

Date: March 13, 2024

To: Community and Operations Services Committee

From: Beth Mullen, Director, Community Support Services
Kevin Alexander, Commissioner, Community and Operations Services

Re: Use of Speed Cushions on Rural Roads (Ward 1)

File No: 03-05

1. Purpose

The purpose of this memo is to report back on the use of speed cushions on rural roads in response to Committee and Council direction.

Attachment 1 to this Report is CO-23-60 dated November 8, 2023, “Petition from Various Residents requesting temporary Speed Cushions on Columbus Road West”.

Attachment 2 to this Report is CO-24-09 dated February 7, 2024, “Review of Municipality of Clarington and Town of Whitby Use of Speed Cushions on Rural Roads”.

2. Background

At its meeting of November 20, 2023, Council considered Report CO-23-60, “Petition from Various Residents requesting temporary Speed Cushions on Columbus Road West”, and referred the report back to staff to review the Municipality of Clarington and the Town of Whitby’s use of speed cushions on rural roads and report back in the first quarter of 2024.

At its meeting of February 12, 2024, the Community and Operations Committee considered Report CO-24-09, “Review of Municipality of Clarington and Town of Whitby Use of Speed Cushions on Rural Roads” and recommended the report be referred back to staff to investigate further calming measures along Columbus Road West. Council adopted the Community and Operations Committee’s recommendation at its meeting of February 26, 2024.

Report CO-23-60 (Attachment 1), section 5.7 specifically addresses potential traffic calming options for rural roads in accordance with the Council-approved Neighbourhood Traffic Management Guide and the process for reviewing and implementing traffic calming options.

Report CO-24-09 (Attachment 2) provides information concerning the Municipality of Clarington and the Town of Whitby’s use of speed cushions on rural roads.

3. Recommendation

That the Community and Operations Services Committee recommend to City Council:

1. That pursuant to Report CO-24-15, dated March 13, 2024 and in accordance with the Neighbourhood Traffic Management Guide (N.T.M.G.) and the Institute of Transportation Engineers (I.T.E.), staff consider implementing pavement markings and/or signage where appropriate along Columbus Road West; and,
2. That staff continue to work with Durham Regional Police Service and request additional speed enforcement along Columbus Road West; and,
3. That following the Council approved process, staff consider installing Radar Message Boards along Columbus Road West.



Beth Mullen, Director,
Community Support Services



Kevin Alexander, Commissioner,
Community and Operations Department



Public Report

To: Community and Operations Services Committee

From: Tracy Adams, Chief Administrative Officer,
Office of the C.A.O.

Report Number: CO-23-60

Date of Report: November 8, 2023

Date of Meeting: November 13, 2023

Subject: Petition for Temporary Speed Cushions on Columbus Road
West

Ward: Ward 1

File: 03-05

1.0 Purpose

The purpose of this report is to report back on Item CO-23-25 regarding a petition from residents requesting temporary speed cushions on Columbus Road West.

Attachment 1 is a copy of the petition from residents requesting temporary speed cushions on Columbus Road West.

Attachment 2 is map showing the count locations on Columbus Road West.

Attachment 3 is a photo of the Columbus gateway signage.

2.0 Recommendation

That the Community and Operations Services Committee recommend to City Council:

1. That Report CO-23-60 concerning the Petition for Temporary Speed Cushions on Columbus Road West, dated November 8, 2023, that the recommendations detailed in Section 5.8 be endorsed.

3.0 Executive Summary

Not applicable.

4.0 Input From Other Sources

Columbus Road West Petitioners

5.0 Analysis

5.1 Petition Requesting Temporary Speed Cushions on Columbus Road West

On April 24, 2023, the Community and Operations Services Committee considered Item CO-23-25 a petition with 29 signatures requesting temporary speed cushions to be installed as a traffic calming measure to address speeding concerns along Columbus Road West. A copy of the petition is appended as Attachment 1.

Similar to a speed hump, a speed cushion is a raised area of road but does not cover the whole road width. They require passenger vehicles to limit speeds to travel over them, while larger vehicles, such as Fire Trucks or Ambulances, can “straddle” the cushions and pass with no difficulty. They are either permanently installed using raised asphalt, or temporarily using portable rubber units. Speed cushions can cause issues for snow clearing in the winter, so typically portable rubber units are used so they can be removed during the winter months.

