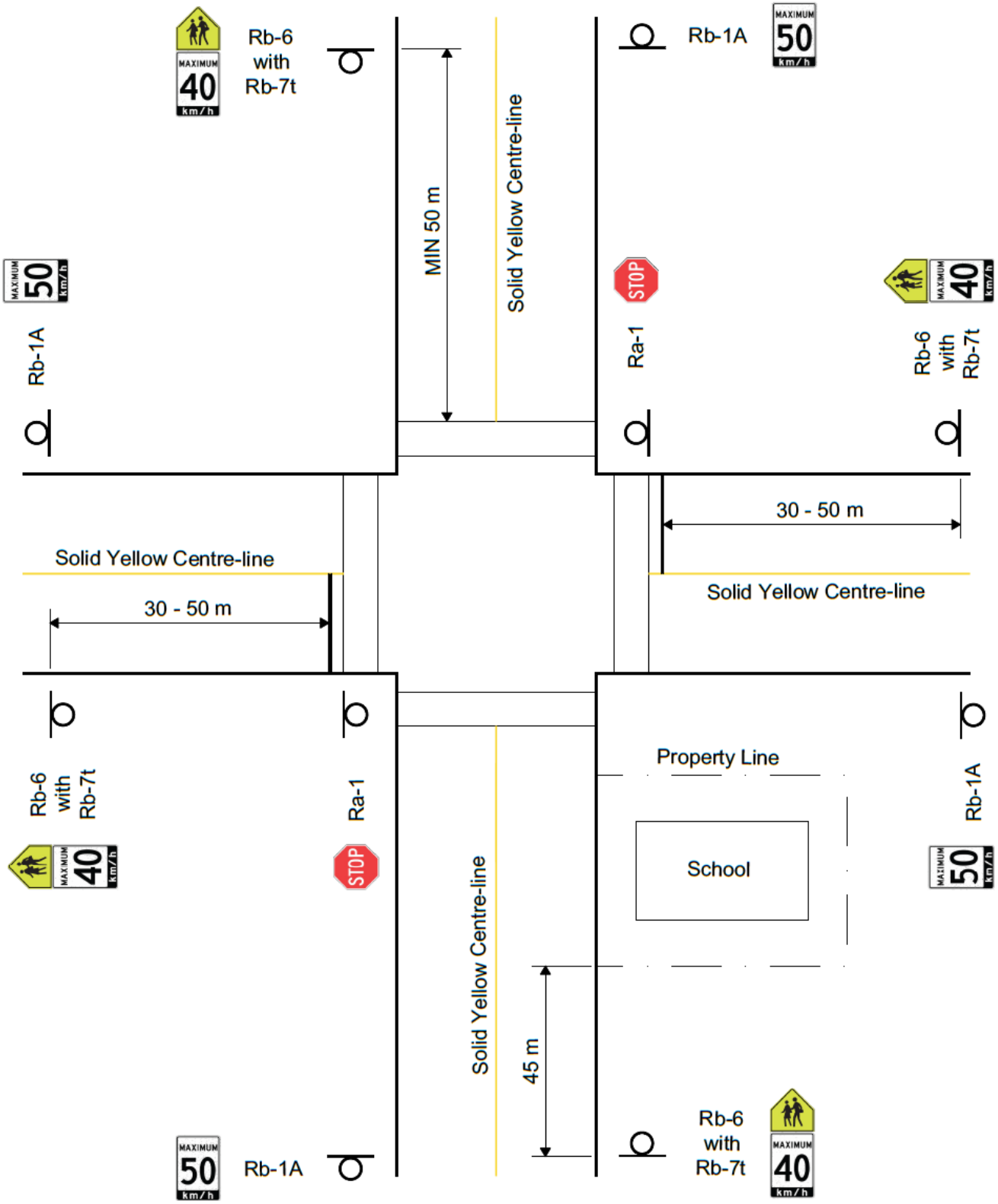

Figure 8: School Zone (Intersection)

