POLICY

Crosswalk Evaluation Policy	
Policy Number: 320-008	**Supersedes Policy Number:** Not Applicable
Effective Date: 2022-03-15	**Approved by Council Motion Number:** **20-03-22**

1.0 Purpose

Crosswalks represent a critical junction in a transportation network. While essential for active transportation connectivity, crosswalks introduce locations where roadway vehicles directly interact with pedestrians. The Town is committed to ensuring the safety of all its residents and visitors. This policy aims to improve pedestrian safety and enhance pedestrian mobility through the consistent application and maintenance of pedestrian crossing control systems throughout the Town.

2.0 Scope

2.1 Crosswalk Environments

Designing and maintaining safe crosswalks is a complex process that presents a variety of challenges for the professionals (traffic engineers, urban planners, road designers, etc.) responsible for the operations of the Town's transportation networks. The crosswalk environment encompasses the fundamental operational conditions surrounding the crosswalk and impacts the selection of treatments. As per the Transportation Association of Canada (TAC), the major categories for crossing environments are:

1. Intersections
    - Marked or unmarked
    - Signalized, all-way stop control (AWSC), two-way stop control (TWSC), uncontrolled

2. Mid-Block (Controlled or Uncontrolled)
3. Roundabouts
4. Channelized Right Turn
5. School / Playground Area or Zone
6. Smaller Communities and Rural Environments
7. Work Zones

Environments 1, 2 and 5 are the most applicable to the Town's current transportation network.

2.2 Treatment Systems

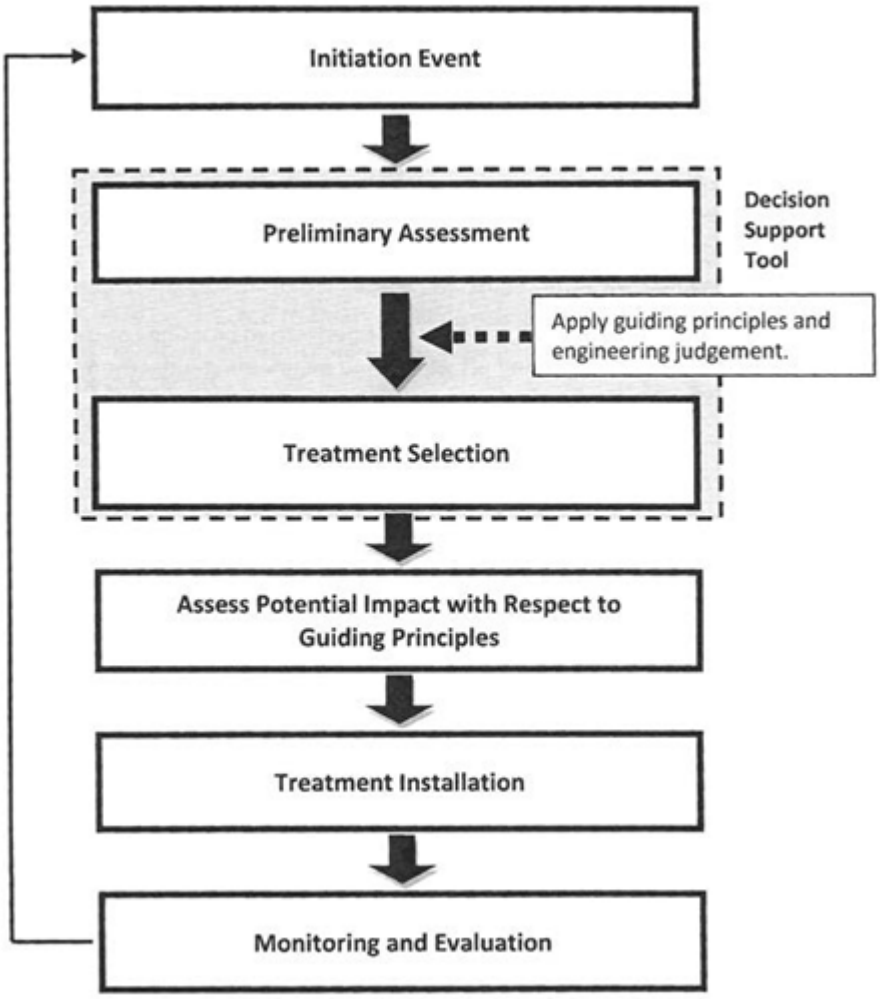
There are five main treatment systems for crosswalks:

