

**Nova Scotia Transportation and  
Infrastructure Renewal**

**Low Posted Speed Limit Study**

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*Submitted by:*

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## Executive Summary

Speed limits are the most prevalent and basic safety tool for owner agencies. A properly set speed limit allows for reasonable motorists to travel safely at a speed that is apparent to the driver from the environmental cues that surround them. Elements such as land use, lane width, presence of parking, and roadway curvature should all work in concert to indicate to the driver the function of the roadway and a reasonable and safe travel speed under normal conditions. Posted speed limits well-matched to the physical environment reduce the burden on the enforcement and education that also play a natural part of the discussion of setting appropriate speed limits.

Road safety is the key reason for determining the most appropriate speed limit for a section of roadway. An appropriately set roadway speed communicates to all users the most reasonable and responsible use of the facility and what they should expect. Improperly set speed limits, particularly those set too low, can disconnect the actual safety of a facility from the perception of security that users have. If the speed on the sign contradicts the physical environment presented to the users, there will quite naturally be no change in behaviour or safety of the facility.

The issue of safety vs. security is a major element of discussion with regards to setting appropriate speed limits. If speed limits are set via political decisions or policies that are unrelated to the physical environment or role of a roadway, it is likely that the speed will be inconsistent. This is particularly important when setting speeds lower than 50 km/h, as the lower posted speed can lead road users into a false sense of security, which is not being communicated consistently to motorists through environmental and physical roadway cues. From the perspective of the motorist, nothing has changed, and so, neither will their operating speeds - resulting in a false sense of security for other road users.

In addition, municipal, provincial, state, and federal governments across North America have in the recent past begun to realise the benefits to the physical and economic health of their municipalities provided by active transportation, complete streets design, and healthy community initiatives. This has resulted in an increased number of pedestrians and cyclists that must coexist with vehicles on roads, placing more pressure on setting appropriate speed limits. Quite often there is pressure to lower speed limits to promote slower vehicle speeds and create a safer and

more accommodating environment for active users - despite the disagreement of this speed with the overall travel environment.

A review of current literature including research, guidelines, and field reports was undertaken to understand the elements of the issue. The major findings of this review were:

- *The physical environment is the key driver in determining the most appropriate travel speed for a roadway. Controlling elements such as lane width, roadway curvature, presence of parking and sidewalks, and surrounding land uses are critical to creating an environment that promotes lower travel speeds.*
- *Simply erecting a slower speed limit sign will have no effect on driver behaviour and may in fact decrease overall safety.*
- *It is critical that a road authority apply posted speed limits consistently and without undue political or public influence that is not backed up by solid engineering analysis. Speeds that are set individually for political reasons and are not related to the physical environment will result in disregard for the limits. This causes driver confusion and frustration and may cause the opposite of the intended effect.*
- *The public must be reminded of their responsibilities through appropriate education and enforcement programs. Although the majority of the burden of creating and maintaining a safe travel environment falls on the shoulders of the road authority, this does not excuse the public from driving responsibly in all conditions.*
- *The Transportation Association of Canada's "Canadian Guidelines for Establishing Posted Speed Limits" presents the first standardised approach to setting speed limits in Canada. Adoption of this document by municipalities across Canada has been relatively swift since its introduction in 2009. The risk-based analysis for setting speed limits allows for speed limits as low as 40 km/h to be set, given a certain set of roadway conditions – largely based on physical characteristics.*

A survey of Canadian municipalities and their approach to setting speed limits was undertaken. Major findings from this work were:

- No provincial authorities have a default posted speed limit lower than 50 km/h. The majority have allowed speeds to be set lower on a case-by-case basis by municipalities with due engineering review.
- Implementation of lower speed limit signs in absence of commensurate changes to the physical environment will have no effect on vehicle operating speeds.
- Application of area-wide speed reductions without other controls produce limited change and general apathy towards posted speed limits
- Mississauga and Winnipeg found that there were some facilities pre-existing in their communities that were already functioning at speeds lower than 50 km/h due to physical constraints.
- The method for setting speed limits varies significantly between municipalities. However, a survey by Burlington, ON found that 42% of responding municipalities have adopted the “Canadian Guidelines for Establishing Posted Speed Limits” into their processes.

Five Canadian municipalities were chosen for more detailed analysis to illustrate their varied approaches and experiences with posting speed limits lower than 50 km/h.

- Montreal implemented area-wide speed reductions in each of its 19 neighbourhoods, giving individual power to each to propose changes with final approval from the Province.
  - Signs were erected at entry points into the neighbourhoods that set the speed limit in that area
  - Speed reduction results were mixed
  - Public reaction to the program was positive and it has remained
- Edmonton followed a path similar to Montreal, giving power to their Community Leagues (collections of neighbourhoods), requiring that a vote be put to residents on modifying a speed limit in the area
  - The program was piloted in six neighbourhoods
  - Speed results were mixed; some speeds decreased, while others increased

- As a result, half of the neighbourhoods maintained the speed reduction, while the other half returned to 50 km/h
- Stratford, PE has a default speed of 30 km/h throughout the town. Their intention is to reduce speeds and promote safety and active transportation.
  - No other physical modifications have been implemented to induce the slower speeds
  - Roadways were designed for speeds of 50km/h and above
  - As a result, observations by the Province of PEI show that the posted speed limits are ignored
  - The Province will be recommending the setting of speed limits more appropriate for the physical environment and actual vehicle travel speeds
- Ottawa maintains a warrant system that is used to specify locations where a speed limit of 40 km/h would be appropriate. The warrant is based on the design of the roadway, surrounding land uses, and the presence of vulnerable road users.
  - The warrant presents a simple list of conditions. If any one of the conditions is met, a 40 km/h sign may be erected.
  - The warrant has an additional a qualification for wide roads that their 85<sup>th</sup> percentile speed must also currently be lower than 50 km/h
  - Pilot testing of the program showed mixed results
  - Despite the intention of performing evaluation of the program, no follow-up has been done outside of the pilot program
- Winnipeg is the lone municipality from these five that studied the issue of speed limits lower than 50 km/h and decided not to implement.
  - They found that simply erecting a lower speed limit sign was proven ineffectual in research
  - They found a number of streets in their municipality posted at 50 km/h that function at speeds lower than 50 km/h due to the design and surrounding land uses

- They instead approach speed reduction through the application of their traffic calming program

All of the preceding research and analysis presents four key findings for the study:

- The operating speeds on a road can be controlled via modification of the physical environment. Modification of the physical environment can induce vehicle operating speeds lower than 50 km/h. Posting of speed limit signs alone will not reduce vehicle operating speeds.
- Improperly set speed limits, particularly those that are set too low, produce an environment where users feel more secure, when they, in actuality, are no safer than previous. Therefore, education of elected officials and the general public on the differences between safety and security and the need for reasoned application of speed controls guided by engineering analysis is critical to increasing the safety of all road users.
- Consistency in application of posted speed limits is critical in maintaining the validity of and compliance with posted speed limits by road users. Consistent use of engineering standards backed by national and international research, such as TAC's Canadian Guidelines for Establishing Posted Speed Limits, in combination with reasoned engineering judgement, will result in a safer roadway environment.
- The dangers of excessive speeds and the responsibilities of all road users needs to be communicated clearly and explicitly through public education and enforcement programs. It is the road authority's responsibility to provide a safe and consistent environment for travel, but there is also equal responsibility on the part of road users to be mindful of the rules and other users.

As discussed above, there is increasing pressure on roadway agencies across North America to reduce vehicle operating speeds due to increases in promotion of active transportation and healthy community initiatives. This also works in combination with the ever-present need to increase safety in general and decrease the overall number and severity of vehicle collisions. Therefore, it is clear that there will be increasing pressure on NSTIR to have a clear and reasoned position and a process in place to deal with future requests. This will help maintain a consistent

and safe environment on Nova Scotia's roadways where speed limits can be set based on reasoned engineering processes and judgement.

It is, therefore, recommended that NSTIR allow posted speed limits lower than 50 km/h on its highways, given adherence to a sound engineering, education, and enforcement process. A warrant procedure for speed limits of 40 km/h has been developed within this document for that express purpose. The warrant applies sound engineering judgement to quickly and fairly isolate and treat areas that may or may not be suitable for use of speed limits of 40 km/h.

The warrant procedure is applied in six major steps:

1. *Establish the Study Area Boundaries* – It is important to set out the parameters for the study area prior to performing any analysis.
2. *Initial Screening* – The roadway in question must already be classified as a “local” street and have a posted (or unposted) speed limit of 50km/h. There must also be concurrence with 80% of fronting properties in support of lowering the speed limit to 40 km/h, if it passes further analysis. All three conditions herein must be satisfied. Otherwise, the process is halted.
3. *Required Roadway Characteristics* – One or more of a series of roadway design, land use, or other characteristics must be found to be present. If not, the process is halted.

These are:

- Parkland that is not considered part of an elementary or junior high school property, but fronts onto the road that is contiguous to and used to gain access to an elementary or junior high school;
- Evidence of use by persons with decreased mobility in the area;
- No sidewalk on either side of the road for a major portion (>50%) of the road;
- The sidewalk is immediately adjacent to and not separated from the flow of motor vehicles by long-term parking (three hours) or bike lanes, and where the travel portion the road width is less than 5.7 m for two-way operation, or less than 4.0 m for one-way operation;
- Two or more locations where there are grades greater than 5% and/or the safe speed on curves is less than 50 km/h;
- Lack of sufficient distance to stop safely (according to the appropriate TAC guidelines) at two or more locations when traveling at 50 km/h;

- The number of speeding-related collisions on a street within the study area equals 3 or more over three years; and,
  - Where long-term parking (3 hours or longer) is permitted on one or both sides and the remaining travel portion of the road is less than 5.7 m for two-way operations, or 4.0 for one-way operation.
4. *Determination of 85<sup>th</sup> Percentile Speed* – Field observation of actual vehicle operating speeds to determine its current suitability for a posted speed limit of 40 km/h. If the 85th percentile speed is 45 km/h or less, then 40 km/h posted speed signs may be erected within the Study Area. If the speed limit is currently not posted within the study area and 85th percentile speeds are lower than 45 km/h, the road authority should discuss the results of the analysis to this point with the concerned residents or stakeholder group. Following this discussion, the road authority will decide whether or not the erection of 40 km/h speed limit signs should be posted. Proceed to Step 6. If the 85<sup>th</sup> percentile speed is higher than 45 km/h, proceed to Step 5.
  5. *Creating the Appropriate Physical Environment* – If the 85<sup>th</sup> percentile speed is shown to be greater than 45 km/h, the “Canadian Guidelines for Establishing Posted Speed Limits” must be applied. This will determine the most appropriate posted speed limit given the current conditions. If this shows that a posted speed limit of 40 km/h is appropriate, the sign may be erected. If not, the road authority should investigate the feasibility of introducing physical changes to the roadway environment to achieve the appropriate conditions for the speed limit. If, given sound engineering judgement, this is shown to be infeasible, the sign should not be erected.
  6. *Education and Enforcement* – If a new 40 km/h speed limit sign is to be erected, the road authority should follow up with appropriate community involvement, education, and enforcement programs during a period of transition.

Use of the above warrant procedure will give the road authority a consistent, fair, and sound system for evaluating the implementation of speeds lower than 50 km/h on roadways in Nova Scotia. It will be important for the health of the approach that it is periodically evaluated over the years of its implementation. The process should be adapted as necessary to achieve the goals of the program: increasing compliance with road signage and increasing safety for all road users, be they motorist, cyclist, or pedestrian.



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## **1.0 Introduction**

### **1.1 Purpose**

This report documents the findings of a review of the merits of implementing posted speed limits below 50 km/h (in urban areas) in Nova Scotia. It also establishes the conditions under which sub-50 km/h posted speed limits should be deployed, should the Province permit the use of lower speed limits in localized areas.

### **1.2 Background**

Speed limits are the most prevalent and basic safety tool for owner agencies. A properly set speed limit allows for reasonable motorists to travel safely at a speed that is apparent to the driver from the environmental cues that surround them. Elements such as land use, lane width, presence of parking, and roadway curvature should all work in concert to indicate to the driver the function of the roadway and a reasonable and safe travel speed under normal conditions. By ensuring that the posted speed limit is matched well to the physical environment and vice versa, the behaviour of motorists and other road users will more naturally be safe and reasonable, thus reducing the burden on the enforcement and education that also play a natural part of the discussion of setting appropriate speed limits.

The unfortunate reality, however, for a majority of owner agencies across Canada and elsewhere is that, as a result of designing roadways over the past decades to maximise vehicle flow, there is quite often a disagreement between the indicators of safe travel speed and the posted speed limit. This leads to often low levels of compliance and a disregard for posted speed limits.

There is also the relatively recent interest by municipal, provincial, state, and federal governments across North America to promote and incorporate active transportation in their communities, including the Province and municipalities of Nova Scotia. Mobility is a key component of quality of life and governments are realising the benefits to the physical and economic health of their municipalities provided by active transportation. This has resulted in an increased number of pedestrians and cyclists that must coexist with vehicles on roads across

Nova Scotia, placing even more pressure on setting appropriate speed limits. And more specifically, there is often pressure to lower speed limits to promote slower vehicle speeds and create a safer and more accommodating environment for active users - despite the disagreement of this speed with the overall travel environment.

This speaks to the balancing act that is performed daily by owner agencies, that of balancing mobility and safety on their roads. On the one hand, the fast and efficient movement of people and goods is essential to maintaining today's economic reality; on the other hand, the interaction of different modes of travel, especially ones with significantly different speeds and abilities, must be accommodated safely and equitably.

This balance of maintaining mobility and safety for *all* road users in the face of decades of car-centric design presents a significant challenge to Nova Scotia Transportation and Infrastructure Renewal.

### **1.3 Responsibility and Risk**

The social contract between owner agencies of roadways and the users of these facilities is largely based on responsibility and trust. The owner agency has the responsibility to create and maintain a consistent, clear, and safe travel environment that allows reasonable drivers, cyclists, and pedestrians to move safely and efficiently to their destination. The users of the facilities, from their end, are then responsible to use these facilities in a safe and prudent manner and must place a certain amount of trust in the agencies to provide and maintain that environment.

Without discounting the need for safe and responsible use of the roadways by its users, much of the burden of creating and maintaining a safe transportation environment falls on the shoulders of the roadway owner agency. It is important that the agency take a proactive role in maintaining a safe environment, as well as educating the importance of adherence to the safe use of facilities and enforcing the rules on those that disregard them. This is largely an exercise in risk management – engineering a safe environment, educating the public, and enforcing the rules to minimise risk for all users.

If traffic laws are to effectively function as a risk management system, the rule-making component must precisely and correctly identify risk. If this is not done, the remainder of the system inefficiently allocates resources in dealing with individuals who technically violated a rule but, in fact, did not engage in risky activity.

Speed limits that are improperly posted, particularly those set artificially low, tend to be ignored by the majority of drivers and thus, have little effect on risk. At the same time, the limit makes technical violators of a high percentage of drivers, and draws enforcement presence and concurrent citations.

## **1.4 Speed Limits in Nova Scotia**

Speed limits on highways in Nova Scotia are governed by the Motor Vehicle Act<sup>1</sup> (“the Act”). Users of highways governed by the Act are required to comply with the provisions contained therein to ensure that vehicles are driven and operated consistently across the province. A series of offences are established for a failure to comply with the provisions of the Act. The sections of the Act that govern the establishment and enforcement of speed limits that are applicable to this project are summarized below. Full text for these sections of the Act is provided in **Appendix A**.

### **1.4.1 Overarching Duty**

Section 101 of the Act establishes an overarching duty to operate or drive a vehicle at a careful and prudent rate of speed commensurate with the traffic, surface and width of the highway and all other conditions existing at the time of operation or at such a speed or in such a manner as to not endanger the life, limb or property of any person.

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<sup>1</sup> *Motor Vehicle Act*, RSNS 1989, c 293.

### **1.4.2      *Prima Facie Speed Limit***

Section 102 of the Act establishes a prima facie speed limit of fifty kilometres per hour in certain areas, districts or zones including business districts, danger zones and residence districts. This limit is subject to the overarching duty to operate or drive a vehicle at a careful and prudent rate of speed established by section 101 and the provisions of section 104 (discussed in more detail below).

### **1.4.3      *School Area and School Bus***

Subject to applicable regulations, section 103 of the Act establishes reduced speed limits for school areas and proximate school buses. The particular reduced speed limit is determined by the speed limit in effect immediately before the start of the school area. The reduced speed limits set out in subsection 103(2) of the Act only apply if a child is present in the area.<sup>2</sup> The Minister may, pursuant to subsection 103(2C), make regulations limiting the application of the reduced speed limits in section 103 by times, dates or other conditions and respecting any matter of thing the Minister considers necessary or advisable to effectively carry out the intent and purpose of section 103.

### **1.4.4      *Fixing Maximum Speed Rate***

Section 104 grants the Minister or a traffic authority with the approval of the Provincial Traffic Authority to fix maximum rates of speed as he [they] may see fit to approve for motor vehicles traversing any part or portion of a highway subject and may erect and maintain signs containing notification of such rate of speed, and thereafter while such signs remain so erected and displayed the operator or driver of any vehicle exceeding such rate of speed shall be guilty of an offence. The authority of the Minister or a traffic authority to fix a maximum rate of speed is subject to the reduced speed limits applicable to school areas and proximate to school buses established in section 103.

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<sup>2</sup> N.S. Reg. 164/2012

#### **1.4.5      *Posted Higher Rate of Speed***

The Traffic Authority is authorized by section 105 to indicate a rate of speed higher than the prima facie speed limitations provided in subsection 102(2) upon through highways and upon highways or portions thereof where there are no intersections or between widely spaced intersections by erecting and maintaining appropriate signs and giving appropriate notice.

#### **1.4.6      *Maximum Speed Limits***

Section 106 establishes a default maximum speed limit of eighty kilometres per hour on highways and authorizes the Minister or the Provincial Traffic Authority to fix rates in excess of eighty kilometres per hour, but not in excess of one hundred and ten kilometres per hour for certain highways.

#### **1.4.7      *Other Provisions***

Sections 106A-106E of the Act establish additional offences and reduced speed limits for specific circumstances which are beyond the scope of this project including in temporary work areas and in proximity to emergency vehicles.

#### **1.4.8      *Exemption of Police or Emergency Vehicle***

Section 109 of the Act exempts certain vehicles from the speed limits set forth in the Act, including police and ambulance vehicles, in specific situations. Exempted vehicles must be operated with due regard for the safety of others when exceeding the posted speed limit.

### **1.5      *Previous Study***

NSTIR has previously examined the use of speed limits lower than 50 km/h in Nova Scotia. A study on the issue was completed for NSTIR by Dillon Consulting in 2003. This study included a review of federal and provincial policies, examination of literature from major technical sources, and a survey of municipal practices employed by municipalities across Canada.

The previous study found that the use of posted speed limit signs to reduce operating speeds is ineffectual without appropriate application of physical modifications (i.e., traffic calming measures) to the roadway environment. The study recommended against the use of speed limits lower than 50 km/h.

Other significant findings from the previous study include:

- The majority of speed zone reviews are undertaken in a reactive manner to requests from residents, internal departments and councillors. Very few jurisdictions undertake Speed Zoning reviews pro-actively (i.e., annually);
- Larger jurisdictions are more inclined to have a formalized system to handle the volume of complaints and requests;
- Smaller jurisdictions are more inclined to dismiss complaints (i.e., refer complainants to the local bylaw or statutory legislation) or refer the complaint to the local police authority;
- On existing roads, smaller jurisdictions typically rely on technical judgment or default speed limits in establishing Speed Zones while medium and larger jurisdictions are more inclined to undertake a detailed engineering study which often utilizes a modified 85th percentile approach;
- On new roads, most jurisdictions cited “design speed” and “roadway classification” as the main criteria in establishing speed limits;
- Seven of nine jurisdictions that practice Speed Zoning felt as though changing the posted speed limit on residential roads to reduce operating speeds produces negligible results without heavy enforcement or supplemental traffic calming measures;
- Speed limit reductions driven by political decisions are less likely to be successful than those driven by engineering decisions;
- Several jurisdictions either do not reduce speed limits or actively avoid reducing speed limits;
- Some jurisdictions in Ontario have adopted the use of a 40 km/hr. warrant to reduce posted speeds on residential roadways despite the fact that there is little technical merit to



support this. There is no foundation for the Province of Nova Scotia or the Halifax Regional Municipality to implement 40 km/hr. warrants;

- “Increased enforcement” was cited as the most common method of supplementing speed limit reductions;
- Five of eight jurisdictions that reported on the success of Community Safety Zones and Reduced Speed School Zones found that they are not effective in reducing operating speeds;
- Of the three jurisdictions that did indicate success, two reported a higher level of enforcement in these areas; and
- Many Police agencies are of the opinion that speed limit changes, without increased enforcement, will have a negligible impact on operating speeds. Police agencies, however, have limited resources to apply to speed limit enforcement. Police typically prefer a properly set speed limit based on good engineering principles.

In the 10 years since the completion of the previous study, there are a number of items that have changed that warrant revisiting the issue in Nova Scotia.

- As discussed briefly in Section 1.1, the increased promotion of active transportation, healthy communities, and complete streets means that roadways need to accommodate a greater number of vulnerable road users. This will no doubt increase the number of requests received by NSTIR to lower posted speed limits on municipal roadways.
- A number of municipalities across North America have tested or implemented speed limits lower than 50 km/h since the previous study. This presents a good opportunity to learn from their experiences and determine an appropriate solution for Nova Scotia.
- In 2009, the Transportation Association of Canada (TAC) released its “Canadian Guidelines for Establishing Posted Speed Limits”, which provide a comprehensive guide towards setting speed limits for Canadian municipalities. These guidelines allow for the setting of speed limits lower than 50 km/h if specific conditions are met.

These elements all point toward the need for the Province of Nova Scotia to re-examine the issue of posting speed limits lower than 50 km/h. It is important that the Province stay up-to-date with current research, municipal practice, and the concerns of residents.

## **1.6 Scope**

The scope of this report is as follows:

- Assess the effectiveness of posted speed limits lower than 50 km/h, as reported in literature and by other municipalities through surveys and direct interviews;
  - The investigation does not consider the use of speeds lower than 50 km/h in school zones or other special interest areas;
  - This investigation is concerned with the use of speeds lower than 50 km/h in localized speed zones only. The study did not consider the merits and issues associated with setting a new area-wide speed limit lower than 50 km/h;
  - Municipalities across North America were considered, with a focus on Canadian municipalities. A small survey was distributed to municipalities to assess their use, legislation, and approach towards setting speed limits lower than 50 km/h. Five municipalities were also chosen for a more detailed case study examination;
- Make a technical recommendation regarding the use of sub-50 km/h posted speed limits in Nova Scotia;
- Provide direction on the education and enforcement of speed limits lower than 50km/h in Nova Scotia;
- Determine the conditions under which speed limits lower than 50 km/h should or should not be deployed in Nova Scotia, if such zones are to be implemented for non-technical reasons; and,
- Determine changes to Provincial legislation necessary to provide for posting of speed limits lower than 50km/h.

## **2.0 Effectiveness of Posted Speed Limits Below 50 km/h**

There are abundant sources of information concerning the application, effectiveness, and real-world observations of the use of posted speed limits lower than 50 km/h from municipalities, transportation agencies, professional organisations, and university researchers across North America. For the purposes of this study, these were separated into three categories:

### *Literature Review*

This section presents a discussion of current research, guidelines, and reporting by transportation agencies, university research groups, and other professional organisations.

### *Legislative Review*

A collection of the current legislation governing the use of posted speeds for the provinces and territories of Canada for comparison with Nova Scotia's current legislation.

### *Municipal Review*

A survey questionnaire was distributed to municipalities and transportation agencies across Canada asking them about the use of speed limits lower than 50 km/h in their jurisdiction. Five municipalities were also chosen for more detailed case study analysis of their experience in the use of speed limits lower than 50 km/h. Their real-world observations of its requirements and effectiveness provided excellent insight into the various elements of the issue.

Investigation of the use of speed limits lower than 50 km/h along these three strata provided a solid foundation of knowledge on which to base the appropriate recommendation for Nova Scotia.

## **2.1 Literature Review**

### **2.1.1 Guidelines**

There are a number of guideline documents and research reports produced by transportation agencies, professional organizations, and university researchers on setting appropriate speed limits and the criteria that provide excellent insight and scientific rigor to an often political or ideological issue.

The major common theme between these various guideline documents is that of the design of the road and the physical environment in which it exists. There are no more important criteria to control the natural and reasonable speed at which motorists will drive than those defined by the design of the roadway and the surrounding land uses. There are numerous elements to the design and land use that help to control the prevalent speed of motor vehicles, some of which include:

- Lane width;
- Presence and width of shoulder or sidewalk;
- Horizontal curvature;
- Vertical alignment;
- Adjacent land uses;
- Number of access points;
- Presence of pedestrians and cyclists; and
- Heavy vehicle percentage.

This is the Engineering portion of the equation - the scientific and measurable control of speeds through roadway design and urban planning. If a roadway is properly planned and designed to suit its purpose, the road and expectations of motorists should be self-explanatory. This is the most direct and effective method of controlling vehicle speeds. If the design speed of the roadway (which defines the lane widths, horizontal curvatures, etc. of a road) is higher than the posted speed limit, drivers will naturally gravitate towards a higher operating speed, as the physical cues demonstrate to them that it is safe to do so.

Along these lines, most guidelines discuss the setting of “credible”, “logical”, and “consistent” posted speed limits as being the key to ensuring compliance and reducing driver frustration and confusion with respect to speed limits. Posting speed limits that are unreasonably low (or high) will lead directly to driver frustration and reduce the credibility of posted and global speed limits. Thus, the intent and purpose of the road and policies on setting speed limits must be consistent and apparent to motorists to allow them to make reasonable and safe decisions while driving. If this is not the case, then the speed limit posted on the sign quickly becomes irrelevant.

The other complementary pieces to controlling vehicle operating speeds are Enforcement and Education. Together with Engineering, they make up the “Three Es” of setting and controlling travel speeds. Most guideline documents discuss these elements briefly as being useful complements to good engineering, but they suggest that reliance on either Enforcement or Education is neither practical nor sustainable. Enforcement provides a good reminder to motorists and can help to quickly reduce speeds, but, over time and without a consistent presence, speeds will inevitably return to prior levels. Requiring high levels of enforcement to maintain appropriate travel speeds is not something that most municipalities can sustain, as the cost can be quite significant. Education campaigns also serve as good reminders and can be effective, but they also become expensive and can lose their relevance over time - requiring constant rethinking and re-presentation of similar topics.

TAC’s 1999 Geometric Design Guide for Canadian Roads summarises the above discussion with this excerpt:

*“...speed limits set lower [than the design speed] make a significant number of reasonable drivers “illegal” for each 10km/h increment of speed decreased, place unnecessary burdens on law enforcement personnel, lead to a lack of credibility of speed limits and lead to increased tolerance by enforcement agencies”.*

The most common method for determining the appropriate posted speed limit is observation of the 85th percentile of observed speeds along the section in question. The 85<sup>th</sup> percentile speed is the speed at or below which 85% of vehicles will travel, with the remaining 15% driving above this value. Most guidelines and transportation agencies use the 85<sup>th</sup> percentile as the primary indicator of the safest and most reasonable travel speed for a segment of road. The common usage of the 85th percentile traces back to early road safety research that indicated that use of a posted speed that is one standard deviation higher than the average speed (essentially the 85th percentile) will result in the safest environment for motorists. The Manual on Uniform Traffic Control Design (MUTCD) recommends that a speed limit be set to  $\pm 5$  mph (8 km/h) of the 85th percentile speed.