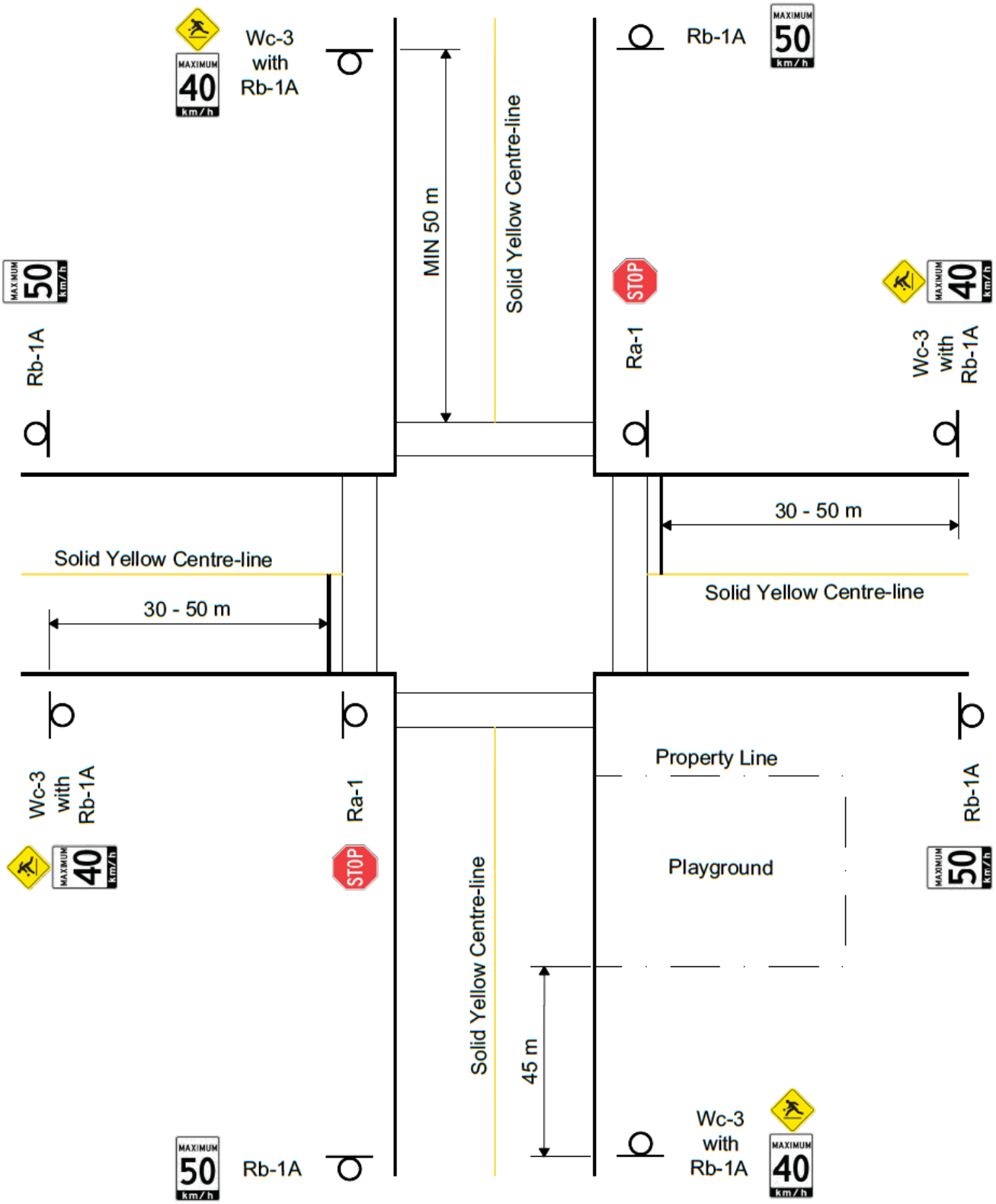

Figure 9: Playground Zone (Intersection)

17.0 Acknowledgements

The City of Woodstock acknowledges the following bodies and resources that informed the development of the Woodstock School and Playground Assessment Policy:

- **Transportation Association of Canada (TAC)**, which provides national guidance on the establishment and implementation of School and Playground Areas and Zones, is used as a key technical reference for this policy.
- **The Ministry of Transportation of Ontario (MTO)** for the *Ontario Traffic Manual (OTM) Book 5*, which provides the provincial standard framework for traffic signs, pavement markings, and related traffic control devices used in Ontario.
- **Municipal policies and guidelines from other Ontario Municipalities**, which provided valuable examples of best practices related to School Areas and Zones, parking / stopping regulations, bus loading areas, and pick-up / drop-off management around schools.

Appendix A

SCHOOL AREA & ZONE WORKSHEET

SCHOOL AREA AND ZONE ASSESSMENT WORKSHEET

INSTALLATION CRITERION	MAXIMUM POINT VALUE (MPV)	DESCRIPTION		WEIGHTING FACTOR (WF)		SCORE (MPV x WF)
School **T**ype	40	Elementary		1.0		
		Secondary		0.4	**T =**	
		Post-secondary		0.0		
Road **C**lassification	20	**Urban Land Use**	**Rural Land Use**			
		Local		1.0		
		Minor Collector	Local	0.75		
		Collector	Collector	0.5	**C =**	
		Major Collector / Minor Arterial	Arterial	0.25		
		Major Arterial / Expressway	Freeway	0.0		
Fencing	20	Fully Traversable (or Absent)		1.0		
		Partially Traversable		0.5	**F =**	
		Non-Traversable		0.1		
School **P**roximity to Roadway	10	Abuts Roadway		1.0		
		Setback < 50 m		0.5	**P =**	
		School > 50 m		0.0		
School **E**ntrances	5	Main Entrance (or Multiple Secondary Entrances)		1.0		
		Secondary Entrance		0.6	**E =**	
		No Direct Entrance		0.0		
Sidewalks	5	None (or Non-School side)		1.0		
		School Side		0.6	**S =**	
		Both Sides		0.0		

TOTAL SCORE (sum T, C, F, P, E, and S) **TOTAL =** 0

SCHOOL AREA AND ZONE RESULTS MATRIX

TOTAL SCORE	RECOMMENDED TREATMENT
0-40	Do nothing
41-64	School Area
65-80	School Area or School Zone (engineering judgment)
81-100	School Zone

Local conditions and engineering judgment should be considered when determining the appropriate treatment.