1. **Ground Mounted (GM) Systems** — These are the most basic treatment systems including basic passive signs and pavement markings. They represent most side road crosswalks at two-way stop-controlled intersections. As they are stop controlled, signs are not required.
2. **Enhanced Ground Mounted (GM+) Systems** — Similar to GM systems but are enhanced by zebra pavement markings and require the evaluation of other desirable components to enhance the conspicuity of the crosswalk.
3. **Rectangular Rapid Flashing Beacons (RRFB)** — Pedestrian activated systems consisting of two rapidly and alternately flashing rectangular flashing beacons mounted above side mounted pedestrian signs.
4. **Overhead Flashing (OF) Beacon System (Special Crosswalk)** — Pedestrian activated systems with internally illuminated overhead mounted signs with round alternate flashing amber beacons and down lighting.
5. **Traffic Signals (TS) (Pedestrian or Full)** — Provides designated crossing locations.

2.3 Identifying Candidate Crosswalk Locations

Guidance for the implementation of new pedestrian crossing control is provided in the TAC Pedestrian Crossing Control Guide (Guide). A brief summary of the framework is provided in this section, including a schematic of the implementation approach in Figure 2-1. The Guide shall be referred to for additional information and guidance. New crosswalk implementation shall be based on a full engineering study and design that focuses on all aspects of the crossing location and surrounding environment.

Figure 2-1. Approach for Implementing Pedestrian Crossing Control



2.3.1 Initiation Event

The Initiation Event may be reactive (specific complaints or requests made to Council or the Engineering Department, collision history, pedestrian demand, delay or safety issues, etc.), or could be proactive (recommendation of a traffic study, new high density developments, gaps in AT continuity, etc.).

2.3.2 Preliminary Assessment

The Preliminary Assessment determines the need for a crosswalk at candidate locations and evaluates fundamental suitability of a crosswalk. This process requires a balance of the crossing and driving environment, driver and pedestrian expectations, ability to install an appropriate crosswalk system, and anticipated crossing demand. The Preliminary Assessment Decision Support Tool found in Appendix A (copied from the Guide) is used for the preliminary assessment process.

2.3.3 Treatment Selection Process

Once a candidate site has been deemed appropriate, the Treatment Selection process is used to determine the most appropriate treatment system that meets the needs of the selected location. The treatment selection must be logical for the site, meet driver and pedestrian expectations, and be consistent with the application of other treatment systems in the road network.

The Guide provides direct guidance on the most appropriate treatment to be considered for a site through the use of the Treatment Selection Matrix Decision Support Tool (See Appendix B). This tool is also used to evaluate existing crosswalks to determine if the current treatment system is appropriate for the site. In all decisions stemming from the use of these tables, engineering analysis and judgment remains a critical component of the selection process.

2.3.4 Assessment of Potential Impacts

Following the selection of a treatment and its associated components, an Assessment of Potential Impacts is completed against the guiding principles contained in the Crossing Control Guide including safety, delay, equity, expectancy, consistency, connectivity, and pragmatism. The results are documented and include a final recommendation on the appropriateness or modifications to the treatment selection.

2.3.5 Treatment Installation

The Treatment Installation shall follow the standard guidelines and best practices for the installation of each crossing system. The Guide provides typical installation layouts for the various treatment types in Section 2.2. These typical applications shall be subject to engineering design and judgment to ensure the installation accounts for the specific conditions at that location.

2.3.6 Monitoring and Evaluation

All new and existing crosswalks shall be consistently monitored and evaluated. The effectiveness of existing crosswalks is a function of continually evolving transportation systems and may change over time. This process shall include the identification of any deficiencies at the crosswalks resulting from:

- Issues with the initial construction
- Changing network conditions
- Ongoing maintenance requirements
- Public or internal comments or complaints regarding the operation of a crosswalk.

All crosswalks shall be reviewed on an annual basis for basic maintenance items such as quality of line markings, damaged signs, lighting maintenance, sight lines (vegetation, temporary signage, etc.) and other features that are essential for the effective day-to-day operations of the crosswalk. Deficiencies shall be corrected as quickly as possible for all minor items.

All crosswalks shall be reviewed at least every three years for more significant upgrades and to update data in the Town's crosswalk database. This includes pictures, video and other documentation deemed essential by the Engineering Department.

Crosswalks shall be reviewed on a more frequent basis as required by public complaints, known deficiencies, collision occurrences, or other factors that warrant immediate review of the intersection for safety or operational purposes.

Periodic updates shall be made to the streets and crosswalk databases as new data becomes available such as new traffic counts, speed data collection, or other data collected through other means or projects.

