

THE CORPORATION OF THE TOWN OF GEORGINA

REPORT NO. OI-2022-0021

**FOR THE CONSIDERATION OF
COUNCIL**

September 28, 2022

SUBJECT: 2023 SPEED HUMP PILOT PROGRAM

1. RECOMMENDATION:

- 1. That Council receive Report No. OI-2022-0021 prepared by the Road Operations Division, Operations & Infrastructure Department, dated September 28, 2022, regarding the Speed Hump Pilot Program;**
- 2. That Council approve the Speed Hump Pilot Program locations, design, and installation timeline, considering the potential impact to Emergency Services response times at the proposed locations;**
- 3. That staff report back to council in the third quarter of 2023 with preliminary summer results and recommendations on possible program expansion; and**
- 4. That Council approve the \$30,000.00 budget to be funded from the Canada Community Building Fund in 2023.**

2. PURPOSE:

To propose a Speed Hump Pilot Program in response to Council requests and traffic concerns from local residents. This report will provide details surrounding the execution of this program as well as eligibility criteria that were considered for each location.

3. BACKGROUND:

The Operations and Infrastructure Department prepares bi-annual reports to Council to provide updates on traffic related issues, and provides recommendations for amendments to existing By-laws, if required. Many of the requests received from residents involve concerns related to speeding and pedestrian or cyclist safety. The Town has a Traffic Calming Policy (RD-18) and procedures that outline a three-step process for implementing local traffic calming.

Policy Outline

Policy RD-18 outlines the process to follow once a traffic study has been conducted (speed and volume, bi-directional) and recommended traffic-calming step be taken. Step 1 traffic calming measures of Policy RD-18 are generally considered first when

traffic calming requests are received and are focused on visual (horizontal and vertical) and educative measures. In most cases, Step 1 calming measures (including durable pavement decals, road narrowing by either flexible bollards or pavement marking, speed radar boards, requests for speed enforcement, or additional regulatory and/or warning signage) assist in reducing speeds.

Step 2 traffic calming measures are considered when Step 1 calming measures are proven to be ineffective based on follow up studies or reoccurring concerns surrounding traffic behavior. These measures typically include a physical change in the road that would require a motorist to alter their behavior in order to safely travel on that portion of the road; most commonly being a reduction in speed. These physical measures (including street width reductions by curb, speed tables or raised crosswalks, and speed cushions) are designed to target a larger segment of roadway or an identified area of need (a school zone, for example). The Georgina Safe Streets Advisory Committee (GSSAC) is informed of Step 1 measures and consulted prior to a Step 2 measure being brought forward to Council for consideration.

Town of Bradford West Gwillimbury Pilot Program

The Town of Bradford West Gwillimbury (BWG) performed a similar speed hump pilot program throughout 2021 where 8 permanent humps were installed at 5 different rationalized locations. Through the procurement and bidding process, it was determined that permanent asphalt humps were the most cost-effective installation method (more-so than the initially proposed temporary modular cushions). For the design, BWG selected a slightly modified version of the City of Toronto Standard T-504.02, outlined in Part 4 of this report. Prior to and following the installation, BWG performed extensive studies on each location in order to evaluate their effectiveness, and ultimately the pilot yielded an average 85th percentile speed reduction of 13.5 km/h at, or next to, the hump.

4. ANALYSIS:

Council directed staff to review the results of the Bradford West Gwillimbury Speed Cushion Pilot Program (RESOLUTION NO. C-2022-0177) and look at options to implement within the Town of Georgina, and potentially Lake Drive E, provided the implementation considered the Lake Drive Functionality Assessment. Council further requested at its August 10, 2022 meeting, that staff consider Riveredge Drive as a candidate for Speed Hump installation, based upon speed concerns and petitions submitted.

Through discussions with York Technical Advisory Committee (YTAC), assessment of criteria and applicability outlined in the Canadian Guide to Traffic Calming (2018), and review of other municipalities' staff reports; staff recommend the trial implementation of speed humps within the Town of Georgina, known as the Speed Hump Pilot Program. A pilot program would allow staff to study traffic behavior and determine the effectiveness of speed humps. Upon completion of the program, staff would report back

to Council as to whether speed humps were successful in the trial areas and identify areas of improvement with respect to location selection, design criteria and application.

Based upon the prior requests, Riveredge Drive and Lake Drive East will be the selected study areas. These are two areas of interest where speed concerns are frequent and speed and volume studies, as well as subsequent Step 1 traffic calming measures, have been implemented. The effectiveness of Step 1 measures have been recognized, and although a reduction in speed has occurred, Step 2 measures may have a greater impact and can be studied through this pilot program.

Historical Speed and Volume

Town staff performed speed and volume studies on Lake Drive East and Riveredge Drive in response to speed concerns on several occasions within recent years. The restrictions surrounding COVID-19 may have a small impact on the results as the overall volume of traffic was less than previously recorded years, and traffic speeds will increase with less congestion.

