



MIDDLESEX COUNTY CROSSWALK GUIDELINES

As approved by Middlesex County Council on October 24, 2017

1.0 BACKGROUND

Middlesex County has jurisdiction over a number of roads that run through communities where local municipal officials have observed a demand by the public for crosswalk facilities. While pedestrian facilities, including crosswalks, are under the jurisdiction of local municipalities there are potential safety and liability impacts to the County when they direct pedestrians across County roads.

These guidelines are intended to provide a framework to assess, prioritize, and implement appropriate pedestrian crossings in settlement areas on County roads constructed to an urban standard.

This document has been designed using the guidelines as identified in the Ontario Traffic Manual Book 12 – “Traffic Signals” and Book 15 – “Pedestrian Crossing Treatments”. The County of Middlesex relies on all books of the Ontario Traffic Manual in an effort to maintain an accepted and consistent form of signage and safety on roads similar to those expected by road users across Ontario.

As a two-tier municipal government, this guide will provide direction to the County and all local municipalities on processes for considering crosswalk locations and clearly identify responsibilities including costs, maintenance and liability of pedestrian crossings.

2.0 PROHIBITED LOCATIONS

Crosswalks are intended to service County settlement areas with significant population densities to support existing pedestrian infrastructure. Assessment of pedestrian crossing volumes would be made under normal conditions (ie during good weather, during the school year, not during special events, etc.).

Crosswalks on County Roads will not be permitted in the following areas:

- Across roads with posted speed limits of 70km/hr or above
- Across roads not constructed to an urban standard (complete with sidewalks or other pedestrian facilities)
- In close proximity to railways
- In areas that do not meet the minimum stopping sight distance standards as prescribed in the Ontario Geometric Design Standards
- In areas where crosswalk signage would conflict with other warning or regulatory signage
- Within 200 metres of another crosswalk location on the same roadway, including crossings at signalized intersections

3.0 TYPES OF PEDESTRIAN CROSSWALKS

There are three types of pedestrian crosswalks for that will be considered for utilization in the County of Middlesex:

- **Traffic Signals**
- **Pedestrian Crossover**
- **Supervised School Crossing**

The Ontario Traffic Manual Book 12 “Traffic Signals” and Book 15 “Pedestrian Crossing Treatments” offer a number of criteria for evaluating the crosswalk location. Note that these documents are guidelines only and extenuating criteria may be used in addition to these warrant to evaluate whether or not a crosswalk should be installed.

3.1 TRAFFIC SIGNALS

Traffic signals installed for pedestrians are typically controlled by buttons that must be pressed by those intending to cross the road. These buttons actuate the crossing, changing the signal to red and requiring traffic to stop for pedestrians. Typically these types of traffic signals are installed mid-block where other crossing devices are more than 200 metres away in either direction.

The County of Middlesex utilizes the Ontario Traffic Manual Book 12 to assess locations for the installation of traffic signals. Typically, only locations that meet or exceed the warrants for traffic signals are recommended for installation of that type of infrastructure.

Ontario Traffic Manual includes charts for determining the warrants for installation of signals for the use of pedestrians. The total volume of pedestrians as well as delays to pedestrians waiting to cross the road is compared to the volume of traffic on the road.

It is anticipated that the installation of traffic signals warranted solely based on the volume of pedestrians will be rare in the County of Middlesex. The cost of this installation is very high and the maintenance obligations can be onerous.

The two justification charts as prescribed in Ontario Manual Book 12 are included in Appendix A of this document.

3.2 PEDESTRIAN CROSSOVERS

Pedestrian crossovers require drivers to yield the crossing to pedestrians. Pedestrians must make themselves visible and broadcast their intention to cross the road, or press a button to activate the flashers to make drivers aware that a pedestrian is preparing to or is in the process of crossing the road. Drivers must remain stopped until the pedestrians have completely crossed the road.

Ontario Traffic Manual Book 15 includes warrants for the installation of pedestrian crossover facilities. The manual recommends the following minimum thresholds before pedestrian crossover installations should be considered:

8 hour pedestrian volume \geq 100 and

8 hour vehicle volume \geq 750

OR

4 hour pedestrian volume \geq 65 and

4 hour vehicle volume \geq 395

AND

The location is $>$ 200 metres from another traffic control device

If a pedestrian crossover is warranted per the above noted criteria, the pedestrian crossover matrix as prescribed in the Ontario Traffic Manual Book 15 will be used to recommend the most appropriate type of crossover based on vehicle volumes and the posted speed limit. This matrix is included in Appendix B of this document.