2.4 Removal of Existing Crosswalks

The removal of a crosswalk, regardless of how it is initiated, shall be assessed and reviewed following similar principles to installing new crosswalks and shall follow the evaluation process noted in Section 2.3. Should the evaluation process suggest that the crosswalk is warranted, the crosswalk will be re-evaluated to ensure the current treatment and existing recommended, desirable, and optional components are warranted and appropriate for the situation.

Should the evaluation process suggest that the site is not a candidate for pedestrian crossing control, then a decommissioning process shall be initiated. This process shall include:

2.4.1 Documentation of the evaluation process and reasons for the removal of the crosswalk;
2.4.2 Confirmation and approval that the crosswalk is to be removed by the appropriate municipal departments and ultimately by the municipal traffic authority;
2.4.3 Public consultation to review the evaluation process and reasons for the removal of the crosswalk, and to document resident concerns;
2.4.4 Preparation of a crosswalk removal decommissioning plan;
2.4.5 Council approval of the recommended decommissioning plan; and,
2.4.6 Removal of the crosswalk and reinstatement of the former crosswalk location to appropriate roadway design standards.

3.0 Budgetary Approval Process

The Engineering Department will be responsible to review and prioritize requests that are identified through the initiation process (Section 2.3.1). Specific locations prioritized for new crosswalks or upgrades to existing crosswalks shall be included in the yearly budget deliberations for Council consideration and approval.

4.0 Legislative Authority

- Nova Scotia Traffic Safety Act Bill 80 (Oct 2018)
- Town of Wolfville Policy 320-004 Traffic Authority

5.0 References

- Town of Wolfville Pedestrian Crosswalk Strategy, Fathom Studio, September 2021
- Town of Wolfville Active Transportation Plan, 2015

6.0 Review of Policy

This policy will be reviewed every four years.

