The Corporation of the
Town of Tecumseh

Public Works & Engineering Services

To: Mayor and Members of Council

From: Phil Bartnik, Director Public Works & Engineering Services

Date to Council: January 23, 2024

Report Number: PWES-2024-04

Subject: Traffic Radar Speed Survey for 2023

Recommendations

It is recommended:

That Report PWES-2024-04 Traffic Radar Speed Survey for 2023, **be received**.

Background

In response to public concerns of speeding at specific locations throughout the Town, the Public Works & Engineering Services (PWES) department deploys speed radar devices to collect relevant vehicular data, such as speeds and volume. Data collection offers insight into the speed profile of the street and serves as a tool to verify concerns related to traffic such as increased volume or excessive speeding.

If excessive speeding is verified, the data collected is forwarded to the Ontario Provincial Police (OPP) as it can be used to identify the days and times of the week when enforcement of speeding may be most effective.

Comments

Speed Limits on a Roadway

The Town's Official Plan and Transportation Master Plan identifies recommended posted speed limit ranges for the various road classes that exist within Tecumseh, as follows:

Road Class	Urban Commercial Main Street	Urban Minor Arterial	Urban Collector	Urban Local Road	Rural Minor Arterial	Rural Collector	Rural Local Road
Posted Speed (km/h)	40-50	50-70	50-60	40-50	50-70	60-80	50-70

The above-noted recommended speed limits were established using traffic engineering standards used to establish speed limits for a roadway, known as the 85th percentile speed. This 85th percentile speed is defined as the speed at or below which 85 percent of all vehicles are observed to travel under free-flowing conditions. In other words, this speed can be understood as the speed which most motorists operate at.

Selection of the most appropriate speed limit is important for driver compliance, allowing effective enforcement and a reduction in accident incidents. By setting the speed limit to the 85th percentile speed, uniformity of operating speeds is sustained, which increases the safety of all users while reducing the risk for vehicular conflict.

In instances where drivers regularly exceed the posted speed limit, speed mitigation measures can be explored. A common measure requested by the public is to reduce a posted speed limit. However, traffic engineers and analysts support the notion that arbitrarily changing a posted speed limit has little effect on the operating conditions of a roadway. This is because the strongest influence on a driver's selection of travel speed is the physical appearance of the road.

If, based on a thorough traffic analysis, a reduction to a posted speed limit is warranted, this type of speed mitigation should be supplemented by other additional measures (i.e., traffic calming measures and/or increased enforcement) to ensure the reduction of the speed limit aligns with physical conditions of a roadway. Inappropriate speed reductions may result in an increased variability in the operating speeds of motorists, which can cause traffic conflicts and negatively impact road safety for all users. Posting credible speed limits that align with the expectation of motorists increase road safety.

Traffic Data Collection

PWES received several traffic-related concerns and inquiries from the public, in which the majority involved excessive speeding of motorists in specific areas of the Town.

Such traffic concerns are validated and measured through collection of vehicular speed data to gain insight on the current operating conditions of the roadway. This ensures that speed mitigation efforts are not exhausted in areas where it may instead be a perceived concern. Other general concerns related to traffic, such as increased volumes, can also be analyzed through data collection.

The Town currently owns and operates two mobile speed display boards (mounted on trailers) that display real-time speeds of motorists passing the device from one direction, and two Black Cat roadside radar detectors (affixed to hydro and/or streetlight poles) that inconspicuously capture the speeds of passing motorists from both directions. Both devices are available during the Spring, Summer and early Fall months and decommissioned during the Winter months. The effectiveness of each device is reduced in freezing temperatures and reduced levels of sunlight. They also pose a conflict with winter operations (snow removal).

The speed display boards display the real-time speeds of approaching vehicles in a singular direction and flashes when the vehicle's operating speed is higher than the posted speed limit. The speeds of approaching motorists are captured prior to displaying their speed on the board. These devices can raise the awareness of travel speeds and communicate to motorists to slow down.

The Black Cat radar devices do not display travel speeds of passing motorists. They are inconspicuous and capture data from vehicles passing in each direction of the roadway.

When available, either speed radar device is deployed to an area of concern for a minimum of one week and up to a total of two weeks to collect vehicular data, including per vehicle speeds. Once data collection is completed, it is analyzed by Administration to assess the speed profile of the roadway. This allows for verification of the concerns received prior to proceeding with further action related to speed mitigation. Both radars also measure traffic volume, including total count and Annual Average Daily Traffic (AADT) and can be checked against historical data to validate a volume concern.

PWES staff deployed speed radar devices (either the digital speed display board or Black Cats) at a total of twenty-four (24) locations on nineteen (19) different streets in 2023. Attachment 1 summarizes these locations, along with the posted speed limit, observed Average Speed, and 85th Percentile Speed at the time the radar was deployed.

