Appendix D
Town of Innisfil
Traffic Policies

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

1. PURPOSE

This policy is based on research of traffic calming policies utilized by other municipalities throughout Ontario, and the **Canadian Guide to Neighbourhood Traffic Calming**, prepared by the Institute of Transportation Engineers (ITE) and the Transportation Association of Canada (TAC), in 1998. This policy is similar to the City of Barrie's. A traffic calming policy similar to the one for the Municipality of Chatham-Kent, which is a municipality with similar population and characteristics to the Town of Innisfil, is also discussed and can be considered in the future when the number of traffic calming requests increase.

---

2. SCOPE/APPLICATION

2.1 Introduction

2.1.1 A Traffic Calming Primer

Traffic calming, as defined by the Institute of Transportation Engineers (ITE) Subcommittee on Traffic Calming, 1997 is, "… The combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve conditions for non-motorized street users." According to the **Canadian Guide to Neighbourhood Traffic Calming**, "The purpose of traffic calming is to restore streets to their intended function."

Traffic calming has become a growing trend in North America and is beginning to become a high priority on the agenda of many municipal Councils. It can be achieved with traffic control devices that are mainly physical in nature and are used to control the speed and volume of traffic traveling through residential neighbourhoods thereby restoring these roads to their intended function. Traffic calming measures are being applied in both new developments and old existing neighbourhoods, as a way to mitigate the adverse impacts of vehicular traffic (such as speeding and high volumes), and to improve the quality of life in our neighbourhoods.

Traffic calming has been part of the North American built landscape since the latter part of the 1940's, but was not done at a comprehensive area-wide level until the early 1970's. An early lesson learned from these spot and area-wide treatments was that effective traffic calming could not be established without a comprehensive implementation program including appropriate levels of public consultation.

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Until 2007, traffic calming projects undertaken in Ontario were subject to the Municipal Class EA process. Since 2007, projects of this type no longer require approval under the **Environmental Assessment Act** as per Section 3.3 of the Act which states that, "A traffic calming measure is not an undertaking for the purposes of this Act and cannot be included in the definition of a class for the purposes of this Act."

2.1.2 Applicability of Traffic Calming in the Town of Innisfil

Although the goal of transportation planning is to continue to enhance the movement of all forms of traffic in the most safe, efficient and environmentally sustainable manner possible, we must also ensure that it does not negatively impact the quality of life in local neighbourhoods. The establishment of a traffic calming policy in the Town of Innisfil may be seen as a stepping stone towards achieving the goals of the Town's Transportation Master Plan.

Traffic calming is one potential measure available to address undesirable traffic characteristics on community streets. In addition to police enforcement and public education, traffic calming techniques can be used to moderate or control excessively high traffic speeds or high volumes of through traffic. The development of a traffic calming policy will allow the Town to evaluate and implement traffic calming effectively and consistently.

The development of this policy has established methods for the initiation, preparation, and completion of traffic calming projects. The policy has been developed considering the experiences and practices of other jurisdictions, and is reflective of the current best practices in traffic engineering.

The type of traffic calming used depends on the issues being addressed and the function of the road. Techniques usually include one or a combination of the following:

- Changes to the vertical and / or horizontal alignment of the roadway.
- Changes to the traveled portion of the roadway through pavement and / or lane narrowing, or reduction of travel lanes to provide for bike lanes or parking.
- Changes to the roadways surface texture and / or colour.
- Installing visual treatments that may include entrance gateways, trees and / or ground cover.

Traffic calming responds to the concerns of the public, community associations, local businesses and municipal staff regarding speeding issues and through traffic. The process of this policy explicitly incorporates public participation in identifying local traffic

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

problems, and involvement in the process of finding and implementing a preferred solution to the identified problem(s).

2.2 TRAFFIC CALMING GOALS AND OBJECTIVES

2.2.1 Policy Goals

When traffic speeds and volumes on streets exceed the posted speed limit and the intended function of the roadway, the safety and sense of security for residents is affected. The focus of this traffic calming policy is to address these and similar issues through traffic calming.

The primary goals of this policy is to reduce high traffic speeds and decrease through traffic to acceptable levels to maintain the liveability of residential neighbourhoods, maintain access and mobility of all users of the road allowance, and improve safety for pedestrians and motorists. Where possible, consideration should be given to maintaining or improving the aesthetics of the roadway.