Other areas, such as the Cities of Ottawa and Toronto, have created their own warrant procedure that examines a number of criteria to determine the suitability of a road segment to be posted at

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40km/h. These criteria boil down to an examination of the land uses and physical characteristics of the roadway, such as presence of schools and/or sidewalks, vertical grades, and safe speed on curves. In Ottawa, roads wider than 10.5 m must also pass an 85th percentile speed warrant. The City of Ottawa also notes that speed reductions on wide roads have a negligible impact on operations and other physical measures should be considered to reduce operating speed. Use of warrants such as these can be a useful tool in dealing with requests from politicians or the public; the agency is able to show flexibility in response to public and political pressures to reduce travel speeds, but also has a specific procedure and criteria to define where is and is not a valid location for speed limits lower than 50 km/h.

In the United States, the FHWA's "Methods and Practices for Setting Speed Limits" provides an in-depth examination of the various methods for setting speed limits, breaking the approaches into five categories: Engineering (Operating Speed), Engineering (Road Risk), Expert System, Optimisation, and Injury Minimization. Where the two Engineering methodologies make use of concepts discussed above concerning operating speeds, roadway design, and surrounding land use, the remaining three have slightly differing approaches. The Expert System relies on the experience and opinions of experts in the field of speed limits where a software package (e.g., USLIMITS2) containing a database of professional practices and knowledge is used to determine the most appropriate speed limit, given the entry of basic data; the Optimization method seeks to minimize all of the negative effects that a specific roadway speed might imply (e.g., safety, noise, air pollutants); and the Injury Minimization method focuses on setting the speed limit that will result in the fewest overall injuries.

Issued in 2009, TAC's "Canadian Guidelines for Establishing Posted Speed Limits" ("TAC Speed Limit Guidelines") present a useful methodology for Nova Scotia - having been crafted around the study of Canadian municipalities across the country. They were developed through the review of current Canadian and international practices, technical documentation and testing. For all categories of roadways, the application of the methodology results in posted speed limits that are consistent with the roadways' physical characteristics – the critical determinant in the prevailing travel speed on a roadway.

A recent survey conducted by the City of Burlington, ON found that, of the 24 respondent agencies, 42% use the TAC Speed Limit Guidelines. This is a significant rate of adoption in the

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four years since the issuance of the guidelines, though the majority of municipalities still apply their own methodology at the moment.

The TAC Speed Limit Guidelines provide an easy, consistent, and repeatable reference source for any transportation agency examining the issue. The fundamental concept of the TAC evaluation methodology is to identify the ideal speed according to the nature of land use, laning, median separation and road classification. A systematic evaluation of risks related to geometry and traffic criteria is carried out to determine the recommended posted speed limit.

The Guide provides an evaluation tool to assess appropriate posted speed limits based primarily on the classification, function and physical characteristics of a roadway. An automated spreadsheet is provided to facilitate the evaluation of posted speed limits. The higher the level of risks, the lower the recommended posted speed limit. Eleven criteria related to the physical and road-user characteristics of the roadway are considered by the guidelines. These criteria are:

- Horizontal alignment;
- Vertical alignment;
- Average lane width;
- Roadside hazards;
- Pedestrian exposure;
- Cyclist exposure;
- Pavement surface;
- Number of intersections with public roads;
- Number of intersections with private access driveways;
- Number of interchanges; and,
- On-street parking.

In general, the data requirements are intended to be easy to collect and should require at most one site visit and the review of easily available records such as photos, video logs and design drawings. Since the posted speed limit guidelines are based on bands of risk (high, medium and low), detailed traffic counts and a high level of precision are not required in the evaluation of the posted speed limit.

The TAC Speed Limit Guidelines recommend that every effort be made to ensure that the road function, road characteristics and posted speed limit are always consistent. The road function and characteristics should be reviewed and changed if the prevailing speeds significantly diverge from the intended speed limit. Policies that dictate posted speed limits that are inconsistent with drivers' perception should also be reviewed and changed as needed.

As a final note within the TAC Speed Limit Guidelines, they state that engineering judgement and local knowledge should be used to determine whether an engineering study is needed to evaluate the safety performance of a roadway when a posted speed limit change is being considered.

The above text is a sampling of the wide range of practices that can be applied in setting logical, credible, and consistent posted speed limits. It is up to the individual transportation agency to choose the procedure that best suits its needs, be it the confirmation of practical operating speeds, minimization of risk, advice of qualified professionals, holistic optimization of various criteria, or the minimization of injuries. More than likely, the appropriate method contains portions of each methodology and must be combined with local goals and policies to establish posted speed limits that make the most sense for the individual agency.

### ***2.1.2 Compliance with Posted Speed Limits***

The issue of compliance is another major theme across the literature reviewed for this report. Compliance is simply the degree to which motorists follow the speed posted on the roadway, typically expressed as the percentage of motorists who do not exceed the speed limit. In general, the further removed the posted speed limit is from one that is appropriate for the roadway, the more the signs are ignored and the lower the compliance will be. This has implications for driver frustration and confusion, safety, and enforcement.

It is relatively common for transportation agencies to have a policy to design a roadway for 10 to 20 km/h in excess of the posted speed limit. This is typically seen as good engineering where a certain amount of excess speed may be tolerated safely. For example, highway design guidelines in Alberta state:



*“(T)he normal speed limit on the finished roadway is an important consideration in selection of design speed. It is desirable that the design speed exceed the normal speed limit by a margin of at least 10 km/h.”*

Similarly, design speed, was defined by AASHO (later AASHTO) until the year 2000 as:

*“Every effort should be made to use as high a design speed as practicable to attain a desired degree of safety, mobility, and efficiency”*

This policy, however, leads quite naturally to a lack of compliance with posted speed limits, as the physical environment resulting from this approach indicates to motorists that speeds in excess of the posted limit are reasonable and safe. In response to these observations, organisations such as TAC have modified their stance on the issue of design speed. For instance, the 1986 RTAC Manual defined design speed as:

*“the highest continuous speed at which individual vehicles can travel safely on a road when weather conditions are so favorable and traffic density is so low that the safe speed is determined by the geometric features of the road”*

This position, however, was modified by the 1999 TAC Geometric Design Guide, which states:

*“Where a design speed can be selected to match a high percentile desired speed, it appears reasonable to set the posted speed at the design speed...”*

This attitude was also reflected by changes in policy by AASHTO and reports produced by NCHRP at the time.

As a result, many agencies across North America now require for the design of new roads, that the design speed be equal to the posted speed limit. This, however, comes after the boom of the “infrastructure era” in the mid- to late-20th century when the vast majority of highways and roads were designed and built to the prior standards. This disconnect between design speed, operating speed, and posted speed limit is one issue that plays into the difficulty in maintaining compliance and the ineffectiveness in reducing posted speed limits for roads designed for speeds

higher than they are posted - a common theme for municipalities and transportation agencies across North America.

The perception by the general public is that changing the posted speed limit will result directly in lower operating speeds, which has been observed by municipalities and transportation agencies across North America to be untrue. The County of Simcoe, ON, has the following text on the portion of its website dedicated to speed limits:

*“Studies have indicated that lowering posted speed limits by as much as 30 km/h, or raising speed limits by as much as 20 km/h had little effect on motorist speed. The majority of motorists did not drive 10 km/h above the posted speed limits when the limit was raised, nor did they reduce their speed by 10km/h when speed limits are lowered. Arbitrary, unrealistic and non-uniform limits have created a socially acceptable disregard for speed limits. Unrealistic limits increase collision risk for persons who attempt to comply with the speed limit by driving faster or slower than the majority of road users.*

*Unreasonably low limits significantly decrease driver compliance and give road users such as people not familiar with the roadway as well as pedestrians a false indication of actual traffic speeds.”*

A similar conclusion was reached by FHWA in their 1992 report “Effects of Raising and Lowering Speed Limits”, in which they examined sites across the USA. Their primary conclusion was that the majority of motorists did not increase or decrease their speeds when the speed limit was either raised or lowered by 4, 10, or 15 mi/hr (8, 16, or 24 km/h). This confirmed their hypothesis that motorists “do not alter their speed to conform to speed limits they perceive as unreasonable for prevailing conditions.”

An approach adopted by many municipalities, such as the City of Kingston, ON, is to not set speed limits lower than 50 km/h, but reduce operating speeds through physical modification. The City of Kingston states that “although numerous requests are received to establish 40 km/h zones on residential streets, local studies have shown this to be ineffective at reducing speeds - the City uses traffic calming instead.”

The Center for Problem-Oriented Policing lists the least effective methods for reducing speeding as:

- Reducing speed limits;
- Increasing fines and penalties;
- Erecting stop signs; and
- Installing speed bumps or rumble strips.

In effect, as has been discussed above, the modification of posted speed limits is ineffective if not paired with other initiatives, namely the Three Es, the most effective of which, for long term reduction of operating speeds, is Engineering. Either the physical environment should be modified to suit the desired speed limit or the posted speed limit should be reflective of the actual operating speeds for vehicles. If posted speeds are set too low, the only change that will occur is that the rate of compliance will drop dramatically.

### **2.1.3 Safety Considerations**

Canada's current Road Safety Strategy explicitly recognizes that speeding is a key contributing factor in crashes on Canadian roads. Speeding is deemed to be a primary factor in the cause of automobile collisions and is the number one road safety issue in many countries.

Safety considerations related to speed have become more prevalent with the increased focus on active transportation in Nova Scotia and throughout North America. Numerous studies and papers have been written related to this concern. The relationship between vehicle speed, collision risk and collision severity is well established in traffic safety literature. Research shows that reduced operating speed is likely to bring about a positive impact on both the number and severity of collisions.

A study done by the Region of Niagara relating to a proposed speed limit policy indicates that mobility in general carries with it an inherent risk that cannot be totally mitigated. Decisions made in the design, construction, operation and maintenance of roadways can influence their safety as can the decisions and actions of road users.

### Safety vs. Security

A study conducted by Synectics Transportation Consultants Inc., a leader in transportation safety, studied the difference between safety and security concluding that safety is largely a measure based on risk, while security is governed by perception. Convincing road users that their situation has been made safer without implementing effective controls to actually change the situation can instead increase risk by instilling a false sense of security.

The case study presented by Synectics for the Town of New Tecumseh, Ontario involved a reduction of speed from 80 km/h to 60 km/h - increasing the resident's sense of security as the roadway has been made "safer" with a reduced speed limit. Having addressed the insecurity, the residents became less cautious and vigilant when walking along or crossing the roadway. From the driver's perspective however, essentially nothing has changed. While there is a new speed limit sign stating that the speed limit is now 60 km/h, none of the other cues provided by the roadway, the roadside, the adjacent development, or the traffic upon the road, has changed. In the absence of a sustained enforcement presence, the vast majority of drivers will "read the road" rather than the speed limit signs, and travel at a speed that they consider appropriate to the environment.

The issue of safety vs. security is a major element of discussion with regards to setting appropriate speed limits. If speed limits are set via political decisions or policies that are unrelated to the physical environment or role of a roadway, it is likely that the speed will be inconsistent. This is particularly important when setting speeds lower than 50 km/h, as the lower posted speed can lead road users into a false sense of security, which is not being communicated consistently to motorists through environmental and physical roadway cues. From the perspective of the motorist, nothing has changed, and so, neither will their operating speeds - resulting in a false sense of security for other road users.

This is particularly important in residential neighbourhoods and areas of high pedestrian and cyclist activity where motorists and vulnerable users may tend to read the roadway environment and signage differently. The posted speed limit will help to set the tone for the behaviour of the vulnerable road users in the area. This is true whether the speed is set lower or higher than is appropriate. Speeds set unreasonably low can induce a relaxed attitude to road safety from non-motorists. They perceive themselves to be safer given that automobiles have been told to drive

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slower, but this may be unfounded. It is quite naturally in these high activity areas that posting speeds lower than 50 km/h will be a concern and gives the most opportunity for creating a disconnect between actual and perceived safety.

It will, therefore, be necessary to ensure that the posted speed limit aligns well with the perceptions of both motorists and vulnerable users to ensure that the perception of safety is on par with the actual safety.

### Speed and Active Transportation

The relationship between speed and injury severity is particularly critical for pedestrians and cyclists. A literature review conducted in 1999 by the U.S. Department of Transportation discusses the relationship between speed and pedestrian injuries. Results indicate a correlation between collision frequency and severity. The study estimates that only 5% of pedestrians would die when struck by a vehicle travelling at 20 miles/hr (~32 km/h) or less compared to fatality rates of 40, 80 and 100% for striking speeds of 30 (~50 km/h), 40 (~65 km/h) and 50 miles/hr (~80 km/h) or more, respectively.

Another study states that speeds above 30 km/h greatly increase the chances of serious injury to pedestrians/cyclists. It has been estimated that the risk of pedestrian fatality is six times that at 30 mph relative to 20 miles/hr.

The World Health Organization states that pedestrians have been shown to have a 90% chance of survival when struck by a car travelling at 30 km/h or below, but less than 50% chance of surviving an impact at 45 km/h. Pedestrians have almost no chance of surviving an impact at 80 km/h.

### Safety, Design & Human Factors

Synectics discusses the importance of considering human factors when discussing speed and roadway safety. Drivers receive 90% of their information visually, meaning that visual cues conveyed by the road and roadside are determinants of travel speed. Straight and flat alignments with wide lanes and few driveways and/or intersections are an example used by Synectics as determinants of travel speed. Design features of the road itself are critical considerations for overall road safety.

Adjacent land use such as the density and proximity of development to the roadway contributes to the look and feel of an area. Increased pedestrian activity, cyclists, driveway access, parking, etc. all contribute to an increased number of potential conflicts. Driver behaviour reacts to the potential conflicts and general increased activity with an adjustment to driving speed. Reduced speeds in more densely populated areas assist with driver reaction time to reduce conflicts and collisions.

#### Environmental Considerations

Travel speed and safety are also linked to weather conditions and the relationship to visibility and pavement conditions. Nova Scotia's Motor Vehicle Act requires that drivers maintain a speed relative to the prevailing conditions of the roadway. Section 101 of the Act also maintains that motorists "shall not operate or drive a vehicle upon a highway at such a speed or in such a manner as to endanger the life, limb or property of any person."

#### Connection between Speed and Collision Occurrence/Severity

Monash University Accident Research Centre conducted a study related to the impact of lowered speed limits in urban areas. The study concludes that at lower operating speeds, there is a greater safety margin for a collision because there is more time for the driver to intervene and avoid a collision and more time for the pedestrian/cyclist, potentially involved, to react. Drivers have less chance of losing control particularly during heavy braking or swerving to avoid a collision. The study concludes that lowering vehicle speed not only reduces the risk for crash involvement, but also dramatically affects the risk for serious injury or fatality in the event of a crash.

The Monash University study concludes that there is a true correlation between driving speed and probability of pedestrian death and collision severity. In many countries, the study indicates that speed limits in urban areas have been 50 km/h for some time and are often reduced locally to 40 or 30 km/h in residential areas and in the vicinity of schools, age-care centres and shopping districts where there is a large predominance of vulnerable road users.

A study conducted by Purdue University in 2008 analyzed the effect of speed limit increases on collision-injury severities. The study concluded that speed limits did not have a statistically significant effect on the severity of collisions on interstate highways. However, for some non-

interstate highways, higher speed limits were found to be associated with higher collision severities – suggesting that future speed limit changes, on non-interstate highways in particular, need to be carefully assessed on a case-by-case basis.

### Compliance and Safety

Compliance with the posted speed limit, as discussed in Section 2.1.2, also plays an important role in the safety of a roadway. If posted speed limits are inconsistent with the physical environment, it is likely that compliance will drop significantly.

This becomes an issue from the perspective of security for road users, but also with respect to speed differential – a major contributor to automobile crashes. As some users are likely to obey the posted speed limit, while others are not, the differential in their speeds creates a significant safety issue. According to the British Columbia Ministry of Transportation and Infrastructure, speed differential is the number one cause of speed-related accidents.

It is important, therefore, to ensure that the physical environment and the posted speed limit for a roadway be set appropriately and consistently to help reduce the differential in vehicular operating speeds.

## **2.2 Legislative Review**

A review of Provincial and Territorial legislation to determine the minimum speed that may be posted on a roadway was completed. This information was collected and catalogued for all Canadian Provinces and Territories outside of Nova Scotia. Actual language from Provincial/Territorial legislation was reviewed and documented. The legislations provide a high level outline of the rules governing speed limits. A summary table of provincial and territorial acts and regulations is presented in **Table 1**. A full summary table of legislation, complete with excerpts from the Acts, is presented in **Appendix B**.

**Table 1 - Summary of Provincial and Territorial Legislation Governing Posted Speed Limits**

Province/Territory	Act/Regulation	Maximum Speed Limits (km/hour)			Can higher/lower speeds limits be perscribed?	
		Urban Areas	Highways	Other	By Province/ Territory	By Municipality
Alberta	Traffic Safety Act	50	100 - provincial highway 80 - special situations		Yes	Yes
British Columbia	Motor Vehicle Act	50	80	20 - lane less than 8 meters wide	Yes	Yes
Manitoba	Highway Traffic Act	50	90		Yes	Yes
New Brunswick	Motor Vehicle Act	50	80		Yes	Yes
Newfoundland	Motor Vehicle Act	50	80 100 - Trans-Canada	60 - gravel highways	Yes	Yes
Northwest Territories	Motor Vehicle Act	50	90		Not specified	Not specified
Nova Scotia	Motor Vehicle Act	50	80	30 - school zone	Yes	Yes
Nunavut	Motor Vehicle Act	50	90		Not specified	Not specified
Ontario	Highway Traffic Act	50	80		Yes	Yes
Prince Edward Island	Highway Traffic Act	50	100 - day time 90 - night time	60 - business district 80 - gravel highways	Yes	Yes
Quebec	The Highway Safety Code	50	100 - autoroutes 90 - public highways	70 - gravel highways	Yes	Yes
Saskatchewan	Highway Traffic Act	50	80		Yes	For School Zones Only
Yukon	Motor Vehicle Act	50	50	30 or 40 - school or playground zone	Yes	Yes

With the exception of school zones and construction zones, no province or territory has a default speed limit lower than 50 km/h. For all provinces, with the exception of PEI, the Minister of Transportation has the ability to modify speed limits on provincial roads. Some provinces have traffic boards or road authorities that are also able to modify speed limits, depending on the location of the highway or road in question. The Lieutenant Governor of PEI has the ability to modify speed limits.

The maximum speed limits for urban areas, highways and various other road types are presented in **Table 1**. The typical speed limit for urban areas is 50 km/h. The default speed limit for motor vehicles on a highway outside of a municipality is 80 or 90 km/h unless a higher speed limit is posted. Overall, the sections of the Acts regarding speed limits are generally consistent, though a few Acts have unique speed limit guidelines. Some examples of these are presented below with excerpts from the respective Act.

Section 176 of the Prince Edward Island Highway Traffic Act specifies that “except where a lower maximum speed limit is prescribed by this Act or the regulations, no person shall drive a



vehicle at a greater speed than: (a) fifty kilometres per hour in an urban district; (b) sixty kilometres per hour in a business district; (c) eighty kilometres per hour on unpaved highways; (d) one hundred kilometres per hour in other locations during the day time; (e) ninety kilometres per hour in other locations during the night time". This is the only Act that specifies speed limits for business districts and presents different speed limits for highways during the day and night time.

Quebec's Highway Safety Code presents minimum speed limits for highways. Section 328 states "no person may drive a road vehicle at a speed (1) of less than 60 km/h or more than 100 km/h on autoroutes, unless (a) an illuminated, variable message signal shows the minimum or maximum rate of speed authorized on a certain part of the autoroute, according to the circumstances and the time of day, such as weather conditions or rush-hour; or (b) a special permit authorizing the use of an oversized vehicle requires that the vehicle be driven at a lower speed; (2) in excess of 90 km/h on public highways surfaced with concrete, asphalt or a similar material".

British Columbia's Motor Vehicle Act has a specific clause for speed limits on narrow streets. It states that "a municipality may by By-Law direct that the rate of speed at which a person may drive or operate a motor vehicle in the municipality on a lane not exceeding 8 m in width must not be in excess of 20 km/h."

All provinces allow individual municipalities to adjust speed limits within their boundaries, as warranted. This is typically done through a municipal By-Law and individual requests are reviewed and approved by municipal councils. In Saskatchewan, the municipalities only have the jurisdiction to modify speed limits in school zones. First Nation councils have the ability to adjust speed limits within their reservation boundaries in some Provinces.

## **2.3 Municipal Review**

### **2.3.1 Municipal Survey Results**

A municipal survey was completed to capture current speed zoning practices in various municipalities across Canada. The municipal survey was created by Dillon with input from the Project Steering Committee (PSC) assembled for this project by NSTIR. The PSC is comprised

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of representatives from NSTIR, HRM, RCMP and the Worker's Compensation Board. The survey consisted of eight questions focused on gauging the number of municipalities that have studied the issue and the prevalence of setting speed limits lower than 50 km/h.

The survey was distributed via email to members of TAC's Traffic Operations and Management Standing Committee (TOMSC) and the Ontario Traffic Council (OTC). The goal was to receive responses from at least fifteen municipalities across Canada, representing at least five provinces and including at least one municipality from the following categories:

- Semi-rural (pop. <25,000);
- Semi-urban (pop. 25,000-100,000); and
- Urban (pop. >100,000).

Initially, fourteen responses were received from members of TOMSC and OTC. No responses were received for the semi-rural category. Dillon leveraged its connections with jurisdictions across Canada and distributed the survey to various municipal clients. Six survey responses were received through Dillon's connections, including three from the semi-rural category. In total, twenty municipal surveys were received, including six responses from Provincial Agencies.

A summary table of the most relevant items from the municipal survey are presented in **Table 2**. Full responses to the municipal Survey are presented in **Appendix C**. A discussion of the results is presented below.

Table 2 - Summary of Municipal Survey Responses

		How are posted speed limits determined?				Have speed limits lower than 50 km/h been implemented?		Is so where?				What was the primary reason for lowering the speed limit?				Was a study completed prior to lowering the speed limit below 50 km/h?			Has a high level of compliance been observed?						
		TAC Guidelines	Provincial Legislation (Act)	Municipal Legislation (Bylaw)	Municipal Policy	Yes	No	Municipal Streets	School Zones	Park/playground Zones	Narrow or Steep Streets	Specific, Individual Streets	Legislation/TAC Guidelines	Proximity to Schools/Parks	Street layout	Public Complaints	Safety/High pedestrian volume	Traffic Studies	Yes	No	Unsure	Yes	Yes (with significant enforcement effort)	No	Unsure
Semi-Rural (pop. <25,000)	Hampton		X	X			X			X	X			X		X			X				X		
	St. Stephen		X				X				X				X				X				X		
	Yellowknife		X	X			X		X				X	X						X					
Semi-Urban (pop. 25,000-100,000)	Cambridge		X	X	X		X		X	X			X						X						X
	Chatham-Kent		X				X		X						X				X						X
	Kelowna				X		X		X	X	X		X	X					X				X		
	Chilliwack		X	X	X	X	X		X	X		X							X				X		
Urban (pop. >100,000)	Montreal		X		X		X	X	X							X			X			X			
	Mississauga		X				X		X		X		X			X				X			X		
	Waterloo		X				X		X					X					X				X		
	London				X		X		N/A				N/A						N/A						
	Windsor		X	X		X	X		X		X		Did not answer						X						X
	Winnipeg		X				X		N/A				N/A						N/A						
	Saskatoon			X		X	X		X	X			X						X					X	

### **2.3.1.1 Semi-Rural (<25,000 population)**

Survey responses were received from the Town of Hampton, NB, the Town of St. Stephen, NB and the City of Yellowknife, NWT. All three municipalities referenced their respective provincial Motor Vehicle Acts to determine posted speed limits. Hampton and Yellowknife also mentioned Town Council and municipal by-laws, respectively, as avenues for posting speed limits on municipal roads.

Hampton and St. Stephen have both lowered the speed limit below 50 km/h for at least one street. Requests for review of posted speed limits in Hampton are sent to the Public Works Advisory Committee for recommendations. The final decision is made by the Town Council. Hampton lowered the speed limit to 40 km/h on two streets based on the results of a traffic study and a Council decision on a narrow street in a heavy residential area with a large municipal park, respectively. The Town representative believes they do not have a high level of compliance and acknowledged the need for periodic increased enforcement.

The City of Yellowknife's Highway Traffic By-law No. 4063, Section 104, sets the maximum speed limit within City of Yellowknife boundaries at 45 km/h, unless otherwise posted. This maximum speed limit has been in place for over 20 years. City representatives were not able to comment on the rationale for setting the lower speed limit. The maximum speed limit in the "Old Town" area of the City is 30 km/h because of the narrow roads and a lack of sidewalks. The City representative acknowledged a high level of enforcement in the City. The representative indicated that there may be a relationship between this level of enforcement and the low number of fatalities and injuries resulting from motor vehicle collisions, though this was solely their opinion and has not been studied directly.

### **2.3.1.2 Semi-Urban (25,000 - 100,000 population)**

Survey responses were received from Cambridge, ON, Chatham-Kent, ON, Kelowna, BC, and Chilliwack, BC. There are a variety of approaches across the four municipalities on how speed limits are determined. Each municipality referenced a different combination of legislation, by-law or guidelines for setting speed limits. These include:

- Cambridge: TAC Speed Limit Guidelines for new and existing roads, Ontario Highway Traffic Act, Municipal By-Law;
- Chatham-Kent: Ontario Highway Traffic Act;
- Kelowna: a comprehensive guideline created by the City of Kelowna entitled “Posted Speed Limit Policy Review and Development”; and
- Chilliwack: TAC standards, BC Motor Vehicle Act, City Policy and City Bylaw.

The typical speed limit in Chatham-Kent is 40 km/h. Some special areas have posted speed limits lower than 40 km/h. Request for review of posted limits are received from Councillors or directly from residents. To evaluate requests, Chatham-Kent conducts speed studies on the roadway in question with radar units. The representative from Chatham-Kent acknowledged that the 85th percentile speed typically governs the recommended speed limit. Other factors are included in the review, including pace range, pace percentage, collision data, geometric data and roadside conditions. Chatham-Kent has not measured the impacts of the 40 km/h speed limit and did not comment on compliance.

The City of Cambridge has implemented 40 km/h speed limits in school zones and various playground zones. The zones are reviewed using TAC’s “School and Playground Areas and Zones Guidelines for Application and Implementation”. In both Chilliwack and Kelowna, school and playground zones have posted speed limits of 30 km/h for streets classified as local streets for specific times of the day. This is in accordance with the BC Motor Vehicle Act. The representative from Chilliwack acknowledged that there is local pressure to reduce the posted speed limit from schools that are not situated on a local classified roadway.

Kelowna also uses the “Kelowna Posted Speed Limit Evaluation Worksheet” to evaluate requests to review speed limits. Beyond school and playground zones, Kelowna has posted lower speed limits in hillside neighbourhoods with narrow streets and steep grades.

The representatives from Kelowna and Chilliwack both acknowledged that the implementation of the lower posted speed limits has not been effective in all situations. Chilliwack receives ongoing requests for assistance in improving driver compliance with the lower posted speed limits.

### **2.3.1.3 Urban (>100,000 population)**

Survey responses were received from Montreal, Mississauga, Waterloo, London, Windsor, Winnipeg and Saskatoon. Five of the seven municipalities referenced their respective provincial Motor Vehicle Acts as being the main determinant of their posted speed limits. London developed their own guidelines for posting speed limits.

Five of the seven municipalities have posted speed limits lower than 50 km/h. Waterloo and Saskatoon have lowered the speed limit in school and playground zones only. Windsor has reduced the speed limit on a few streets through individual studies. Montreal is the only municipality that has observed a high level of compliance in the lower posted speed limit zones.