Speed cushions are intended to be used on local and collector roads with posted speed limits of 50 km/h or less. They are not intended to be used on higher class arterial or rural roads where operating speeds are much higher or where motorists would not expect them. If a motorist travelled over the speed cushion at a high rate of speed they could lose control of their vehicle and leave the roadway. This is a serious safety concern not only for motorists, but also for other road users such as pedestrians and cyclists. Speed cushions should also be avoided in areas with poor or limited street lighting.

Due to its rural classification, Columbus Road West would not be a suitable location for speed cushions.

5.2 Road Characteristics - Columbus Road West

Columbus Road West is classified as an Arterial B road with a rural cross section. The section between Thornton Road North and Simcoe Street North is approximately 1.6 km in length, and has pavement width of 6.1 metres with narrow gravel shoulders and ditches. The posted speed limit is 50 km/h. There are no sidewalks on either side of Columbus Road West, except for a short section near Simcoe Street North. The roadway fronts a mixture of residential and farmland, and is used by large farm equipment on a regular basis.

There is limited street lighting along Columbus Road West within the limits of the Village of Columbus.

5.3 Speed and Traffic Study

In Fall 2023, staff collected updated speed and volume counts along Columbus Road West. Results of the counts are summarized in Table 1. A map showing the count locations is appended as Attachment 2.

Table 1: Speed and Volume Summary

Location	Date	Speed Limit	Eastbound		Westbound	
			Speed (85 th Percentile km/h)	Volume (24 hrs)	Speed (85 th Percentile km/h)	Volume (24 hrs)
Near 424 Columbus Road West	Oct 3, 2023	50 km/h	67 km/h	1367	86 km/h	1250
Near 209 Columbus Road West	Oct 3, 2023	50 km/h	79 km/h	1390	57 km/h	1259
Near 82 Columbus Road West	Oct 3, 2023	50 km/h	69 km/h	1419	63 km/h	1316

The data shows that the 85th percentile speeds (the speed at which 85% of traffic is travelling at or below, also referred to as the operating speed) along the roadway are higher than the posted 50 km/h speed limit. The traffic volumes are acceptable and are within the range expected for an arterial classification.

Motorists tend to travel at speeds which they are comfortable based on the roadway characteristics. Regardless of the posted speed, roadways in open areas, such as along farmlands, will tend to have higher operating speeds compared to an urbanized area. To combat this, staff have installed additional '50 km/h speed limit' signs along Columbus Road West to bring additional awareness of the speed limit.

5.4 Collision History

A review of the collision history along Columbus Road West between Thornton Road North and Simcoe Street North found no reported collisions over the past five years.

5.5 Existing Traffic Calming and Safety Measures

5.5.1 Speed Limit Signage

In the past staff have installed additional 50 km/h speed limit signage along Columbus Road East and Columbus Road West to raise motorist's awareness of the posted speed limit.

5.5.2 Pavement Markings

The City has installed yellow centre lines along Columbus Road East and Columbus Road West. Within the limits of the Village of Columbus, there are also white edge line pavement markings along the roadway. The white edge line provides positive guidance to motorists, providing a buffer between the asphalt and gravel shoulder, and creates mild narrowing effect to the travel lanes.

5.5.3 'Welcome to Columbus' Gateway Signage

Currently there are 'Welcome to Columbus' gateway signs installed along Columbus Road East and Columbus Road West. These gateway signs are posted at the Columbus village limits and provide motorists with additional warning to slow down.

The gateway signage consists of a 'Welcome to Columbus – Slow Down for Safety' sign on the right side of the roadway, and a large 50 km/h warning sign on the left side of the road for traffic approaching the village. On the opposite side of the 50 km/h warning sign is a sign stating 'Thanks for Slowing Down' facing traffic travelling away from the village. Photo of the gateway signage is appended as Attachment 3.

5.5.4 Radar Message Boards

Radar Message Boards are speed display boards that are equipped with radar speed detectors and a multi-colour LED driver feedback display. Radar Message Boards provide individual feedback to motorists on their driving behaviour. The boards are capable of detecting the approaching speed of a vehicle and displaying the speed or a custom message (TOO FAST, SLOW DOWN, etc.) back to the driver. When combined with a regulatory speed limit sign, a clear message is sent to the driver that they may be travelling too fast. It is an education tool designed to increase motorist awareness and safety.

Currently there are Radar Message Boards installed on Columbus Road East and Columbus Road West approaching the village limits. These Radar Message Boards are installed as part of the Councillor Directed Radar Message Board program.