2.2.1.1 Liveability

Ideally, residential neighbourhoods should have low volumes of traffic characterized by less through traffic, low volumes of truck traffic, low vehicle travel speeds, few collisions, and less noise and air pollution. These traits create a safer environment for pedestrians, cyclists, and motorists of all ages. Promoting this ideology is a step towards maintaining the “small town” and “rural” flavour of the Town of Innisfil.

2.2.1.2 Access and Mobility

The primary function of local and collector residential streets is the provision of access for property owners, visitors and emergency and police services to adjacent lands. Residential streets also serve as on-street parking, an opportunity for neighbours to meet and socialize and function as an extension of a neighbour’s front yard. Traffic calming must not compromise these functions and should where possible help to enhance them.

2.2.1.3 Safety

Research and studies have indicated that traffic calming can reduce the number of collisions and decrease the severity of these accidents through the promotion of lower speeds. Relatively small changes in speed can have a large impact on the severity of a

pedestrian crash. Research has shown that a pedestrian hit at 64 km/h has about an 85% chance of being killed. At 48km/h, the probability of a fatality is about 45%. By comparison, at 32 km/h the probability of a fatal or severe collision is only about 5%[1].

2.2.1.4 Aesthetics

When designing calmer streets many opportunities arise to improve the streetscape. Narrowing street pavement width, reducing building setbacks, reducing sight triangles, planting trees closer to the street edge, and using landscaped traffic calming measures, all greatly enhance the character of the street.

2.2.2 Policy Objectives

The specific objectives of this traffic calming policy are to develop an integrated set of policies and procedures that will:

- Provide a policy that Town officials and the general public are confident is an effective and fair tool in evaluating and prioritizing traffic related problems.
- Provide a standard format for dealing in a consistent manner with complaints regarding speed, volume, pedestrian, and safety concerns.
- Provide a tool to be used in a proactive manner to address concerns before they become complaints.
- Reduce the workload and duplication of effort for Town staff in responding to speeding and volume concerns.
- Improve neighbourhood liveability by mitigating the impacts of vehicular speeds and high volumes on residential neighbourhood streets.
- Promote safe and pleasant conditions for residents, motorists, cyclists, pedestrians, and transit riders on streets.
- Encourage public involvement in traffic calming related improvements.

Through these direct and indirect objectives the ultimate goal of traffic calming is enhanced safety, a more pleasant neighbourhood environment, a greater utility of residential streets by all modes of transportation and improved opportunities for neighbourhood interaction amongst residents.

[1] Source: Zegeer, Charles, et al, Pedestrian Facilities User guide – Providing Safety and Mobility, Publication No. FHWA-RD-01-102, 2002a, p13. Shinar, David, Traffic Safety and Human Behaviour, Elsevier Ltd, 2007, p640.

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

2.3 TYPICAL TRAFFIC CALMING MEASURES

Over recent decades transportation professionals have developed a number of measures that deal with the ill effects of vehicular traffic, some more effectively than others. This collection of measures has become better known in the industry as a traffic calming toolbox. The toolbox consists of a number of measures that impact, to various extents, all facets of our society, culture, and economy. Traffic calming on the surface may seem like a simple matter but under the surface it exhibits a complex web of societal values and beliefs, inter-twined relationships between people and groups of people as well as legal issues, and government policies and procedures.

The toolbox can be divided into two broad categories: Social / Cultural Measures, and Physical Measures. Social / Cultural Measures are subtle or psychological means to influence driver behaviour. Physical measures prevent or reduce traffic movement through physically changing the road configuration or installing a barrier or impediment that discourages speeding or reduces through movements.

2.3.1 Social / Cultural Measures

Residents frequently express concerns regarding traffic speeds and volumes and pedestrian safety in residential neighbourhoods. One of the possible ways to reverse the negative impacts of vehicles is to look at resident driving habits and attempt to make changes in the frequency of use of automobiles. This approach can be initiated by the municipality through newspaper announcements and brochures encouraging organized neighbourhoods and resident associations to volunteer to implement a neighbourhood based program to increase the level of safety for other road users and to gradually reclaim the street. A Speed Watch Program or a speed radar trailer, which are spot treatments, may also change driver's behaviour for a short distance before and after the location of the radar trailer. There are also educational programs aimed at making long-term changes in driver behaviour through increased awareness of the problems, moral persuasion, and increased social interaction.

2.3.1.1 Education

Education is a prominent aspect of the traffic calming process. Education can take many forms including brochures, neighbourhood newsletters, neighbourhood associations, public meetings and advanced warning or information signs with the use of equipment such as speed trailers, law enforcement, and street signing. Education and community appreciation are effective tools in combating traffic related concerns. A community or neighbourhood pledge program has been used by other municipalities to

increase the level of compliance, developing a change in driver behaviour and respect for one's community.