One interesting point to note is that Mississauga has lower speed limits for school zones and roadways whose geometric design cannot support a 50 km/h speed limit. They have found that the physical environment of some roadways is such that a posted speed limit of 50 km/h is too fast for the facility. They have posted speeds lower than 50 km/h on these facilities.

Neither London nor Winnipeg have reduced speed limits below 50 km/h. London stated that reducing the speed limit does not solve operational traffic issues and that increased enforcement would be necessary to achieve compliance. Winnipeg stated their reasoning as their research has shown that lowering speed limits in isolation has a limited effect on vehicle operating speeds. The physical characteristics of the road and the traffic conditions have greater influence on vehicle speed.

Montreal reduced the speed limit on its local roads and some collectors to 40 km/h in 2009 on an area-wide basis. This was done according to the City's 2008 Transportation Plan. The 40 km/h zones are defined and the speed limit is clearly posted at all entry points to the neighbourhoods. The primary reason behind the decision to reduce the speed limit to 40 km/h on local roads was to protect the most vulnerable users of the roadway.

Montreal performed a pilot study within two of its 19 boroughs prior to making the decision to implement the 40 km/h speed limits. The City Representative acknowledged that while the

reduction in speed was not significant, the residents were largely in favour of the reduction in speed.

Montreal has chosen a global speed management approach that combines the reduction of the posted speed limit with various traffic calming approaches. The City representative acknowledged that they are observing a relatively high level of compliance on most of their 40 km/h streets. Montreal's experience is discussed in further detail in Section 2.3.2.1.

#### **2.3.1.4 Provincial Government Departments**

By distributing the municipal survey through the TOMSC, it was also received by provincial government departments. Six provincial departments responded to the municipal survey: New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta and British Columbia.

Manitoba has not lowered the speed limit below 50 km/h on roadways where the Department of Infrastructure and Transportation has jurisdiction. New Brunswick typically does not implement speed limits lower than 50 km/h.

The lowest speed limit that may be posted by Quebec's Ministry of Transportation (MTQ) is 30 km/h, as prescribed in Section 328 of the Highway Safety Code (HSC). The HSC states that the MTQ or a municipality can modify the speed limits prescribed by section 328 of the HSC as they wish. The posted speed limit must always be a round number ending in a zero.

Saskatchewan and Alberta have posted speed limits lower than 50 km/h in school zones only.

British Columbia has lowered speed limits on some facilities below 50 km/h in specific speed zones, including:

- 30 km/h on some Indian Reserves (no engineering review);
- 30 km/h for elementary school zones during school hours;
- 40km/h "when children on roadway"; and,
- 40 km/h within two City downtown cores in the province on some Ministry-controlled roadways.

For the last bullet point above, British Columbia indicated that the 85th percentile speed was required to show that operating speeds are at 50 km/h or below for the posted speed to be lowered.

### **2.3.2 Detailed Municipal Reviews**

In an effort to provide additional real-world detail to the analysis, five municipalities were selected for a more detailed examination of their investigation, application, and results of posted speed limits lower than 50 km/h. Five municipalities from five provinces across Canada were chosen, each with a unique approach or observation of the effects and effectiveness of posted speed limits lower than 50 km/h. These were:

#### *Montreal, Quebec*

Quebec's most populous city gave the power of amending the speed limit by-law to each of its 19 neighbourhoods, with final approval still lying with the Province. A speed limit of 40 km/h was adopted in each and combined with various other measures to reduce vehicle operating speeds.

#### *Edmonton, Alberta*

Alberta's capital city followed a similar path to Montreal in giving some power to their Community Leagues, requiring that a vote among residents be put towards modifying a speed limit. With sufficient consensus, the issue would be then studied by the City. A pilot study using posted limits of 40km/h was conducted in 2011 in six neighbourhoods.

#### *Stratford, Prince Edward Island*

A suburb of Charlottetown, Stratford has taken a strong view on increasing road safety and promoting active transportation in the town following the creation of their original Active Transportation plan in 2009. The town has set its default speed limit to 30 km/h and is working with the Province to study the issue and determine the best path towards achieving its goals for safety.



### *Ottawa, Ontario*

Canada's capital city is often necessarily on the forefront of progressive transportation policy. Established in 2008, Ottawa's approach to posting speed limits of 40km/h involves the use of warrants created by the city - allowing for the use of these lowered speeds to meet policy goals and the desires of residents, while providing a defined structure for responding to requests for changes to speed limits.

### *Winnipeg, Manitoba*

Winnipeg represents the lone municipality in this more detailed analysis that has studied the issue and decided against implementation of speed limits lower than 50km/h in their city. The insight provided by their findings provides useful information for Nova Scotia in this context.

#### **2.3.2.1 Montreal, Quebec**

##### *Community Profile*

The City of Montreal is located in the Province of Quebec and has a population of approximately 1.65 million people. The city covers most of the Island of Montreal and is located where the Saint Lawrence and Ottawa Rivers meet.

The city is composed of 19 large neighbourhoods or boroughs which are further subdivided into smaller neighbourhoods. Many of these neighbourhoods were previously independent cities that merged with Montreal in January 2002 following the 2002 Municipal Reorganization of Montreal.

##### *Background*

Starting in 2007, the Province of Quebec conducted several studies that looked at safety. It was found that speed was a contributing factor to safety on roadways, although there was no specific analysis done to determine the correlation between collisions and speed. It was determined that between 2005 and 2009, 51% of deaths were pedestrians. In 2010, there were 1359 pedestrian collisions resulting in 18 deaths, 120 serious injuries and 1221 minor injuries.

As a result of these studies, the public requested that, as part of the Transportation Plan, a greater focus must be on the safety of vulnerable users. There was a very strong political interest to see change.

In 2008, the City of Montreal adopted the city's first Transportation Plan. The purpose of the plan was to meet the mobility needs of the City while reducing the reliance on cars. As part of the Transportation Plan, several safety strategies were included:

- Intersection safety improvement program;
- Safety campaigns;
- Reduction of speed limits to 40 km/h; and
- Crosswalk safety program.

Speed reduction was only one component of the overall transportation plan for the City which included traffic calming, greening neighbourhoods and road diets. Three main objectives of the reduction of speed limits to 40 km/h included: 1) increasing safety by reducing collision risks and severity for vulnerable road users; 2) increasing the quality of life by positively influencing people's perception of their level of amenity to encourage them to be active; and 3) providing a city-wide implementation program with harmonized speed limits across the city to ensure greater credibility.

### *Implementation*

Each neighbourhood within the City of Montreal has a speed by-law. The City has downloaded the authority to amend the speed by-laws to the neighbourhoods with the final approval from the Province of Quebec. The Province has a document that discusses the conditions that must be met in the by-law and the City provides some guidance for neighbourhoods to use as a basis to ensure the provincial requirements are met. The speed limit reduction program was implemented in all 19 neighbourhoods within the City of Montreal and all 19 speed by-laws were reviewed and amended.

Knowing that simply changing the posted speed limit does not significantly reduce the actual driving speed, the City chose a global speed management approach where the combination of

different actions and measures lead to significant traffic calming all over the roadway network. Lowering the speed limit is one of the first steps of this approach.

The speed limit reduction program consisted of the following guiding principles:

- 50 km/h – arterial, collectors (two or more lanes per direction), collectors with transit priority measures and industrial zones;
- 40 km/h – local residential streets and collectors with 1 lane per direction in residential and commercial zones; and
- 30 km/h – playground and school zones and future green neighbourhoods.

According to the Quebec Highway Safety Code, the default speed limit within built-up areas is 50 km/h (section 328, (4)). However, according to section 626, (4) of this Code, a municipality can post a lower speed limit on any roadway under its maintenance. According to section 299, any speed limit different from the default speed must be posted (sign or signal). Each neighbourhood has special signage that indicates the speed limits for the ‘sector’ rather than posting speed limit signs at every intersection.

#### *Communication Plan*

A communication plan was required by provincial standards. The City’s communication plan included the following:

1. A website which explained the purpose of the speed reduction program, information explaining driver expectations in speed reduction zones and colour coded maps showing the speed limits in the various neighbourhoods.
2. Signage (4’x8’) at the entrance of each neighbourhood indicating that “my street has its limits” to remind drivers of the speed reduction area.
3. Council and press releases to provide general information about the program in association with the Transportation Plan.
4. Published materials from each neighbourhood to introduce the passing of speed by-law amendments.

### *Outcomes*

The implementation of the speed reduction pilot program in the 19 neighbourhoods was considered a success. Although the reduction of the actual driving speed was not significant, the residents were largely in favour of the program and asked for it to be maintained. Overall observed average speed dropped from 41 to 39 km/h, whereas 85<sup>th</sup> percentile speed remained constant at 50 km/h. The increased speed differential here may be cause for further investigation as this could lead to an increase in collisions. However, there is no data on performance in this regard to date.

Neighbourhoods agreed on the same and common guidelines used to define the speed limits according to the characteristics and use of each road section. This led to the standardization and continuity of the speed limit implementation across the City.

In general, the residents were in favour of the program. Implementation of the 40 km/h speed limit in residential sectors provided the first step towards the development of “green neighbourhoods” and also allowed for reduction of the number of posted speed limit signs.

### *Enforcement*

Enforcement of the speed reduction program has been minimal. The focus for enforcement is in areas identified as high risk zones. Speed enforcement is generally not done on local roads with the exception of school zones.

### *Emergency Response*

No issues were raised with emergency services. Bus operators were consulted prior to the implementation of the speed reduction program. There were concerns raised however once the operators were educated about the program and overall goals of the Transportation Plan, they were in agreement with the program.

### *Shortcutting*

Shortcutting through residential neighbourhoods has not been an issue because the speed reduction program has been implemented all over the city in every residential neighbourhood. The overall goal is to keep traffic out of residential neighbourhoods. Drivers know that if one

wants to travel quickly from point A to point B, it is best to remain on arterial roads and out of residential areas.

#### *Unintended Outcomes*

One of the 19 neighbourhoods set a 30 km/h speed limit (i.e. 10 km/h lower than the other 18 neighbourhoods). The City officials consulted with the neighbourhood to negotiate compliance with the general guidelines although it was argued that the lower speed limit is within the spirit of the overall Transportation Plan.

#### *Follow-up and Monitoring*

The program has been in place since 2011. Before and after studies for the compliance of the speed reduction program were completed. The studies concluded that there were no significant changes and the overall reduction of speed was minimal. In addition, it was concluded that further traffic calming measures were needed. This program was seen as the successful first step in the overall Transportation Plan for the City.

On a large part of local roads, the 40 km/h speed limit was found to be compliant with average actual driving speeds. Although, the reduction of the actual driving speeds following the implementation of the speed limit reduction program was not found to be statistically significant.

### **2.3.2.2 *Edmonton, Alberta***

#### *Community Profile*

Edmonton is the capital of Alberta and is settled around the North Saskatchewan River. The approximate population is 812,201 (2011 Census).

#### *Background*

In October 2012, the City Council adopted speed reduction policy C566. The purpose of the policy is to allow Community Leagues to request that the City review speed limits for residential roadways within their community for consideration of reducing the speed limit to 40 km/h. Requests are to be referred to City administration for review in accordance with City procedures for consideration of speed reduction to 40 km/h.

A pilot project with six communities was conducted from May-October 2010 to study the impact of lower speed limits on overall safety and quality of life. Speed limits were lowered to 40 km/h from May-October 2010. The pilot project included:

- Beverly Heights;
- King Edward Park;
- Ottewell;
- Twin Brooks;
- Westridge/Wolf Willow; and
- Woodcroft.

The pilot project was sponsored by the City of Edmonton's Transportation Department in collaboration with several partners including the Edmonton Police Service and the Edmonton Federation of Community Leagues.

An assistant professor of transportation engineering and planning at the University of Alberta evaluated potential communities based on several criteria, including:

- Collision numbers;
- Traffic volumes;
- Numbers of vulnerable pedestrians; and
- Driver behaviours.

The Edmonton Federation of Community Leagues (EFCL), both Edmonton school boards, and the Edmonton Police Service also provided input.

### *Implementation*

Reducing speed limits to 40 km/h in residential neighbourhoods is to be considered on an individual neighbourhood basis and will be considered when found to be an appropriate measure in the context of all available strategies for speed management and safety within residential neighbourhoods and with evidence of 67% community support. This policy does not apply to arterial roadways within or on the boundary of communities (arterial roadways as defined by the Transportation System Bylaw).

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The primary objective of the pilot project was to investigate the effect of lowering the posted speed limit from 50 km/h to 40 km/h on the level of traffic safety within the piloted communities. The Office of Traffic Safety (OTS) was tasked with initiating the process and identifying six communities for the proposed pilot. Work on the project started immediately after the City Council approval (in October 2009) including community selection, communication plans, equipment and enforcement plans, data collection plans, etc. The installation of the new 40 km/h signs started in early April 2010 but the signs remained covered for the remainder of the month until the bylaws came into effect on May 1, 2010. Data collection, surveys and measurements commenced on April 1, 2010 and concluded October 31, 2010.

The pilot project aimed at reducing the posted speed limit on residential roads and determining the associated impacts/outcomes on the level of safety. Since the City of Edmonton is divided into neighbourhoods which belong to a number of community leagues, the project's focus was on the community league level with a particular emphasis on local and collector roads.

To ensure compliance to the new posted speed limit and to reduce speeding, the pilot project utilized a variety of speed management measures such as: i) a pre- and post-communication plan; ii) installation of new speed limit signage and setting up speed display boards (also known as speed trailers), dynamic messaging signs and school dollies; iii) implementing community speed programs (i.e., Speed Watch, Neighbourhood Pace Cars and Safe Speed Community vans) and iv) using covert photo-radar trucks.

#### *Communication Plan*

An extensive communication plan was implemented as part of the pilot program and included news media, community partners and an online presence.

The speed reduction pilot was covered by local TV, print, and radio since it was proposed in October 2009. The OTS worked closely with the EFCL on the project, regularly supplying them with pertinent information to share with stakeholders and to pass along to participating community leagues. In addition, the OTS consulted with the Edmonton Public School Board and the Edmonton Catholic School Board.

The speed reduction pilot had a strong online presence, including a page on the City of Edmonton's website. A web video was produced to remind people about the changes in specific communities and reiterate the importance of responsible motorist habits in residential areas. This video was shared on the City's website and intranet and was also posted on the City's YouTube channel.

A dynamic messaging sign was placed in each community to remind citizens about the speed limit change and provide any pertinent updates about the project.

In addition, the following programs were initiated:

- Community speed programs like Speed Watch, Neighbourhood Pace Cars, and Safe;
- Speed Community Vans were used to educate motorists about their speeds in pilot communities;
- A citizen survey was conducted in the pilot communities by an independent third-party consultant before the project was launched. A follow-up survey was conducted after the pilot ended; and
- Project information was provided to 311, the City's general information line, so operators could field citizen questions about the pilot.

### *Enforcement*

- New speed limit signs were posted in these neighbourhoods. The six-month project monitored speeding using speed limit signs, digital display signs, and community programs such as Speed Watch and Neighbourhood Pace Cars;
- A Safe Speed Community Van is a mobile photo-radar enforcement unit used by the City of Edmonton to educate its residents about speeding concerns in their neighbourhoods; and,
- Covert Photo-Radar Trucks have been used by the Edmonton Police Service since 1993. This covert mobile unit has proven to be an accurate and effective means of traffic enforcement. Violators are photographed as they pass by a photo radar location enabling police to produce valid evidence in court.



### *Outcomes*

The following outcomes were reported:

#### *Community Perception Survey*

- 48% reported lower speeds after pilot project ended, while 45% felt it was the same;
- 48% felt pilot project would be very effective in lowering residential speeds; and,
- 70% indicated the importance of community involvement and support for the success of the pilot project in improving traffic safety in their community.

#### *Tailgating Vehicles*

- Results showed no differences in the amount of tailgating vehicles across neighbourhoods.

#### *Collision Data*

- Results of the collision analysis were not significant within a short time frame; and,
- More research is required to find out the impact of the pilot project on the frequency and severity of collisions.

#### *Speed Analysis*

- Overall, average operating speeds were reduced by 7%;
- Twin Brooks and Westridge/Wolf Willow had a 11% reduction;
- Ottewell and Woodcroft had a 5.6% reduction; and
- Beverly Heights and King Edward Park had a 4.3% reduction.

Interestingly, though there was some observed reduction in overall operating speeds, in areas such as Beverly Heights and King Edward Park. However, the speeds were still well above the posted limits. For example, the 85th percentile operating speeds before and after the changes were as follows:

- Operating speed decreased from about 60 to about 57 km/h in new communities;
- Operating speed decreased from about 55 to about 53 km/h in communities with grid networks; and
- Operating speed decreased from about 53 to about 51 km/h in older communities.

As a result, Ottewell, Woodcroft and King Edward Park neighbourhoods will have a permanent speed reduction to 40 km/h, whereas the 40 km/h signs in Beverly Heights, Twin Brooks, and Westridge/Wolf Willow have been removed. These communities have reverted back to 50 km/h.

### **2.3.2.3 Stratford, Prince Edward Island**

#### *Community Profile*

Stratford is a suburb of Charlottetown with a population of approximately 8,500 residents. The current Town of Stratford is a result of the amalgamation of several rural villages in 1995. It can largely be considered a suburb of Charlottetown, being connected by bridge across the Hillsborough River. Development in Stratford has seen a steady increase from the 1960s, with the establishment of the first automobile-only bridge across the river in 1962, and then the subsequent expansion of the bridge in 1995. Development during this period has changed from seasonal cottages to permanent dwellings in neighbourhoods of typical suburban character - single-family detached homes situated on a logical hierarchy of arterial, collector, and local roads.

Roadways in the Town of Stratford are owned and maintained by Prince Edward Island's Department of Transportation and Public Works (PEITIR). General policing and enforcement of speed limits are provided by the RCMP.

#### *Background*

The citizens of Stratford have indicated to the local council that speeding and the safety of pedestrians are issues in the town. In response, the town government created a Traffic Safety Committee (TSC) to keep residents informed, make residents aware of the Town's efforts in improving road safety, and to gather feedback from residents. The TSC's mandate is to comprehensively review traffic safety in the Town and make recommendations for improvements. Specifically, the TSC is to examine the following:

- Speed zones in the Town;
- The use of traffic control devices;
- Best practices from other jurisdictions;

- The location and design of active transportation infrastructure;
- Street design, including the possible incorporation of an approach called traffic calming;
- Education and social marketing;
- Enforcement; and
- Any other issues that the committee deems appropriate.

As a part of this effort, the TSC created and distributed a Traffic Safety Survey via the town's website to gather information from residents. The survey collects the opinion of residents on whether there is an issue with speeding in the town, their suggestions for rectifying the issue, other issues affecting traffic safety in the town, a prioritisation of projects to help improve safety for pedestrians, and space for other comments.

Speed limits on the roads within Stratford default to 30km/h, unless otherwise posted. There are approximately 20 roads/segments within Stratford that are posted at speeds other than 30km/h; these are largely higher-order roads with reduced or limited access. Stratford's 2009 Active Transportation Plan places a priority on the application of Gas Tax funding towards implementation of this plan. The focus on lower posted speed limits is largely related to the desire to promote active transportation and increase safety for pedestrians and cyclists. This emphasis is being pursued further with the release of the 2012 Regional Active Transportation Plan that covers Stratford and its neighbours Charlottetown and Cornwall.

### *Implementation*

Prince Edward Island's highway traffic act sets the provincial default posted speed limit at 50 km/h, but this can be modified as necessary by the Lieutenant Governor for individual areas or roadways. Under this system, individual municipalities can bring requests for modifications for specific areas to the Lieutenant Governor for approval. Stratford's decision to reduce their default operating speed to 30 km/h, therefore, required that speed limit signs be posted throughout the town, as it differs from the provincial norm.

As discussed above, the issue of posted speed limits is being approached by the Town and brought to residents as a safety issue. Current research has proven that the slower vehicles drive, the fewer and less severe the incidents between vehicles, pedestrians, and cyclists will be. From

the Town's perspective, lowering the speed limits when combined with sufficient education and enforcement will result in lower vehicle speeds.

### *Findings*

Since making the conversion to lower speed limits across the town, PEITIR has performed some speed observations at selected locations. **Table 3** shows the results of these observations.

It can be seen from **Table 3** that compliance with posted speed limits in Stratford is low across all speed categories, but especially for the roadways posted at 30 km/h. In all cases, the mean and 85th percentile speeds exceed the posted speed limit by at least 10 km/h. In fact, for the sections posted at 30km/h, the 85th percentile speeds exceed the posted in excess of 20 km/h, which means that the posted speed limit is completely ignored by the vast majority of motorists.

The majority of Stratford's roadways are constructed with a rural cross-section, with narrow dirt or gravel shoulders and ditches. There are very few indicators to motorists that the roadway serves any other purpose other than providing mobility for vehicles; pedestrians and cyclists receive little regard under the current road designs. It is, therefore, not surprising that average and 85th percentile speeds easily exceed the posted limits.

Stratford has indicated that they are placing a priority on safety and active transportation in their town and that the decision to post speed limits at 30 km/h is a directed effort to accomplish this. However, initial study of compliance shows little regard for the posted limits. The approach is therefore of questionable utility without further backup in changes to the design of the roadways, enforcement, or education.

**Table 3 - Stratford Speed Study Results**

<i>Stratford Speed Studies</i>									
<i>Conducted in fall 2011</i>									
<i>Location</i>	<i># of Vehicles</i>	<i>Posted Speed</i>	<i>85 %ile</i>	<i>Mean</i>	<i>Pace</i>		<i>% in Pace</i>	<i>Modal Speed</i>	<i>Recommended Posted Speed</i>
					<i>From</i>	<i>To</i>			
Marion Drive	239	30	52	39.2	19	34	48.5	29	30 - 40
Celtic Ave	587	30	54	45.5	40	54	53.3	44	40 - 50
Rosebank	615	30	57	47.5	40	54	59.2	44	50
Stratford between Kinlock and Dale	1731	50	67	59.1	50	64	53.8	59	60
Stratford between Montrose and Keppock	2581	50	67	61	50	64	55	59	60
197 Keppoch Rd	624	60	77	67	60	74	55.1	64	70
35 Keppoch rd	2027	60	69	62.8	55	69	69.5	69	60
Kinlock between Governors and MacLauchlan	2973	60	74	65.6	55	69	60.9	64	60

It is the opinion of PEITIR's transportation engineer that 30km/h is unreasonably low for the majority of facilities in town. The Province is working with Stratford to define new official roadway classifications for the town's streets and, from there, a classified network of streets. It is the thought of PEITIR that the issue of posted speed limits will be addressed during this process and that posted speed limits will be revised upward by 10km/h for a majority of facilities. This can also be seen in **Table 3**, which indicates PEITIR's recommended posted speeds in the right-hand column. The recommended speed was determined via engineering judgement based on the collected data. It is likely that shorter local streets and cul-de-sacs will remain posted at 30km/h.

PEITIR indicated that, while they approve of the focus on safety and active transportation, the setting of unrealistically low speed limits will not result in slower operating speeds, as indicated by the collected data. This may, in their opinion, lead to a false sense of security for pedestrians and cyclists and increase the speed differential for vehicles, which is also a dangerous situation. At the moment, the Province does not have the budget to make the required changes to Stratford's roads that would result in the desired reduction in speed, as the budget must be spread equitably around the province.

No significant data on collisions has been collected to date in Stratford that would indicate a correlation between the posted speed limits and any associated change in the incident rate.

Work is currently on-going in Stratford on the discussion of posted speed limits and roadway classification. PEITIR will be working with the Town to install temporary traffic calming elements at some test sites to observe any measurable differences for operating speeds. New data will be collected as part of this process in the fall of 2013 for analysis.

#### **2.3.2.4 Ottawa, Ontario**

##### *Community Profile*

The City of Ottawa, with a population of approximately 883,000 people, is located in eastern Ontario, located adjacent the TransCanada Highway, the city is located approximately 170 km west of the city of Montreal and 350km northeast of the city of Toronto. Twelve surrounding Cities, Townships and the Regional Municipality of Ottawa Carleton (RMOC) were amalgamated in 2001 to become the new, expanded City of Ottawa.

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### *Background*

Prior to amalgamation, speed limits were implemented on major arterial roadways (under the jurisdiction of the RMOC) following the guidelines outlined in the Speed Zoning Policy for Urban and Rural Roads approved by Regional Council in 1975. In the former City of Ottawa, the speed limit on all streets other than Regional Roads, were governed by the Highway Traffic Act which, unless otherwise posted, was 50 km/h. Prior to amalgamation, a number of the former Cities had roadways that were posted with 40 km/h speed limit zones which were set indiscriminately, regardless of roadway classification or function.

In 2008, staff brought forward the Speed Zoning Policy for Urban and Rural Roads report, which was adopted by City Council. The practice of setting speed limits appropriate for the roadway function is addressed in the policy. The Policy proposed speed limits for major roadways, as well as for all classes of road including local collectors, residential neighbourhood streets, school zones and rural gravel roadways in an attempt to standardize speed limits for similar types of roads and adjacent developments. This Policy permits roadways to be signed with 40 km/h posted speed limits when warranted, based on a number of set criteria. The following has been extracted from the Policy.

### *Risk and Enforcement of Speed Controls*

In Ontario, the Highway Traffic Act (HTA) sets out the four basic functional components – Rule Making, Enforcement, Adjudication and Sanctioning. When an operator of a motor vehicle is operating at speed inappropriate for existing conditions, they are identified as a risk to the basic operation of the roadway network, and the HTA is called into operation. Generally, this is done by establishing and enforcing speed limits, leading to adjudication and sanctioning to correct the offender.

Studies in Ottawa between 1992 and 1993 indicate that spot speeds reduce in the immediate vicinity of radar enforcement activity, but returned to normal levels after the police enforcement stopped.

### *Establishing Speed Limits*

The criteria for determining speed zone regulations are based upon finding a safe and reasonable speed limit for existing conditions. The safe speed depends upon the number and type of hazards or conflicts that the driver may encounter at any one time.

A speed regulation should be almost self-enforcing; therefore, the voluntary compliance with the posted speed limits should be 80 to 90%. Vehicle speeds on local streets are essentially self-controlling and voluntary compliance by the majority of drivers is quite high. However, despite this high level of compliance, residents often express concerns about speeding. The main element in determining whether drivers observe a speed limit is their perception of the reasonableness of the limit.

The City of Ottawa uses an approach to setting speed limits, albeit modified, that was developed by the State of Illinois and is the basis for the course of instruction at the Traffic Institute, Northwestern University. The process considers the current speed characteristics of the users of the road, the design speed of and number of intersecting streets on the road section under consideration, and the length of the speed zone. Further factors are utilized to adjust the speed limit based on additional elements such as number of driveways; lane widths; street classification; median design; shoulder type and width; presence of sidewalks and pedestrian activity; parking activity; general horizontal and vertical alignment and collision rate.

### *Implementation of 40 km/h Posted Speed Limits*

Within the Province of Ontario, the HTA sets out in Section 128 the following:

1. *No person shall drive a motor vehicle at a rate of speed greater than*
  - a. *50 km/h on a highway within a local municipality or within a built-up area; and*
  - b. *Despite clause (a), 80km/h on a highway, not within a built-up area, that is within a local municipality.*
2. *The council or a municipality may, for motor vehicles driven on a highway or portion of a highway under its jurisdiction, by by-law prescribe a rate of speed different from the rate set out in subsection (1) that is not greater than 100 km/h and may prescribe different rates of speed for different times of the day.*



*The speed limits prescribed by this section or by regulation or by-law passed under this section 128 (1) do not apply to fire, police or ambulance when in the lawful performance of their duties and/or responding to an emergency call.*

#### *Setting of 40km/h Speed Zones*

The City of Ottawa examines 40 km/h speed zone requests on a reactive basis. Requests to lower posted speed limits are most often made by the public in belief that any reduction in the posted speed limit will automatically result in a corresponding decrease in the speed of traffic, and an increase in safety for children and pets. Any change in posted speed impacts on all road users and the resources to examine the number of requests are significant. Consequently, on local and collector roadways, a petition from residents directly fronting onto that street and representing a majority of those directly affected within the section under consideration is required prior to the City undertaking a speed zone review. Should the consensus not be met, the City may request police presence and/or deploy digital speed display boards in an effort to remind drivers of their speed versus the posted speed limit.

