



COUNTY OF WELLINGTON

COMMITTEE REPORT

To: Chair and Members of the Roads Committee
From: Don Kudo, County Engineer
Date: Tuesday, April 13, 2021
Subject: **Road MAP: Speed Management Guidelines**

Background:

Speed management was one of the items to be studied as part of the Road Master Action Plan (RMAP). The Speed Management Guidelines have now been developed and the guidelines align with the Road Master Action Plan vision and goals:

“To connect people and goods across the County safely, conveniently, efficiently and sustainably.”

- *Goal #1: Create a Transportation Network with a Focus on Safety*
- *Goal #7: Develop Transparent Policy Tools that Guide Investment Decisions in the Transportation Network*
- *Goal #8: Create a Culture of Collaboration with Municipal Stakeholders where the County Transportation Network Intersects with Areas of Local Importance*

In general, a speed management plan defines a transparent process to identify problems, assess impacts, evaluate appropriate mitigation, and implement appropriate improvements. A plan typically addresses the “five E’s” of traffic safety: Engineering, Enforcement, Evaluation/Monitoring, Education, and Engagement. The main elements of a speed management plan are as follows:

- Problem Definition - speed acknowledged as a safety problem and defined by the relationship of vehicle speed to collision outcome
- Implementation of Speed Limits – appropriate designation of speed limits on variable road environment and conditions
- Measures for Managing Speed – methods and measures required to provide effective speed management and create safe roads
- Creation of a Speed Management Programme – a comprehensive programme of screening and implementation tools for speed control appropriate for the adjacent road environment

Purpose and Scope

The Speed Management Guidelines provide a planning process for responding to speeding concerns occurring on the County road network. The intent is that these guidelines will be used to provide context for how to identify a speeding issue and assess and identify the potential for mitigation. The document:

- Provides direction on the appropriateness of posted speed limits in consideration of the local road environment and operating characteristics
- Defines a process for undertaking a warrant for speed mitigation measures at locations identified by an area’s stakeholders

- Defines a process for assessing the feasibility of introducing speed mitigation measures and deciding on corridors where warranted and how to develop a final solution
- Outlines a process to obtain the necessary approvals to implement the required speed mitigation measures with the ability to apply professional judgement in responding to a speeding concern

Several published documents were consulted and offered useful insights into regulatory policies and geometric standards related to the physical environment and roadway design. Consultation with County staff, Wellington OPP and the Technical Advisory Group which includes staff from all local municipalities was also undertaken to develop the guidelines.

Context

Speeding is a complex issue characterized by driver behaviour, the conflict between resident and driver attitudes, the impact of vehicle types, and the influence of posted speed limits and roadway design on local road environments. A speed management plan requires a process by which problems and outcomes are defined and assessed.

Posted Speed Limit Review

The guidelines note that a review of all posted speed limits that are 70 km/h or lower within the County road network should be undertaken to ensure consistency between design and expected behaviour. This would help ensure that any lack of adherence can be categorized and appropriate mitigation can be identified. This review can be staged, with priority given to locations with known issues. As part of the RMAP study, 16 road corridors have been reviewed based on input from the public, councilors, and staff. Results of this work is still under review with a committee report to be presented in at the May Roads Committee meeting.

In 2012, the County adopted the use of the Transportation Association of Canada (TAC) Canadian Guidelines for Establishing Posted Speed Limits guidelines to establish posted speed limits on the County road network. There may be some corridors where the posted speed limit is not consistent with the TAC guidelines if they were last changed before 2012. Some corridors may have also experienced adjacent land use changes since the last TAC review was completed for the corridor.

It is recognized that the TAC Canadian Guidelines for Establishing Posted Speed Limits do not take into account factors such as historical collision data and/or vulnerable users that may be found on some parts of the corridor.

Assessing Need for Speed Management - Process

The attached flow chart shows the coordinated planning process for responding to speeding concerns. The guidelines provide a process for managing requests for further speed mitigation and management and is summarized as follows:

1. Request is received
2. Verification of Local Municipal or County road
3. Verification of concern and review factors:
 - a) concern has been received at the location within the last three years
 - b) concern has already been raised that lead to a review
 - c) circumstances or conditions have changed

- d) concern has been made that did not satisfy the review trigger
- e) concern has not been made within the last three years

4. Petition with signatures from no less than 33% of all residential properties that front and/or abut the identified limits of the specific county road corridor is submitted in a completed format

An example petition is included in the guideline appendix.