2.3.2 Physical Measures

While most traffic calming measures have some effect on both volume and speed, they usually are classified according to their dominant effect, such as volume reduction or speed reduction. Effects from the implementation of physical measures may be both positive and negative. Some of the positive impacts include reductions in noise and air pollution or increases in safety through the reduction in conflicts between automobiles and non-auto modes. Negative impacts may include restrictions to local access, increased response times for emergency services such as fire and ambulance, and maintenance problems such as snow removal and street sweeping. The Canadian Guide to Neighbourhood Traffic Calming categorizes physical traffic calming measures into four categories: Vertical Deflection, Horizontal Deflection, Obstructions, and Signing. The following is a description of each of the categories.

2.3.2.1 Vertical Deflection

This type of deflection is caused by forces of vertical acceleration. This deflection generally reduces vehicle speeds because motorists slow to avoid unpleasant sensations when traversing the vertical measure. The primary effect from vertical deflection devices is the reduction of vehicle speeds, but they may also contribute to volume reductions since it will potentially take motorists longer to get to their destination as a result of reduced speeds. Examples of vertical deflection measures include speed humps, raised intersections and raised crosswalks.

2.3.2.2 Horizontal Deflection

Horizontal deflection is caused by the forces of lateral acceleration through the changes in horizontal alignment of the vehicle. The effectiveness of horizontal deflection devices is determined by the impact to the level of accessibility to neighbourhoods. The greater number of shifts in the horizontal alignment of the vehicle and the greater number of turning movements required to travel from an origin to a destination will primarily result in reduced vehicle volumes and discourage short-cutting. Some horizontal deflection measures will also reduce vehicle speeds and conflicts between automobiles and other modes of travel.

A motorist's perception of the appropriate driving speed is influenced by the design aspects of the roadway. One of the contributing factors to speeding is the relationship

between the optical width of the street and the height of the vertical elements within or adjacent to the road allowance such as trees, bollards, and buildings. Research indicates that vehicle speeds are slower in areas where the vertical elements are greater than the width of the road. The installation of vertical elements, either separately or in conjunction with other traffic calming measures, will increase their overall effectiveness. In addition to the calming effects of vertical elements within the road allowance, the installation of trees and bollards also improves aesthetics, make the measures more evident, and provides an additional barrier between pedestrians and automobiles and, in the case of trees, provides a positive impact on the environment.

2.3.2.3 Obstructions

These measures are a form of barrier used to reduce or eliminate traffic volumes depending upon the type and location of the obstruction. Although these measures may be the most effective in reducing traffic volumes, they are also the most controversial, as they typically severely restrict local access to residents, generate problems with traffic infiltrating other parallel routes or adjacent neighbourhoods, and impact service providers such as Police and Fire Departments. Most obstructions can be designed to not obstruct access to pedestrians, cyclists, transit, and emergency service providers. Depending on the location of the obstructions there may be no reduction in speeds. Examples of obstructions include directional closures, diverters and intersection channelization.

2.3.2.4 Traffic Control Signs

The use of traffic control signs should only be used when warranted. The cumulative effect of fewer signs is improved aesthetics, reduced information overload, and greater compliance as the driver's perception is not dulled by an overwhelming number of signs.

The **Ontario Traffic Manual** provides the designer with the general requirements for most signing applications including islands, pedestrian crossings, object markers, lane lines and advance warning signs. The Canadian Guide to Neighbourhood Traffic Calming also provides direction with respect to the appropriate signage for specific traffic calming applications. However, if traffic calming measures are driven over or through at speeds in excess of the design speeds, they may pose a hazard. Traffic calming measures should be treated appropriately and properly signed to warn motorists.

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

2.3.2.4.1 *Stop Signs*

Stop-signs are a regulatory device requiring drivers to stop their vehicles completely at an intersection. All-way stops provide gap opportunities at intersections for minor street traffic that would not otherwise be available under two-way stop control.

The effectiveness of stop signs for speed control or traffic calming is discussed in the Made in Innisfil's All-way Stop Control policy. It is recommended that stop signs not be considered as a speed control or traffic calming device.

2.3.2.4.2 *Community Safety Zones*

The purpose of the Community Safety Zone is to inform the driver that they are entering a zone that the community has designated as an area where the safety of its children/citizens is paramount.

The effectiveness of Community Safety Zones is discussed in the Made in Innisfil's Community Safety Zone Policy. To increase the effectiveness of the traffic calming effect of Community Safety Zone, it is recommended that the installation of Community Safety Zones be combined with other traffic calming measures to increase their effectiveness.