If neighbourhood consensus identifies that a posted speed limit of 50 km/h is set too high, the City of Ottawa will conduct a detailed speed zone review. A speed zone review consists of a spot speed survey, and a full inventory of the roadway section. This not only includes posted regulatory and warning signs, but also roadway features such as presence or absence of sidewalks, location of schools, parks, and child care facilities etc.

In order for the street's speed to be reduced from 50 km/h to 40km/h, the street must meet the warrant requirements. The warrant does not implicitly distinguish between roadway classification, traffic volume or development density. The warrant however does consider the roadway width and travel speed and does not permit a roadway wider than 10.5m with an 85<sup>th</sup> percentile speed of greater than 50 km/h to be posted with a 40 km/h speed limit. Thus, most arterial and major collector roadways, and roadways with low development densities are eliminated by the warrant process as candidates for a 40km/h posted speed limit as these roadways tend to provide environmental queues to the driver that indicate speeds above 50 km/h are safe operating speeds.

*City of Ottawa – 40 km/h Posted Speed Limit Warrant*

Warrant A: (must meet one or more of the following)

- Elementary or junior high school abuts the road;
- Parkland abuts the road that is contiguous to and used to gain access to an elementary junior high school;
- No sidewalk on either side of the road or a major portion of the road;
- The sidewalk is immediately adjacent to and not separated from the flow of motor vehicles by long-term parking (three hours) or bike lanes, and where the travel portion the road width is less than 5.7 m for two-way operation, or less than 4.0 m for one-way operation;
- Two or more locations of concern where there are grades greater than 5% and/or safe speeds on curves is less than 50 km/h;
- Lack of sufficient distance to stop safely at two or more locations when traveling at 50 km/h;
- The number of the speed related collisions on local streets equals 3 or more over three years;
- Where long-term parking (3 hours) is permitted on one or both sides and the remaining travel portion of the road is less than 5.7 m for two-way operations, or 4.0 for one-way operation;
- A licensed child care facilities or private school abuts the road; and
- Note: in the case of Warrant A(1) or A(2), the 40 km/h maximum speed one must extend no less than 150 m beyond the boundary of school property and/or contiguous parkland.

Warrant B: (Wide Roads)

- A 40 km/h maximum speed limit can only be implemented on streets with total pavement width equal to or more than 10.5 m, if the 85th percentile speeds is equal to or less than 50 km/h.

Note: Speed limit reductions to 40 km/h on wide roads have negligible impact and in these cases, other measures should be considered to influence driver behaviour to reduce speed, such as geometric change to the road itself.

### *Implementation Methods*

Following the completion of the Spot Speed Survey and Warrant process, if a reduction in the posted speed is warranted, the staff reviewer creates a Sub Work Order. The Sub Work Order includes both text and a map indicating the approximate locations of new 40 km/h signage in accordance with Ontario speed zone signing standards.

The City of Ottawa does not require individual streets to be listed in a specific By-law schedule. The posted speed limit is considered the legal speed limit within the City of Ottawa.

### *Findings*

Prior to implementing the Speed Zone Policy, the City of Ottawa undertook a number of speed studies on various types of streets with various posted speed limits. **Table 4** summarizes the before/after speed study findings conducted on the five different street sections where the posted speed limit was reduced from 50km/h to 40km/h. Each of the study area roadways were either local residential or local collector residential roadways. In most cases, the average and 85<sup>th</sup> percentile speeds increased after implementing the reduced 40 km/h posted speed limit. Compliance with the posted speed limit decreased significantly following the change to the lower speed limit. The results of these speed studies indicate that the posted speed limit had very little impact on driver behaviour.

Since implementation of the policy, the City of Ottawa has not undertaken follow-up speed studies on street segments where reduced 40 km/h posted speed limits were implemented in accordance with the Speed Zone Policy. Before-and-after safety studies involving roadways with reduced posted speed limits (other than 40 km/h) have also not been undertaken. These roadways are residential in nature and queuing and congestion or not typical for these types or roadways. The reduced speed limit has not had an effect on the operation of the roadways.

**Table 4 - Ottawa - Summary of Average and 85<sup>th</sup> Percentile Speeds and Percent Compliance**

Street	Posted Speed Limit	Average Speed	85 <sup>th</sup> Percentile Speed	Fastest Vehicle Speed	Percent Compliance
Fairlawn Avenue, Lenester Ave. to Queensgrove Rd.	50km/h Before	45km/h	51 km/h	58 km/h	84%
	40km/h After	45 km/h	53 km/h	66 km/h	29%
Golflinks Drive, Bentgrass to Pondhollow Way	50km/h Before	49 km/h	55 km/h	68 km/h	66%
	40km/h After	51 km/h	58 km/h	84 km/h	5%
Glebe Avenue, Bronson Ave. to Percy St.	50km/h Before	48 km/h	54 km/h	62 km/h	66%
	40km/h After	46 km/h	52 km/h	64 km/h	12%
Riverdale Avenue, Avenue Rd. to Bank St.	50km/h Before	46 km/h	52 km/h	62 km/h	81%
	40km/h After	47 km/h	54 km/h	70 km/h	13%
Bathgate Drive, Montreal St. to Ogilvie Rd.	50km/h Before	51 km/h	57 km/h	68 km/h	44%
	40km/h After	50 km/h	57 km/h	66 km/h	6%

### Other Issues

#### *Problems Encountered*

Typically, 40km/h posted speed limits have been implemented on residential type streets. Issues with speed differential and high collision frequency are typically not observed on these types of roadway facilities. City staff has not identified any changes in short-cutting activity as a result of implementation of 40km/h posted speed limits.

### *Enforcement*

The lower speed limits have not had an impact on emergency response. The HTA permits emergency responders to exceed the posted speed limit when responding to emergency calls.

### *Speed Complaints*

The City continues to receive calls from the public regarding speeding in 40 km/h speed zones. However, there is no indication that call volume has either increased or decreased on these streets. When speed complaints are received, the City will encourage callers to contact the police for enforcement. The City may also set up speed radar boards to advise motorists of their speed. If the speed radar boards indicate speed issues, the City will request the police to provide stepped up enforcement.

### *Unintended Outcomes*

The 40 km/h speed zones have been well received by the public. The primary complaint received by the City is in regards to signage placement. Residents often do not appreciate speed limit signs being posted in front of their residence for aesthetic reasons.

It was observed at one location that implementation of a 40 km/h sign in a 50 km/h zone where previously there was no sign resulted in an increase in vehicle operating speeds. Compliance decreased from 84% to 22%.

#### **2.3.2.5 *Winnipeg, Manitoba***

##### *Community Profile*

Winnipeg, Manitoba's largest city and capital, has a population of roughly 730,000. The city of Winnipeg is made up of 236 neighbourhoods and has seen a revival of its downtown since the late 1990s. Winnipeg has made excellent strides in establishing a comprehensive and successful transit system, focusing on the use of Bus Rapid Transit elements in an increasingly cohesive system.

### *Background*

In a manner very similar to this report undertaken for Nova Scotia, Winnipeg sought to investigate the use of speed limits lower than 50 km/h through research into best practices, research, and real-world observations from across North America.

The resultant 2012 administrative report from Public Services to City Council recommended against implementing 40km/h speed zones. It recommends that rather than reducing speed limits, the City should continue to encourage the layout of new residential areas that promote lower vehicle operating speeds on local residential streets. The report states that drivers' speeds are influenced more so by the surrounding environment than the posted speed limit.

In the report, references are made to studies completed by the United States Department of Transportation (FHWA-RD-97-002), and by the City of Edmonton in 2011. In the study completed by the United States Department of Transportation, the effects of raising and lowering the speed limit at 100 experimental sites in 22 states were investigated. It was concluded that raising or lowering the speed limits had little effect on the driver's speed choice (less than 3.2 km/h difference in mean and 85<sup>th</sup> percentile speed). The study did not lead to any statistically significant changes in collisions.

The research done by the City of Winnipeg included results from the City of Edmonton's 2011 investigation. Edmonton investigated the effect of lowering the posted speeds of six residential communities from 50 km/h to 40 km/h. The effect of the speed reduction was limited to 2-3 km/h reduction in 85<sup>th</sup> percentile speed:

- Operating speed decreased from about 60 to about 57 km/h in new communities
- Operating speed decreased from about 55 to about 53 km/h in communities with grid networks
- Operating speed decreased from about 53 to about 51 km/h in older communities

Three of the residential communities in Edmonton have since reverted back to 50km/h posted speeds. Also, no conclusions could be drawn from the collision analysis.

The report also references The Manitoba Highway Traffic Act Section 95(3):

*“No person shall drive a vehicle on a highway at a speed greater than is reasonable and prudent or in a manner that is not reasonable and prudent under the conditions and having regard to the actual and potential hazards then existing; and, without restricting the generality of the foregoing, no person shall drive a vehicle on a highway at a speed otherwise permitted under this Act where*

- (a) the presence of a child on or near the highway, whether or not he is in close proximity to the grounds of a school building or a playground, dictates, in the interest of safety, a slower speed or the temporary stopping of a vehicle; or*
- (b) any factor exists in the face of which failure to reduce that speed, or to stop the vehicle temporarily, constitutes a danger to any person or property visible to the driver.”*

The report includes a table which highlights a number of streets where Winnipeg Public Services have received concerns regarding speeding, and as a result were studied. Results indicated that the 85<sup>th</sup> percentile speeds were approximately 40km/h, despite the fact that the speed limit was 50km/h, demonstrating that the drivers’ speeds are more influenced by the surrounding environment and not the posted speed. This presents an interesting finding in that the speeds are actually lower than the posted limit, which is a fairly rare condition. The results are shown in **Table 5**, below.

**Table 5 – Winnipeg – Operating Speed Observations**

<b>Study Street Segment</b>	<b>85<sup>th</sup> Percentile Speed (2012)</b>
Gallagher Avenue between Blake Street and Quelch Street	39 km/h
Hazelwood Crescent between Wyoming Street and Iowa Street	41 km/h
Westminster Avenue between Lipton Street and Aubrey Street	42 km/h
Church Avenue between Charles Street and Aikins Street	42 km/h
Santa Fe Drive between Adsum Drive and Dr. Jose Rizal Way	43 km/h
Rathgar Avenue between Daly Street South and Cockburn Street South	43 km/h

The report also states that other Canadian Jurisdictions have not made changes to their default speed limits (50km/h). In many locations, speeds less than 50km/h are only implemented in school zones, with the exception of Edmonton and Montreal.

As discussed in Section 2.1.2, the report concluded that setting speeds improperly may increase the incidence of collisions, as speed differential - caused by some drivers obeying the posted speed limit, whereas others ignore it - is often a significant contributor to vehicle collisions.

After release of their speed limit study to the public, the City of Winnipeg faced opposition to their conclusions from members of the public. Concerns about roadway safety and its correlation to the posted speed limit were expressed by members of council and many residents.

### ***Findings***

City Council has since approved the report's recommendations and has not implemented any 40 km/h speed zones in the City of Winnipeg.



### **3.0 Considerations for Implementing Speed Zones Lower than 50 km/h**

The main criteria for determining speed zone regulations are based on finding a safe and reasonable speed limit for existing conditions. Numerous factors relating to the driver, the vehicle, the roadway, traffic and the environment have a determining effect on driving speeds. The main element in determining whether or not drivers observe a speed limit is their perception of the reasonableness of the limit.

#### **3.1 Measures to Establish Speed Zones**

An important consideration in determining an appropriate speed zone for a given section of roadway is to ensure that the methodology employed in determining the zone results in a section of roadway that exhibits a uniform set of characteristics within the roadway and adjacent right-of-way land uses and development. Elements of a roadway that should be considered when looking to establish a speed zone to be analyzed include:

- Roadway geometry - both vertical and horizontal;
- Cross-sectional elements (i.e., urban vs. rural, curbed vs. ditches);
- Number of lanes and any auxiliary turning lanes;
- Right of way width;
- Sidewalks;
- Cycling lanes;
- Presence of parking;
- Truck routes;
- Transit routes;
- Roadside regulations;
- Street lighting;
- Adjacent type of development (residential vs. commercial);
- Type, number and spacing of driveways;
- Traffic volumes, and the presence of cut-through traffic;

- Pedestrian and cycling volume levels;
- Collision history; and
- Traffic control devices.

The adjacent land uses, and the density of the built form will also determine the potential use of the roadway by vulnerable road users including children and seniors.

### **3.2 Conditions for Speed Zones**

As noted above, the physical elements of a roadway will have the greatest impact on how a driver will choose their safe perceived operating speed. The effectiveness of a posted speed limit will be measured by the driver's attitude towards it.

A speed regulation should be essentially self-enforcing, in that the driver is voluntarily complying with the posted speed limit. A properly posted speed zone should have compliance by the travelling public in the order of 80 to 90 percent.

Speed limits are intended to reduce the risk associated with the driver safely manoeuvring through a roadway segment. Therefore, the speed limit should be related to any hazards along the roadway.

The amount of enforcement that is required to ensure the motorists respect the posted speed limit is also an indication of the general acceptance of the motorist to the posted speed limit, and their ability to safely negotiate that section of roadway.

The local road authority will be presented with numerous requests from their local citizens to lower speed limits in a specific roadway section, neighbourhood or community. There are typically several reasons cited to support these requests, but safety is the most frequently quoted request.

There are considerable resource requirements needed to permit the implementation of a speed limit based on sophisticated data collection and analyses. Therefore, whatever procedure that a

jurisdiction chooses to establish speed limits with, it should be a method that allows for reasonable resources to be applied to the determination of the posted speed limit.

If a jurisdiction were to review a request from a community group or private citizen to reduce the posted speed limit from 50 km/h to 40 km/h, then a warrant system should be implemented that will undertake the proper review, examining various roadway elements, users, roadway geometry, and development characteristics that will need to be in place to “warrant” a reduced speed limit.

### **3.3 Supporting Measures**

Numerous jurisdictions have realized that an effective means to control speeding on various classification of roadways is to design them correctly, so that the operating speeds are in tune with the users and individuals who live, work and play on those streets.

If streets have been built, and they do not meet the current expectations of those individuals, then there is the need to undertake various methods related to “engineering” the roadway properly, “enforcing” the posted speed limits, and “educating” the public about the driving the speed limits.

The Three E’s approach has been a standard approach to many road safety situations that municipalities have found themselves in the past.

Engineering programs for reducing speeds can use a variety of regulatory signage, physical roadway geometric changes, and traffic calming measures. All of these measures should be part of an overall Traffic Management Program which deals with the citizens requests about speeding and traffic volume issues within their communities.

### **3.4 Education and Enforcement Programs**

Where engineering-based solutions provide a solid foundation for reducing travel speeds, they must also be accompanied by appropriate education and enforcement programs to highlight the issues and monitor the results.

Canadian road authorities often receive correspondence from concerned citizens that traffic operating speeds are too high. The area of concern is generally within close proximity to where the resident lives, adjacent a park they visit, or within a school zone or pedestrian route that they utilize regularly. Educational campaigns can have an impact on motorist behaviour and can be utilized to relieve residents' concerns.

Campaigns to address speed related issues can be implemented by all levels of government. They can also be implemented by concerned residents, community groups or through school programs.

Larger educational campaigns are generally implemented by local or senior levels of government due to their costs and the amount of resources required to implement such campaigns. Successful campaigns are often implemented in conjunction with much broader road safety programs, and typically include the engineering, policing, and health unit communities in an effort to modify public behaviour and to reduce the societal impact of traffic related injuries or fatalities. These campaigns may include television and radio public service announcements, billboard and busboard signage as well as dedicated roadside signage. Educational and enforcement campaigns can target specific traffic-related violations throughout the year.

Local campaigns can be implemented by governments, residents groups, or other interested parties. Materials often include pamphlets which can be widely distributed with tax, water bills or contained on agency web sites. In addition, community open houses and school events can also be used to distribute traffic speed and safety information. Some communities have also implemented driver improvement clinics.

Many local governments have also found the use of mobile radar display boards to be useful in informing the public of their actual travel speed. These radar boards can be mounted on poles or be trailer-based. In some instances, community groups can be assigned to setup and relocate the trailer-based display boards. Radar-based display boards can be utilized as a standalone tool or in conjunction with police enforcement. The boards can serve the dual purpose of informing the public of their travel speed and also collecting speed data for the location, which can be used by the road authority or police.

The Western Transportation Institute at Montana State University suggests that the use of mobile radar display boards may placate residents and may reduce speeds in the short term. However, use of the boards for excessive lengths of time can lead to disregard of the warning by motorists. It will be important, then, to plan the placement of mobile radar display boards and limit their periods of use. Their effectiveness can also be increased if combined with a short-term enforcement program in the area. This program could involve distribution of some combination of tickets, warnings, and/or educational material to speeding motorists. Maintaining the mobility of radar display boards will maximise their effectiveness by reaching a larger number of motorists for short periods of time.

In regards to implementing 40km/h speed limits, residents should be engaged in the process from beginning to end. Requiring a petition of residents prior to evaluating a speed zone for possible reduction to 40 km/h creates awareness within the community of speed related traffic issues. And utilizing tools such as information pamphlets and radar speed boards enhances the message and provides direct feedback to the road users. Engagement of the public through the process and enlisting the concerned group or residents to bring the issue to their neighbours can have positive effects on the overall understanding of the issue and ownership of the solution by the residents.

Some examples of innovative public education and enforcement programs:

The Swedish National Society for Road Safety created a program called ‘The Speed Camera Lottery’, which combined the use of a camera and a radar-based display board. The speed of motorists was monitored and displayed on the board, as is usual; however, the camera was used to take photographs of all motorists. Motorists who were found to be speeding excessively were fined and the proceeds from these fines were placed into a lottery pool. Motorists who obeyed

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the speed limit were entered into a lottery to win a portion of the pool of fines. Average travel speed was reduced by 22% during the program.

The Swedish program provides an example of “gamification” that is becoming more common in public engagement and education programs. By introducing some competitive or reward-based structure to the program, people may be more likely to change their behaviour. These go beyond the typical brochure and ad campaigns that can sometimes be easy to ignore. Engagement of the public in the process via a novel participatory mechanism can have some benefits in getting the message through to more people. Though, the trivialisation of the issue through these mechanisms should be considered when designing a new program.

The City of Ottawa engaged local children in the creation of small art pieces to be included with speed violation tickets. The children were instructed to create a drawing that expressed their feelings about people who speed and the consequences. The actual pieces (not copies) were included with tickets to bring more impact to the offense.

The Ottawa example is an attempt to address the detachment that motorists may have from the consequences of their actions. It is likely common that there is simply an attitude of annoyance at receiving a fine, where there is a financial penalty but no connection to the possible consequences. This program makes it clear that the actions of the motorist can and do often affect other people. It is important to employ techniques in public education materials that force the public to engage with the issue and its consequences. The act of speeding is today so commonplace that, in some cases, speeding tickets are simply treated as a fact of life or, in rare cases, a badge of honour. It will be important that any educational material address these issues by making the consequences or those affected outside of the individual motorist into real considerations. This is one example of an effective way to approach this issue.

In August of 2013, the City of Chicago implemented their “Children’s Safety Zone” automated speed enforcement program. Similar to the Swedish program, speed cameras were erected at 12 locations around the city with new signage. For the first 30 days of the installation, warnings were issued to violators. After the first 30 days, fines were instead issued, with their proceeds going towards funding road and children’s safety programs. Statistics on the performance of the

program with relation to speeding, collision, and ticket data are being collected and will be shared with the public on the City's website.

The Chicago example is targeted at safety around parks and school zones, which is dealt with separately in Nova Scotia, but it shows an innovative approach to reducing operating speeds and applying the fines of violators towards furthering the goals of the system.

The Enforcement side of a program has typically run in parallel with the education components. In an integrated road safety program, police officers will be part of the education program. As a program is launched, they will provide enforcement, but may only be handing out warnings and pamphlets to the motorists who they stop. The start and end of various educational and enforcement programs will be advertised, and information will be given out as to when the police will be handing out warnings, and when they will start to hand out tickets. These programs are run prior to the introduction of a lower speed limit.

Once a speed limit has been reduced, municipalities will put up new signs (for a period of time) that "warn" motorists that a new regulatory sign has been implemented. In Ontario, a "star burst" sign is usually erected on top of the "new speed zone ahead" sign. Some municipalities will ask Police to undertake enforcement after an initial period of time once the speed zone signs have changed. Police can report back to the public about the number of tickets handed out as another means of educating the public.

## 4.0 Key Findings

There are a number of themes that occur throughout the research and the text of this report. These are summarised below to bring emphasis to the key findings of the study.

### *The Physical Environment*

By far the most common theme throughout the literature and findings of municipalities is that the physical environment that the roadway passes through is the most important factor in determining the appropriate posted speed limit. The TAC Speed Limit Guidelines suggest that the following elements are critical to defining the appropriate speed limit, all of which relate the physical environment that communicates the travel speed to motorists:

- Horizontal alignment;
- Vertical alignment;
- Average lane width;
- Roadside hazards;
- Pedestrian exposure;
- Cyclist exposure;
- Pavement surface;
- Number of intersections with public roads;
- Number of intersections with private access driveways;
- Number of interchanges; and,
- On-street parking.

Some municipalities (e.g., Winnipeg, Mississauga) surveyed during the municipal survey and detailed case studies also found that there were roadways in their communities that operated naturally at speed limits lower than 50 km/h. Their conclusions were that the design of the roadways was such that it promoted the slower operating speeds.

It has been shown consistently throughout research for this report and the previous 2003 study that the placement of posted speed limit signs where the physical environment does not match



will result in no change in operating speeds. This has been proven in real-world case studies again and again.

*It is therefore critical to acknowledge that the operating speeds on a road can be controlled via modification of the physical environment. Modification of the physical environment can induce vehicle operating speeds lower than 50 km/h. Posting of speed limit signs alone will not reduce vehicle operating speeds.*

#### *Safety versus Security*

Setting posted speed limits that do not match the physical roadway environment will result in unrealistic feelings of security for road users when, in reality, they may not be any safer than previous. This is particularly important when discussing lowering posted speed limits; if the speed limit is lowered, but is not accompanied by appropriate changes that will bring about the required reduction in operating speed, it is likely that vehicle operating speeds will remain unchanged and the overall safety will decrease.

It is important to keep these facts in mind when responding to political and public pressure to lower posted speed limits. It has been shown to be true that reduced vehicle operating speeds will result in fewer and less severe collisions. However, if other measures to actually influence the operating speeds for vehicles are not undertaken, the environment may actually become more unsafe for users.

*Therefore, education of elected officials and the public on the differences between safety and security and the need for reasoned application of speed controls is critical to increasing the safety of all road users.*

#### *Consistency*

It is important that the process in determining the speed limits posted within the Province be applied consistently. Allowing political pressures or policies not backed by engineering rigor to guide the setting of speed limits will result in a road environment that does not naturally guide the reasonable user towards the appropriate speed limit. Application of a consistent methodology by the road authority will result in an environment that meets user expectations and will increase the compliance of users throughout the province.

*It is, therefore, recommended that the Province avoid the inconsistent application of posted speed limits based on political or public whim. Consistent use of engineering standards backed by national and international research, such as TAC's Canadian Guidelines for Establishing Posted Speed Limits, in combination with reasoned engineering judgement, will result in a safer roadway environment.*

#### *The Social Contract*

While the majority of the burden lies with the Province of Nova Scotia to provide a safe and consistent environment for roadway users of all types, the users themselves must also take responsibility for using the facilities in a safe and prudent manner, as dictated by Section 101 of the Motor Vehicle Act. The attitude of the general public towards posted speed limits is generally one of ignorance. Current research points directly to a reduction in the number and severity of collisions when vehicular operating speeds are reduced. Therefore, it must be acknowledged that excessive speed and the speed differential between those in compliance and those that drive in excess of the posted limits are major contributors to overall roadway safety.

*It is important, then, that the Province of Nova Scotia be proactive in educating the public about the dangers of excessive speeds and their responsibilities as road users. In the face of increased promotion of active transportation, the speed differential between motorists and an increasing number of vulnerable road users will be an issue of increasing significance.*

## 5.0 Technical Recommendation Regarding Use in Nova Scotia

It can be seen from the above analysis that it is possible for speed limits lower than 50 km/h to be posted in municipalities and that reductions in speed can occur. However, the effectiveness of this posted speed limit is directly related to the application of the Three Es: Engineering, Education, and Enforcement. If no changes are made other than replacing the posted speed limit sign, there will be little to no change in the behaviour of motorists. Speed limits that are not set using *credible, logical, and consistent* criteria quickly lose their relevance and are largely ignored by the driving public.

Primary among the Three Es in creating an achievable and sustainable goal of reducing vehicle operating speeds is *engineering*. A roadway that has naturally high levels of compliance is inevitably one that is *self-explanatory* and *self-enforcing* - its users understand through physical cues what is the most appropriate travel speed. It has been observed that, without a commensurate increase in physical environment factors, posting of speed limits lower than 50 km/h have little to no effect on actual operating speed for motorists across North America.

Relying on enforcement or education to reduce vehicle operating speeds is not a sustainable condition for most municipalities, nor will it result in permanent reductions. Speeds will likely drop during periods of increased enforcement or when the education campaign is new, but will inevitably return to their natural state - that dictated by the physical conditions of the roadway and surrounding land uses. This places an unnecessary burden on police and provincial resources in maintaining constant vigilance on both fronts.

Safety is a key concern for this analysis and the Province of Nova Scotia. Current research shows that reduction in vehicle operating speed has a significant effect on the safety of the roadway for motorists, pedestrians, and cyclists alike. The Province and communities of Nova Scotia have placed a priority on promoting active transportation, which will result in much more interaction between vehicles, cyclists, and pedestrians. Through this, there is bound to be increasing pressure on NSTIR to reduce vehicle operating speeds - increasing not only the feeling of

*security* of active users through changes in posted speed limits, but also through actual improvements to the *safety* of these users. This reduction in vehicle speeds and increase in safety for all users cannot be accomplished through the simple modification of the signage along the roadway. This has been proven in real-world applications and research throughout North America.

Upfront and clear communication on the part of road authorities on the issues at hand, the tools available, and the steps required to achieve meaningful reduction in vehicle operating speeds will go a long way towards diffusing an often sensitive and politically-charged issue.

As the issue of reducing vehicle operating speeds and increasing safety for active users is likely to become more common in the future, it will serve the Province well to adopt a clear set of guidelines on the areas where speed limits lower than 50 km/h are appropriate.

NSTIR should also provide relatable educational materials to the public on the issue to help increase the understanding of the various issues at play with setting an appropriate and safe speed limit for existing and new roadways. The common public perception that simply changing the number on the sign will result in lower operating speeds must be dispelled and the issues at hand clearly explained.

It is evident from the research and case studies that establishing posted speed limits in the absence of a consistent and sound engineering process will lead to ineffective signage, decreased compliance, and may potentially decrease safety. Therefore, it is recommended that NSTIR allow posted speed limits lower than 50 km/h on its highways, but only if adherence is given to a sound engineering, education, and enforcement process.

Recommendations and methodologies towards implementation of a technical warrant and education/enforcement program are presented in Section 6 of this document.

## **6.0 Implementation of Speed Limits Lower than 50 km/h**

There are various elements that will make up the successful implementation of speed limits lower than 50 km/h in Nova Scotia. These are discussed below.

