Public Report

To:	Community and Operations Services Committee
From:	Ron Diskey, Commissioner, Community and Operations Services Department
Report Number:	CO-23-35
Date of Report:	June 7, 2023
Date of Meeting:	June 12, 2023
Subject:	Publishing of Radar Message Board (RMB) Traffic Data on Municipal Website
Ward:	All Wards
File:	03-05

1.0 Purpose

The purpose of this report is to respond to the direction from City Council on December 12, 2022 regarding the following Notice of Motion which was referred to staff to investigate publishing data by Ward on the City's website;

"Whereas some Ontario municipalities Traffic and Transportation Departments publish their radar message board data on their websites; and,

Whereas this information is helpful for better public understanding of perceived speed hot spots in various neighborhoods;

Now therefore the City of Oshawa publish Radar Message Board data on the City's website."

2.0 Recommendation

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

1. That City Staff continue to share Radar Message Board Traffic Data with the Local and Regional Councillors to assist with deploying Radar Message Boards on streets with reported speeding concerns; and,

2. That City Staff do not publish Radar Message Board traffic data on the City's website based on the survey of other municipalities, but investigate the sharing of Average Annual Daily Traffic (AADT) data on the City website; and,

3. That City Staff publish a Councillor Directed Radar Message Board Program webpage on the City of Oshawa website with information on the program, Councillor contact information, and an interactive map showing all active Radar Message Board locations in Oshawa.

3.0 Executive Summary

Not applicable

4.0 Input From Other Sources

- Community and Operations Services
- Corporate and Finance Services
- Region of Durham
- Municipality of Clarington
- Town of Whitby
- Town of Ajax
- Township of Scugog
- Township of Brock
- Township of Uxbridge
- City of Peterborough
- Town of East Gwillimbury
- Town of Oakville
- City of Vaughan
- City of London
- Region of Waterloo
- City of Hamilton
- Oxford County

5.0 Analysis

5.1 Survey of Municipalities in Ontario

To obtain information on posting Radar Message Board traffic data on the City of Oshawa website, City staff collected information from Region of Durham municipalities and posted a survey to Ontario municipalities through the Ontario Traffic Council (OTC) website.

Staff received survey responses from 15 regions and municipalities.

Results of the survey are shown in Table 1.

Table 1: Survey Responses

Summary of Survey	• Municipalities were asked if they provide Radar Message Board Traffic Data on their municipal website and/or if they provide any other traffic data on their municipal website and how often the data is updated • Of the municipalities that responded to the survey, most do not post Radar Message Board traffic data on their municipal websites, but do post AADT (Average Annual Daily Traffic) data through online website portals. This type of traffic data is most commonly requested from residents, developers and land owners. • Most municipalities update their traffic data every 1-5 years to stay relevant with the current traffic conditions on local roadways.
Ontario Municipalities that reported posting AADT Traffic Data on Municipal Websites	Region of Durham, Clarington, Peterborough, Oakville, London, Region of Waterloo, Hamilton, Oxford County
Ontario Municipalities that reported posting Radar Message Board (RMB) Data on Municipal Website	Clarington
Ontario Municipalities that reported not posting Radar Message Board (RMB) Data on Municipal Website	Region of Durham, Whitby, Ajax, Uxbridge, Scugog, Brock, Peterborough, Vaughan, London, East Gwillimbury, Oakville, Region of Waterloo, Hamilton, Oxford County

5.2 Types of Traffic Counters

5.2.1 Automated Traffic Recorders (ATR)

Automated Traffic Recorders (ATR) counts are primarily used to capture the volume, speed and classification of vehicles that travel on a roadway over a given period of time. It can capture data across multiple lanes and travel directions. ATR counts have traditionally been collected with road tubes, which use pneumatic technology to capture data that is

later analyzed to estimate the count. The data produced by the ATR counters are used by staff for various traffic studies, and also for producing AADT data.

5.2.2 Radar Traffic Counters

Radar Traffic Counters are traffic counting devices equipped with radar speed detectors used to capture volumes, speed and classification of vehicles. It can capture data across multiple lanes and travel directions. The data produced is similar to the ATR counters. They are useful at locations where an ATR counter may not be easily deployed.

5.2.3 Radar Message Board (RMB) Data Collection

Radar Message Boards (RMB) 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.

Radar Message Boards are primarily a traffic calming device that can also collect limited traffic data. They can have a positive impact on roadway operating speeds, however, they are most effective when they are installed for short periods of time, as over time, drivers become accustom to seeing their speed feedback displayed and they lose their effectiveness.