2.3.2.4.3 *School Speed Zones*

Bill 169 (Transit and Road Safety) was passed by the Ontario government in 2005 and resulted in the following changes within school zones:

- More than doubling the minimum fines and adding three demerit points for drivers who ignore school crossings.
- Allowing all municipalities to set a 30 km/h speed limit in traffic calming areas.
- Increasing the fine rates of $4.50 per km/h to $7.00 per km/h over the limit.
- Allowing the courts the option to suspend offenders who's speed is 50 km/h or more over the posted limit for a period of 30 days or more, a second conviction could lead to a suspension of up to 60 days and a third conviction could bring a possible 1 year suspension.

Bill 72 (Brandon's Law), passed in 2006, was intended to improve school zone safety by increasing the safety measures on school buses:

- Required crossing arms at the front of all school buses that prevent children from walking across a driver's blind spot.
- Required decals on the back of **every** school bus reminding motorists not to pass a stopped school bus with flashing lights.

- Fines of $2,000 and three demerit points for vehicle owners who illegally pass school buses and crossing arms, regardless of who is driving.

The **School Speed Zones Before and After Study**, by the City of Saskatoon, was conducted in 2002 to gage the effectiveness of a change from 50 km/h to 30 km/h in all school zones in the City. The speed reduction was in effect only during the school year and between 8am and 5pm. The study had the following findings:

- The difference between reducing travel speeds from 50 km/h to 30 km/h resulted in an increase of an average of 12 seconds to the travel time.
- The 85th percentile speed was reduced by 10 km/h from 54.5 km/h to 44.5 km/h.
- Only 23% of motorists complied with the speed limit reduction by driving at or below the 30 km/h posted limit.
- Most drivers' travel speed was between 30 km/h and 40 km/h.
- Average weekday traffic volumes dropped by approximately 13%, suggesting that some drivers may have been avoiding the school zone and using alternate routes.

2.3.2.4.4 *Radar Variable Message Boards*

The use of radar variable message boards is primarily an educational tool which is aimed at reducing the speeds of vehicles. The boards display a motorist's speed and provide instant awareness and driver sensitivity to actual travel speeds. Some municipalities are experimenting with permanent boards as an ongoing educational tool in increasing the awareness of vehicle speeds. They are also providing the use of portable units to neighbourhood organizations for a short period of time to help mitigate and track vehicle speeds within the neighbourhood. In some cases, the data collected from the participants using the message boards is forwarded to the local police for increased enforcement.

2.3.2.5 Enforcement

An increase of police presence is a viable solution to minimizing speeds and traffic related violations on the Town's roadways. Their involvement can greatly improve upon the reduction in traffic related issues on any neighbourhood roadway. However, the affect of enforcement is limited to the resources available.

Enforcement by local police has many advantages and disadvantages associated with their effect on traffic calming, the following are some of the advantages and disadvantages.

Advantages:
- Effective while officer is monitoring traffic
- Can be implemented in almost any circumstance and on short notice
- They provide an educational opportunity when on site
- Awareness of marked car and or vehicles encourages compliance

Disadvantages:
- Tickets / Fines do not cover cost of enforcement

- Disrupts flow of traffic on higher volume roadways
- Effectiveness weakens when officer is no longer present
- The resulting reduction in speeds typically occurs for only a short distance (150m) before and after the awareness of a police car

2.3.2.6 Current Road Standards / Design Policies

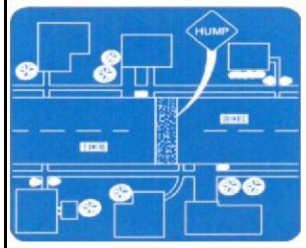
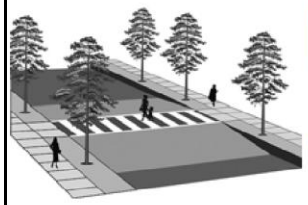
The majority of local road standards and neighbourhood design parameters were developed subsequent to the end of World War II during a time when accommodating the automobile was in the forefront of the social consciousness. These standards included wide pavement widths to allow for both the movement and parking of cars, long tangent sections, large horizontal curves and generous building setbacks have all contributed to speeding and traffic volume impacts. Many of these road standards have not changed. Since this time, societal values in our communities have evolved where a greater emphasis has been placed on alternative modes of travel and the enhancement of the safety of vulnerable users of the road allowance including pedestrians and cyclists, especially children.