Lake Drive East

The Town currently uses a variety of measures along Lake Drive E to calm traffic including digital speed boards, signage, rumble strips, controlled intersections and inclusion within a Community Safety Zone and Waterfront Park Buffer Zone. The speed limit on Lake Drive East is 30km/hr.

Location	Start Date	End Date	85th percentile (km/h)	Max Speed (km/h)	AA DT	Posted Speed Limit (km/h)
Lake Drive E, west of Jacksons Point	2020-08-25	2020-09-01	44	70	1394	30
Lake Drive E De La Salle	2020-06-01	2020-07-27	38	85	1330	30
Lake Drive E De La Salle	2018-07-04	2018-07-07	31	>65	1144	40
Lake Drive E at Willow Beach	2016-07-26	2016-08-01	41	>65	2246	40

Riveredge Drive

Riveredge is a unique through-road in Keswick. It is one of four roads connecting Woodbine Avenue and The Queensway South, between Glenwoods Avenue and Morton Avenue, and is the only through-road without some form of existing stop-control or traffic calming (or combination of both). This is primarily due to the roads geometric design, lack of intersecting streets and visible features of the roadway. The speed limit on Riveredge Drive is 40km/hr.

Location	Start Date	End Date	85th percentile (km/h)	Max Speed (km/h)	AADT	Posted Speed Limit (km/h)
Riveredge Drive (#53)	2022-06-02	2022-06-23	44	132	483	40
Riveredge Drive (#53)	2021-11-05	2021-11-27	47	81	424	40
Riveredge Drive (#43)	2020-11-08	2020-11-18	48	80	384	40
Riveredge Drive (#139)	2020-11-10	2020-11-18	46	73	266	40

Speed Humps Assessment

Primary Advantages

- Vehicle Speeds: Reduction in 85th percentile speed between 6 and 13 km/h
- Traffic Volumes: Reduction between 15% and 27%
- Practicality: Measures are permanent and work year-round with very little maintenance
- Consistency: Many adjacent municipalities utilize speed humps and recognize the effectiveness
- Environment: Traffic noise may be reduced due to lower speeds (benefits may be offset by increased noise due to braking and accelerating)
- Cyclists: No effect on bicycles riding at moderate speeds
- Pedestrians: No effect on resident access

Primary Disadvantages

- Emergency Response: Delay between 2.3 and 15 seconds for emergency vehicle response times per hump
- Cyclists: May experience loss of control if travelling at speeds over 40 km/h

Other Considerations

- Transit Routes: A series of vertical deflection measures may increase travel time
- Maintenance: Negative effects on snow plowing/removal; plow operators must slow and manage blade carefully to avoid damaging speed hump surface
- Noise: If there are multiple devices within close proximity on the same street, reports indicate increased frequency of higher-than-normal engine RPM from acceleration between hump locations
- Alternate Routes: Traffic may be diverted/increased to parallel streets once users become aware of the measures

Application Criteria

Locations considered for speed humps would undergo a thorough evaluation by staff to ensure selection and installation guidelines are adhered to. The Canadian Guide to Traffic Calming provides detailed applicability standards and elements to consider including road classification, signage, geometric design, urban & rural cross-sections, snow removal, bus stops, spacing range, on-street parking and roadside furniture/

obstructions. Subject to approval, each speed hump will be designed to best suit the specific placement with road safety being the highest determining factor.

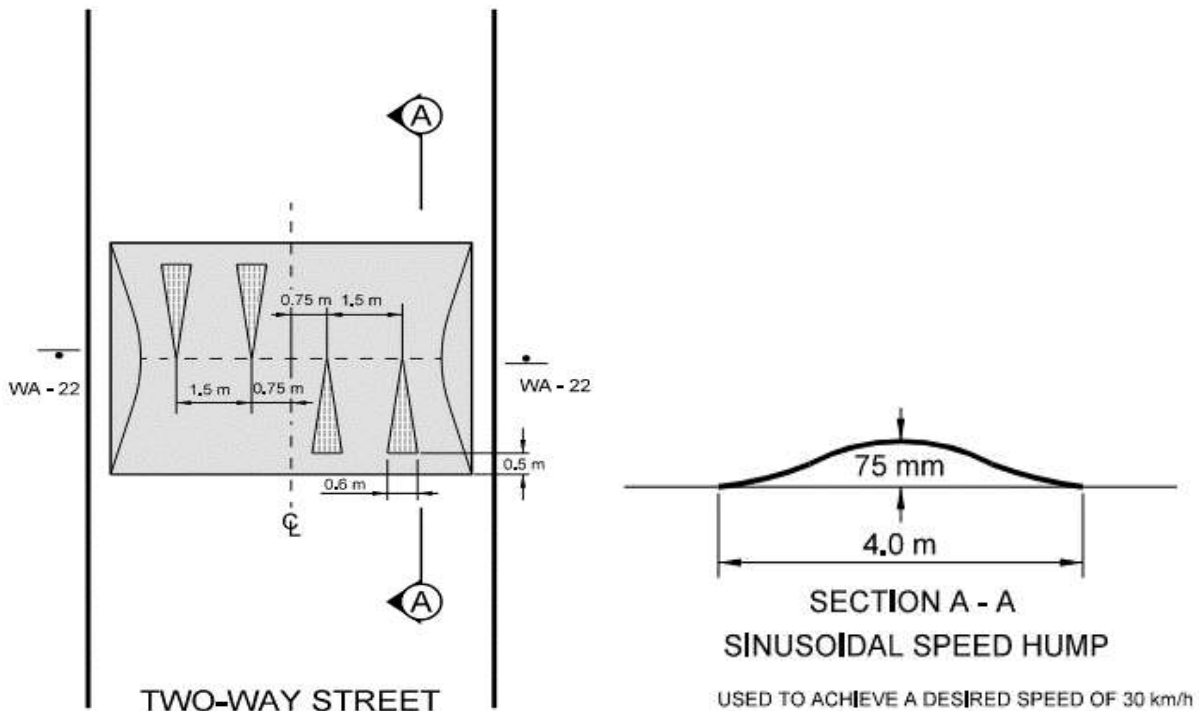
Proposed Speed Hump Design (subject to adjustment)