Radar Message Boards can collect traffic speed and volume data, and produce reports to evaluate vehicle speeds on the street on a short term basis. The data produced by the Radar Message Board units is limited compared the ATR and Radar Counters as they only collect data in one direction of travel. These reports are used internally by staff and not shared with the public. Since the Radar Message Board units only collect data in a single direction, and because the feedback display impacts the operating speeds of the roadway, the data produced by the Radar Message Board is not as useful for traffic studies as the data produced by ATR and Radar Traffic Counters. The data produced by Radar Message Boards cannot be used by external stakeholders for traffic studies.

5.3 Types of Traffic Counter Data

5.3.1 Average Annual Daily Traffic (AADT)

AADT is the total volume of vehicle traffic on a highway or road for a year divided by 365 days. AADT is a useful and simple measurement of how busy a road is. AADT data is summarized and broken down to represent the 24-hour average total volume passing a point on the roadway.

The AADT traffic data can be used for:

- Traffic planning studies by Municipalities and private agencies;

- Determining Minimum Maintenance Standards for highway maintenance and improvement; and

- Forecasting road maintenance needs and expenditure.

5.3.2 Turning Movement Counts (TMC)

Turning Movement Counts (TMC) is a measurement of the traffic movements at an intersection, typically collected over the 8 peak traffic hours of the day. The TMC summarizes traffic movements by classifications types (cars, trucks, and pedestrians). These counts are typically collected by a person or using video detection/artificial intelligence equipment. TMC's are necessary for programing traffic signal timings, measuring intersection capacity, and used for various traffic and planning studies.

The City of Oshawa does not currently collect turning movement count traffic data unless required. The Region of Durham collects turning movement count information at Regional Intersections in Oshawa, and can be viewed through their online GIS portal.

5.3.3 85th Percentile Traffic Speed Data

The 85th percentile speed is a widely used traffic statistical metric. By definition, it is the speed at which 85% of traffic is travelling at or below. It provides an accurate estimation of traffic conditions and helps identify poor road design and unfitting speed limits. The 85th percentile speed is the pace adopted by reasonable people, according to each road environment.

City Staff use the 85th percentile traffic speed data as part of the Neighbourhood Traffic Management Guide to determine site selection warrants and rankings for the deployment of flexible post bollards and other traffic calming solutions.

5.4 Council Directed Radar Message Board Program

The City of Oshawa has implemented the Council Directed Radar Message Board Program to help remind and encourage motorists to reduce their speeds and obey the posted speed limit. Each Ward has been assigned ten (10) Radar Message Boards that can be deployed at the discretion of the local Councillors. The objective of the program is to improve road safety by making drivers aware of their speed.

The program is based on the principle that many motorists are somewhat unaware that they are travelling at an excessive rate of speed. Most motorists generally drive at a speed deemed comfortable, depending on road geometry and surrounding land use. The operating speed electronically displayed on the board is a strong visual reminder to motorists to comply with the posted speed limit.

5.5 Request for Posting Radar Message Board Data by Ward on City Website

Based on the survey of other municipalities, a vast majority do not post Radar Message Board Traffic Data due to the staff time involved, misinterpretation of the data by residents, and/or they don't believe the data would be useful to the residents. Radar Message Boards

are generally only installed in short time durations as they can lose effectiveness after being installed for long durations. Radar Message Board data is not useful for outside agencies or consultants as the sign changes driver behaviours, which isn't an accurate depiction of how the roadway operates without the Radar Message Board sign.

Most municipalities reported that AADT data was the most commonly requested type of traffic data requested by residents, developers, and land owners since it is the most accurate depiction of traffic data for how a roadway operates.

5.6 Recommendations

City Staff recommend continuing to share Radar Message Board traffic data summaries with local and regional Councillors on request as per the current process, and not to share Radar Message Board traffic data on the City website.

However, City Staff do believe there is benefit to creating a new Council Directed Radar Message Board webpage with an interactive map displaying the active radar message board locations and to provide residents with information on how to request future locations from Councillors.

Therefore, it is City Staff's recommendation to create a new webpage on the City website with information about the Council Directed Radar Message Board Program, a website link to the Councilor Contact Information Page, and an interactive Map of the active Radar Message Board locations on the webpage.

6.0 Financial Implications

There are no financial implication based on recommendations of the report.

7.0 Relationship to the Oshawa Strategic Plan

This report addresses the Oshawa Strategic Plan by responding to the goal of "Social Equity" with the theme of "An Active, Healthy and Safe Community" by continuing to support safe, shared use of roadways, trails, and other transportation systems and effectively focusing on accessibility, safety and speed reduction.

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