The Town of Innisfil should revisit current design standards for local and collector roadways to confirm that they are in keeping with the latest societal values and the goals and objectives of the Official Plan and Transportation Master Plan every 5 years. The following is a suggested list of criteria to aid in evaluating current design standards:

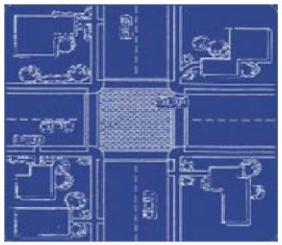
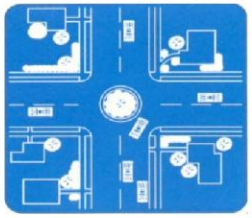
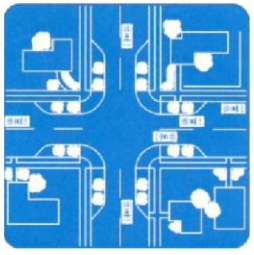
- Protection of local roads by reducing vehicle speeds, noise and unnecessary through traffic on local roadways.
- Minimize environmental impacts to the air, water, noise and land we inhabit, reduce the consumption of resources and include green space with our transportation needs while emphasizing environmentally friendly modes of transportation.
- Improve the environment for pedestrian and cyclists by providing barrier free access, safety through quality design and ensure the infrastructure is friendly to both pedestrian and cyclist modes of transportation.
- Be affordable by using cost effectiveness as a guide for planning, design construction, and operation of the transportation infrastructure.

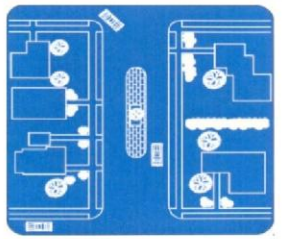
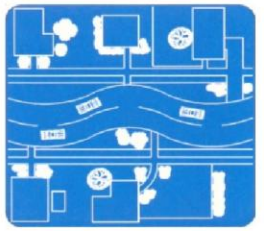
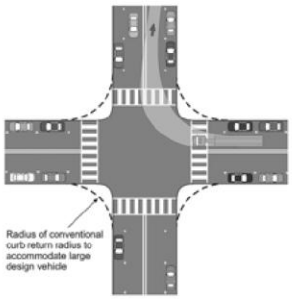
A table illustrating some of the typical traffic calming measures applicable to the Town's road network are found in **Table 2-1.** This table provides a description and purpose for each measure, as well as its applicability on various types of streets.

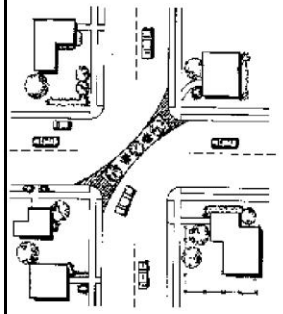
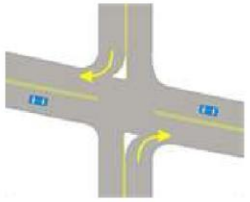
Table 2-1: Typical Traffic Calming Measures [2]

Measure	Description	Purpose	Applicability	Examples
Speed Hump	A raised area of the roadway, which deflects both the wheels and frame of a traversing vehicle	▪ To reduce vehicle speeds	▪ Local Streets ▪ Minor Collector Streets	 
Speed Cushion	A raised area of the roadway, which deflects both the wheels and frame of a traversing vehicle, except the wider wheel base of emergency vehicles	▪ To reduce vehicle speeds while reducing the impact on emergency vehicle response	▪ Local Streets ▪ Minor Collector Streets	 
Raised Crosswalk	A marked crosswalk at an intersection or mid-block location, constructed at a higher elevation than the adjacent roadway	▪ To reduce vehicle speeds ▪ To improve pedestrian visibility ▪ To reduce pedestrian-vehicle conflicts	▪ Local Streets ▪ Collector Streets ▪ Downtowns	 

[2] Source: ITE and TAC Canadian Guide to Neighbourhood Traffic Calming (1998)

