

INFRASTRUCTURE SERVICES *Staff Report*

REPORT NO: IS-2024-09

TO: Council

SUBMITTED BY: Jeff Molenhuis, P.Eng, Director of Infrastructure Services

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REVIEWED BY: Sharon Chambers, Chief Administrative Officer

DATE: 2024-03-25

SUBJECT: **All-Way Stop Control Warrant Review - Hunsberger Drive and
Stuckey Avenue/Michael Myers Road Intersection, Baden**

RECOMMENDATION:

That Report IS-2024-09 be received for information.

SUMMARY:

A Notice of Motion was presented at council on March 4th, to install an all-way stop at Hunsberger Drive and Stuckey Avenue/Michael Myers Road in Baden. A preliminary traffic and pedestrian movement review and traffic count was completed by staff to determine if it meets the recommended best-practices for installation of an all-way stop. Based on the review, the subject intersection does not currently satisfy the warrants for an all-way stop control.

BACKGROUND:

A concern from residents regarding pedestrian safety and vehicle speeds at the subject intersection was provided as a Notice of Motion on March 4th. The motion was presented by Councillor Sidhu, as follows:

WHEREAS the safety and well-being of our community's residents, pedestrians, and motorists are of utmost priority; and,
WHEREAS there has been an increasing concern regarding pedestrian safety and vehicle speeds within the residential areas in the community of Baden, specifically in areas with young families, schools and daycares; and,
WHEREAS the Ward 3 Councillor, through discussion with residents has heard many concerns about the safety of the intersection of Hunsberger Drive and Stuckey Avenue/Michael Meyers Road; and
WHEREAS the Municipal Act, 2001, S.O. 2001, c. 25, and the Highway Traffic Act, R.S.O. 1990, c. H.8., as amended, give The Township of Wilmot the power to pass bylaws respecting its highways, including parking and traffic on highways; and
WHEREAS the Township of Wilmot adopted By-law 2016-52 being a by-law to regulate traffic and parking on Township Highways, cited as the Traffic and Parking By law.
THEREFORE BE IT RESOLVED that Staff be directed to install a 4-Way Stop at the intersection of Hunsberger Drive and Stuckey Avenue/Michael Meyers Road;
BE IT FINALLY RESOLVED that Staff be directed to prepare the appropriate by-law to amend By-law 2016-52 to permit for the installation of a 4-Way Stop at the intersection of Hunsberger Drive and Stuckey Avenue/Michael Meyers Road.

A preliminary traffic and pedestrian movement review, and traffic counts, were completed by Staff on February 29, 2024 and March 1, 2024, during peak traffic periods of 7:30am to 9:30am and 2:30pm to 6:00pm. Information was collected from the WRPS with respect to collision or complaint history. Following the collection information, an all-way stop warrant review for the intersection of Hunsberger Drive and Stuckey Avenue/Michael Myers Road was completed, which was based on the Ontario Traffic Manual best-practices for Regulatory Signs (OTM Book 5).

Currently, the intersection operates as a two-way stop control condition where Hunsberger Drive is the through-road, with stop controls and associated pavement markings located on Stuckey Avenue and Michael Myers Road. No crosswalks are painted at this intersection where stop controls are in place.

Hunsberger Drive is a two-lane north-south local road with a 20-metre right-of-way (11 metres pavement width) and 1.2 metre concrete sidewalk on both sides. Stuckey Avenue and Michael Myers Road are two-lane east-west local roads with a 20-metre right-of-way (11 metres pavement width) and 1.2 metre concrete sidewalk on both sides. The area is currently illuminated by street light poles located on the west side of Hunsberger Drive, south side of Stuckey Avenue and the north side of Michael Myers Road.

REPORT:

The Ontario Traffic Manual Book 5 notes the following regarding stop controls:

“The introduction of a STOP sign control can reduce the frequency of certain types of collisions (e.g. right angle or turning), but also results in delay to motorists and may increase some other types of collisions (e.g. rear-end). Stop signs should, therefore, not be used indiscriminately.

STOP signs are not to be used as speed control devices. Their usage should be limited to the control of right-of-way conflicts.

In general, all-way stop control should only be used where traffic engineering studies considering such factors as traffic volumes, restricted sight lines and collision experience, indicate that this form of control is warranted.”

For the intersection of Hunsberger Drive and Stuckey Avenue, accident history and traffic and pedestrian volumes were analyzed. There is no accident history, but the WRPS have been called to address 2 erratic driving complaints, which resulted in warnings for the drivers. WRPS also conducted speed enforcement in the area, which resulted in no violations.