Following the screening process, the steps in the assessment process include:

1. Establish study area
2. Assessing speed profile of the road
 - a) Data Collection
 - b) Data Benchmark
 - c) Summary of Initial Review
3. Document context/characteristics of the road
 - a) Physical characteristics of the road
 - b) Adjacent land uses
 - c) Planning context
 - d) Driveway spacing
 - e) Pedestrian activity
 - f) Collision frequency and severity
 - g) Inferred design speed
 - h) Active transportation infrastructure provided
4. Investigate/Consider root source of the speed issue
 - a) Vehicle classification
 - b) Mode share
 - c) Land uses
 - d) Design

Speeding is not just defined as exceeding the posted speed limit; it is also driving too fast for the conditions. While speed limits are typically set based on the functional role and geometric design of a roadway, the physical environment of a road can vary by time of day and time of year, resulting in different visibility conditions, vehicle type composition, and increased exposure to non-vehicle activity. The considerations noted above should be explored to determine the root source of the concerns.

An example of the speed mitigation warrant form is included in the guideline appendix.

Identifying and Evaluating Mitigation

Following the general five (5)-E's of a traffic safety programme, potential mitigation to reduce speeds and implement a speed management plan falls into three categories: Enforcement (Regulatory), Engineering (Geometric and Other) and Education. The specific action plans or options in each of these categories are as follows:

Enforcement (Regulatory) Modifications

1. Speed Limit Modification

2. School Zone
3. Community Safety Zone
4. Automated Speed Enforcement (ASE)

Engineering (Geometric) Modifications

5. Cross-Section Modification
6. Traffic Calming
7. Controlled Pedestrian Crossing

Engineering (Other) Modifications

8. Speed Radar Signage
9. Seasonal / Temporary Modifications

Education

10. Education Campaign

The above alternatives have independent evaluation processes (criteria checklist, warrants) that can be reviewed to confirm either that the modifications are appropriate given the road environment or that the modification can be successfully implemented. This exercise will help to develop a shortlist of options by screening out the solutions that either (a) can't be implemented due to physical or operational constraints, or (b) are not applicable.

Since the County road network is largely arterial roads that feature typically higher traffic volumes and permits the use of heavy trucks, some of the measures found within the Canadian Guide to Neighbourhood Traffic Calming would not be appropriate for introduction along a County road corridor, both within urban and rural areas. Along County road corridors, vertical traffic calming devices should not be introduced due to the transportation system role as well as the impedance to road drainage. County road corridors carry heavy vehicles such as trucks, and any raised device would result in significant additional noise and vibration. Winter maintenance on the County roads that are higher road classification with minimum maintenance standard requirements would also be hindered by vertical traffic calming devices.

Engagement

Developing and implementing effective education and communication strategies that inform stakeholders concerning the need and importance of speed management initiatives are critical components in the success of a speed management plan. The guideline provides a stakeholder engagement process that documents various steps of public input and contact when dealing with a speeding concern. Stakeholders from both Internal-Public (Agencies) and External-Private (Private groups or individual members of the community) are considered in the engagement process.

To develop a co-ordinated approach from an Engineering and Enforcement standpoint, quarterly meetings with representatives from both the Wellington County OPP and County Roads Division will be held. The speed management team will:

- Review potential posted speed limit adjustments being considered
- Review collected traffic speed data
- Update status of petitions

- Discuss corridors that have approved speed mitigation measures
- Discuss types of improvements that could be implemented and effectiveness of measures implemented
- Determine and recommend updates to the guidelines

Approvals and Implementation

When required to implement speed management measures, such as a bylaw change, County staff will provide a report to the Roads committee for approval. Bylaw amendments will be required for regulatory improvements such as changes to posted speed limits and the introduction of community safety zones and school zones.

Road geometric improvements that require a road construction contract for the implementation of a design may also require a tender to be awarded through the Roads committee.

Other improvements such as the introduction of pavement markings, signage and/or speed display boards would remain as items to be implemented by Roads staff.

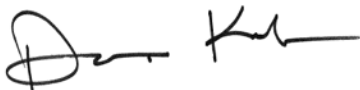
Once a project location has been determined with speed mitigation measures approved, next steps in the process would be as follows:

- Design project and allocate appropriate funding sources
- Develop implementation schedule, assign tasks, and incorporate costs into budgets
- Finalize safety targets or other goals
- Identify measures of effectiveness and develop an evaluation plan
- Implement and complete evaluation
- Communicate results to stakeholders

Recommendation:

That the Road MAP: Speed Management Guidelines as outlined in the report and guideline document be endorsed as part of the Road Master Action Plan

Respectfully submitted,



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County Engineer

Attachments: Speed Management Process
Speed Management Guidelines

Attachment 1: Speed Management Process