Measure	Description	Purpose	Applicability	Examples
Raised Intersection	An intersection, including crosswalks, constructed at a higher elevation than the adjacent roadway	▪ Reduce vehicle speeds ▪ Better defined intersection ▪ Reduce pedestrian – vehicle conflicts	▪ Local Streets ▪ Collector Streets ▪ Downtowns	 
Textured Surfaces	Used to define a crossing location for pedestrians, or provide greater visibility of an area	▪ To reduce pedestrian-vehicle conflicts	▪ Local Streets ▪ Collector Streets ▪ Downtowns	 
Traffic Circles and Roundabouts	A raised island located in the centre of an intersection, which requires vehicles to travel through the intersection in a counter-clockwise direction around the island	▪ To reduce vehicle speeds ▪ To reduce vehicle-vehicle conflicts at intersections	▪ Local Streets ▪ Collector Streets	 
Curb Extensions / Chokers	A horizontal intrusion of the curb into the roadway resulting in a narrower section of roadway	▪ To reduce vehicle speeds ▪ To reduce crossing distance for pedestrians ▪ To increase pedestrian visibility ▪ To prevent parking close to the intersection	▪ Local Streets ▪ Collector Streets ▪ Downtowns	 

Measure	Description	Purpose	Applicability	Examples
Raised Centre Median	An elevated median constructed on the centreline of a two-way roadway that reduces lane widths	▪ To reduce vehicle speeds ▪ To reduce pedestrian-vehicle conflicts ▪ Provide pedestrian refuge on a wide street	▪ Local Streets ▪ Collector Streets ▪ Downtowns	 
Chicanes	A series of curb extensions on one side or on alternating sides of a roadway, depending on the width of the roadway	▪ To reduce vehicle speeds ▪ To discourage shortcutting or through traffic	▪ Local Streets ▪ Collector Streets	 
On-Street Parking	Reduction of the roadway width available for vehicle movement by allowing motor vehicles to park adjacent to the traveled portion of the roadway	▪ A reduction in vehicle speeds ▪ possible shortcutting or through traffic	▪ Local Streets ▪ Collector Streets ▪ Downtowns	 
Curb Radii Reduction	The reconstruction of an intersection corner with a smaller radius	▪ Slow right turning vehicles ▪ Reduces crossing distances for pedestrians ▪ Improved pedestrian visibility	▪ Local Streets ▪ Collector Streets ▪ Downtowns	 

Measure	Description	Purpose	Applicability	Examples
Directional Closure	A curb extension or vertical barrier extending to approximately the centreline of a roadway, effectively obstructing one direction	▪ To obstruct shortcutting or through traffic	▪ Local Streets ▪ Minor Collector Streets	 
Right In / Right Out Island	A raised triangular island at an intersection approach which obstructs left turn and through movements to and from the street or driveway	▪ To obstruct shortcutting or through traffic	▪ Local Streets	 
Diverters	A raised barrier placed diagonally across an intersection that forces traffic to turn and prevents traffic from proceeding straight through the intersection. Diverters can incorporate gaps for pedestrian, wheelchair, and bicycle access and may be mountable for emergency response	▪ To reduce unwanted through traffic	▪ Local Streets ▪ Minor Collector Streets	 
Intersection Channelization	The use of raised islands located in an intersection to obstruct specific traffic movements and physically direct traffic through an intersection	▪ To obstruct shortcutting or through traffic, by obstructing or directing specific traffic movements	▪ Local Streets ▪ Minor Collector Streets	 

Measure	Description	Purpose	Applicability	Examples
Raised Medians Through Intersection	An elevated median located on the centreline of the roadway through an intersection, which prevents left turn and through movements	▪ To obstruct shortcutting or through traffic, by obstructing left turn and through movements	▪ Local Streets ▪ Minor Collector Streets	 
Full Closure	A barrier extending the entire width of the roadway, which obstructs all motor vehicle traffic movements	▪ To obstruct shortcutting or through traffic	▪ Local Streets	 

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

2.4 BEST PRACTICES IN DESIGN

Traffic calming designs and methods fall under three category types which have varying effects on the level of traffic calming provided. The following are definitions to three approaches in Traffic Calming:

1. **Passive** traffic calming involves the use of traffic controls, where warranted, that do not involve physical changes to the street. The devices used include signage, pavement markings and forms of manual control. Most of these types of controls have been found to be very ineffective, unless they meet warranted criteria or are combined with other measures, such as constant enforcement, which is very costly. The primary advantage to these types of controls, or measures is their low cost.
2. **Moderate** traffic calming includes the use of physical changes to the street that require vehicles to deflect either vertically or horizontally. These devices do not prevent the use of the street but affect the speed of vehicles and as a result may have an affect in the use of the street. There are many types of physical measures that may be used each having their own advantages and disadvantages.
3. **Restrictive** traffic calming involves the use of physical and or regulatory changes to a street that prevent through traffic from using the street. This may be done with street closures, or by restricting and / or limiting the movements to one-way. These types of traffic calming have advantages and disadvantages to their affect on traffic.