5.5.5 Community Safety Zone

A Community Safety Zone (CSZ) is a designated portion of a road that the Highway Traffic Act allows for fines to be doubled for speeding, distracted driving, and other similar offences. The CSZ must be added to the City's Traffic By-law and requires Community Safety Zone signage to be installed as per the requirements of the Highway Traffic Act and Ontario Traffic Manual. It can be an effective tool to aid Police Enforcement efforts, and can act as a deterrent to reduce speeding.

Currently Community Safety Zones are included in a traffic by-law and signed along;

- Columbus Road East between Simcoe Street North and Ritson Road North, and;
- Columbus Road West between Thornton Road North and Simcoe Street North

5.5.6 Heavy Traffic Prohibition

A Heavy Traffic Prohibition is a designation that prohibits heavy trucks from using a specific section of roadway. The Heavy Traffic Prohibition must be added to the City's Traffic By-law and requires 'No Heavy Truck' signage to be installed as per the requirements of the Highway Traffic Act and Ontario Traffic Manual. Heavy Traffic Prohibitions are intended to be used on roads that may be used as a shortcut by trucks, and on roads which may be damaged by the weight of the trucks.

Currently Heavy Traffic Prohibitions are included in a traffic by-law and signed along;

- Columbus Road East between Simcoe Street North and Ritson Road North, and;
- Columbus Road West between Thornton Road North and Simcoe Street North

5.6 Neighbourhood Traffic Management Guide (N.T.M.G.)

In 2022, City Council approved Oshawa's updated Neighbourhood Traffic Management Guide (N.T.M.G.). The guide outlines the processes for reviewing and implementing traffic calming requests. The guide also provides a summary of various traffic calming options, such as speed cushions, and the appropriate areas they may be installed based on best engineering practices.

The warrant process within the N.T.M.G. specifically states that 'rural roads are not suitable for the N.T.M.G. process. Traffic issues on rural roads will be considered on a case-by-case basis.' The reason for this is rural roads have different characteristics than an urban street. Rural roads have a different cross-section, typically with gravel shoulder and ditches, higher operating speeds, limited or no street lighting, and higher volumes of large farm equipment using the roadways. Another important consideration is that motorists travelling on rural roads are not as likely to expect traffic calming elements to be installed on a rural roadway compared to urban streets. Due to these concerns, caution needs to be taken when considering traffic calming on rural roads.

As per the N.T.M.G. and the ITE Canadian Guide to Traffic Calming, vertical deflections such as speed cushions and speed humps are not appropriate for rural or arterial roads, which Columbus Road West is classified as.

Due to safety concerns, traffic calming on rural or arterial roads should be limited to pavement marking or signage options. Using vertical or horizontal deflection traffic calming devices such as speed cushions or flexible bollards can create a safety issue for motorists. They can also create access issues for larger farm equipment travelling along the roadway. Physical calming options such as speed cushions or flexible bollards can be damaged, or cause damage to farm equipment.

5.7 Potential Traffic Calming Options for Rural Roads

As per the N.T.M.G. and the ITE Canadian Guide to Traffic Calming, traffic calming options for rural roads should be limited to pavement marking and signage options.

5.7.1 Radar Message Boards

There are currently two Radar Message Boards (RMB) installed along Columbus Road East and Columbus Road West for traffic approaching the east and west limits of the Village of Columbus. One option would be installing additional Radar Message Boards along Columbus Road West to provide additional positive guidance to motorists. Ward 1 currently has 10 RMB units available and to be installed at the direction of the local Councillors. These RMB units could be deployed to additional locations on Columbus Road West.

5.7.2 Automated Speed Enforcement

Automated Speed Enforcement (ASE) is a traffic calming measure that could potentially be used along a rural road to deter speeding. In combination with a signed Community Safety Zone, ASE allows the municipality to issue fines to speeding vehicles through the use of speed cameras. The City of Oshawa does not currently have an ASE program in place. Staff are currently investigating ASE and will be reporting back to Council in the future with information on the legislative requirements and costs to implement an ASE program within Oshawa. A potential issue for implementing ASE on a rural road is the limited right-of-way to install equipment.

5.7.3 Pavement Markings

Pavement marking traffic calming options are typically used to provide positive guidance to motorists or to create a narrowing effect on the travel lanes which can in turn may cause motorists to be uncomfortable and slow down. Pavement marking traffic calming options typically provide a limited reduction in operating speeds, however, they are able to be used safely on rural roads. Pavement markings installed within the travel lanes wear down quicker and require more maintenance than typical edge or centre line pavement markings. Staff would expect these types of pavement markings to require replacement every few years.