Types of pedestrian crossovers range from those with only signage (Type D), those with flashing strobe lights (Types C & B) and those with lights overhanging the road (Type A). Standards for the design and installation of these types of crossovers will be taken from Ontario Traffic Manual Book 15.

3.3 SUPERVISED SCHOOL CROSSINGS

The intent of supervised school crossings are for locations where children may need assistance crossing the road and where the crossing is attended, at least for some portion of the day, by a school crossing guard. Traffic is not required to stop at these locations unless directed to do so by a crossing guard who is typically authorized by the municipality to supervise the crossing.

However, the County of Middlesex allows for a more relaxed standard for the installation of this type of crossing signage. At the request of the local municipality, the County will permit for the installation of supervised school crossing signs at locations where they will not be attended by a crossing guard for any portion of the day.

4.0 DESIGN STANDARDS

All pedestrian crossings will be designed and installed in accordance with Ontario Traffic Manual Book 12 and Ontario Traffic Manual Book 15 standards.

In accordance with the Accessibility for Ontarians with Disabilities Act (AODA), AODA requirements will be incorporated within the design and implementation of all pedestrian crossing treatments.

5.0 PROCESS FOR THE INSTALLATION OF PEDESTRIAN CROSSING FACILITIES

In order for County staff to initiate the collection of traffic and pedestrian data to determine if a pedestrian crossing is warranted a motion from the local municipal council must be forwarded to the County Engineer for consideration.

The municipal council motion should include:

- Specific details of the location where the crosswalk is being requested
- Direction to the County to proceed with the investigation on the municipalities behalf
- Agreement from the municipality to assume all costs incurred by the county for the investigation

County staff will report back to the municipality with their findings. If the location does not meet the standard for the installation of the pedestrian crossing then the installation will not proceed.

If the crossing meets the warrants for one of the pedestrian facilities as specified in this guide and in accordance with the Ontario Traffic Manual, County staff will provide an estimate of the installation cost and the annual maintenance costs for approval by the local municipality. The county will bill the actual costs of installation, and maintenance costs (if any) will be billed on an annual basis.

Pedestrian crossing locations in areas that did not meet the warrants in this guideline will not be re-evaluated for a period of no less than two years after the previous analysis was completed.