The Township of Wilmot utilizes the All-Way Stop Minimum Volume Warrants for local roads found in the Ontario Traffic Manual (OTM) Book 5, Regulatory Signs (December 2021). If the traffic and pedestrian volumes meet these thresholds, an all-way stop condition may be warranted.

As per OTM Book 5 and best-practices, all-way stops should be considered under the following conditions:

- As an interim measure, where traffic control signals are warranted but cannot be implemented immediately. For information on traffic signal control, refer to OTM Book 12 (traffic Signals).
- At locations having a high collision frequency where less restrictive measures have been tried and found to be inadequate or impractical (see All-Way Stop Collision Warrant Below): or
- As a means of providing a transition period to accustom drivers to a change in intersection control from one direction to another. Installation under this warrant must conform with the Amendment of Intersection Control, discussed under Special Considerations at the end of section 2.

Minimum Volume Warrant (Local Roads): 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:

- Local/Collector/Rural Arterial: 3 collisions/year over three years (i.e. 9 collisions in 36 months)

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.

Of note, within OTM Book 5 it outlines what it considers to be inappropriate use of all-way stop controls, wherein it states that all-way stop controls must not be used under the following conditions:

- As a speed control device (or a traffic calming tool); and
- On roads where progressive signal timing exists.

This is due to the unintended outcomes that create unwarranted frustrations or ineffective controls for drivers, which can lead to erratic or unexpected driver behaviour. It is noted that, in the event of unwarranted installations, it can create liability for damages for the Township, if there was an incident at this intersection in the future.

After review, it is determined that the Hunsberger Drive and Stuckey Avenue/Michael Myers Road all-way stop warrants are not met. Current vehicle/pedestrian volumes and collision history do not meet warrants supporting an all-way stop treatment at this time. The gap times for crossing were also not observed to be outside of compliance. It is noted that the traffic in this area would largely be local traffic and residents living directly in the area. It is not a through-traffic road setting.

Traffic Calming, Safety and Speed Mitigation

It is noted that the proposed motion speaks to speeds and traffic calming, in addition to safety. The data observed would indicate this intersection functions in a reasonable manner; however, there may be opportunities for operational improvements as well as future opportunities combined with development to fund traffic calming in the surrounding existing neighbourhoods.

With the concern of traffic safety and speed mitigation, staff could look further into the following, within the context of the future Traffic Calming Policy and associated framework:

- Additional pavement markings and warning signs in the area;
- Reduced neighbourhood posted speed limits;
- Warrant for pedestrian crossing treatments; and/or
- Traffic calming measures, such as speed tables, chicanes.

Staff expect that a number of other documented and undocumented locations requested for stop control review will expect these locations to be prioritized and works to come forward, which staff would then rely on precedent with respect to recommendations. This could expand the risk profile and financial obligations within the traffic planning and operations portfolio.

Future Growth and Development

Engineering staff note that as part of development applications surrounding this existing residential area, there is an opportunity to consider traffic calming measures as part of those applications. It is likely that future traffic and pedestrian volumes will shift in this area due to future development connections on Wagler Avenue and Jacob Cressman Drive with the introduction of institutional and residential lands to the west and north.

Staff are looking at including provisions for traffic calming within this existing neighborhood, which could include curb narrowing, raised intersections, or speed humps at locations such as this based on neighbourhood impacts brought forward through development applications.

Council could consider this future development impact, which was considered when applying all-way stop controls to Stuckey Avenue and Isaac Shantz Drive, as future traffic volumes will likely adjust the warrant controls. However, until that time and possibly afterward, it would not meet warrant requirements for all-way stop controls, and another traffic control measure may be more appropriate to address the concerns brought forward by residents and through the Council motion.

ALIGNMENT WITH THE TOWNSHIP OF WILMOT STRATEGIC PLAN:

We have a prosperous community through maintaining our infrastructure. We are an engaged community through communicating municipal matters.

FINANCIAL CONSIDERATIONS:

If an all-way stop is required in the future, a posted notice period would be required prior to the implementation of signage and pavement markings. Staff estimate \$2500 of direct cost of advanced warning, signage works and pavement markings to implement an all-way stop at the subject intersection. This does not include staff or equipment time to undertake the advanced warning or installation. Minor measures, such as warning signs and pavement markings, would be in the same scale of costs as an all-way stop control. Other potential more significant

measures, such as revised posted limits or other traffic control or calming measures, would need to be detailed further prior to providing cost implications.

ATTACHMENTS:

1. Location Map
2. All Way and Crossing Warrant Review