Different combinations of traffic calming measures can be used when appropriate, depending on the balance or desired form of transportation and traffic activities. Along with the use of these devices, pavement markings, signage and enforcement are utilized when using a measure or combination of measures. The potential benefits and disadvantages of the typical traffic calming measures described above are summarized in **Table 2-2** and **Table 2-3**.

POLICY: Traffic Calming	COUNCIL APPROVAL DATE:_____ RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)*
POLICY NO.: *XX.XXX*-XX *(Number assigned by Clerk Services)*	REVISED DATE: December 28, 2012 RES. NO.: CR-….XX

Table 2-2: Potential Benefits of Traffic Calming Measures [3]

Measure		BENEFITS			
		Speed Reduction	Volume Reduction	Conflict Reduction	Environment
Key: ● = Substantial Benefits, - = Minor Benefits, ○ = No Benefit					
Vertical Deflection	Speed Humps & Cushions	●	-	●	-
	Raised Crosswalk	●	○	-	-
	Raised Intersection	-	○	-	-
	Textured Surfaces	○	○	-	-
Horizontal Deflection	Traffic Circle	●	-	●	●
	Curb Extension	-	○	○	●
	Raised Median	-	○	-	○
	Chicanes	-	-	-	-
Horizontal Deflection	On-Street Parking	-	○	○	-
	Curb Radii Reduction	-	○	○	-
Obstruction	Directional Closure	○	●	-	-
	Right-in / Right-Out Island	○	●	-	-
	Diverter	○	●	-	-
	Intersection Channelization	○	-	-	-
	Raised Median Through Intersection	○	●	-	-
	Full Closure	-	●	●	-
Signing	Stop Sign	○	-	-	○
	Right (Left) Turn Prohibited	○	-	-	-
	Maximum Speed	-	○	○	○
	One-Way	○	●	-	-
	U-Turn Prohibition	○	○	○	○
	Through Traffic Prohibited	○	-	-	-
	Traffic-Calmed Neighbourhood	○	○	○	-

[3] Source: ITE and TAC Canadian Guide to Neighbourhood Traffic Calming (1998)

POLICY: Traffic Calming	COUNCIL APPROVAL DATE:_____ RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)*
POLICY NO.: *XX.XXX*-XX *(Number assigned by Clerk Services)*	REVISED DATE: December 28, 2012 RES. NO.: CR-….XX

Table 2-3: Potential Disadvantages of Traffic Calming Measures

Measure		DISADVANTAGES					
		Local Access	Emergency Response	Other Travel Modes	Enforcement	Annual Maintenance	Cost to Implement
Key: ● = Substantial Benefits, - = Minor Benefits, ○ = No Benefit, $ = Low Cost, $$ = Moderate Cost, $$$ = High Cost							
Vertical Deflection	Speed Humps & Cushions	○	-	-	○	$ to $$	$ to $$
	Raised Crosswalk	○	-	-	○	$	$ to $$
	Raised Intersection	○	-	-	○	$	$$$
	Textured Surfaces	○	○	-	○	$ to $$	$
Horizontal Deflection	Traffic Circle	○	-	-	○	$ to $$	$$ to $$$
	Curb Extension	○	○	-	○	$	$ to $$
	Raised Median	-	○	○	○	$	$ to $$
	Chicanes	○	-	○	○	$	$ to $$$
	On-Street Parking	○	-	-	○	$ to $$	$ to $$
Horizontal Deflection	Curb Radii Reduction	○	○	○	○	$	$
Obstruction	Directional Closure	-	○	-	-	$	$$
	Right-in / Right-Out Island	-	-	-	-	$	$$ to $$$
	Diverter	-	-	-	○	$	$ to $$
	Intersection Channelization	-	-	○	○	$	$ to $$
	Raised Median Through Intersection	-	-	-	○	$	$$
	Full Closure	○	○	○	●	$	$
Signing	Stop Sign	○	-	○	●	$	$
	Right (Left) Turn Prohibited	-	○	○	●	$	$
	Maximum Speed	○	○	○	●	$	$
	One-Way	-	-	-	○	$	$
	U-Turn Prohibition	-	○	○	●	$	$

POLICY: Traffic Calming	COUNCIL APPROVAL DATE:_____ RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)*
POLICY NO.: *XX.XXX*-XX *(Number assigned by Clerk Services)*	REVISED DATE: December 28, 2012 RES. NO.: CR-….XX

Measure		DISADVANTAGES					
		Local Access	Emergency Response	Other Travel Modes	Enforcement	Annual Maintenance	Cost to Implement
Key: ● = Substantial Benefits, - = Minor Benefits, ○ = No Benefit, $ = Low Cost, $$ = Moderate Cost, $$$ = High Cost							
	Through Traffic Prohibited	-	○	○	●	$	$
	Traffic-Calmed Neighbourhood	○	○	○	○	$	$

2.5 REVIEW OF CURRENT TRAFFIC CALMING POLICIES IN OTHER JURISDICTIONS

A review of similar policies from other municipalities in Ontario was conducted and is summarized in **Table 2-4**.