APPENDIX A

TRAFFIC SIGNAL PEDESTRIAN WARRANT CHARTS

TOTAL PEDESTRIAN VOLUME JUSTIFICATION

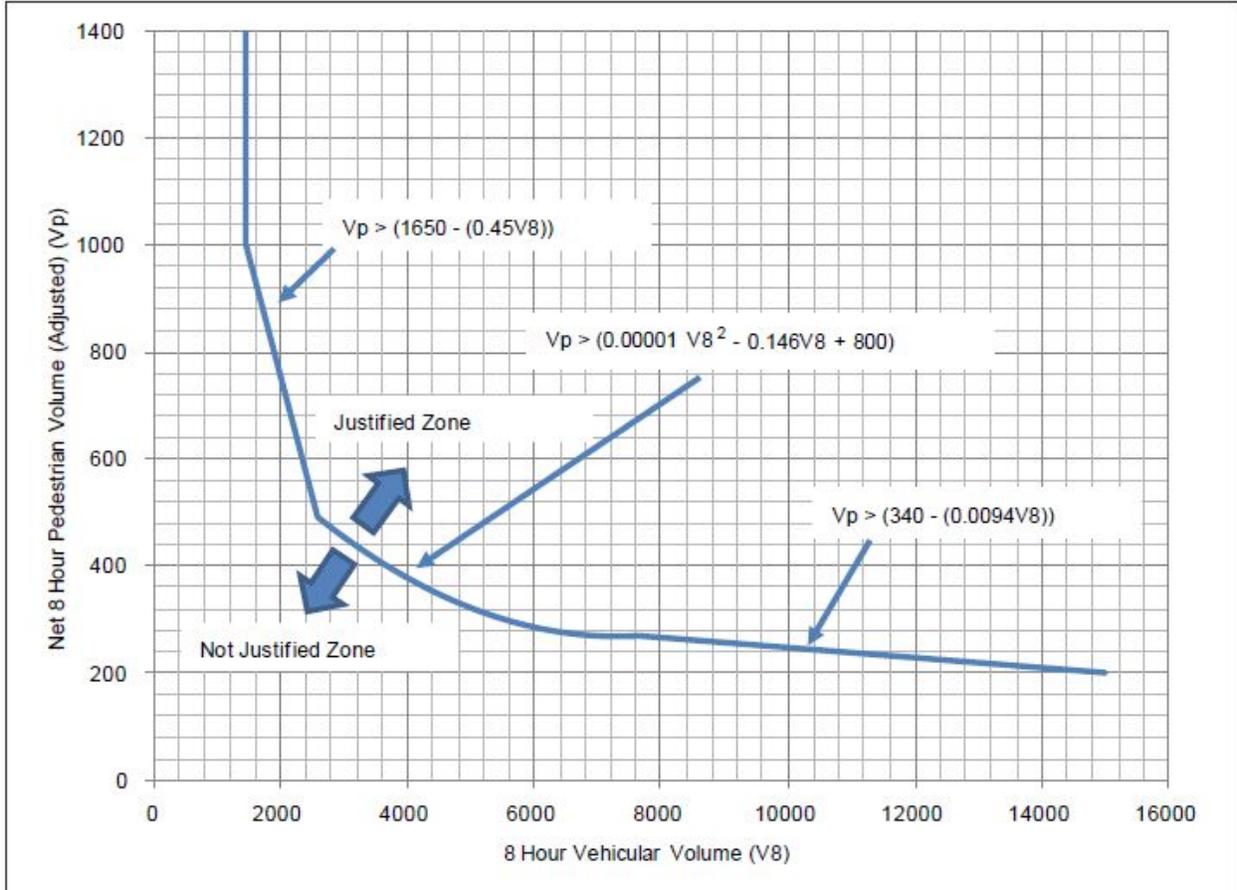


Figure 3: OTM Book 12 Justification 6 - Pedestrian Volume

TRAFFIC SIGNAL WARRANT CHARTS
PEDESTRIAN DELAY JUSTIFICATION

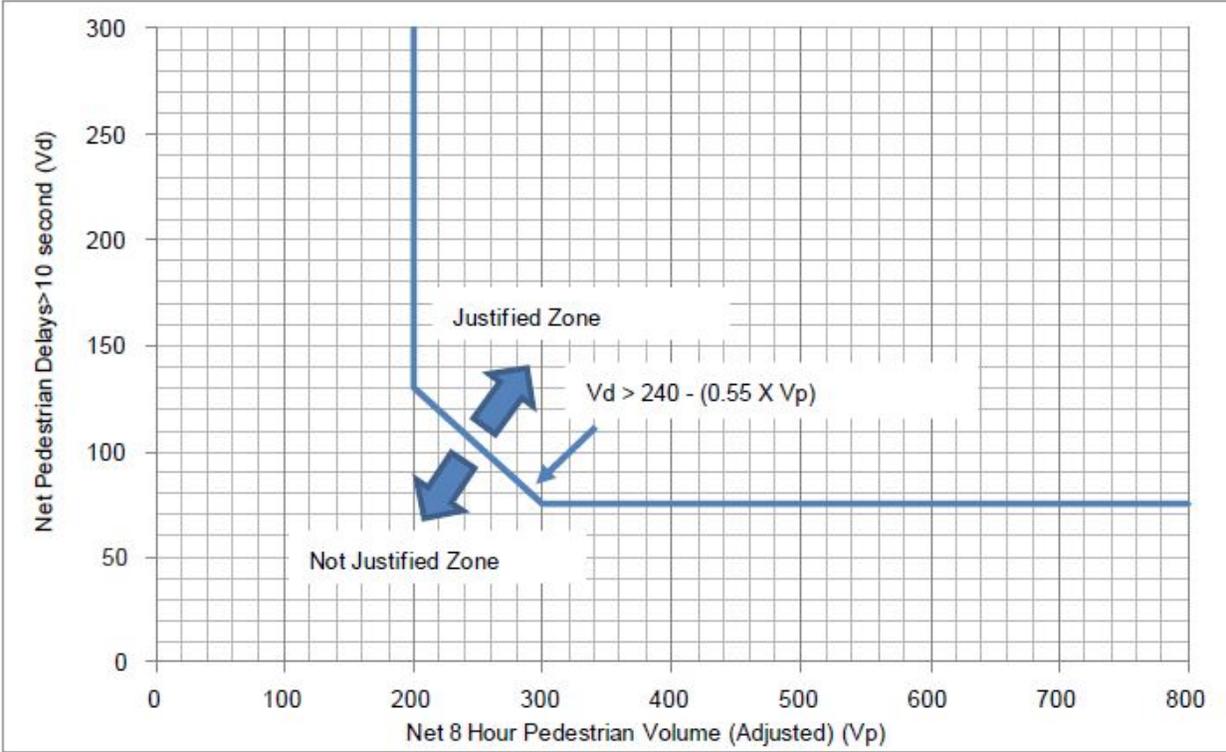


Figure 4: OTM Book 12 Justification 6 – Pedestrian Delay

APPENDIX B

PEDESTRIAN CROSSOVER SELECTION MATRIX

Table 7: Pedestrian Crossover Selection Matrix

Two-way Vehicular Volume			Posted Speed Limit (km/h)	Total Number of Lanes for the Roadway Cross Section ¹			
Time Period	Lower Bound	Upper Bound		1 or 2 Lanes	3 lanes	4 lanes w/raised refuge	4 lanes w/o raised refuge
8 Hour	750	2,250	≤50	Level 2 Type D	Level 2 Type C ²	Level 2 Type D ²	Level 2 Type B
4 Hour	395	1,185		Level 2 Type C	Level 2 Type B	Level 2 Type C ²	Level 2 Type B
8 Hour	750	2,250	60	Level 2 Type D	Level 2 Type B	Level 2 Type D ²	Level 2 Type B
4 Hour	395	1,185		Level 2 Type C	Level 2 Type B	Level 2 Type C ²	Level 2 Type B
8 Hour	2,250	4,500	≤50	Level 2 Type D	Level 2 Type B	Level 2 Type D ²	Level 2 Type B
4 Hour	1,185	2,370		Level 2 Type C	Level 2 Type B	Level 2 Type C ²	Level 2 Type B
8 Hour	2,250	4,500	60	Level 2 Type D	Level 2 Type B	Level 2 Type D ²	Level 2 Type B
4 Hour	1,185	2,370		Level 2 Type C	Level 2 Type B	Level 2 Type C ²	Level 2 Type B
8 Hour	4,500	6,000	≤50	Level 2 Type D	Level 2 Type B	Level 2 Type D ²	Level 2 Type B
4 Hour	2,370	3,155		Level 2 Type C	Level 2 Type B	Level 2 Type C ²	Level 2 Type B