### **6.1 Lower Speed Limit Warrant**

The implementation of speed limits lower than 50 km/h must be consistently applied across the province via a set procedure. The steps below have been developed to lead the Province and members of the public through an open and consistent procedure that applies sound research and engineering in the determination of an appropriate speed limit for a specified study area.

#### **6.1.1 Discussion**

As part of the warrant procedure, the TAC Speed Limit Guidelines will be utilized in recommending a posted speed limit. The Automated Speed Limit Guidelines Spreadsheet within the TAC Speed Limit Guidelines allows for quick analysis of the risks presented by the existing roadway. The TAC Speed Limit Guidelines provide a solid foundation to the process through the research associated with their creation and their current application in municipalities across Canada.

As suggested in the TAC Speed Limit Guidelines, it is recommended that the lowest posted speed limit for a roadway be limited to 40 km/h. Given the various risk factors considered in the TAC Guidelines, it is possible that a posted speed limit of 40 km/h may be recommended by that procedure.

The warrant procedure presented herein also takes elements from warrants that have been applied in Toronto (since 2001) and Ottawa (since 2008) in implementing 40 km/h speed zones. This also includes consideration for methods applied in Edmonton and Montreal regarding community engagement. The warrants recommended below represent the current best practices being applied by Canadian municipalities.

It will be important that the concerned residents or stakeholder group that brought the concern forward be kept up to date and engaged throughout the process. NSTIR should be prepared to

share collected data and analyses as much as possible with the affected residents or groups who have initiated the process. Engagement in the process will give the residents, group, or community more ownership and understanding of the proposed solution.

It is important to understand that any change in posted speed limits will impact on all road users. When a road authority is presented with a request to examine an existing posted speed limit, it should request that a petition be initiated by the residents or concerned group. A petition should be undertaken involving the residents who front onto the roadway or section of roadway which is under consideration. The petition should represent the majority of the residents along the study area.

It is recommended that an 80% agreement level be achieved within the petition prior to the road authority initiating a review process. This percentage of support can be altered based on the road authority's experience, but the percentage should ensure that the majority of residents are in agreement with the road authority proceeding through a review process of the existing posted speed limit on their roadway.

Members of the public would be responsible to initially undertake the petition with their neighbours. The road authority would provide the petition format. This may also be organized by the local area Councillor or other interest group. The individuals who are participating in the petition will be required to have their properties fronting on the street (study area) in question.

The following warrant procedure is proposed for the implementation of posted speed limits of 40 km/h on local roadways in Nova Scotia. The procedure is based on current municipal practices within North America, as well as the "Canadian Guidelines for Establishing Posted Speed Limits"; Transportation Association of Canada (TAC); 2009.

The warrant procedure consists of six steps to review the appropriateness of providing a 40 km/h posted speed limit zone.

When the difference between the posted speed limit and the 85th percentile speed is more than 10 km/h, this is an indication that the drivers' perception of the roadway conditions is different than when the speed limit was selected. Typical causes include:

- The road is being used for a different function than its original intention, for example a local road is used by through traffic, resulting in higher speeds;
- The speed limit has been set by a policy, and the speed limit is not consistent with the characteristics of the road;
- In determining the posted speed limit, the risks that are present along the road have been over-stated;
- The road has been over-designed compared to its function and the surrounding land use; or,
- The function of the road and its surrounding land use are inconsistent.

It is inappropriate to set a posted speed limit that is inconsistent with drivers' perceptions, and then to rely on enforcement efforts to reduce operating speeds. As well, posted speed limits that are significantly different than the prevailing speeds contribute to speed dispersion and a higher risk of collisions.

### ***6.1.2 Warrant Procedure for the Implementation of a 40 km/h Speed Zone***

#### ***Step 1 – Establish Boundaries for Study Area***

Speed zones should only be set for segments of homogeneous characteristics (e.g., number of lanes, surrounding land use, roadway design). It is recommended that the study area be set and agreed upon with the residents or group prior to proceeding. This will ensure that all parties are in agreement and avoid further conflict or the need to revise the analysis.

A study area does not necessarily imply a single street. It can represent a number of streets within a subdivision or neighbourhood, or it can be the entire neighbourhood. Each street will need to be examined separately as part of this process.

It is recommended that a speed zone with a posted speed limit of 40 km/h have a minimum length of 500m, and that the zone shall extend a minimum of 150m from the respective park or land use / road element being considered in the warrants below.

Where a roadway is shorter than 500m, the warrant procedure may be applied with caution. If the process progresses to Step 5 of the warrant procedure, application of the Transportation Association of Canada's "Canadian Guidelines for Establishing Posted Speed Limits"; 2009 may still be accommodated. Any elements where the guidelines are looking for inputs per unit length (e.g., number of driveways or road crossings) should be extrapolated to a representative distance of 500m. All other characteristics that are not related to the length of the segment should remain the same.

For roadways shorter than 500m, engineering judgement should be applied in examining various aspects of the roadway with respect to the most appropriate posted speed limit. These may include:

- Role of the roadway in the surrounding network (e.g., shortcut)
- Causes for speeding on such a short section of roadway
- Changes that may be induced by modifying the posted speed limit on a short segment

### ***Step 2 – Screening***

The Study area must meet the following three criteria:

1. Roadway classification must be "Local";
2. Current posted (or unposted) speed limit must be 50 km/h; and,
3. Local resident support to reduce the posted speed limit to 40 km/h must be 80% or greater within the Study Area, as presented to the road authority by a signed petition of area residents who are fronting along the roadway.

If any of the above criteria are not met, then a posted speed limit of 40 km/h will not be provided.

Only if all three above noted criteria are met then proceed to Step 3.



### ***Step 3 – Required Roadway Characteristics***

The design of the roadway, associated amenities, surrounding land uses, and users of the roadway should play the primary role in determining the suitability of posting a speed limit of 40 km/h.

One or more of the below noted conditions must be met in order for a 40 km/h posted speed zone to be considered.

1. Parkland that is not considered part of an elementary or junior high school property, but fronts onto the road that is contiguous to and used to gain access to an elementary or junior high school;
2. Evidence of use by persons with decreased mobility in the area;
3. No sidewalk on either side of the road for a major portion (>50%) of the road;
4. The sidewalk is immediately adjacent to and not separated from the flow of motor vehicles by long-term parking (three hours) or bike lanes, and where the travel portion the road width is less than 5.7 m for two-way operation, or less than 4.0 m for one-way operation;
5. Two or more locations where there are grades greater than 5% and/or safe speeds on curves is less than 50 km/h;
6. Lack of sufficient distance to stop safely (according to the appropriate TAC guidelines) at two or more locations when traveling at 50 km/h;
7. The number of speeding-related collisions on a street within the study area equals 3 or more over three years; and,
8. Where long-term parking (3 hours or longer) is permitted on one or both sides and the remaining travel portion of the road is less than 5.7 m for two-way operations, or 4.0 for one-way operation.

If none of the above roadway characteristics are met, then a posted speed limit of 40 km/h will not be provided.

If any of the above roadway characteristics are present within the Study Area, then proceed to Step 4.

#### ***Step 4 – Determination of 85<sup>th</sup> Percentile Speed***

The road authority will collect the current and representative 85<sup>th</sup> percentile speed within the Study Area. Engineering judgement will apply in determining a representative speed. It is important to emphasize that the 85<sup>th</sup> percentile speed (representing prevailing speeds at the time of measurement) is a value that varies according to levels of congestion; hour of day; day of week; weather, light and road surface condition; the presence of incidents (on the subject road or other roads); the presence of work zones; and sometimes by month or season.

If the 85th percentile speed is 45 km/h or less, then 40 km/h posted speed signs may be erected within the Study Area. If the speed limit is currently not posted within the study area and 85th percentile speeds are lower than 45 km/h, the road authority should discuss the results of the analysis to this point with the concerned residents or stakeholder group. Following this discussion, the road authority will decide whether or not the erection of 40 km/h speed limit signs should be posted. Proceed to Step 6.

If the 85<sup>th</sup> percentile speed is greater than 45 km/h then proceed to Step 5.

#### ***Step 5 – Creating the 40 km/h Posted Speed Zone Physical Roadway Environment***

In general, every effort should be made to ensure that the road function, road characteristics and posted speed limit should always be consistent. The road function and characteristics should be reviewed and changed if the prevailing speeds significantly diverge from the intended speed limit.

In order to establish a 40 km/h posted speed zone, it is recommended that the Transportation Association of Canada's "Canadian Guidelines for Establishing Posted Speed Limit"; 2009 be utilized.

Completing the Automated Speed Limit Guidelines Spreadsheet within the above noted document will automatically identify the sum of the weighted risk scores to determine the recommended posted speed limit. If the Calculated Total Risk Score determines that the Posted

Speed Limit should be reduced to 40 km/h, then the Road authority should implement the new posted speed limit.

If the Automated Speed Limit Guidelines Spreadsheet shows that the recommended speed limit should remain at 50 km/h, the various evaluation criteria can be examined to determine where modifications to the roadway geometry or characteristics of the roadway can be adjusted, which would provide for a recommended 40 km/h posted speed limit. This will help determine the physical and/or environmental changes required to the roadway to implement a 40 km/h posted speed limit.

The Automated Speed Limit Guidelines Spreadsheet evaluates: roadway geometry, pedestrian and cyclist exposure, number of private and public intersections, and on-street parking conditions. All of these evaluation criteria have the potential to be altered to various degrees, based on the road authority's Annual Capital and Operating Budgets within the study area.

The recommended roadway modifications will require engineering judgement and will rely on the road authority's previous experience in implementing various physical roadway changes to achieve a lowering of operating speeds on their existing roadways. The intent is to have the function of the roadway and its surrounding land use consistent.

If, by way of calculating the impact on the existing roadway, the road authority is confident that the physical roadway modifications will produce a recommended speed limit of 40 km/h, then the implementation of the measures followed by the posted 40 km/h speed zone signs can be recommended.

Then proceed to Step 6 as part of the implementation of the 40 km/h speed zone.

If the Road authority believes that:

- Any additional physical roadway measures cannot achieve the lowering of the recommended speed limits as calculated within the TAC Automated Speed Limit Guidelines Spreadsheet;
- The 85<sup>th</sup> percentile speed cannot be lowered with changes made within the Study Area;
- Due to other safety concerns raised; or,

- The characteristics and function of the roadway corridor and its surrounding land uses are inconsistent;

then the requested speed zone reduction will not be recommended.

### ***Step 6 – Education, Engagement, and Enforcement***

The implementation of any new speed zone should be provided with the appropriate advance signage during a notice period, which can extend from two weeks to four weeks. Signs designating the new speed zone should be erected.

Educating and engaging the public will be integral to the success of the new posted speed limit. An appropriate educational program should be considered during the initial stages of the introduction of the new speed zone, which can include the local community. These programs are varied based on the level of information that a road authority would want to provide to their constituents, and the budgets of the road authority. At times, it may be appropriate to undertake a province-wide or regional area education program.

Engaging the concerned residents or stakeholders throughout the process will be effective in assuring an agreeable outcome. The scale of the project and budgets of the road authority should dictate the level of engagement through mechanisms such as creation and distribution of educational materials, neighbourhood meetings and surveys, and public information sessions. Working with the community in the study area will provide the road authority with much social capital and reduce confusion and surprises when the new posted speed limit is established. With the establishment of the new posted speed limit, it will be helpful, at a minimum, to engage the concerned residents or stakeholder group in distribution of educational pamphlets in the study area. These ‘neighbourhood ambassadors’ can help foster discussion more easily and perhaps more openly than through relatively limited interaction with the road authority.

The enforcement program should be discussed with the police. Programs can include a handing out of “warnings” and educational material provided by the road authority within the first stage of enforcement. Following that period, tickets are then handed out. All this information should be provided to the community in order to achieve the three E’s approach.

## **6.2 Follow-up Evaluation**

It has been observed in the survey and detailed investigation of municipalities that a major component of the process of implementing a new procedure was missing: consistent and long-term evaluation of the results. It should be a critical portion of the process to examine the effectiveness of the policies in place and adjust the criteria as necessary to ensure an appropriate result.

It is suspected that the realities of budgets and staff resources play a role in the lack of follow-up evaluation in the studied municipalities. Once a modification has been implemented and the public has been satisfied, the issue likely disappears from the minds of staff that must move on to address new issues, typically with limited resources, time, and budget.

With this in mind, NSTIR should create a scheduled program of follow-up evaluations on the effectiveness of the warrant procedure that would incorporate both process and outcome evaluations. This should be part and parcel of the procedure and allow NSTIR to perform a relatively low-effort evaluation of the post-implementation condition.

The evaluation procedure should examine the following elements:

- Operating speeds (Average, 85<sup>th</sup> percentile, maximum)
- Collisions (severity, frequency, type)
- Roadway operational issues (congestion, shortcutting)
- Interviews and surveys of residents within the study area
- Interviews and surveys of the stakeholders or concerned group that brought the issue forward

Some elements (e.g., collisions) may require longer term observation prior to providing concrete evidence of a change due to the modification of the posted speed limit. However, others will provide immediate feedback as to their effectiveness, allowing NSTIR the ability to adjust the process as necessary.

NSTIR should determine a suitable and sustainable process for follow-up evaluation of project sites where specific elements are observed on a periodic basis, based on available budget and staff resources. For example, follow-up interviews with residents and concerned stakeholders six months after implementation will provide anecdotal insight into the effectiveness of the project and the perception by the public of the changes. This should also be accompanied by field observation of the changes to operational behaviour.

### **6.3 Project Prioritisation**

It will be necessary for the road authority to define an objective process to prioritize projects; all the while, keeping in mind budgetary and staff resources. This process should be operated similarly to current policies for other related programs, such as roadway maintenance, where criteria most important to the safe and efficient use of the roadway place the projects in a prioritised list.

Criteria related to posted speed limits that could be used to guide a prioritisation of projects could include:

- Collision frequency, severity, and type
- Number of residents in the study area
- Presence of specific roadway users (e.g., children, those with mobility issues)
- Annual Average Daily Traffic for the study section
- Study area size (length, area)
- Severity of compliance issues
- Presence of active transportation infrastructure (e.g., painted bike lanes)
- Number of complaints presented by different groups

### **6.4 Modifications to Existing Legislation**

Section 102 of Nova Scotia Motor Vehicle Act (the “Act”) establishes a prima facie speed limit of fifty kilometres per hour in specific circumstances, subject to sections 101 and 104 and where a lower rate of speed is specified in the Act or Regulations. However, the Minister or a traffic

authority with the approval of the Provincial Traffic Authority may fix maximum rates of speed as he [they] may see fit to approve for motor vehicles traversing any part or portion of a highway subject to section 103 (which applies to school areas).

Accordingly, subject to section 103, the Minister or traffic authority with the approval of the Provincial Traffic Authority may use the powers granted under section 104 to fix the maximum rate of speed at forty kilometres per hour for any part or portion of a highway and may erect and maintain signs containing notification of a rate of speed for forty kilometers per hour, and thereafter while such signs remain so erected and displayed the operator or driver of any vehicle exceeding the rate of speed of forty kilometers per hours shall be guilty of an offence.

Section 103 establishes reduced speed limits for school areas which apply if a child is present in the school area (N.S. Reg. 164/2012). The applicable reduced speed limit is determined by the speed limit in effect immediately before the start of the school area. The Minister may, pursuant to subsection 103 (2C), make regulations limiting the application of the reduced speed limits in section 103 by times, dates or other conditions and respecting any matter of thing the Minister considers necessary or advisable to effectively carry out the intent and purpose of section 103. It is suggested that NSTIR consider making a regulation to address situations where the speed limit in effect immediately before the start of the school area is forty kilometers per hour and children are present in the area.

**Appendix A**  
**Nova Scotia Motor Vehicle Act**  
**Selected Sections**



**Careful and prudent speed**

**101** A person operating or driving a vehicle on a highway shall operate or drive the same at a careful and prudent rate of speed not greater than is reasonable and proper, having due regard to the traffic, surface and width of the highway and of all other conditions at the time existing, and a person shall not operate or drive a vehicle upon a highway at such a speed or in such a manner as to endanger the life, limb or property of any person. R.S., c. 293, s. 101.

**Prima facie speed limit**

**102 (1)** Subject to Sections 101 and 104 and except where a lower rate of speed is specified in this Act or the regulations made thereunder it shall be *prima facie* lawful for the driver of a vehicle to drive the same at a rate of speed not exceeding the rate in subsection (2), and it shall be *prima facie* unlawful to exceed such rate of speed.

**(2)** The rate of speed referred to in subsection (1) is fifty kilometres per hour

(a) *repealed 2011, c. 46, s. 2.*

(b) when passing a church or the grounds thereof while the congregation is going to or leaving the church;

(c) when approaching and within 30 metres of a grade crossing of a steam, electric or street railway;

(d) in a danger zone as defined herein;

(e) in a business district as defined herein;

(f) upon approaching within 15 metres in traversing an intersection or highways where the driver's view in either direction along any intersecting highway within a distance of 60 metres is obstructed, except when travelling upon a through street or highway or at traffic controlled intersections;

(g) in a residence district as defined herein; or

(h) in public parks within cities or towns unless a different rate of speed is indicated by local authorities or traffic authorities and duly posted. R.S., c. 293, s. 102; 1994-95, c. 12, s. 7; 2011, c. 46, s. 2.

**School area and school bus**

**103 (1)** Subject to the regulations, a traffic authority may designate a school area on a portion of a highway by placing traffic signs to indicate the beginning and end of the school area.

**(2)** Where a traffic authority designates a school area, the traffic authority shall

(a) reduce the speed limit in the school area to

(i) thirty kilometres per hour, if the speed limit in effect immediately before the start of the school area is fifty kilometres per hour, or

(ii) fifty kilometres per hour, if the speed limit in effect immediately before the start of school area is greater than fifty kilometres per hour;

(b) place a traffic sign at the beginning of the school area to notify drivers of the reduced speed limit in the school area; and

(c) place a traffic sign at the end of the school area to notify drivers of the speed limit in effect immediately after the school area ends.

**(2A)** A driver shall not exceed the speed limit in a school area by

(a) between one and fifteen kilometres per hour, inclusive;

(b) between sixteen and thirty kilometres per hour, inclusive; or

(c) thirty-one kilometres per hour or more.

**(2B)** The speed limits fixed pursuant to this Section are subject to any regulations limiting the application of school area speed limits by times, dates or other conditions.

**(2C)** The Minister may make regulations

(a) setting conditions that must exist before a traffic authority may designate a portion of a highway as a school area;

(b) requiring a traffic authority to designate a school area on a portion of a highway that is specifically identified in the regulations or that meets the specifications for a mandatory school area set out in the regulations;

(c) limiting the application of the school area speed limits in this Section by times, dates or other conditions;

(d) defining any word or expression used in this Section and not defined in this Act;

(e) respecting any matter or thing the Minister considers necessary or advisable to effectively carry out the intent and purpose of this Section.

**(2D)** The exercise by the Minister of the authority contained in subsection (2C) is regulations within the meaning of the *Regulations Act*.

**(3)** Notwithstanding any other provision of this Act, the driver of a vehicle shall stop the vehicle before passing a school bus that is exhibiting flash-

ing red lights and is stopped on or near a highway and shall remain stopped until the school bus proceeds.

(4) When a school bus is equipped with and exhibits flashing amber lights, the driver of a motor vehicle intending to pass the school bus shall proceed with caution.

(5) For the purpose of subsections (3) and (4), “exhibiting flashing red lights” and “exhibits flashing amber lights” have the meaning determined by the Governor in Council by regulation.

(6) *repealed 1995-96, c. 23, s. 3.*

R.S., c. 293, s. 103; 1995-96, c. 23, s. 3; 2011, c. 46, s. 3.

#### **Fixing maximum speed rate**

**104 (1)** Notwithstanding Sections 101 and 102, but subject to Section 103, the Minister or a traffic authority with the approval of the Provincial Traffic Authority may fix such maximum rates of speed as he may see fit to approve for motor vehicles traversing any part or portion of a highway and may erect and maintain signs containing notification of such rate of speed so fixed and approved by him, and thereafter while such signs remain so erected and displayed the operator or driver of any vehicle exceeding the rate of speed so fixed and approved shall be guilty of an offence.

(2) *repealed 1994-95, c. 12, s. 8.*

R.S., c. 293, s. 104; 1994-95, c. 12, s. 8; 2011, c. 46, s. 4.

#### **Posted higher rate of speed**

**105 (1)** The speed limitations provided in subsection (2) of Section 102 shall not apply where the traffic authority has indicated a higher rate of speed by erecting and maintaining appropriate signs giving notice of such increased rate of speed.

(2) The traffic authority is hereby authorized to erect and maintain such signs upon through highways or upon highways or portions thereof where there are no intersections or between widely spaced intersections. R.S., c. 293, s. 105.

#### **Maximum speed limit**

**106 (1)** Notwithstanding any other provision of this Act, but subject to subsection (2) and Section 109, no person shall drive a motor vehicle at a speed in excess of eighty kilometres per hour on any highway at any time.

(2) The Minister or the Provincial Traffic Authority may fix rates of speed in excess of eighty kilometres per hour, but not in excess of one hundred and ten kilometres per hour, for certain highways and may erect and maintain signs containing notification of such rate of speed, and the driver of a motor vehicle who

exceeds the rate of speed so fixed shall be guilty of an offence. R.S., c. 293, s. 106; 1996, c. 34, s. 3.

**Exceeding speed limit**

**106A** A person commits an offence who contrary to Sections 104 or 106 exceeds the speed limit by

- (a) between one and fifteen kilometres per hour, inclusive;
- (b) between sixteen and thirty kilometres per hour, inclusive; or
- (c) by thirty-one kilometres per hour or more. 2001, c. 12, s. 3.

**Temporary work area or proximity to emergency vehicle**

**106B (1)** A person commits an offence who exceeds the speed limit in a temporary work area by

- (a) between one and fifteen kilometres per hour, inclusive;
- (b) between sixteen and thirty kilometres per hour, inclusive; or
- (c) thirty-one kilometres per hour or more.

**(2)** The Governor in Council may make regulations defining a temporary work area and its limits or the manner in which a temporary work area is to be designated for the purpose of this Section. 2007, c. 45, s. 8; 2009, c. 20, s. 1.

**Sign for temporary work area**

**106C** The Minister or the traffic authority shall erect a sign in or approaching a temporary work area advising drivers that the fines under this Act for speeding in a temporary work area are double. 2008, c. 22, s. 1.

**Interpretation of Sections 106E and 106F**

**106D (1)** In Sections 106E and 106F, “emergency vehicle” means

- (a) an ambulance;
- (b) a police vehicle;
- (c) a fire department vehicle or fire patrol vehicle, including a fire suppression vehicle or fire vehicle operated by the Department of Natural Resources;
- (d) a vehicle being used by the chief or deputy chief of a volunteer fire department when acting in an emergency arising from a fire or an accident;
- (e) a vehicle being used by a conservation officer appointed under an enactment when the conservation officer is performing the officer’s duties as a conservation officer;

(f) a vehicle being used by a motor vehicle inspector or a motor carrier inspector when the inspector is performing the inspector's duties as an inspector;

(g) any other vehicle designated by the regulations made pursuant to this Section.

(2) The Minister may make regulations designating a vehicle as an emergency vehicle.

(3) The exercise by the Minister of the authority contained in subsection (2) is regulations within the meaning of the *Regulations Act*. 2009, c. 20, s. 2.

#### **Speed limit when passing emergency vehicle**

**106E (1)** No person shall drive a vehicle on a highway past an emergency vehicle, that is stopped on the roadway or a shoulder adjacent to it and exhibiting a flashing light, at a speed in excess of

- (a) the speed limit but for this Section; or
- (b) sixty kilometres per hour,

whichever is less.

(2) A person commits an offence who contrary to subsection (1) exceeds the speed limit referred to in clause (1)(a) or (b) by

- (a) between one and fifteen kilometres per hour, inclusive;
- (b) between sixteen and thirty kilometres per hour, inclusive; or
- (c) thirty-one kilometres per hour or more.

(3) Where a highway is divided into separate roadways by a median, this Section only applies to a vehicle being driven on the same roadway as the emergency vehicle is stopped on or beside. 2009, c. 20, s. 2.

#### **Lane use when passing emergency vehicle**

**106F (1)** The driver of a vehicle that is approaching an emergency vehicle, that is stopped and exhibiting a flashing light, shall not

- (a) drive in a traffic lane occupied, or partly occupied, by the emergency vehicle; or
- (b) drive in the traffic lane closest to the emergency vehicle and not occupied, or partly occupied, by the emergency vehicle,

if there is another traffic lane, for traffic moving in the same direction as the vehicle and further from the emergency vehicle, into which the vehicle can move safely.

(2) Where the traffic on a highway is divided into separate roadways by a median, this Section only applies to a vehicle being driven on the same roadway as the emergency vehicle is stopped on or beside. 2009, c. 20, s. 2.

#### **Slow driving**

**107 (1)** Except when necessary for safe operation or to comply with this Act, no person shall drive a motor vehicle at such a slow speed as to impede or block the normal and reasonable flow of traffic.

(2) Where a person is driving a motor vehicle at such a slow speed as to impede or block the normal and reasonable flow of traffic, he shall stop where it is reasonably safe to do so and permit traffic so impeded or blocked to pass his motor vehicle.

(3) The Minister may fix minimum rates of speed for motor vehicles traversing any part or portion of a highway and may erect and maintain signs containing notification of such rate of speed so fixed, and thereafter while such signs remain so erected and displayed, the driver of any vehicle who wilfully drives at a rate of speed less than such minimum rate of speed shall be guilty of an offence. R.S., c. 293, s. 107.

#### **Temporary work area**

**107A** Notwithstanding anything contained in this Act,

(a) where a portion of a highway is designated as a temporary work area by the erection of signs, regulatory signs may be placed on temporary sign supports adjacent to the travelled portion of the highway; and

(b) the driver of a vehicle shall stop the vehicle and remain stopped when approaching a Department vehicle exhibiting flashing red lights and an illuminated “STOP DO NOT PASS” sign. 2001, c. 44, s. 3.

#### **Traffic control person**

**107B (1)** In this Section, “traffic control person” means a person qualified and accredited by the Provincial Traffic Authority to direct the movement of traffic along or across a highway within an area designated as a temporary work area for the purpose of construction, maintenance or utility operation.

(2) A traffic control person may direct traffic only at a temporary work area in a manner consistent with standards contained in the latest edition of the Nova Scotia Temporary Workplace Traffic Control Manual.

(3) It is an offence for the driver of a vehicle to fail to obey a traffic control person directing traffic within a temporary work area. 2001, c. 44, s. 3.

**Restrictions on bridge**

**108 (1)** No person shall drive a vehicle whose combined weight and load exceed 11,000 kilograms upon any bridge while a commercial motor vehicle or other heavy laden vehicle is already upon the bridge.

**(2)** The Department may erect and maintain signs upon any bridge, causeway or viaduct or on the approaches thereto, requiring the drivers of vehicles or any class or classes of vehicles to stop before entering such bridge, causeway or viaduct or setting forth the maximum speed at which drivers of vehicles or any class or classes of vehicles may drive over such bridge, causeway or viaduct.

**(3)** It shall be an offence for the driver of a vehicle to fail to comply with a direction set forth on a sign erected and maintained pursuant to subsection (2). R.S., c. 293, s. 108.

**Exemption of police or emergency vehicle**

**109 (1)** The speed limitations as set forth in this Act shall not apply to vehicles when operated with due regard to safety under the direction of the police in the chase or apprehension of violators of the law or of persons charged with or suspected of any such violation, nor to fire departments or fire patrol vehicles when travelling in response to a fire alarm, nor to public or private ambulances when travelling in emergencies and the drivers thereof sound audible signal by bell, siren or exhaust whistle.

**(2)** This Section shall not relieve the driver of any such vehicle from the duty to drive with due regard for the safety of all persons using the highway, nor shall it protect the driver of any such vehicle from the consequences of a reckless disregard of the safety of others. R.S., c. 293, s. 109; revision corrected.