In review of the 85th percentile speeds collected, motorists were found to be traveling at speeds in excess of 10km/h above the posted speed limit at the following locations:

- Baseline Road
- Holden Road
- St. Thomas Street
- Shawnee Road
- Lacasse Boulevard
- Manning Road

In-Road Traffic Calming Signs

When excessive speeding concerns are validated, in some instances PWES staff will install in-road traffic calming signs (flexible bollards) in the center of the road at the subject location(s). Administration determines the number of bollards to deploy and their relative location considering the physical characteristics of the roadway and location of controlled intersections and driveway entrances. The intention of using these signs is to provide a narrowing effect on the road, which can encourage motorists to slow down as they pass by. They act as a visual cue to remind motorists to operate in accordance with the posted speed limit. These devices are meant to be a temporary solution, as they are removed for the winter to avoid conflict with winter operations.

In 2023, the Town tested the effectiveness of using these devices as a traffic calming measure in altering driver behaviour. This was completed by installing one of the Town's Black Cat speed radar devices during the time of installation of the in-road flexible bollards and following their removal from the subject location. The results ultimately showed a modest 1 km/h reduction in Average Speed, and 2km/h reduction in the 85th percentile speed recorded.

The 2023 locations for in-road traffic calming signs in response to public concerns of speeding included the following:

- Arlington Blvd.
- Edgewater Blvd.
- Intersection Rd.
- Lacasse Blvd.
- McNorton St.
- Riverside Dr.
- St. Alphonse St.
- Southfield Dr.
- St. Mark's St.

Continued Monitoring and Enforcement

When excessive speeding is observed, the subject location and data collected is forwarded to the OPP formatted as reports generated from the traffic data software, including hourly speeds by volume, speed and volume summary, and overall speed report. The direction of vehicular traffic is also reported. Staff will continue to work closely with the OPP and provide traffic data to identify the best days and times for when enforcement may be most effective.

Speeding is enforced by the OPP under the Ontario *Highway Traffic Act*. The OPP were notified of the above noted areas for potential enforcement and follow-up.

Consultations

Ontario Provincial Police

Financial Implications

The in-road flexible signs used for traffic calming across the Town cost approximately $260 per sign. The Public Works Operating Budget is used to fund purchasing of the signs. A total of 10 signs have been damaged over the past year. Public Works will order 10 new signs in 2024 for a total approximate cost of $2,600.

Link to Strategic Priorities

Applicable	2023-2026 Strategic Priorities
☐	Sustainable Growth: Achieve prosperity and a livable community through sustainable growth.
☒	Community Health and Inclusion: Integrate community health and inclusion into our places and spaces and everything we do.
☒	Service Experience: Enhance the experience of Team Tecumseh and our citizens through responsive and respectful service.

Communications

Not applicable ☒

Website ☒ Social Media ☐ News Release ☐ Local Newspaper ☐

This report has been reviewed by Senior Administration as indicated below and recommended for submission by the Chief Administrative Officer.

Prepared by:

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Reviewed by:

Kirby McArdle, P.Eng.
Manager Public Works & Transportation

Reviewed by:

Phil Bartnik, P.Eng.
Director Public Works & Engineering Services

Recommended by:

Margaret Misek-Evans, MCIP, RPP
Chief Administrative Officer

Attachment Number	**Attachment Name**
1	2023 Speed Radar Device Locations and Data Collection Results

Attachment 1: 2023 Speed Radar Device Locations and Data Collection Results

Report No. PWES-2024-04 Traffic Radar Speed Survey 2023

Location	Posted Speed Limit (km/h)	85th Percentile Speed (km/h)	Average Speed (km/h)
Arbour St. (12300 block, between Lesperance Rd. and Bedell St.)	40	40	34
Arbour St. (between Poisson St. and Shawnee Rd.)	40	47	38
Baseline Rd.	60	77	67
Brighton Rd. (just north of Mei Lin Cres.)	50	50	45
Dorset (at Dorset Park)	40	45	35
Gauthier Dr. (at 482 Gauthier Dr.)	40	47	39
Hebert St. (at 1718 Hebert St.)	50	50	40
Holden Rd. (5869 Holden Rd.)	60	90	76
Horwood Cres. (at 12714 Horwood Cres.)	40	48	41
Lacasse Blvd. (between Tecumseh Rd. and St. Thomas Blvd.)	40	55	46
Lanoue St. (Bedell St. to Lemire St.)	50	47	38
Lanoue St. (at 12730 Lanoue St.)	50	47	37
Lemire St. (at 12793 Lemire St.)	50	47	40
Lesperance Rd. (at Westlake Dr.)	50	49	40
Lesperance Rd. (at Westlake Dr.)	50	56	49
Manning Rd (south of Little River Blvd.)	50	60	51
McNorton St. (at 12160 McNorton St.)	50	48	42
McNorton St. (at 12160 McNorton St.)	50	50	43

Shawnee Rd. (south of County Road 22)	50	58	46
St. Alphonse St. (Shields St. to South Pacific Ave.)	50	55	44
St. Pierre St. (at 663 St. Pierre St.)	50	48	39
St. Thomas St. (from Lacasse Blvd to Argent St.)	40	54	45
St. Thomas St. (at Centennial Dr.)	40	50	43
Strawberry Dr. (at 2905 Strawberry Dr.)	50	36	32