8 Hour	4,500	6,000	60	Level 2 Type D	Level 2 Type B	Level 2 Type D ²	Level 2 Type B
4 Hour	2,370	3,155		Level 2 Type C	Level 2 Type B	Level 2 Type C ²	Level 2 Type B
8 Hour	6,000	7,500	≤50	Level 2 Type D	Level 2 Type B	Level 2 Type D ²	Level 1 Type A
4 Hour	3,155	3,950		Level 2 Type C	Level 2 Type B	Level 2 Type C ²	Level 2 Type B
8 Hour	6,000	7,500	60	Level 2 Type D	Level 2 Type B		
4 Hour	3,155	3,950		Level 2 Type C	Level 2 Type B		
8 Hour	7,500	17,500	≤50	Level 2 Type D	Level 2 Type B		
4 Hour	3,950	9,215		Level 2 Type C	Level 2 Type B		
8 Hour	7,500	17,500	60	Level 2 Type D			
4 Hour	3,950	9,215		Level 2 Type C			

Type A
 Type B
 Type C
 Type D

Approaches to roundabouts should be considered a separate roadways.

¹The total number of lanes is representative of crossing distance. The width of these lanes is assumed to be between 3.0 m and 3.75 m according to MTO Geometric Design Standards for Ontario Highways (Chapter D.2). A cross sectional feature (e.g. bike lane or on-street parking) may extend the average crossing distance beyond this range of lane widths.

²Use of two sets of side mounted signs for each direction (one on the right side and one on the median)

³Use Level 2 Type B PXO up to 3 lanes total, cross section one-way.

The hatched cells in this table show that a PXO is not recommended for sites with these traffic and geometric conditions. Generally a traffic signal is warranted for such conditions.