## RULES OF THE ROAD

**Duty to drive on right**

**110 (1)** Upon all highways of sufficient width, except upon one-way streets, the operator or driver of a vehicle shall operate or drive the same upon the right half of the highway and, subject to Section 131A, shall drive a slow-moving vehicle as closely as possible to the right-hand edge or curb of such highway, unless it is impracticable to travel on such side of the highway except when overtaking and passing another vehicle subject to the rules applicable in overtaking and passing set forth in Section 115.

**(2)** In approaching any bridge, viaduct or tunnel, if the bridge, viaduct or tunnel is less than 6 metres in width or approaching or crossing a railroad right of way or an intersection of highways, the driver of a vehicle shall at all times cause the vehicle to travel on the right half of the highway unless the right half is out of repair and for such reason impassable.

**(3)** Subsection (2) shall not apply upon a one-way street.

**School Areas Regulations**  
**made under subsection 103(2C) of the**  
***Motor Vehicle Act***  
**R.S.N.S. 1989, c. 293**  
**N.S. Reg. 164/2012 (August 21, 2012, effective September 1, 2012)**

**Citation**

**1** These regulations may be cited as the *School Areas Regulations*.

**Definition of school area**

- 2 (1)** In Section 103 of the *Motor Vehicle Act* and these regulations, “school area” means the area of a highway between
- (a) a WC-1 “school area” sign and an RB-1 “maximum speed” sign below which is placed an R102T “end school area” tab sign; or
  - (b) a WC-1 “school area” sign and an R-102 “end school area” sign.
- (2)** The references to signs in clauses (1)(a) and (b) are to the official traffic signs as designated and described in the *Traffic Signs Regulations* made under the *Motor Vehicle Act*.

**Conditions for school area**

- 3 (1)** The reduced speed limits for a school area set out in subsection 103(2) of the Act apply only if a child is present in the school area.
- (2)** A child is deemed to be present in a school area if a child is outdoors and
- (a) on the highway in the school area; or
  - (b) on land within 30 m of the centre line of the travelled portion of the highway in the school area.



**Appendix B**  
**Provincial Legislation Summary**

Province/Territory	Act/Regulation	Other	Survey Response	Language from Provincial Policy/Act/Regulation
Nova Scotia	Motor Vehicle Act		N/A	<p>Careful and prudent speed 101 A person operating or driving a vehicle on a highway shall operate or drive the same at a careful and prudent rate of speed not greater than is reasonable and proper, having due regard to the traffic, surface and width of the highway and of all other conditions at the time existing, and a person shall not operate or drive a vehicle upon a highway at such a speed or in such a manner as to endanger the life, limb or property of any person. R.S., c. 293, s. 101.</p> <p>Prima facie speed limit 102 (1) Subject to Sections 101 and 104 and except where a lower rate of speed is specified in this Act or the regulations made thereunder it shall be prima facie lawful for the driver of a vehicle to drive the same at a rate of speed not exceeding the rate in subsection (2), and it shall be prima facie unlawful to exceed such rate of speed. (2) The rate of speed referred to in subsection (1) is fifty kilometres per hour (a) when passing a school building or the grounds thereof during school recess or while children are going to or leaving school during opening or closing hours; (b) when passing a church or the grounds thereof while the congregation is going to or leaving the church; (c) when approaching and within 30 metres of a grade crossing of a steam, electric or street railway; (d) in a danger zone as defined herein; (e) in a business district as defined herein; (f) upon approaching within 15 metres in traversing an intersection or highways where the driver's view in either direction along any intersecting highway within a distance of 60 metres is obstructed, except when travelling upon a through street or highway or at traffic controlled intersections; (g) in a residence district as defined herein; or (h) in public parks within cities or towns unless a different rate of speed is indicated by local authorities or traffic authorities and duly posted. R.S., c. 293, s. 102; 1994-95, c. 12, s. 7.</p> <p>Fixing maximum speed rate 104 (1) Notwithstanding the foregoing provisions of this Act, the Minister or a traffic authority with the approval of the Provincial Traffic Authority may fix such maximum rates of speed as he may see fit to approve for motor vehicles traversing any part or portion of a highway and may erect and maintain signs containing notification of such rate of speed so fixed and approved by him, and thereafter while such signs remain so erected and displayed the operator or driver of any vehicle exceeding the rate of speed so fixed and approved shall be guilty of an offence. (2) repealed 1994-95, c. 12, s. 8. R.S., c. 293, s. 104; 1994-95, c. 12, s. 8.</p> <p>Posted higher rate of speed 105 (1) The speed limitations provided in subsection (2) of Section 102 shall not apply where the traffic authority has indicated a higher rate of speed by erecting and maintaining appropriate signs giving notice of such increased rate of speed. (2) The traffic authority is hereby authorized to erect and maintain such signs upon through highways or upon highways or portions thereof where there are no intersections or between widely spaced intersections. R.S., c. 293, s. 105.</p> <p>Maximum speed limit 106 (1) Notwithstanding any other provision of this Act, but subject to subsection (2) and Section 109, no person shall drive a motor vehicle at a speed in excess of eighty kilometres per hour on any highway at any time. (2) The Minister or the Provincial Traffic Authority may fix rates of speed in excess of eighty kilometres per hour, but not in excess of one hundred and ten kilometres per hour, for certain highways and may erect and maintain signs containing notification of such rate of speed, and the driver of a motor vehicle who exceeds the rate of speed so fixed shall be guilty of an offence. R.S., c. 293, s. 106; 1996, c. 34, s. 3.</p>
Alberta	Traffic Safety Act	Higher or lower max speed limit can be set via a Ministerial Order	<p>The Traffic Safety Act section 106 sets some basic speed limits of 100km/h on the highway, 80km/h for a highway in a city and 50km/h for a highway in urban surroundings. The Traffic Safety Act section 108(1)(a) allows a higher or lower maximum speed limit to be set via a Ministerial Order (there is a "Recommended Practice" for determining the correct speed).</p>	<p>Division1 - Speed Limits and Traffic Control Devices (Section 106 - 110) 106 Subject to a speed limit that is prescribed under section 108 for a highway, (a) 100 kilometres per hour is the maximum speed limit for a provincial highway under the Highways Development and Protection Act that is located outside an urban area; (b) 80 kilometres per hour is the maximum speed limit for (i) a highway that is subject to the direction, control and management of (A) the council of a municipal district or Metis settlement, or (B) the Minister responsible for the Special Areas Act, in the case of a special area; (ii) a provincial highway under the Highways Development and Protection Act that is located within a city; (iii) a highway that is located on an Indian reserve where the title to the highway is vested in the Crown in right of Alberta; (iv) a forestry road; (v) a licence of occupation road; (vi) a highway located within an improvement district; (vii) a highway that is subject to the direction, control and management of the Minister responsible for the Provincial Parks Act; (c) subject to clause (b)(ii), 50 kilometres per hour is the maximum speed limit for a highway located within an urban area.</p>
British Columbia	Motor Vehicle Act		<p>BC Motor Vehicle Act <a href="http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/96318_00">http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/96318_00</a> Legislative Authority Under Section 146(1) of the Motor Vehicle Act, the speed limit on a highway within a municipality is 50 km/h and outside of a municipality is 80 km/h unless otherwise posted.</p>	<p>Speed limits 146 (1) Subject to this section, a person must not drive or operate a motor vehicle on a highway in a municipality or treaty lands at a greater rate of speed than 50 km/h, and a person must not drive or operate a motor vehicle on a highway outside a municipality at a greater rate of speed than 80 km/h. (2) The minister responsible for the administration of the Transportation Act may, by causing a sign to be erected or placed on a highway limiting the rate of speed of motor vehicles or a category of motor vehicles driven or operated on that portion of the highway, increase or decrease the rate of speed at which a person may drive or operate a motor vehicle or a category of motor vehicle on that portion of the highway. (3) If the minister responsible for the administration of the Transportation Act has caused a sign to be erected or placed on a highway limiting the rate of speed of motor vehicles or a category of motor vehicles driven or operated on that portion of the highway, a person must not, when the sign is in place on the highway, drive or operate a vehicle on that portion of the highway at a greater rate of speed than that indicated on the sign for that category of motor vehicle. (4) The minister responsible for the administration of the Transportation Act may, by notice in the Gazette, define areas in the unorganized area of British Columbia, and may by causing signs to be erected at the entrance to an area so defined direct the rate of speed at which a person may drive or operate a motor vehicle or a category of motor vehicle in that area, but the rate of speed must not be greater than 60 km/h. (5) If the minister responsible for the administration of the Transportation Act has caused signs to be erected or placed on a highway in accordance with subsection (4), a person must not, when the sign is in place on the highway, drive or operate a vehicle on a highway at a greater rate of speed than that indicated on the sign for that category of motor vehicle, unless another sign on a specific highway in the defined area so indicates. (6) Subject to subsections (2) and (3), a municipality may by bylaw direct the rate of speed at which a person may drive or operate a motor vehicle on a highway in the municipality. (7) If, under a bylaw adopted by a municipality or a law enacted by a treaty first nation, signs have been erected or placed on a highway limiting the rate of speed of motor vehicles driven or operated on a designated portion of the highway, a person must not, when the sign is in place on the highway, drive or operate a motor vehicle on that portion of the highway at a greater rate of speed than that indicated on the sign. (8) A municipality may by bylaw direct that the rate of speed at which a person may drive or operate a motor vehicle in the municipality on a lane not exceeding 8 m in width must not be in excess of 20 km/h. (9) Despite section 260 (3) [enforcement powers] of the Community Charter, a person who contravenes a bylaw made under subsection (6) or (8) does not commit an offence against the bylaw. (10) A municipality that has enacted a bylaw under subsection (8) and a treaty first nation that has enacted a law having the same effect are not required to erect signs designating the rate of speed at which motor vehicles may be driven or operated. (11) A person must not drive or operate a motor vehicle on a lane in a municipality that has enacted a bylaw under subsection (8) or in the treaty lands of a treaty first nation that has enacted a law having the same effect at a greater rate of speed than 20 km/h.</p>

Province/Territory	Act/Regulation	Other	Survey Response	Language from Provincial Policy/Act/Regulation
Manitoba	Highway Traffic Act		Highway Traffic Act legislates 50 km/h unless otherwise posted in incorporated cities, towns and villages and 90 km/h everywhere else. Authority to change rests with the Highway Traffic Board, a semi judicial independent body acting at arms length from the department. The Board can approve speed limits as low as 30 km/h and as high as 110 km/h under specified conditions.	DIVISION II - Speed Restrictions - Sections 95 - 105 Speed limit in particular cases 95(1) Subject to subsections 98(1) to (5), no person shall drive a vehicle at a rate of speed greater than (a) 50 kilometres an hour within any restricted speed area if it and the maximum speed permissible therein are designated by signs erected as herein required; or (b) the maximum speed permissible at any other place as designated by signs erected as herein required or authorized; or (c) 90 kilometres per hour in all places not mentioned in clauses (a) or (b). Designation of restricted speed areas 97(1) The traffic board may make orders designating (a) any municipality or part of a municipality; (b) any part of unorganized territory; and (c) any highway or part of a highway; as a restricted speed area. Lower rate of speed 98(2) The traffic board may make orders fixing for any (a) municipality or part of a municipality; (b) part of an unorganized territory; and (c) highway or part of a highway; designated in the order, the maximum speed permissible which may be less than 50 kilometres per hour. Speed fixed by by-law 103(1) Subject to subsections (2), (3) and (4), the council of a municipality or the council of an Indian band on an Indian Reservation may, by by-law, fix the maximum speed at which vehicles, or any one or more classes of vehicles specified in the by-law, may be driven on any highway or part thereof, of which the municipality or the council of the band is the traffic authority and that is described in the by-law and the by-law may set out the speed limit for such period or periods, in any year, as may be specified therein and, in that event, traffic control devices erected under section 77 shall be removed by the traffic authority at the end of each period. Limitation on speed fixed 103(2) The maximum speed fixed in a by-law passed under subsection (1) shall not be greater than the maximum speed permissible under subsection 95(1), or fixed pursuant to section 98 in respect of a vehicle, or of a highway or portion of a highway, to which each of those provisions respectively applies.
New Brunswick	Motor Vehicle Act	Speed Zone Guidelines	NB's Motor Vehicle Act (M-17), Sections 140-146 addresses rules respecting speed limits.	140(1) Except as otherwise expressly provided in the Act and subject to subsections 140.1(1) and 142.01(1), no person shall drive a vehicle on a highway at a speed in excess of (a) fifty kilometres per hour in an urban district, (b) the speed limit prescribed in accordance with the provisions of section 141, or (c) eighty kilometres per hour in other locations where the speed limit is not otherwise posted. 140(2) No person shall drive a vehicle on a highway at a speed greater than is reasonable and prudent under the conditions and having regard to the actual and potential hazards then existing. 141 Subject to subsection 140.1(2), the Minister of Transportation and Infrastructure may prescribe a higher or lower rate of maximum speed than the rate of speed prescribed in section 140 for (a) any highway or part of a highway, or (b) any class or classes of motor vehicles, and such rate of speed may be different for any period or periods of the day or night.
Newfoundland	Motor Vehicle Act		N/A	Imprudent driving 110. (1) Notwithstanding subsection (2), a person shall not drive a vehicle on a highway or in another place (a) at a speed which is greater than is reasonable and prudent under the conditions and having regard to actual and potential hazards existing on the highway or other place; (b) without due care and attention; (c) without reasonable consideration for other persons; or (d) where that person suffers from a disease or physical or mental disability which might cause his or her driving of a vehicle to be a source of danger to other persons. (2) Except where a higher or lower speed limit is prescribed by this Act or the regulations or by a traffic sign prescribed by the Minister of Works, Services and Transportation or by regulations made by a council, a driver shall not drive a vehicle at a speed greater than (a) 100 kilometres an hour on paved portions of the Trans-Canada Highway; (b) 80 kilometres an hour on paved highways other than the Trans-Canada Highway; (c) 60 kilometres an hour on gravel highways; or (d) 50 kilometres an hour (i) through settlements, (ii) when passing a school building or the grounds of school buildings between 8 a.m. and 5 p.m. on days when school is in session, or (iii) when passing a church, theatre or other place of public assembly or its grounds while people are entering or leaving it. (3) A person commits an offence who contrary to subsection (2) (a) exceeds the speed limit by between 1 and 10 kilometres an hour; (b) exceeds the speed limit by between 11 and 20 kilometres an hour; (c) exceeds the speed limit by between 21 and 30 kilometres an hour; and (d) exceeds the speed limit by 31 kilometres and over. Speed limit 110.1 (1) Except where a lower maximum speed limit is prescribed by this Act, a person shall not drive a vehicle at a greater speed than 60 kilometres an hour in a construction zone.
Nunavut	Motor Vehicle Act		N/A	Maximum speed limits 169. No driver shall operate a vehicle on a highway (a) within a settlement or municipality at a speed greater than (i) the maximum speed limit that is set out by a traffic control device, or (ii) 50 km/h if there is no maximum speed limit set out by a traffic control device; and (b) outside a settlement or municipality at a speed greater than (i) the maximum speed limit that is set out by a traffic control device, or (ii) 90 km/h if there is no maximum speed limit set out by a traffic control device. Speed limit signs 170. Where a traffic control device sets out a maximum speed limit, the speed limit applies to that part of the highway between the traffic control device and the point where another traffic control device indicates a greater or lesser speed or that the speed limit has ceased to apply. Unreasonable speed 171. No driver shall drive at a rate of speed that is unreasonable having regard to all the circumstances including, without restricting the generality of the foregoing, (a) the condition of the highway; (b) the class of vehicle being driven; (c) the classes of vehicles that are permitted to use the highway; (d) the weather or other conditions that might affect the visibility of the driver; (e) the amount of traffic on the highway; and (f) the mechanical condition of any vehicle safety item in respect of the vehicle being driven. Maximum speed limits 344. (1) A council may, by by-law, establish the maximum speed for vehicles on a highway or class of highways and may establish different maximum speed limits for vehicles (a) of different classes; (b) being used for particular purposes; (c) during the day and night; (d) during different periods of the year; (e) in different lanes on the same highway; and (f) on highways under construction or repair or in a state of disrepair.

Province/Territory	Act/Regulation	Other	Survey Response	Language from Provincial Policy/Act/Regulation
Northwest Territories	Motor Vehicle Act	Public Highways Act	N/A	<p>Maximum Speed Limits 169. No driver shall operate a vehicle on a highway (a) within a municipality or unincorporated community at a speed greater than (i) the maximum speed limit that is set out by a traffic control device, or (ii) 50 km/h if there is no maximum speed limit set out by a traffic control device; and (b) outside a municipality or unincorporated community at a speed greater than (i) the maximum speed limit that is set out by a traffic control device, or (ii) 90 km/h if there is no maximum speed limit set out by a traffic control device.</p> <p>Speed Limit Signs 170. Where a traffic control device sets out a maximum speed limit, the speed limit applies to that part of the highway between the traffic control device and the point where another traffic control device indicates a greater or lesser speed or that the speed limit has ceased to apply</p> <p>Unreasonable Speed 171. No driver shall drive at a rate of speed that is unreasonable having regard to all the circumstances including, without restricting the generality of the foregoing, (a) the condition of the highway; (b) the class of vehicle being driven; (c) the classes of vehicles that are permitted to use the highway; (d) the weather or other conditions that might affect the visibility of the driver; (e) the amount of traffic on the highway; and (f) the mechanical condition of any vehicle safety item in respect of the vehicle being driven.</p>
Ontario	Highway Traffic Act		N/A	<p>Rate of speed 128. (1) No person shall drive a motor vehicle at a rate of speed greater than, (a) 50 kilometres per hour on a highway within a local municipality or within a built-up area; (b) despite clause (a), 80 kilometres per hour on a highway, not within a built-up area, that is within a local municipality that had the status of a township on December 31, 2002 and, but for the enactment of the Municipal Act, 2001, would have had the status of a township on January 1, 2003, if the municipality is prescribed by regulation; (c) 80 kilometres per hour on a highway designated by the Lieutenant Governor in Council as a controlled-access highway under the Public Transportation and Highway Improvement Act, whether or not the highway is within a local municipality or built-up area;</p>
Prince Edward Island	Highway Traffic Act		N/A	<p>Section 176 (2) Speed Limits - Subject to subsection (1) and except where a lower maximum speed limit is prescribed by this Act or the regulations, no person shall drive a vehicle at a greater speed than (a) fifty kilometres per hour in an urban district; (b) sixty kilometres per hour in a business district; (c) eighty kilometres per hour on unpaved highways; (d) one hundred kilometres per hour in other locations during the day time; (e) ninety kilometres per hour in other locations during the night time; (f) sixty kilometres per hour when entering and passing through a school zone that has been properly designated as such by the erection of signs at the entrance thereto and the exit therefrom, between the hours of 8 a.m. and 4 p.m., Monday to Friday during the months of September to June; (f.1) sixty kilometres per hour in a construction zone; and (g) the maximum speed established within a municipality</p> <p>(5) Changes in lower rates, Lieutenant Governor may prescribe - The Lieutenant Governor in Council may, by regulation, prescribe a lower rate of maximum speed than the rates of speed prescribed in clauses (2)(a) to (g) for (a) any highway or part of a highway; or (b) any class of motor vehicles, and the rate of speed may be different for any period of the day, week, month or year.</p>
Quebec	The Highway Safety Code (HSC)	The MTQ also published technical guides about the determination of the posted speed limits. Manual for setting speed limits on municipal road networks. 2002.	<p>The Highway Safety Code (HSC) prescribes the speed limits, which depend of the category of the road. Reference: section 328. <a href="http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&amp;file=/C_24_2/C24_2_A.html">http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&amp;file=/C_24_2/C24_2_A.html</a></p> <p>According to the HSC, the ministère des Transports du Québec (MTO) can modify these speed limits (section 329), as well as the municipalities on the roads under their jurisdiction (section 626, subparagraph 4 of the first paragraph).</p>	<p>2. — Speed limits and distance between vehicles 327. Any rate of speed or any action that can endanger human life and safety or property is prohibited. In addition to public highways, this section applies on highways under the administration of or maintained by the Ministère des Ressources naturelles et de la Faune, on private roads open to public vehicular traffic, as well as on land occupied by shopping centres and other land where public traffic is allowed.</p> <p>328. Except on roads where the opposite is indicated by signs or signals and without restricting the scope of section 327, no person may drive a road vehicle at a speed (1) of less than 60 km/h or more than 100 km/h on autoroutes, unless (a) an illuminated, variable message signal shows the minimum or maximum rate of speed authorized on a certain part of the autoroute, according to the circumstances and the time of day, such as weather conditions or rush-hour; or (b) a special permit authorizing the use of an oversized vehicle requires that the vehicle be driven at a lower speed; (2) in excess of 90 km/h on public highways surfaced with concrete, asphalt or a similar material; (3) in excess of 70 km/h on gravel highways; (4) in excess of 50 km/h in a built-up area, except on autoroutes; (5) in excess of the maximum rate of speed authorized, according to the circumstances and the time of day, such as periods of school activity, as specified by the illuminated or non-illuminated, variable or non-variable message sign or signal that applies to that portion of the public highway. On access roads leading to a built-up area, subparagraph 4 of the first paragraph applies when the driver reaches the sign or signal indicating the 50 km/h speed limit. Subparagraphs 2, 3, and 4 of the first paragraph apply on highways under the administration of or maintained by the Minister of Natural Resources and Wildlife. The Minister, on the recommendation of the Minister of Natural Resources and Wildlife, may be order change the speed limit on all or any part of such highways.</p>
Saskatchewan	Highway Traffic Act		Minister's Authority from the Highways and Transportation Act – Section 20 – Speed Zones and no-parking zones.	<p>DIVISION 2 - Speed Speeding prohibited 199(1) Subject to the other provisions of this Act, no person shall drive a vehicle on a highway: (a) at a speed greater than 80 kilometres per hour; or (b) at a speed greater than the maximum speed indicated by any signs that are erected on the highway in accordance with section 200 or 201 or that are placed at the entrance to a park in accordance with section 202. (2) Notwithstanding any provision of this Act, a person who drives a vehicle at a speed greater than 50 kilometres per hour over the applicable speed limit mentioned in subsection (1) is guilty of an offence. (3) No person shall drive a vehicle on a highway at a speed greater than is reasonable and safe in the circumstances. (4) No person shall drive a vehicle on a highway at a speed that impedes the normal and reasonable movement of traffic on the highway except when necessary for the safe operation of the vehicle.</p>

Province/Territory	Act/Regulation	Other	Survey Response	Language from Provincial Policy/Act/Regulation
Yukon	Motor Vehicle Act		N/A	<p>Speed Limits</p> <p>117(1) Subject to the provisions of this Act, the Commissioner in Executive Council may, with respect to all or any part of a highway, prescribe a maximum speed for daytime or nighttime, or both, in excess of the general maximum speed set by section 138, and may by order prescribe different maximum speeds for different classes of vehicles.</p> <p>(2) The Commissioner in Executive Council may with respect to all or any part of a highway subject to the Commissioner in Executive Council's direction, control, and management, prescribe different minimum speeds (a) for daytime and nighttime; (b) for different periods of the year; and (c) for different traffic lanes on the same highway.</p> <p>(3) The Commissioner in Executive Council may, with respect to all or any part of a highway subject to the Commissioner in Executive Council's direction, control, and management, prescribe by signs posted along the highway speed limits of less than the general maximum speeds set by section 138 or pursuant to subsection (1) of this section and applicable to all vehicles or any class of vehicles. (4) The Commissioner in Executive Council may with respect to any school zone or playground zone on a highway subject to the Commissioner in Executive Council's direction, control, and management, prescribe a maximum speed limit less than that set by section 140 but not less than 20 kilometres per hour.</p> <p>(5) The Minister or the Minister's designate may by signs posted along a highway subject to the direction, control, and management of the Government of the Yukon, set a maximum speed limit in respect of any part of the highway under construction or repair or in a state of disrepair, applicable to all vehicles or to any class or classes of vehicles while travelling over that part of the highway. (6) Where speed limits are prescribed pursuant to this section, there shall be erected along the highway signs indicating the speed limits so prescribed.</p> <p>Standard Maximum Speed</p> <p>138(1) Except when a higher rate of speed is prescribed pursuant to section 117, no person shall drive on a highway outside a municipality at any greater rate of speed than 50 kilometres per hour. (2) On a territorial highway that is within a municipality no person shall drive at a greater rate of speed than 50 kilometres per hour unless a higher rate of speed is prescribed pursuant to section 117.</p> <p>(3) In subsection (2), "territorial highway" means a highway that has not been transferred under section 5 of the Highways Act to the jurisdiction of a municipality.</p> <p>(4) If a municipality has prescribed a maximum rate of speed of less than 50 kilometres per hour pursuant to section 124 and that rate is designated by signs erected along the highway, no person shall drive at a rate of speed greater than the one prescribed.</p> <p>Posting of speed limits</p> <p>139(1) No person shall drive at a greater rate of speed than the maximum rate designated by signs erected along the highway pursuant to section 117 or 124, or by the Minister.</p> <p>(2) If a speed limit is prescribed pursuant to section 117 or 124 or by the Infrastructure Department, the speed limit applies to all that part of the highway between the point where the first sign indicating the prescribed speed limit is posted and the point where a sign is posted indicating a greater or lesser speed or indicating that the prescribed speed limit has ceased to apply.</p> <p>Speed in school and playground zones</p> <p>(4) No driver shall drive in a playground zone (a) at a rate of speed greater than 30 kilometres per hour, where the zone is in a municipality; or (b) at a rate of speed greater than 40 kilometres per hour, where the zone is outside a municipality.</p>

**Appendix C**  
**Municipal Survey Responses**

Semi-Rural Municipalities  
Population < 25,000

Hampton, NB  
St. Stephen, NB  
Yellowknife, NT

## Nova Scotia Transportation and Infrastructure Renewal *Low Posted Speed Limit Study*

### *Province/Municipality/Agency Survey Questionnaire*

Contact Person, Position: Richard Malone  
Province/Municipality/Agency: Town of Hampton, NB  
Telephone: 506-832-6400  
Email: [richard.malone@townofhampton.ca](mailto:richard.malone@townofhampton.ca)  
It is okay to contact this person for follow-up discussion on this topic: Yes / No

#### *GENERAL*

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

Provincially designated or regional roads are determined by the Province.  
Municipal roads are 50 km/h unless otherwise decided by Town Council.

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

A formal request to Council is sent to the Public Works Advisory Committee for recommendation. The final decision is that of Town Council.

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

Yes, 40 km/h  
This was done for specific speed zones only.



What was the primary reason guiding the decision whether or not to implement speed limits lower than 50km/hr?

We do not have a policy associated with this. Three streets come to mind, all for different reasons:

1. St. Paul Street: 2005 traffic study recommended changing the speed limit from 50 km/h to 40 km/h.
2. Dutch Point Road: Council decision based on a narrow street (long and straight) in a heavy residential area with a large municipal park included.
3. Main Street: (70 km/h down to 50 km/h) Based on commercial development and the issues that arose during the associated public hearing throughout the re-zoning process. Council requested the decrease of the Province as it is owned by the Province.

#### *ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

We did complete a "traffic study" in 2005. Yes, this study is available.

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

No follow up study has been completed. We have just purchased a traffic counter device that will be used throughout town to accumulate data on the volume and speed of traffic on different streets.

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

We do not feel that we have had a high level of compliance. Periodically we have had additional measures of enforcement. The new traffic counter will assist with this in the future.

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

We worry that this has provided a false sense of safety/security for residents in the area. We perceive that the new lower limit is not being followed.