School Area or Zone
Selection Explanations (City of Woodstock)

T (School Type)

Higher risk – Elementary schools (younger children).
Secondary students are generally more aware and independent.
Post-secondary schools typically do not require School Areas or Zones.

C (Road Classification)

Higher risk – Local roads near schools.
As road classification increases (collector to arterial to freeway), traffic volumes and speeds increase, while direct school interaction typically decreases.

F (Fencing)

Higher risk – No fencing or fully traversable fencing.
Continuous, non-traversable fencing helps guide students to designated crossing areas.

P (School Proximity to Roadway)

Higher risk – School directly adjacent to roadway (no setback).
Setbacks or internal circulation (loops, parking lots) reduce direct exposure to traffic.

E (School Entrances)

Higher risk – Main or multiple entrances near the road.
More entrances increase the number of conflict points between students and vehicles.

S (Sidewalks)

Higher risk – No sidewalks on school side.
Sidewalks separate pedestrians and vehicles and improve safety.

Appendix B

PLAYGROUND AREA & ZONE WORKSHEET

PLAYGROUND AREA AND ZONE ASSESSMENT WORKSHEET

INSTALLATION CRITERION	MAXIMUM POINT VALUE (MPV)	DESCRIPTION		WEIGHTING FACTOR (WF)		SCORE (MPV x WF)
Playground **T**ype	40	**Frontage**	**Playground Capacity (Number of Children)**			
		≥ 50 m	16 or more	1.0		
			5 to 15	0.75		
			1 to 4	0.4	**T =**	
			No play equipment: sports field / open field only	0.2		
		< 50 m	Any Facilities	0.2		
Road **C**lassification	20	**Urban Land Use**	**Rural Land Use**			
		Local		1.0		
		Minor Collector	Local	0.75		
		Collector	Collector	0.5	**C =**	
		Major Collector / Minor Arterial	Arterial	0.25		
		Major Arterial / Expressway	Freeway	0.0		
Fencing	20	Fully Traversable		1.0		
		Partially Traversable		0.5	**F =**	
		Non-Traversable/Indoor Facility		0.1		
Playground **P**roximity to Roadway	10	Abuts Roadway		1.0		
		Within 50 metres		0.5	**P =**	
		Further than 50 metres		0.0		
Playground **E**ntrances	5	Main Entrance (or Multiple Secondary Entrances)		1.0		
		Secondary Entrance		0.6	**E =**	
		None		0.0		
Sidewalks	5	None (or Non-Playground Side)		1.0		
		Playground Side		0.4	**S =**	
		Both Sides		0.0		

TOTAL SCORE (sum T, C, F, P, E, and S) **TOTAL =** 0

PLAYGROUND AREA AND ZONE RESULTS MATRIX

TOTAL SCORE	RECOMMENDED TREATMENT
0-40	Do nothing
41-80	Playground Area
81-100	Playground Zone

Local conditions and engineering judgment should be considered when determining the appropriate treatment.

Playground Area or Zone
Selection Explanations (City of Woodstock)

T (Playground Type)

Higher risk – Playgrounds with higher user capacity (e.g., 16 or more children) and/or larger frontage along the roadway.

Playgrounds with more users generate higher pedestrian volumes and more unpredictable movements. Smaller playgrounds or open field areas typically generate lower activity and reduced interaction with traffic.

C (Road Classification)

Higher risk – Local roads adjacent to playgrounds.

Local roads typically have lower speeds but greater direct interaction between vehicles and playground users. As road classification increases (collector to arterial to freeway), traffic volumes and speeds increase, but direct playground interaction typically decreases.

F (Fencing)

Higher risk – No fencing or fully traversable access between the playground and roadway.

Unrestricted access allows children to enter the roadway at multiple, uncontrolled locations. Continuous, non-traversable fencing helps guide users to designated access points.

P (Playground Proximity to Roadway)

Higher risk – Playground directly abutting the roadway (no setback).

Playgrounds located immediately adjacent to the roadway increase exposure of users to vehicular traffic. Playgrounds with setbacks or separation reduce direct exposure to traffic.

E (Playground Entrances)

Higher risk – Main entrance or multiple access points near the roadway.

More entrances increase the number of conflict points between users and vehicles. Playgrounds with fewer or more controlled access points typically experience more predictable pedestrian crossing behavior.

S (Sidewalks)

Higher risk – No sidewalks on the playground side of the roadway.

The absence of sidewalks may result in pedestrians walking on the roadway or shoulders, increasing exposure to traffic. Sidewalks separate users and vehicles and improve safety.