Staff recommend the use permanent humps as part of this trial. Permanent Humps (asphalt) provide many benefits over a temporary solution. These benefits include:

1. Increased smoothness: important as part of a first trial, considering not only vehicular traffic, but pedestrian and cyclist prominent in Georgina
2. Year-round application: permanent humps can remain in place over all 12 months, providing a good range for monitoring and analysis throughout different seasons
3. Maintenance-free: A permanent hump requires almost no maintenance during the first five years of installation. Temporary humps require constant maintenance ensuring they have not moved/deteriorated while installed.

The permanent hump design would mimic the City of Toronto Standard T504.02, modified to suit road width. A wheel path modification should be tested on Lake Drive East for cyclists. Wheel path modifications include a depression in the middle of the hump to existing grade.

Standard Detail City of Toronto Standard T504.02:



Location Selection

Initial site visits outline three locations on Riveredge Drive (approximately 41, 91 and 129) and two locations on Lake Drive East (De La Salle and Willow Beach) to be proposed as part of the pilot program. Final locations will consider all requirements above as well as adjacent Town amenities (beaches, pathways).

Emergency Services

Emergency Services will be impacted by the implementation of the Speed Hump Pilot Program. According to the Canadian Guide to Traffic Calming (2018), a delay between 2.3 and 15 seconds for emergency vehicle response times is expected per hump. The NFPA recommends a driving response time of 4 minutes from station to emergency.

For Riveredge Drive, the implementation of speed humps still allow Emergency Services to respond within the recommended guidelines given the proximity to the nearest station. However, minor delays (between 6.9 and 45 seconds) in response times are likely if an emergency location is near the installed humps.

For Lake Drive East, the implementation of speed humps still allow Emergency Services to respond within the recommended guidelines, as the regular path of travel is Metro Road, followed by the closest North-South route to the emergency location. However, minor delays (between 4.6 and 30 seconds) in response times are likely if an emergency location is near the installed humps.

Given the overall probability and relative risk of the delays are low, but remain important, Staff recommend Council consider these impacts when endorsing the recommendations.

Timing

Over the coming months, staff can determine final placement and spacing based on the eligible application details above. A final analysis of the preferred design specifications, including proposed modifications, will be completed. Finally, procurement, material purchasing, and scheduling will be complete prior to installation.

5. RELATIONSHIP TO STRATEGIC PLAN:

Promote a high quality of life

The Speed Hump Pilot Program would allow staff to evaluate the effectiveness of traffic calming in areas where many common measures are challenging to implement. If proven successful, speed humps can provide a safer road for all road users in the respective area they are placed, allowing residents to further enjoy the areas of which they live.

Engage our community & build partnerships

Members of the public rely on staff to take all appropriate measures to ensure all roads are maintained. Pilot programs and new initiatives related to road safety help establish and maintain a level of credibility between staff and residents of the community.

6. FINANCIAL AND BUDGETARY IMPACT:

Comparing costs from City of Toronto, Bradford West Gwillimbury and previously awarded tenders from surrounding municipalities in Ontario, staff anticipate an approximate cost of \$4,500.00 per hump location which would include the asphalt humps, pavement marking and signage. With five proposed locations, staff estimate a total project cost of approximately \$30,000.00, including 25% contingency for recent increases in supply chain.

7. PUBLIC CONSULTATION AND NOTICE REQUIREMENTS:

Subject to approval, Town staff would engage the community within the hump locations following installation and obtain constructive feedback regarding placement and apparent effectiveness. This information would be beneficial in future programs when considering public interest in physical traffic calming measures.

Communication campaigns on implementations and results will be established prior to installation.

8. CONCLUSION:

Staff recommend the endorsement of the Speed Hump Pilot program with the anticipated installation date of the second quarter of 2023.

APPROVALS

Prepared By:	Adam LaCroix, Engineering Technologist, Road Operations
Reviewed By:	Niall Stocking, Manager, Operations
Recommended By:	Michael Vos, Director, Operations and Infrastructure
Approved By:	Ryan Cronsberry, Chief Administrative Officer