## Nova Scotia Transportation and Infrastructure Renewal *Low Posted Speed Limit Study*

### *Province/Municipality/Agency Survey Questionnaire*

Contact Person, Position: Mark Fleming – Mgr. By-law & Building Inspection

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Province/Municipality/Agency: St. Stephen, NB

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Telephone: 506-466-7717

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Email: mfleming@town.ststephen.nb.ca

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It is okay to contact this person for follow-up discussion on this topic: Yes / No

#### *GENERAL*

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

Sections 140 & 141 Motor Vehicle Act Province of New Brunswick

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

Engineering, education and enforcement (Municipality by Authority MV Act Province of New Brunswick)

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

30 K – one street

What was the primary reason guiding the decision whether or not to implement speed limits lower than 50km/hr?

Public outcry – width of street – no sidewalk – daycare on street

*ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

Yes by way of a portable speed monitor and no the documentation is not available

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

No follow up

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

Yes. Education and enforcement

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

No significant impact

## **Nova Scotia Transportation and Infrastructure Renewal**

### ***Low Posted Speed Limit Study***

#### ***Province/Municipality/Agency Survey Questionnaire***

Contact Person, Position: Doug Gillard  
Province/Municipality/Agency: Yellowknife, NT Municipal Enforcement  
Telephone: 867-920-5630  
Email: doug.gillard@yellowknife.ca  
It is okay to contact this person for follow-up discussion on this topic: Yes

#### **GENERAL**

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

GNWT Motor Vehicles Act Section 169  
City of Yellowknife Highway Traffic Bylaw No 4063 Section 104

Speed limit mandated by the Motor Vehicles Act at 50 km/h within a municipality unless otherwise posted.

City of Yellowknife Highway Traffic Bylaw No 4063 sets the speed limit with Yellowknife City boundaries at 45 km/h unless otherwise posted.

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

It would be reviewed by the Public Works and Engineering Department. If a change was considered a memorandum would be completed and presented to City Council.

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

Yes, the maximum speed limit in Yellowknife is 45 km/h unless otherwise posted. All of the school zones and some playground areas are posted 30 km/h and the roads in an area identified as "Old Town" are posted 30 km/h.

What was the primary reason guiding the decision whether or not to implement speed limits lower than 50km/hr?

The speed limit of 45 km/h has been in place prior to 1992 when I started work for the city and prior to computer records so I do not know what the rationale was for the lower speed limit. The 30 km/h speed limits in the school zones is a standard speed limit for these types of areas. The 30 km/h zone in "Old Town" is because of the narrow roads and no sidewalks.

**ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS**

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

Unknown and no

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

No follow up study has been done to my knowledge.

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

Not sure what you would consider a high level of compliance. I would say from my own personal observations that we have a fairly good compliance. It is a fact of life that people speed on all roads, everyday. If you have a road and you give a person a motor vehicle they are going to exceed the speed limit. Yellowknife has a fairly high level enforcement presence.

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

My own opinion is that Yellowknife has a low number of fatalities and injuries related to motor vehicle collisions. This is due in part to lower speed limits and a high level of enforcement.

**Semi-Urban Municipalities**  
**25,000 < Population < 100,000**

Cambridge, ON  
Chatham-Kent, ON  
Chilliwack, BC  
Kelowna, BC



# Nova Scotia Transportation and Infrastructure Renewal

## Low Posted Speed Limit Study

### Province/Municipality/Agency Survey Questionnaire

Contact Person, Position: Shannon Noonan  
Manager of Transportation Engineering  
Province/Municipality/Agency: City of Cambridge  
Telephone: 519-621-0740 Ext. 4607  
Email: noonans@cambridge.ca

It is okay to contact this person for follow-up discussion on this topic: [Yes](#) / No

#### GENERAL

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

Posted speed limits are determined for new roads by following the standards set out in the latest edition of the "Geometric Design Guide for Canadian Roads" issued by the Transportation Association of Canada (TAC).

Posted speed limits are determined for existing roads by following the guideline set out in the latest edition of the "Canadian Guidelines for Establishing Posted Speed Limits" and "School and Playground Areas and Zones Guidelines" issued by the Transportation Association of Canada (TAC).

Speed Limits are governed by the City of Cambridge Traffic & Parking By-law and the Ontario Highway Traffic Act.

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

Requests received to review posted speed limits are handled by reviewing the street with the guidelines that are set out in the "Canadian Guidelines for Establishing Posted Speed Limits" (TAC).

Has your Province/Municipality/Agency implemented speed limit lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

Yes, the City of Cambridge has 40 km/h posted speed limit areas in school zones and in various playground area zones. The zones are reviewed using the "School and Playground Areas and Zones Guidelines for Application and Implementation" issued by TAC.

What was the primary reasons guiding the decision whether or not to implement speed limits lower than 50km/hr?

The primary reasons guiding the decision to implement speed limits lower than 50 km/h is safety. It is important to warn motorists that they are approaching an area where the risk of conflicts between

vehicles and pedestrians (primarily children in school and playground areas) are greater than in other areas of the road network.

*ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

No studies were completed prior to making the decision to implement speed limits lower than 50 km/h.

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

No, studies were not completed after the implementation of the 40 km/h posted speed limit zones.

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

No, studies on compliance have not been completed on facilities where speed limits have been reduced.

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

Not applicable as no after studies have been completed.

## **Nova Scotia Transportation and Infrastructure Renewal**

### ***Low Posted Speed Limit Study***

#### ***Province/Municipality/Agency Survey Questionnaire***

Contact Person, Position: Mark Ceppi , Engineering Technologist  
Province/Municipality/Agency: Municipality of Chatham-Kent, Ontario  
Telephone: 519-360-1998  
Email: mark.ceppi@chatham-kent.ca

It is okay to contact this person for follow-up discussion on this topic: Yes

#### ***GENERAL***

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

**In general, urban roads are posted 50 km/h and rural roads are posted 80 km/h. This follows the Ontario Highway Traffic Act (Section 128). New roads are designed with a higher design speed than the posted speed limits.**

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

**Requests from Councillors or directly from residents. Speed studies are conducted on the roadway with radar unit. Criteria such as 85<sup>TH</sup> Percentile, typically governs the recommendation, however Compliance, Pace Range and Pace Percentage are considered for the final recommendation. Also, collision data, geometric data, roadside conditions are analysed for the final recommendation.**

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

**The typical minimum is 40 km/h with some special areas posted lower. These are specific speed zones.**

What was the primary reason guiding the decision whether or not to implement speed limits lower than 50km/hr?

**Typically local resident complaints.**

**ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS**

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

**No.**

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

**No.**

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

**n/a**

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

**We have not measured the impacts of 40 km/h speed limits.**

## **Nova Scotia Transportation and Infrastructure Renewal**

### ***Low Posted Speed Limit Study***

#### ***Province/Municipality/Agency Survey Questionnaire***

Contact Person, Position: **Samantha PIPER, Public Safety Specialist**  
Province/Municipality/Agency: **City of Chilliwack (British Columbia)**  
Telephone: **604.793.2766**  
Email: **[piper@chilliwack.com](mailto:piper@chilliwack.com)**  
It is okay to contact this person for follow-up discussion on this topic: **Yes**

#### **GENERAL**

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

**Posted speed limits are determined by City Policy, City Bylaw, Motor Vehicle Act, and TAC standards.**

**City Policy: Warrants for Installation of Traffic Control Devices – Policy Directive No. F-7**

**City Bylaw: Highway and Traffic Bylaw 2004, No. 3023**

**MVA: Section 146**

**TAC: TAC's Uniform Traffic Control Devices for Canada Manual**

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

**Requests are often received by the staff to lower the speed limit on a section of roadway. Such requests usually are based on the misconception that almost all motorists are exceeding the posted speed limit by an 8 to 16 kilometer per hour margin and that the only means to reduce speeds is to reduce the speed limit. It is also noted that the public will frequently request lower speed limits for their own neighbourhood streets, while considering similar speed limits reasonable in other neighbourhoods. To answer to the requests for a speed limit change we refer back to the City Policy, City Bylaw, MVA and TAC standards.**

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

**Yes, the community has speed limits lower than 50 km/h. The minimum posted speed limit is 30 km/h and are adjacent to schools and playgrounds. School zones are in effect on school days from 7:30 a.m. to 5:00 p.m.; playground zones are in effect from dusk to**

dawn every day. The 30 km/h limit adjacent to schools and playgrounds shall only be posted on streets having a classification of local streets and according to the MVA and TAC requirements.

What was the primary reasons guiding the decision whether or not to implement speed limits lower than 50km/hr?

**City Policy; City Bylaw; MVA; and TAC**

**ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS**

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

**No**

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

**No**

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

**Police enforcement is used as the prime means to control speed limits on municipal streets. The City's Safer City program utilizes a 3-E approach to address speeding through Education, Enforcement and Engineering.**

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

**For school locations not situated on a local classification of roadway there is a pressure applied by the school to the municipality to lower the speed limit regardless of the policies in place. There are ongoing requests for assistance in having drivers obey the posted 30 km/h speed limits; enforcement and education efforts are implemented to affect change.**

# Nova Scotia Transportation and Infrastructure Renewal

## *Low Posted Speed Limit Study*

### *Province/Municipality/Agency Survey Questionnaire*

Contact Person, Position: W.E.(Fred) Wollin, Traffic Operations Supervisor  
Province/Municipality/Agency: City Of Kelowna  
Telephone: 250-469-8702  
Email: [fwollin@kelowna.ca](mailto:fwollin@kelowna.ca)  
It is okay to contact this person for follow-up discussion on this topic: Yes / No

#### *GENERAL*

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

In 2007 a document was completed named "Posted Speed Limit Policy Review and Development" to complete a comprehensive guideline for posting speed limits in the City of Kelowna.

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

Service Request come via the public or from agencies like the RCMP for a review of speed limits. A document called the "Kelowna Posted Speed Limit Evaluation Worksheet" is used to go through the analysis process.

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

Yes, this is for school zones and for some hillside developments. For School Zones Grades (Kindergarten to 6/7) there has been a long standing Council Policy for 30 km/h School days and also the time of day that is governed by the BC Motor Vehicle Act. Some playground zones are posted at 30 km/h if the playground is close to the road, no fencing or has high children aged pedestrians in area around a playground.

What was the primary reasons guiding the decision whether or not to implement speed limits lower than 50km/hr?

Related to School age Elementary / Primary aged children, proximity of playgrounds, hill side neighbourhoods where roads are narrow and significant grade.

*ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

We have not done a comprehensive study / review for under 50 km/h (yet) as we did for the 50 k and above.

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

We have done some spot speed studies in conjunction with the our Community Policing group and RCMP.

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

A significant input in education and enforcement is required for effectiveness.

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

In residential areas the feedback has been good, effectiveness is not as good in all cases.



## Urban Municipalities Population > 100,000

London, ON  
Mississauga, ON  
Montreal, QC  
Saskatoon, SK  
Waterloo, ON  
Windsor, ON  
Winnipeg, MB

## Nova Scotia Transportation and Infrastructure Renewal *Low Posted Speed Limit Study*

### *Province/Municipality/Agency Survey Questionnaire*

Contact Person, Position: Edward Soldo, P.Eng., Director of Roads and Transportation

Province/Municipality/Agency: City of London

Telephone: 519-661-2500 ext. 4936

Email: esoldo@london.ca

It is okay to contact this person for follow-up discussion on this topic: Yes / No

#### *GENERAL*

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

**See below**

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

**See attached policy**

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

**No, reducing the speed doesn't necessarily solve operational traffic issues. More police enforcement would be needed. It also creates the perception with the public the road is "safer" since the speed limit is lower.**

What was the primary reason guiding the decision whether or not to implement speed limits lower than 50km/hr?

N/A

*ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

Requests are reviewed as per our existing policy

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

No

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

N/A

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

N/A

# Nova Scotia Transportation and Infrastructure Renewal

## Low Posted Speed Limit Study

### Province/Municipality/Agency Survey Questionnaire

Contact Person, Position:

Colin Patterson \_\_\_\_\_

Province/Municipality/Agency: \_\_\_\_\_

City of Mississauga \_\_\_\_\_

Telephone:

905-615-3200 ext. 5145 \_\_\_\_\_

Email:

colin.patterson@mississauga.ca  
\_\_\_\_\_

It is okay to contact this person for follow-up discussion on this topic: Yes / No

#### GENERAL

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

Posted speed limits are determined based on the road functions from minor local residential streets to major arterial roads. In reviewing speed limits on major roadways, the Transportation and Works Department examines several factors including road characteristics, vehicle operating speeds, driveway spacing and adjacent land use. Road characteristics include the roadway cross-section, number of through lanes, presence of sidewalks, presence of on-street parking, collision history and vehicle composition.

The authority of the City of Mississauga to set speed limits is granted by the Ministry of Transportation Ontario (MTO) through the Highway Traffic Act (HTA), which sets a default maximum municipal speed limit of 50 km/h on roadways within cities, towns, villages or built-up areas. Speed limits can be increased at 10 km/h increments to the 80 km/h maximum.

City policy reserves the use of 40 km/h speed zones for elementary school frontages on lower classification roads and roadways whose geometric design cannot support a 50 km/h speed limit.

Also, under special circumstances where high pedestrian volumes are expected, the City has designed and constructed 30km/h speed limits on certain roads.

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

Requests are reviewed using the City's adopted methodology and/or policy.

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

City policy reserves the use of 40 km/h speed zones for elementary school frontages on lower classification roads and roadways whose geometric design cannot support a 50 km/h speed limit.

What was the primary reasons guiding the decision whether or not to implement speed limits lower than 50km/hr?

See above.

#### *ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

Generally we haven't done many follow-up studies but recorded speeds prior to the installation supported lower posted speed limits.

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

Do you mean reducing limits in general? If so,

Generally speaking, compliance levels have decreased where speed limits have been reduced.

Enforcement has been a tool that has been used to control vehicle operating speeds.

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

No substantial studies/reports have been prepared to answer this type of question.

## Nova Scotia Transportation and Infrastructure Renewal *Low Posted Speed Limit Study*

### *Province/Municipality/Agency Survey Questionnaire*

Contact Person, Position: Thameur M. Souissi, Engineer  
Province/Municipality/Agency: City of Montreal, Québec.  
Telephone: 514-872-7111  
Email: mt.souissi@ville.montreal.qc.ca  
It is okay to contact this person for follow-up discussion on this topic: Yes. You can also contact:  
Mrs Nancy Badeau, Engineer, Chief of Road safety Team  
City of Montreal, Québec  
514-868-3558  
nancy.badeau@ville.montreal.qc.ca

#### *GENERAL*

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

According to the Quebec Highway Safety Code, the default speed limit within agglomerations (built-up areas) is 50 kph (section 328, (4)). However, according to section 626, (4) of this Code, a municipality can post a lower speed limit on any roadway under its maintenance. According to section 299, any speed limit different from the default speed must be posted (sign or signal).

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

Requests for speed limits review are usually assessed with respect to road safety. The 3E approach (Engineering, Enforcement and education) is applied and according to a precise definition of the problem, if any, the best solution is implemented. This may require filed observation, speed data collection, collision data analysis and site analysis.

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

The City of Montreal systematically reduced the speed limits on its local roads (as well as some collectors) to 40 kph (2009-2010) according to its 2008 transportation Plan. 40 kph sectors are defined and the speed limit is posted at all entries.

Near schools and playgrounds, the speed limit is usually set to 30 kph on local roads.

What were the primary reasons guiding the decision whether or not to implement speed limits lower than 50km/hr?

The primary reasons were the safety and comfort of the most vulnerable users of the roadway as well as the life quality of the residents.

*ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

The City of Montreal performed a pilot project within two of its 19 boroughs. Although the reduction of the actual driving speed was not significant, the residents were largely in favour of the measure and asked for it to be maintained.

Knowing that simply changing the posted speed limit does not significantly reduce the actual driving speed, our City chose a global speed management approach where the combination of different actions and measures shall lead to significant traffic calming all over our roadway network. Lowering the speed limit is one of the first steps of this approach.

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

Yes. A before/after evaluation study was conducted and the results were presented by Mrs Nancy Badeau, Chief of the Road Safety Team, at the 2012 ATC conference.

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

On a large part of local roads, the 40 kph speed limit was found to be compliant with average actual driving speeds.

Although, the reduction of the actual driving speeds following the implementation of the 40 kph speed limit was not found to be statistically significant, the before/after evaluation study provided valuable information that may be used by our city to choose the best measures to implement.



If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

The 19 boroughs agreed on the same and common guidelines used to define the speed limits according to the characteristics and use of each road section. This led to the standardization and continuity of the speed limits implementation over the whole territory.

The project also allowed for revision of the compliance of the posted signs with the bylaws in force all over the territory.

In general, the residents of our City were in favour of this measure.

Implementation of the 40 kph sectors paved the road for the development of the «Green neighbourhoods».

It also allowed for reduction of the number of speed limit posted signs.

# Nova Scotia Transportation and Infrastructure Renewal

## Low Posted Speed Limit Study

### Province/Municipality/Agency Survey Questionnaire

Contact Person, Position: \_\_\_\_\_ Goran Lazic, Traffic Operations Engineer \_\_\_\_\_  
Province/Municipality/Agency: \_\_\_\_\_ City of Saskatoon \_\_\_\_\_  
Telephone: \_\_\_\_\_ 306-975-2896 \_\_\_\_\_  
Email: \_\_\_\_\_ [Goran.Lazic@Saskatoon.ca](mailto:Goran.Lazic@Saskatoon.ca) \_\_\_\_\_  
It is okay to contact this person for follow-up discussion on this topic: **Yes** / No

#### GENERAL

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

For new roads, initial posted speed limit is typically set at 10km/hr below the design speed (which is based on the roadway's functional classification, characteristics and pertaining geometric standards). Speed studies and the 85<sup>th</sup> percentile speed are used to determine if the posted speed limit on existing roadways is appropriate, in conjunction with a review of collision history and any safety concerns.

The posted speed limit for any city street is defined by the municipal bylaw (The Traffic Bylaw). The base maximum speed limit is 50 km/hr. All roads with lower or higher speed limits than 50km/hr are listed in the Bylaw.

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

By conducting a speed study to establish the 85th percentile speed and gauge driver's perception of a safe speed limit. The results (e.g. speed distribution) are analyzed to determine if the posted speed limit is appropriate. The posted speed limit never exceeds the roadway design speed.

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

As per the Bylaw:

**10 km/h:** (a) in any parking structure.

**20 km/h:** (a) in any parking area, (b) in any alley, and (c) in any public park.

**30 km/h:** (a) in any posted school or playground speed zone.

What was the primary reasons guiding the decision whether or not to implement speed limits lower than 50km/hr?

As per City Council decision, 30 km/hr was implemented in elementary and secondary school zones for the safety of school aged children.

*ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

City Council inquired about the possibility of lowering the base speed limit to 40 km/hr. The Administration researched the available data from similar studies and trials and recommended against it (the report is available).

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

A comprehensive before and after study was done in 2003 at a number of schools to measure the effectiveness of 30 km/hr in school zones. Additional data has since been collected for comparison. The study showed a slight reduction in measured 85th percentile speeds (average speed dropped by about 10 km/hr) but still low overall compliance (data available upon request).

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

Relatively low level of compliance with the 30 km/hr in school zones observed. The City conducted a number of educational campaigns and Police is periodically enforcing subject to available resources. Traffic calming measures are often implemented in school zones to improve pedestrian safety.

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

N/A

# Nova Scotia Transportation and Infrastructure Renewal *Low Posted Speed Limit Study*

## *Province/Municipality/Agency Survey Questionnaire*

Contact Person, Position: Mike Jones \_\_\_\_\_  
Province/Municipality/Agency: Ontario, Region of Waterloo \_\_\_\_\_  
Telephone: 519-575-4069 \_\_\_\_\_  
Email: jmike@regionofwaterloo.ca \_\_\_\_\_  
It is okay to contact this person for follow-up discussion on this topic: Yes

### *GENERAL*

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

For existing roadways, speed limits are generally determined based on the average travel speeds obtained through surveys.

Speed limits for new roads are typically determined based on the proposed design speed.

Legislation that governs minimum speeds are noted in the Highway Traffic Act (HTA)

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

For existing roadways we would typically conduct speed surveys to determine the average travel speed, complete and assessment and follow-up with any measures if recommended.

For new roadway construction we generally consider measures to reduce travel speeds such as sidewalk, cycling lanes, narrower lanes, ect.

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

Although not typical practice, we have posted speed limits lower than 50km/h. Generally 40km/h zones are installed in school zones.

What was the primary reasons guiding the decision whether or not to implement speed limits lower than 50km/hr?

If our speed surveys and assessment warrant speeds lower than 50km/h and generally public concern.

#### *ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

No, but we have completed before/after assessments with regards to lowering speeds from 60km/h to 50km/h.

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

No, however our current position is that simply changing the posted speed will not reduce average travel speeds.

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

We have completed before/after speed surveys when we have changed posted speeds from 60km/h to 50km/h and have noted that speeds generally remain the same as previously recorded. Physical modifications are required to slow motorists.

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

No sure.

## Nova Scotia Transportation and Infrastructure Renewal Low Posted Speed Limit Study

### Province/Municipality/Agency Survey Questionnaire

Contact Person, Position: \_\_\_\_\_ Josette M. Eugeni \_\_\_\_\_  
Province/Municipality/Agency: \_\_\_\_\_ The City of Windsor \_\_\_\_\_  
Telephone: \_\_\_\_\_ 519 255-6418 \_\_\_\_\_  
Email: \_\_\_\_\_ jeugeni@city.windsor.on.ca \_\_\_\_\_  
It is okay to contact this person for follow-up discussion on this topic: **Yes** / No

#### **GENERAL**

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

Generally based on Road Classification, volume, speed study data, collision data depending on the circumstances.

In the Ontario HTA, speeds are 50km/hr unless otherwise amended and signed by the appropriate authority. This governs most streets in the City of Windsor. The Traffic Bylaw 9148 contains schedules of all speed limits with the exception of 50km/hr.

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

Most inquiries come in the form of a Traffic Calming request. The Traffic Calming Policy is currently under revision.

The City is developing a School Area Policy that would address posted speeds for the same.

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

There is a short list of streets that are currently posted 40km/hr. It was a lowering of the default minimum on an individual basis.

For clarity - the speed limit within Parks and on trails is managed separately and is also below 50km/hr.

What was the primary reason guiding the decision whether or not to implement speed limits lower than 50km/hr?

**ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS**

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

Rely on available documentation/studies including recent coroner's report.

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

A recent neighbourhood that had undergone a traffic calming review. The posted speed limit was reduced from 50km/hr to 40km/hr.

The results are scheduled to go to Standing Committee/Council via report in the next couple of months including a review of impact of the speed cushion. These reports are available on the City website.

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

See previous response

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

See previous response



# Provincial Transportation Agencies

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Quebec  
Saskatchewan

# Nova Scotia Transportation and Infrastructure Renewal

## Low Posted Speed Limit Study

### Province/Municipality/Agency Survey Questionnaire

Contact Person, Position: Blair Knott, Traffic Standards Engineer \_\_\_\_\_  
Province/Municipality/Agency: Alberta/ Alberta Transportation \_\_\_\_\_  
Telephone: 780-415-1140 \_\_\_\_\_  
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It is okay to contact this person for follow-up discussion on this topic: Yes

#### GENERAL

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

*Roadway geometrics and the driving environment are criteria used to determine posted speed limits. Design tables and design guidelines are used in new construction to ensure the highest standard of highway for the purpose required. When reviewing existing highways and the posted speed limits, Alberta Transportation consults the TAC-Canadian Guidelines for Establishing Post Speed Limits.*

*The Traffic Safety Act section 106 sets some basic speed limits of 100km/h on the highway, 80km/h for a highway in a city and 50km/h for a highway in urban surroundings.*

*The Traffic Safety Act section 108(1)(a) allows a higher or lower maximum speed limit to be set via a Ministerial Order (there is a "Recommended Practice" for determining the correct speed).*

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

*We have a recommended practice for the "Ministerial Order Process for Speed Limit Amendments". This involves regional office support, a technical evaluation and stakeholder and Ministerial support.*

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

*Yes, there are areas where the speed limit is below 50km/h for school and playground zones.*

What was the primary reasons guiding the decision whether or not to implement speed limits lower than 50km/hr?

*The primary reason is a request from the regional office of Alberta Transportation or from the public and a clear indication that a school or playground meets the criteria specified by TAC for a reduced speed zone. There are no other policies that allow for a reduced speed limit in a certain town or county.*

#### ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

*There are both formal and informal reviews with regards to these reduced speed zones. I have not been involved in studies that have resulted in a new, lower-than-50km/h reduced speed zone. As mentioned, speeds below 50km/h require distinctive conditions in order to be justified.*

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

*Not to my knowledge. In places that these reduced speed zones have been applied, enforcement usually ensures that the new zone is understood and followed.*

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

*Because the zones are related to distinctive locations, the compliance is fairly intuitive for the average driver. To my knowledge, there has not been any recorded data for compliance or non-compliance.*

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

*Because the zones were related to socially accepted, vulnerable road users, there has been minimal criticism of our practices*

# Nova Scotia Transportation and Infrastructure Renewal

## Low Posted Speed Limit Study

### Province/Municipality/Agency Survey Questionnaire

Contact Person, Position: Gerald F. Froese, Senior Traffic Engineer  
Province/Municipality/Agency: British Columbia Ministry of Transportation  
Telephone: 250- 387- 7583  
Email: jerry.froese@gov.bc.ca  
It is okay to contact this person for follow-up discussion on this topic: Yes

### GENERAL

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

#### BC Motor Vehicle Act

[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/96318\\_00](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/96318_00)

#### **Legislative Authority**

Under Section 146(1) of the Motor Vehicle Act, the speed limit on a highway within a municipality is 50 km/h and outside of a municipality is 80 km/h unless otherwise posted.

#### BC MoT Speed Zone Setting Requirements

[http://www.th.gov.bc.ca/publications/Circulars/Current/T\\_Circ/2000/t10-00.pdf](http://www.th.gov.bc.ca/publications/Circulars/Current/T_Circ/2000/t10-00.pdf)

The assessment should be based on an engineering evaluation including, but not limited to, the following factors:

- 85th percentile speed,
- speed accident history,
- geometric features,
- land use.

Additionally, the following specific guidelines should be used when establishing speed limits: \_

- Speed zones on highway corridors should generally be a minimum of 10km long;
- Minimum speed limits on numbered highways: 50km /h
- Maximum speed limit: 110 km/h.
- Speed limit changes should be limited to 20 km/h intervals (desirable), or 30km/h (acceptable). If changes of greater than 30 km/h are necessary, a transition zone should be added.

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

Requests go to our Regional Traffic Engineer (RTE) for assessment. Once they are reviewed by the RTE and a recommendation is made, the speed zones come to the Chief Engineer's office for final review by the Senior Traffic Engineer and Chief Engineer. The chief engineer may or may not accept the speed change.

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

Yes, we have lowered speed limits below 50 km/h to specific speed zones. Those locations are;

- 30 km/h on some Indian Reservations (IR). No engineering review carried out for these.
- 30 km/h time of day elementary school zones
- 40 km/h within two City downtown cores in the province on Ministry controlled roadways – 85<sup>th</sup> percentile speeds need to show that operating speeds are at 50 km/h below.
- 40 km/h "When Children on Roadway."

What was the primary reasons guiding the decision whether or not to implement speed limits lower than 50km/hr?

We only lower the speed to 40 km/h based on a couple of criteria:

- 1) if it is not a numbered highway
- 2) a request comes from a municipality or IR
- 3) Engineering assessment where an 85 percentile speed needs to show reasonable compliance. Many municipalities request lower than 50 km/h based on political processes rather than engineering processes. We at the BC MoT focus on engineering principles.