Potential pavement marking options for Columbus Road West would include;

- Extending the white edge line markings beyond the village limits. This would create a minor narrowing effect on the travel lanes.
- On-Road 'Sign' Pavement Markings. These are pavement markings that provide information that would typically be shown to drivers through signage but are painted on the roadway to provide a larger image directly in the driver's line of sight. Examples could be the posted speed limit, or a 'SLOW DOWN' message, etc.
- 'Dragon's Teeth' or 'Peripheral Transverse Bars' are sets of pavement markings installed along the travel lanes that create an illusion that a vehicle's speed is increasing and/or that the lane is narrowing. They are intended to create a discomfort for motorists causing them to reduce their speed. These may also be used to alert drivers they are approaching a rural community.

It should be noted that the City of Oshawa does not currently have any of these traffic calming pavement marking options installed on City streets.

5.7.4 Centre Flex Bollard

Installation will only include the centre flex bollard. To maintain access for farm equipment, no outer bollards can be installed. A centre flex bollard installed without the outer bollards may have a minimal reduction in speed. Staff would need to ensure they are visible at night, and installed where the gravel shoulders are clear so they are not overly restrictive for farm equipment. Flexible bollards can only be used during warm weather months and must be removed in the winter so they do not interfere with snow clearing. They could be used in combination with the existing gateway signage to create a calming effect.

5.8 Recommendations

Staff recommend continuing to work with Durham Regional Police Enforcement and request additional speed enforcement along Columbus Road West. Staff will also investigate piloting potential pavement markings and centre flexible bollard options for Columbus Road West in Spring/Summer 2024.

If requested by the Ward 1 Councillors, staff will provide assistance installing additional Radar Message Boards along Columbus Road West.

Due to safety concerns for road users, staff do not recommend installing vertical or horizontal deflection traffic calming devices such as speed cushions along Columbus Road West.

6.0 Financial Implications

The cost to install pavement markings and centre flexible bollard traffic calming treatments on Columbus Road West would be:

- Centre Flexible Bollard – Approximately \$350 each
- On-Road ‘Sign’ Pavement Markings – Approximately \$500-\$1,000 each depending on design/messaging
- White Edge Pavement Marking Extension from Village of Columbus Limits to Thornton Road North – Approximately \$700
- Dragon’s Teeth or Peripheral Transverse Bar Pavement Markings – Approximately \$5,000 per set

These costs can be accommodated by the departments 2024 operating budget.

7.0 Relationship to the Oshawa Strategic Plan

This Report addresses the Oshawa Strategic Plan Goal of Social Equity.



Beth Mullen, Director,
Community Support Services



Tracy Adams, Chief Administrative Officer,
Office of the C.A.O.

CO-23-25

I am a long-time resident on Columbus Road West and submit this letter and Petition below in support of the request to OSHAWA MAYOR AND CITY COUNCIL for temporary speed cushions on Columbus Rd. West.

I have been on the Durham Region Police Services Community Advisory Committee since 2019 and have made the speeding concerns know to DRPS. But police enforcement, signs the City installed for traffic to slow for cyclists and joggers, the Radar Message Board (RMB) and Community Safety Zone (CSZ) have not made a difference. Vehicles continue at excessive speeds that are dangerous.

Signed by Elizabeth Linda Joss, April 7, 2023, <M.F.I.P.P.A Sec. 14(1)>, Oshawa

Petition for Temporary Speed Cushions on Columbus Rd. West, Oshawa

The residents along Columbus Road West have endured excessive speeding without any effective abatement for too long. It is a unique rural residential community road with 23 private residential driveways and many seniors and families with young children.

Although many of us have complained to DRPS for speed enforcement and to our Ward Councillors who have tried to help with the RMB installed 4 years ago, and the CSZ last year, we, the majority of the families and individuals residing on Columbus Rd West ask the City to install temporary speed cushions for safety, as this is a traffic calming measure used effectively by many other municipalities.

Columbus Rd. West in north Oshawa is unique in that it is 1 ½ km in length and 90% of it has no sidewalk or curbs and almost non-existent road shoulders, but has many regular joggers and cyclists. See Google map photo attached and Speed Cushion page from Oshawa Neighbourhood Traffic Management Guide Even though it is classified as a city arterial road, we ask that Oshawa Council make an exemption and permit temporary speed cushions to be installed in locations where the undersigned property owners agree.

29 Signatures

The original petition is available for viewing in the office of the City Clerk, Monday to Friday from 8:30 a.m. to 4:30 p.m.

The City of Oshawa is not accountable for the accuracy or reliability of petitions submitted.



