

Appendix 6 of Staff Report SRPI.22.023

The most recent version of OTM Book 5 (December, 2021), provides three different all-way stop warrants:

- **Minimum Volume Warrant:** all-way stop control may be considered on minor or local roads where the following conditions are met:
 - The total vehicle volume on all intersection approaches exceeds 200 vehicles per hour for each of the highest four hours of the day; **and,**
 - The combined vehicle and pedestrian volume on the minor street exceeds 75 units per hour (all vehicles plus pedestrians wishing to enter the intersection) for each of the same four hours as the total volume; **and,**
 - The volume split does not exceed 70/30 (that is the minor street must not be less than 30% of the total volume entering the intersection) as measured over the entire four-hour count period. Volume on the major street is defined as vehicles only. Volume on the minor street includes all vehicles plus any pedestrians wishing to cross the major roadway. For three-legged intersections a volume split of 75/25 is permissible.
- **Collision Warrant:** all-way stop control may be warranted on a local road if there are 9 or more right-angle or turning type collisions over a 36-month period.
- **Visibility Warrant:** Under some circumstances, sufficient sight distance is not available for traffic exiting the stop-controlled approaches of a two-way stop intersection, based on geometric design requirements. If all efforts to improve the sight distance have been exhausted and the sight distance cannot be brought up to the guidelines, conversion of the intersection to all-way stop operation may be considered.

The following table provides details of the analysis for each intersection reviewed:

Warrant Type	Bloomfield Trail at Harrowsmith Place	Elmwood Avenue at Colborne Avenue	Groveswood Street at Newbridge Avenue*
Minimum Volume	Total vehicle volume is 35% of the minimum requirement.	Total vehicle volume is 94% of the minimum requirement, and minor street volume is 85% of the minimum requirement.	Nearly Met: total vehicle volume requirement 100% met, and minor street volume 94% met.
Collision	0 collisions	Warrant Met: 13 collisions between January 2017 and December 2019	2 collisions between January 2015 and December 2017
Visibility	Warrant Met: available sight distance is approximately 40% of requirement and cannot be brought up to guidelines.	No sight distance restrictions identified	No sight distance restrictions identified

***NOTE:** While the intersection of **Groveswood Street at Newbridge Avenue** does not strictly meet any of the warrants, it would only require a combination of 20 additional vehicles or pedestrians per hour on the minor approaches, for two out of the four warrant hours. This difference is nominal, and can be considered a reasonable daily variation in traffic volumes.

Furthermore, it should be noted that a Level 2, Type D Pedestrian Crossover (PXO) is also warranted at this intersection, based on 2021 pedestrian and traffic volumes. However, because the all-way stop control warrant is very close to being met, and because drivers are more familiar with stop signs at minor residential intersections (particularly considering that 2D PXO's do not have flashing beacons), staff recommend an all-way stop control at this location as it would be better suited to match drivers' expectations compared to a PXO.