#### *ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

The Ministry requires an engineering study for speed limit changes. In recent years, more and more Municipalities have moved away from engineering principles in speed limit setting to the point where it is done more at the City administrative and council member level. Consequently, as enforcement penalties are high, there is a need for the Ministry to stick to engineering principles in speed zone setting in order for proper compliance, reasonableness and fairness to the public.

The Ministry has designed highways and carried out speed zone surveys on those highways for years. Furthermore, most of the Ministry's traffic engineers have knowledge of the engineering principles for

speed zone setting. Consequently, we do have knowledge of 50 km/h speeds and where the request for 40 km/h zones is coming from.

When I was in graduate school in traffic engineering (Jerry Froese) my professor at the time indicated that the 30 mph (50 km/h) speed limit used in the USA came out of a ASSHTO committee in the 30's and 40's. The committee determined that a 50 km/h was a reasonable and prudent speed limit for urban settings that would be realistically and continually be complied with. From the speed studies the Ministry has carried out, as well as other speed studies carried out,  $\geq 50$  km/h is the speed generally complied with on Ministry designed and operated roads within City Limits. Narrow residential streets with on-street parking will operate at this  $\leq 50$  km/h limit.

When speeds are less than 50 km/h..... such as 40 km/h, 85<sup>th</sup> percentile speeds indicate that the vast majority of road users are now in violation of the speed regulation; this is especially true on major urban arterials with a high design standard.

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

The Ministry recently installed a 50 km/h zone so no data exists here, and the other was implemented several years ago. The Ministry has not carried out any further speed checks in the area for it's first 40 km/h installation. From anecdotal evidence, the 85<sup>th</sup> percentile speed was 50 km/h at the time of the speed zone reduction and there is nothing to suggest this speed has been reduced as a result of now posting it at 40 km/h. The roadway in question was an urban arterial built to a relatively good design standard. If any changes have occurred, rogue high speed limits that far exceed 50 km/h are now likely reduced.

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications).

The Ministry generally only looks after urban arterials and not residential roadways. Therefore, the placement of a 40 km/h speed zone (because of the engineering studies we carry out prior to installing the reduced speed of 40 km/h where the 85<sup>th</sup> percentile speed needs to be at 50 km/h or lower) does not change the operation of highway. What generally happens is the percentage of people not obeying the 40 km/h speed increases substantially, however the number of "rogue" speeds of 65 km/h or greater are now reduced.

In general to make a road operate at 40 km/h it should be built to a 40 km/h design standard as the quality of geometric design of a road d will impact operating speeds.

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

In general, municipalities tend to find 50 km/h a reasonable speed; however they suggest many road users are known to drive 10 km/h over the posted speed. As such, many municipalities suggest that if you want the operating speed to be 50 km/h, and then post the regulatory speed at 40 km/h to achieve the 50 km/h operating speed.

Many reasons are quoted for moving to lower urban speed limits:

- Reduction in deaths
- Reduction in crashes
- Reduce pedestrian and vehicle conflicts
- Make communities more livable
- Encourage more Cycling and Walking by discouraging car use
- Lower greenhouse gas emissions
- Create longer travel times to encourage commuters and especially truck traffic to use other routes around a city

The negative impact is that the 40 km/h speeds should be used on the roads/highways that likely require this speed limit. In other words, if the function, classification and design standard of the road/highway is that of a major arterial, the use of 40 km/h will not be obeyed, and all motorists will be violators of the passage of this law.

As such, 40 km/h does have a purpose and likely may be applied to some of those roadways which function as non-arterials whose purpose is not to move traffic into and out of the city but to provide more local access. These roads posted at 40 km/h should also not function as major commercial corridors nor be on major bus routes where travel times play an essential role in commerce. Furthermore, the 40 km/h road/highway should have a design makeup to suit a 40 km/h speed limit and not a 50 km/h.

# Nova Scotia Transportation and Infrastructure Renewal

## Low Posted Speed Limit Study

### Province/Municipality/Agency Survey Questionnaire

Contact Person, Position: \_\_\_\_\_ Glenn Cuthbertson Director of Traffic Engineering \_\_\_\_\_  
Province/Municipality/Agency: \_\_\_\_\_ Manitoba \_\_\_\_\_  
Telephone: \_\_\_\_\_ 204 – 945 - 0329 \_\_\_\_\_  
Email: \_\_\_\_\_ glenn.cuthbertson@gov.mb.ca \_\_\_\_\_  
It is okay to contact this person for follow-up discussion on this topic: Yes

#### GENERAL

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

Highway Traffic Act legislates 50 km/h unless otherwise posted in incorporated cities, towns and villages and 90 km/h everywhere else. Authority to change rests with the Highway Traffic Board, a semi judicial independent body acting at arms length from the department. The Board can approve speed limits as low as 30 km/h and as high as 110 km/h under specified conditions.

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

Municipal level authorities may submit resolutions to the Board requesting a review. The Board requests an engineering review from my office for any reviews affecting routes under provincial jurisdiction. The Board completes its own review for most other requests.

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

None on routes where department has jurisdiction. There are isolated pockets of 30 or 40 km/h in municipalities. Most are continuations of historic 20 or 25 mph speed limits from before the current legislation went into effect.

What was the primary reasons guiding the decision whether or not to implement speed limits lower than 50km/hr?

There is not yet a significant public demand. Without significant support, compliance would be unacceptably low.



*ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

n/a

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

n/a

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

n/a

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

n/a

# Nova Scotia Transportation and Infrastructure Renewal

## Low Posted Speed Limit Study

### Province/Municipality/Agency Survey Questionnaire

Contact Person, Position: \_\_\_Diane Nash, Assistant Director, Traffic Engineering & Operations OR Veronica Pelkey, Traffic Safety Engineer, \_\_\_  
Province/Municipality/Agency: \_\_\_NB Department of Transportation and Infrastructure\_  
Telephone: \_\_\_506-453-5661 or 506-444-3224\_\_\_\_\_  
Email: \_\_\_[diane.nash@gnb.ca](mailto:diane.nash@gnb.ca) or [veronica.pelkey@gnb.ca](mailto:veronica.pelkey@gnb.ca) \_\_\_

It is okay to contact this person for follow-up discussion on this topic: Yes / No

#### GENERAL

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

*Speed limits for new roads are typically based on the design standard. Speed limit evaluations are completed on existing roads as required (typically as the result of a request through District personnel, members of the public, or political representatives). Evaluations are completed using a set of Speed Zone Guidelines established some years ago in an effort to be consistent throughout the province. 85<sup>th</sup> percentile operating speeds & collision histories are also considered where applicable.*

*NB's Motor Vehicle Act, Sections 140-146 addresses rules respecting speed limits.*

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

*Requests are typically forwarded to our section in the Maintenance & Traffic Branch, the request is added to the list of areas to be evaluated, and a field evaluation is scheduled as work scheduling allows. Some locations may have been evaluated previously, or be well known to field technicians/staff. In these cases, staff may review the highway inventory video (and communicate with District staff as required) to determine what, if anything, has changed since the last evaluation. It may be decided that a field evaluation is not required. A written acknowledgement of receipt of the request and then a written response is almost always provided to the requestor, although we are attempting to move toward sending only an acknowledgement with an indication that the area will be reviewed – rather than providing results to every requestor in an effort to reduce the amount of paperwork.*

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

*NBDTI does not typically implement speed limits lower than 50km/h – although 40 km/h has been posted in a few locations as a result of “outside intervention”. This is an internal guideline in M&T.*

What was the primary reasons guiding the decision whether or not to implement speed limits lower than 50km/hr?

*The desire to adhere to our Guidelines and establish reasonable speed limits that are likely to be followed by the majority of motorists. It's important to remember that the Speed limit is the maximum speed allowed (legally) during ideal conditions. Drivers are expected to adjust their speed for weather, road condition, the presence of pedestrians, etc.*

#### *ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

N/A

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

N/A

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

N/A . We do have follow-up evaluations in a few areas where speed limits were lowered below what was recommended based on provincial Guidelines, demonstrating that posting the lower speed limit had very little (if any) reduction in prevailing speed – but this is not for speeds lower than 50 km/h.

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

N/A

# Nova Scotia Transportation and Infrastructure Renewal

## Low Posted Speed Limit Study

### Province/Municipality/Agency Survey Questionnaire

Contact Person, Position: \_\_\_\_\_ Catherine Berthod, ingénieure et urbaniste \_\_\_\_\_  
Province/Municipality/Agency: \_\_\_\_\_ Ministère des Transports du Québec \_\_\_\_\_  
Telephone: \_\_\_\_\_ 418 643 7090 poste 2253 \_\_\_\_\_  
Email: \_\_\_\_\_ catherine.berthod@mtq.gouv.qc.ca \_\_\_\_\_

It is okay to contact this person for follow-up discussion on this topic: Yes

#### GENERAL

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

The Highway Safety Code (HSC) prescribes the speed limits, which depend of the category of the road. Reference: section 328.

[http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/C24\\_2/C24\\_2\\_A.html](http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=/C24_2/C24_2_A.html)

According to the HSC, the ministère des Transports du Québec (MTQ) can modify these speed limits (section 329), as well as the municipalities on the roads under their jurisdiction (section 626, subparagraph 4 of the first paragraph).

The MTQ also published technical guides about the determination of the posted speed limits.

- Documentation available on the Website (in French):  
[http://www.mtq.gouv.qc.ca/portal/page/portal/partenaires/municipalites/securite\\_routiere/modif\\_limite\\_vitesse](http://www.mtq.gouv.qc.ca/portal/page/portal/partenaires/municipalites/securite_routiere/modif_limite_vitesse)
- Manual for setting speed limits on municipal road networks. 2002.  
[http://www.mtq.gouv.qc.ca/portal/page/portal/accueil/publications/banque\\_publications](http://www.mtq.gouv.qc.ca/portal/page/portal/accueil/publications/banque_publications)

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

According to the section 626 of the HSC, the municipality which wants to change a speed limit on its road network has to adopt a municipal by-law or ordinance. This by-law or ordinance must, within 15 days after it is passed, be sent to the Minister of Transport, accompanied with an information and signage plan. The by-law or ordinance comes into force 90 days after it is passed unless it is the subject of a notice of disallowance published by the Minister in the Gazette officielle du Québec.

If a municipality or someone else asks the MTQ to change a speed limit on a road under its jurisdiction, the MTQ conducts a technical analysis prior to making the decision.

Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

On its road network, the lowest speed limit fixed by the MTQ is 30 km/h. It results of a modification of the speed limits prescribed by the HSC in section 328.

According to the HSC, the MTQ or a municipality can modify the speed limits prescribed by the section 328 as they wish. However, according to the Standards (Tome V, Traffic Control devices), "the speed limit must always be a round number ending with a 0." (mandatory content)

What was the primary reasons guiding the decision whether or not to implement speed limits lower than 50km/hr?

The places where the speed limit is 30 km/h on the MTQ road network are mainly school zones, and in most cases this limit applies only to a specific period of time (from Monday to Friday and from September to June, between the hours of 7:00 a.m. and 5:00 p.m.)

#### *ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

Yes, a technical study is conducted in each case prior to making the decision. They generally are not published, but if you need more information on some case studies, we will try to provide it.

There is documentation available to justify a speed limit of 30 km/h on the municipal road network (Manual for setting speed limits on municipal road networks, 2002), and we are currently working at the elaboration of a methodology related to the determination of a speed limit of 30 km/h in school zones on the MTQ road network.

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

I don't have such information for the MTQ road network.

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

Such global information is not available on the MTQ road network. The regional departments of the MTQ and their partners implement the measures which are required for each place.

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

The information is not available on the MTQ road network.

## Nova Scotia Transportation and Infrastructure Renewal *Low Posted Speed Limit Study*

### *Province/Municipality/Agency Survey Questionnaire*

Contact Person, Position: Nigel Tan – Traffic Engineering Specialist (Engineer-in-Training)  
Province/Municipality/Agency: Saskatchewan Ministry of Highways and Infrastructure  
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Email: [Nigel.Tan@gov.sk.ca](mailto:Nigel.Tan@gov.sk.ca)  
It is okay to contact this person for follow-up discussion on this topic: Yes / No

#### *GENERAL*

How are posted speed limits determined by your Province/Municipality/Agency for existing and new roads? Which section(s) of your legislation and/or by-laws govern the minimum speed limit and define the conditions under which this speed limit may apply?

- **Speed limits are determined using our Highway Traffic Act. The maximum speed on a roadway is 80km/h unless otherwise indicated.**
- **The HTA also authorizes the Highway Traffic Board (HTB) to fix maximum speeds on all highways (provincial and public).**
- **Delegation of Authority is given by HTB to various jurisdictions according to the type of roadway.**
- **Minister's Authority from the Highways and Transportation Act – Section 20 – Speed Zones and no-parking zones.**

How does your Province/Municipality/Agency handle requests for review of posted speed limits?

- We handle requests by processing a Speed Limit Order. A speed limit request form or a speed limit review is submitted to the Ministry and a speed study will be conducted. The study includes factors such as geometrics, AADT, Truck Traffic %, Turning Traffic %, pedestrians, 85<sup>th</sup>/15<sup>th</sup> percentile speed differential and collision rates.
- Depending on the factors a speed limit change may be warranted.



Has your Province/Municipality/Agency implemented speed limits lower than 50 km/h? If so, what is the minimum posted speed limit and if so, does this pertain to specific speed zones or a general lowering of the default minimum posted speed limit?

- No. Although a speed limit of 40 km/h is set specific to school zones.

What was the primary reasons guiding the decision whether or not to implement speed limits lower than 50km/hr?

- n/a

#### *ADVANCE STUDIES AND FOLLOW-UP OBSERVATIONS*

Did your Province/Municipality/Agency perform a study on the subject prior to making the decision to implement speed limits lower than 50km/hr? Is documentation of this study available?

- **No.**

If speed limits lower than 50km/hr have been implemented, has the Province/Municipality/Agency performed a follow-up study on the effectiveness of the policy? Is documentation of this study available?

- **No.**

Has a high level of compliance been observed on facilities where speed limits have been reduced? If so, were additional measures necessary to effect compliance? (e.g., enforcement, education, physical modifications)

- No.

If speed limits lower than 50km/hr have been implemented, what impacts, positive or negative, has this had in your Province/Municipality/Agency?

- **n/a**

**Appendix D**  
**Literature References**

## **NSTIR Low Posted Speed Limit Study: References**

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**Appendix E**  
**Terms of Reference**



Transportation and  
Infrastructure Renewal  
*Highway Engineering Services*

**Request for Proposal  
for  
Low Posted Speed Limit Study**  
Highway Engineering Services Standing Offer Tender # 60136574

**Due Date:  
2:00 pm, January 23, 2013**



## 1.0 BACKGROUND

The Motor Vehicle Act (MVA) is the governing piece of legislation with respect to speed limits on Nova Scotia Highways. It currently specifies that where a highway does not have a posted speed limit, the maximum speed on the highway is 80 km, except where the highway is within a business or residence district, in which case the maximum speed is 50 km/h.

The MVA also permits the Minister or a traffic authority, with the approval of the Provincial Traffic Authority (PTA), to fix maximum rates of speed as they see fit. It has long been Transportation and Infrastructure Renewal's (TIR) position that the PTA approve only maximum speed limits between 50 km/h and 110 km/h.

The Department has received requests in the past to approve posted speed limits lower than 50 km/h. In 2003, a study was undertaken to review speed zoning practices in Canada and provide recommendations with respect to the effectiveness of posting speed limits lower than 50 km/h. The conclusions of this study led TIR to retain its practice of not posting speed limits below 50 km/h, however, the Department continues to get requests to approve lower speed limits. Additionally, other jurisdictions in Canada and around the world have implemented lower posted and/or statutory speed limits with the goal of lowering the severity of collisions between vehicle and vulnerable road users as well as making communities more "livable".

In order to make a more informed judgement with respect to the applicability of speed limits less than 50 km/h, TIR, in conjunction with the Road Safety Advisory Committee (RSAC), wishes to build on the 2003 study to determine if posted speed limits below 50 km/h should be entertained and if so, determine the best practices for their implementation.

## 2.0 OBJECTIVES

The primary objectives of this study are to:

- 1. Provide information respecting where general posted speed limits (not including special interest areas such as school zones) lower than 50 km/h have been implemented, how successful these limits have been at achieving compliance and reducing vehicle speeds, collision rates and/or severity and if there were any unintended consequences resulting from implementation.**
- 2. Provide a recommendation as to whether general posted speed limits less than 50 km/h should be considered for approval on Nova Scotia highways and if so, provide criteria as to where and in what circumstances posted speed zones below 50 km/h should and should not be considered, how they should be implemented and what additional measures would be necessary for their success.**

### **3.0 STUDY SCOPE AND METHODOLOGY**

The major tasks of the project will include:

- A review of available research and literature with respect to setting speed limits lower than 50 km/h (30 mph) in areas other than school or playground areas. The study scope should be limited to North America with an emphasis placed on, but not limited to, Canadian jurisdictions. Information may include research reports, technical papers, agency policy documents, etc.
- A jurisdictional review of provinces, cities and towns across Canada with respect to their current speed zoning practice in residential and business areas. This review must include at least one municipality from each of the following categories for at least five (5) other provinces in Canada (minimum 15 municipalities total):
  - Semi-rural: Population up to 25,000
  - Semi-urban: Population 25,000 to 100,000
  - Urban: Population 100,000+
- A review of speed zoning legislation and policy in all provinces of Canada with respect to the minimum speed that may be posted on a roadway.
- A detailed examination of at least five (5) areas in North America that have implemented posted speeds lower than 50 km/h and have completed a comprehensive evaluation of these lower speed zones with respect to the outcomes and impacts. This examination may also include areas that have completed a detailed analysis of the posting of lower speed limits and opted not to go forward with implementation based on that analysis.

When selecting areas to examine, preference should be given to those that have completed a long term (3-5+ year) outcome and/or impact evaluation.

At a minimum, this examination will include, but not be limited to:

- Background information (when the lower speed limit was considered or implemented, what led to its consideration, the results of any pre-implementation study undertaken, pre-implementation collision history, etc.)
- Roadway functional class and design (design speed, cross section, development density, traffic volumes, speed study data, etc.)

- Problems encountered (short-cutting, collisions, speed differential, increased and/or unreasonable demand for enforcement, etc.)
- Implementation method (signage used, etc.).
- Social marketing (public support/opposition, education and/or awareness campaigns, types of media used)
- Safety performance (change in collision/incident occurrence/severity/type)
- Change in peak, average and 85<sup>th</sup> percentile speeds.
- Regulatory authority (does the province or municipality set speed limits?)
- Enforcement issues
- Emergency response issues
- Operations (implications/impact of reduced speed – increased queuing/delay, etc.)
- Results of any outcome or impact evaluations, including unintended outcomes -of the lower posted speed limit.

#### **4.0 DUTIES OF THE CONSULTANT/DELIVERABLES**

- Attend meetings based on the schedule discussed in Section 7.0.
- Provide status updates on the project to the Project Manager upon request.
- Prepare a comprehensive report detailing the information from the literature review, jurisdictional review and detailed examinations listed above. The report will also present recommendations based on conclusive evidence as follows:
  - Given the stated objectives, whether Nova Scotia should permit posted speed limits lower than 50 km/h?
  - If so:
    - Where and in what circumstances posted speed zones below 50 km/h should and should not be permitted.
    - How speed zones lower than 50 km/h should be implemented,

- What type of public consultation/education should be done prior to implementation.
  - What type of ongoing awareness is required to support the change.
  - What changes to existing legislation/regulation will be required to accommodate and support posted speeds less than 50 km/h.
- A 100% draft of the final report must be presented to the Steering Committee for review based on the timelines in Section 8.0
  - A final report must be submitted based on the timelines in Section 8.0.
  - The deliverables must be submitted in the following formats:
    - Interim/draft reports may be submitted in Adobe PDF format or hard copy. If submitted by PDF, each file must be less than 3MB in size. The draft report may be subdivided to achieve this file size.
    - One (1) Electronic version of the complete report (text, graphics, appendices etc.) in Adobe PDF format.
    - Twenty (20) bound copies of the final report.
    - One (1) electronic version in MS Word format of the text used in the report.
    - One (1) electronic version of any graphics used in the reports in either TIFF or EPS format.

## **5.0 GUIDANCE**

A Project Steering Committee comprised of representatives from TIR and the Road Safety Advisory Committee (RSAC) will be responsible for overall administration of the study. Acceptance and approval of the work will take place after the Project Steering Committee has been satisfied that the study requirements have been met.

## **6.0 DUTIES OF THE TIR/RSAC PROJECT STEERING COMMITTEE**

- Meet with the Consultant on an arranged schedule.
- Answer any questions and provide guidance and clarification in a timely manner as required.

## **7.0 MEETINGS**

The Consultant shall meet with the Steering Committee at least twice during the project for the project initiation, and to present the draft final report.

The initial meeting with the consultant will be to finalize the study requirements, data requirements and the methodologies to be used.

In addition to the meetings with the Steering Committee, the consultant will be required to present the study findings at a meeting of RSAC in June 2013.

All meetings will be held in Halifax, Nova Scotia.

The consultant may, as part of their proposal submission, propose additional meetings with the Steering Committee in addition to the mandatory meetings noted above.

## **8.0 STUDY SCHEDULE**

The Consultant shall meet with the Project Management Team within one week of notification of award of contract. The study shall be completed and the required copies of the final report presented within **5 months** of award of contract. A 100% draft of the final report will be submitted one week before the 100% draft report to the steering committee.

The consultant should propose a project schedule that will deliver a high-quality, comprehensive report in the shortest time frame possible. It is expected that a contract will be signed and work will begin in early February 2013 and that final draft deliverables will be submitted to the project steering committee no later than May 24, 2013.

## **9.0 PROPOSAL REQUIREMENTS**

Failure to provide information outlined in this section may result in disqualification.

**Seven (7)** copies of your proposal (fax copies are not acceptable) are to be delivered **by 2:00 pm** local time, **Wednesday, January 23, 2013** to the 1<sup>st</sup> Floor receptionist at the Johnston Building, 1672 Granville St., Halifax, Nova Scotia.

Proposals and their envelopes should be clearly marked with the name and address of the proponent and the project or program title. Late proposals will not be accepted and will be returned to the proponent. Proponents are solely responsible for their own expenses in preparing, delivering or presenting a proposal.

To facilitate efficient review of the proposals, proponents are requested to use the following format. The proposal shall be organized into four chapters and such chapters limited where indicated.

**1. Introduction**

This chapter shall include, but not necessarily be limited to, background information, a description of the study area, and understanding of the project and its objectives, including potential key issues.

**2. Qualifications**

A summary of project team member experience in areas related to these terms of reference. The role of each team member in the study shall be clearly explained.

**3. Methodology**

A detailed work plan including intended approach, methodology and schedule for the study. The work plan for the project should include the following:

- Initial meeting with the project steering committee
- Literature review
- Jurisdictional review
- Meeting with project steering committee
- Detailed examination of specific implementations
- Interim Report
- Meeting with project steering committee
- Final Report
- Presentation to RSAC

**4. Project Management**

Number of person-days for each team member by task assigned to the project. For consistency, the basis of remuneration will be per **8 hour day** for all team members.

**One copy** of the cost proposal shall be provided, **in a separate sealed in an envelope**, including labour costs, related expenses, printing costs and professional services obtained outside of the firm. Prices quoted are to be in Canadian dollars and **exclusive of federal and provincial taxes**.

By submitting a proposal, the proponent warrants that all components required to deliver the services requested have been identified in the proposal or will be provided by the Consultant at

no additional charge. The technical proposal must be signed by the person(s) authorized to sign on behalf of the proponent and to bind the proponent to statements made in response to this Request for Proposal.

## **10.0 LIABILITY FOR ERRORS**

While considerable effort to ensure the accuracy of the information in this Request for Proposal has been made, the information contained in this Request for Proposal is supplied solely as a guideline to Proponents. The information is not guaranteed or warranted, nor is it necessarily comprehensive or exhaustive.

## **11.0 REQUEST FOR PROPOSAL AMENDMENTS**

All proponents will be notified regarding any changes made to the Request for Proposal or any appendices or any change in the closing date or time. It is the responsibility of the proponent to ensure they have received all amendments. When these changes occur within five government business days of the close of the proposal, the proposal closing date will be extended to allow for a suitable number of bid preparation days between the issuance of the change and the closing date. All amendments must accompany each proposal. Proposals that do not contain all the amendments may be immediately returned and the proponent eliminated from further consideration.

## **12.0 PAYMENT SCHEDULE**

A lump sum payment for professional services rendered will be made upon completion of work as outlined in the RFP to the satisfaction of the Project Manager and receipt of an invoice detailing progress work completed.

The consultant is expected to provide a level of service consistent within a budget of \$50,000.

## **13.0 EVALUATION OF PROPOSALS**

Proposals shall be evaluated based on the "Government Procurement Process: Architects and Professional Services" (August 20, 2009).

All proposals will be initially assessed based on the experience and expertise of the project team. Any proposals not meeting minimum qualifications will not be evaluated further.

The criteria for evaluating proposals, based on technical and managerial merit, will be the following;

Qualification and experience of team members on similar projects.	35 points
Understanding of project and Proposed methodology	35 points
Quality of the proposal and project management	15 points

After meeting initial qualifications, proposals will be evaluated on the basis of their technical and managerial merit and then on the basis of price. The technical submission shall be rated as shown above, out of 85 points, and the remaining 15 points shall be allotted based on price. Only those proposals achieving an aggregate score of 68/85 (80%) or greater will have their sealed cost envelopes opened. The lowest price shall be awarded 15 points (all prices within 5% will receive the same price points). The next lowest price (beyond 5%) will receive 12 points. Points for other submissions will be assigned with 3 fewer points for each successively higher priced price proposal. But again, each time the same score will be awarded if successive prices are within 5% of the last highest price. The proposal with the highest total points will be awarded the contract. Proposals not meeting the required 68/85 will have their unopened cost envelopes returned.

Notwithstanding the technical/managerial and price scores, TIR reserves the right to reject any proposal where prices are deemed unreasonable relative to other prices bid, typically a 25% variance from the average qualified bid (excluding the bid in question).

The Department reserves the right to negotiate any or all conditions of the Consultant's proposed work plan and reject all submitted proposals. Unsuccessful proponents may request a debriefing meeting following execution of a contract with the successful proponent.

## **14.0 CONTRACT PROCEDURES**

Notice in writing to a proponent of the acceptance of its proposal by the Province will constitute a contract for the goods or services based on the study terms of reference and consultant's proposal.

## **15.0 OWNERSHIP OF INFORMATION**

The consultant agrees that all information collected, materials gathered and reports produced shall be the property of the Province of Nova Scotia. The consultant shall not be permitted to publish or in any way use said information without the expression or prior approval of TIR.



All documents, including proposals, submitted to the Province are subject to disclosure under the Nova Scotia Freedom of Information and Protection of Privacy Act. By submitting a proposal the proponent thereby agrees to public disclosure of its contents. Any information the proponent considers 'personal information' because of its proprietary nature should be marked as "confidential", and will be subject to appropriate consideration as defined within the Nova Scotia Freedom of Information and Protection of Privacy Act.

Information pertaining to this competition or any Department obtained by the proponent as a result of participation in this project is confidential and must not be disclosed without written authorization from the Province.

## **16.0 INSURANCE AND CERTIFICATION OF RECOGNITION**

Prior to award of contract the consultant will be asked to provide proof of insurance coverage for the time period of the study and letter of good standing from an occupational health organization as required in the latest Standing Offer for Highway Engineering Services..

## **17.0 INQUIRIES**

All enquiries related to this Request for Proposal are to be directed to the following person. Information obtained from any other source is not official and may be inaccurate. Enquiries and responses may be recorded and may be distributed to all proponents at the Province's option.

Department Contact:  
Rob Hird, P.Eng.  
Senior Traffic Engineer  
Telephone: 902-424-5389  
Fax: 902-424-0571  
Email: hirdro@gov.ns.ca