<ul style="list-style-type: none"> ● - Traffic Count Location ★ - Councillor Directed Radar Message Board ★ - Welcome to Columbus Gateway Signage STOP - All-way Stop Control - Traffic Control Signals 	CITY OF OSHAWA COMMUNITY AND OPERATIONS SERVICES DEPARTMENT	
	REPORT - PETITION FOR SPEED CUSHIONS ON COLUMBUS ROAD WEST	
	DATE: 11/8/23	SCALE: NTS

Attachment 3: 'Welcome to Columbus' Gateway Signage





Public Report

To: Community and Operations Services Committee

From: Kevin Alexander, Commissioner,
Community and Operations Services Department

Report Number: CO-24-09

Date of Report: February 7, 2024

Date of Meeting: February 12, 2024

Subject: Review of Municipality of Clarington and Town of Whitby Use of
Speed Cushions on Rural Roads

Ward: Ward 1

File: 03-05

1.0 Purpose

At its meeting of November 20, 2023, Council considered Report [CO-23-60](#) 'Petition for Temporary Speed Cushions on Columbus Road West'. The report was in response to a petition from residents requesting temporary speed cushions on Columbus Road West. Council referred the report back to staff to review the Municipality of Clarington and the Town of Whitby and their use of speed cushions on rural roads and to report back in the first quarter of 2024.

The purpose of this report is to respond to Council's direction.

2.0 Recommendation

That the Community and Operations Services Committee recommend to City Council:

That Report CO-24-09 dated February 7, 2024 concerning a review of the use of speed cushions on rural roads in the Municipality of Clarington and the Town of Whitby, be received for information.

3.0 Executive Summary

Not applicable.

4.0 Input From Other Sources

Legal Services
Legislative Services
Municipalities: Clarington, Whitby

5.0 Analysis

5.1 Use of Speed Cushions on Rural Roads

5.1.1 Municipality of Clarington

The Municipality of Clarington currently has speed cushions installed at four (4) locations along a rural road. For the last three (3) years they have been installed seasonally during the warm weather months and removed during the winter. They currently use temporary rubber speed cushions, which typically have a life expectancy of approximately three years and are nearing replacement due to normal wear and tear.

The seasonal speed cushions are installed at:

- Concession Road 6 near Solina Road (2 sets)
- Old Scugog Road south of Werrydale Drive
- West Beach Road north of Cove Road

The response from the public has been mostly negative from road users and residents living in the vicinity of the speed cushions, and they have received requests to have them removed. Complaints received include:

- Noise from screeching tires slowing for the speed cushions, and acceleration noise from vehicles after passing the speed cushions.
- Noise from larger vehicles travelling over the speed cushions.
- Motorcycles speeding through the gaps in the speed cushions.

The Municipality of Clarington has not experienced any complaints from Emergency Services nor are they aware of any reported collisions at any speed cushion locations. Clarington staff did not indicate any intention to remove the speed cushions permanently based on the complaints received.

5.1.2 Town of Whitby

In 2020, the Town of Whitby piloted temporary rubber speed cushions year round at urban locations only; however, they were damaged by snow plows in the winter and had to be removed. Public feedback during the pilot was mostly positive although they did receive some comments that the profile of the temporary speed cushions was not high enough to slow down vehicles.

No collisions were reported during the pilot project. They did have one damage claim as a result of the speed cushions.

Although the Town of Whitby does not currently have any speed cushions installed, they are planning on installing some permanent asphalt speed cushions at urban locations only in 2024. They do not have any plans to install speed cushions at any rural road locations.

5.2 Staff Recommendations

In accordance with the Neighborhood Traffic Management Guide (N.T.M.G.), and the ITE Canadian Guide to Traffic Calming, traffic calming options for rural roads should be limited to pavement marking and/or signage.

Based on the feedback received from both the Municipality of Clarington and the Town of Whitby, and with reference to the N.T.M.G. analysis summarized in CO-23-60 under sections 5.6 and 5.7, staff do not recommend installing speed cushions along Columbus Road or any other rural road locations in Oshawa.

It is further recommended that staff continue to work with Durham Regional Police Service with respects to speed enforcement along Columbus Road West, and continue to support installation of Radar Messaging Boards (RMB's), with due consideration of the N.T.M.G.

6.0 Financial Implications

There are no financial implications directly related to this report.

7.0 Relationship to the Oshawa Strategic Plan

This Report addresses the Oshawa Strategic Plan Goal of Social Equity.



Beth Mullen, Director,
Community Support Services



Kevin Alexander, Commissioner,
Community and Operations Services Department