POLICY

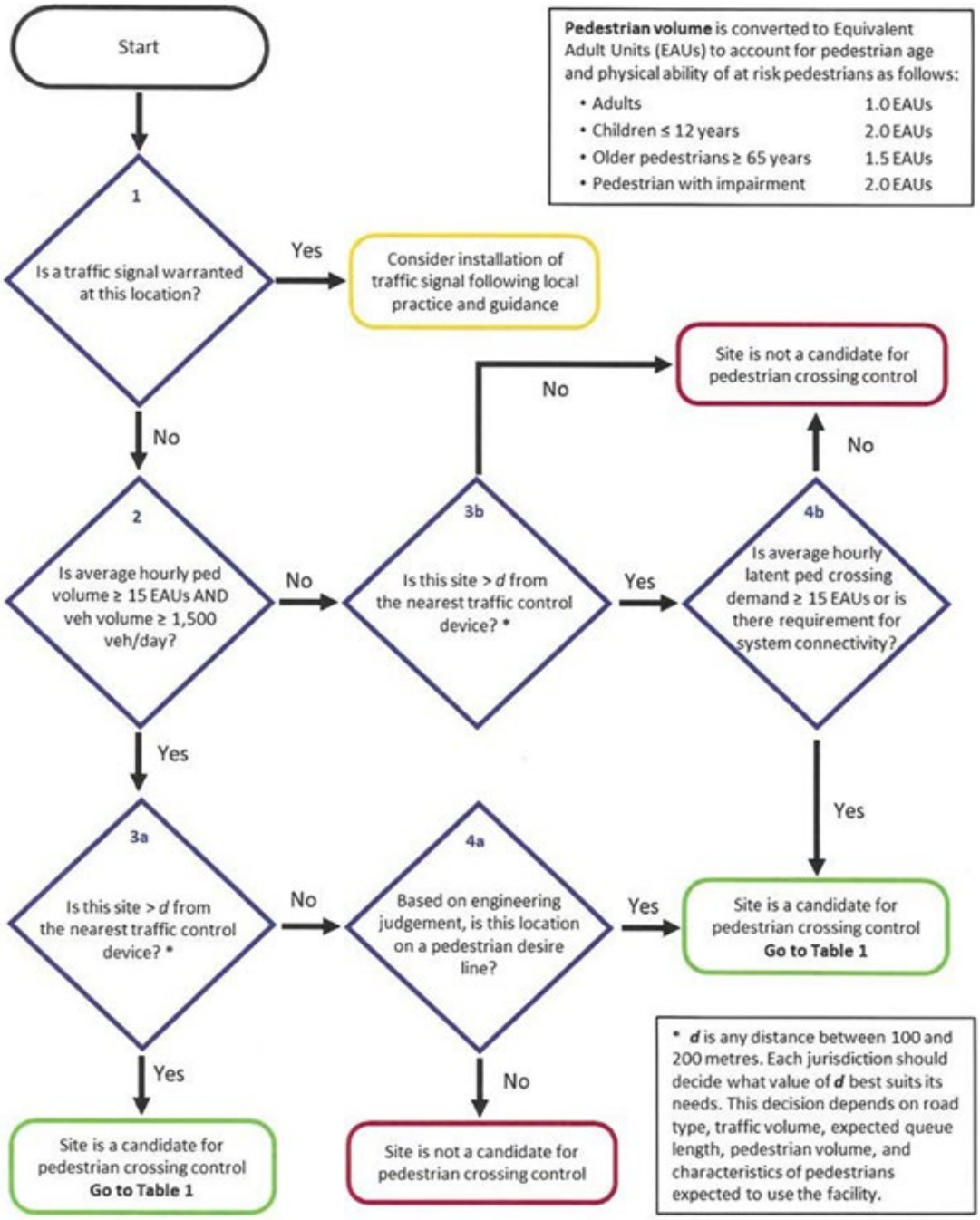
7.0 Definitions

"Town" means the Town of Wolfville

CAO

March 15, 2022
Date

Appendix A — Preliminary Assessment Decision Support Tool



Appendix B

Table 1: Decision Support Tool – Treatment Selection Matrix

Average Daily Traffic	Speed Limit [2] (km/h)	Total Number of Lanes [1]				
		1 or 2 lanes	3 lanes (two-way)	3 lanes (one-way)	2 or 3 lanes/direction w/ raised refuge	2 lanes/ direction w/o raised refuge
1,500 < ADT ≤ 4,500	≤ 50	GM	GM	GM	GM	GM+
	60	GM+	GM+	OF	RRFB or OF [3]	RRFB
	70	RRFB	RRFB	OF	OF	OF
4,500 < ADT ≤ 9,000	≤ 50	GM	GM	GM	GM	RRFB
	60	GM+	GM+	OF	RRFB or OF [3]	OF
	70	RRFB	OF	OF	OF	TS
9,000 < ADT ≤ 12,000	≤ 50	GM	RRFB	OF	RRFB or OF [3]	OF
	60	RRFB	RRFB	OF	RRFB or OF [3]	TS
	70	OF	OF	OF	TS	TS
12,000 < ADT ≤ 15,000	≤ 50	RRFB	RRFB	OF	RRFB or OF [3]	OF
	60	RRFB	OF	OF	RRFB or OF [3]	TS
	70	OF	TS	TS	TS	TS
> 15,000	≤ 50	RRFB	OF	OF	RRFB or OF [3]	TS
	60	RRFB	TS	TS	TS	TS
	70	OF	TS	TS	TS	TS

[1] The total number of lanes is representative of pedestrian-exposed crossing distance. The following can help determine the applicable number of lanes for a given roadway:

- Travel lanes, two-way left turn lanes, other turning lanes, and part time parking lanes should each be considered as one lane.
- Full time parking lanes on one or both sides of the roadway should be considered as one lane. Curb extensions may be constructed to reduce the total crossing distance and hence, the number of lanes.
- Engineering judgement based on local conditions should be used to determine the lane equivalent associated with bicycle lanes.

[2] At roundabouts, the maximum design speed of entering or exiting vehicles is often lower than the approaching roadway speed and can be used in place of the roadway speed limit.

[3] If three lanes per direction use OF.

Additional notes:

Treatment systems are hierarchical (GM → GM+ → RRFB → OF → TS). Higher order treatment systems may be substituted for lower order treatment systems. The rationale for substituting higher order treatment systems should be consistent throughout the jurisdiction. Remain consistent in application of DESIRABLE components of the GM+ system as best as possible.

Raised refuge may be a pedestrian refuge island or raised median. Raised refuge should be a minimum of 2.4 metres wide to accommodate groups of pedestrians, bicycles, and mobility aids such as wheelchairs and scooters.

A TS treatment system should be selected: (1) for cross-sections with greater than six lanes where a raised refuge is present; (2) for cross sections with greater than four lanes where no raised refuge is present; and (3) for speeds greater than 70 km/h.

Always ensure adequate sight distance at the site as per the TAC *Geometric Design Guide for Canadian Roads*, and if it is insufficient, create it by applying available tools.

A crossing location with a very wide (7m or more) pedestrian refuge area between opposing directions of traffic may be considered to divide the crossing into two independent sections and may be treated as two separate crosswalks. This may occur at locations with a wide raised refuge or offset crosswalk.

Passive crossing treatment systems		Active crossing treatment systems		Traffic signal systems
GM Go to Table 2	GM+ Go to Table 3	RRFB Go to Table 4	OF Go to Table 5	TS go to Table 6 (pedestrian signal) or Table 7 (full signal)