Table 2-4: Traffic Calming Measures Used by Other Municipalities

Traffic Calming Measure	Municipality							
	Windsor	LaSalle	London	Kitchener	Waterloo	Oakville	Ottawa	Barrie
Vertical Deflection								
Speed Humps	●	●	●	●	●	●	●	●
Speed Cushions			●		●	●	●	●
Rumble Strips	●					●	●	
Raised Crosswalk	●	●		●	●	●	●	
Raised Intersection	●	●		●	●		●	●
Sidewalk Extension	●			●			●	
Textured Surfaces	●		●	●	●		●	●
Horizontal Deflection								
Traffic Circle	●	●	●	●	●	●	●	●
Roundabout	●		●				●	
Curb Radii Reduction	●	●	●	●			●	●
Chicanes	●		●	●			●	

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: Traffic Calming	COUNCIL APPROVAL DATE:_____ RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)*
POLICY NO.: *XX.XXX*-XX *(Number assigned by Clerk Services)*	REVISED DATE: December 28, 2012 RES. NO.: CR-….XX

Traffic Calming Measure	Municipality							
	Windsor	LaSalle	London	Kitchener	Waterloo	Oakville	Ottawa	Barrie
Curb Extension / Choker	●	●	●	●	●		●	●
On-Street Parking	●	●	●	●	●		●	●
Raised Median Island	●	●	●	●	●	●	●	
Streetscaping		●					●	
Gateways			●				●	
Intersection Realignment							●	
Sidewalks							●	
Obstructions								
Directional Closure	●	●	●	●			●	
Full Closure	●		●	●			●	
Right In / Right Out	●	●	●	●			●	
Diverters	●	●	●	●			●	
Obstructions								
Intersection Channelization	●	●	●	●			●	
Raised Median Through Intersection	●	●	●	●			●	
Signage								
Stop Sign			●	●	●	●	●	●
No Right (Left) Turn	●	●	●	●	●	●	●	●
One-Way	●	●	●	●	●	●	●	●
No U-Turn	●		●	●	●	●	●	●
School Zone	●		●	●	●	●	●	●
Pedestrian Crossing	●		●	●	●	●	●	●
No Parking	●		●	●	●	●	●	●
Maximum Speed	●	●	●	●	●	●	●	●
Through Traffic Prohibited	●	●	●	●	●	●	●	
Yield			●	●	●	●		●

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Traffic Calming Measure	Municipality							
	Windsor	LaSalle	London	Kitchener	Waterloo	Oakville	Ottawa	Barrie
Traffic Calmed Neighbourhood	•	•	•	•	•	•	•	•
Pavement Markings								
Centreline	•			•			•	•
Edge Lines	•			•			•	•
Parking Lines	•			•			•	•
Bike Lanes	•			•	•		•	
Enforcement								
Police	•	•	•	•	•	•	•	•
Bylaw	•	•	•	•	•	•	•	•

This list of potential traffic calming measures can be applied to both existing roadways in retrofit situations as well as during part of the review of draft plans of subdivisions where some applications will include the consideration of traffic calming devices within the municipal road allowance.

In retrofit situations, the process in developing a traffic calming plan should be based on the four stages recommended in the Canadian Guide to Neighbourhood Traffic Calming including:

- Stage 1 - Initiate the Study
- Stage 2 - Identify the Problems
- Stage 3 - Develop a Plan
- Stage 4 - Implement the Plan.

For new developments, a review should be undertaken as part of the application prior to developing a neighbourhood wide traffic calming plan to ensure that any measures are warranted. If traffic calming is warranted, the development plan should indicate details pertaining to the implementation of traffic calming measures including the type and location of the device(s).

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

3. EXCEPTIONS

None

4. RESPONSIBILITY

Capital Engineering Services

5. DEFINITIONS:

Traffic Calming – The combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve conditions for non-motorized street users. Alternatively, the purpose of traffic calming is to restore streets to their intended function.

Traffic Control Device – Any sign, signal, marking, or device placed upon, over or adjacent to a roadway by a public authority or official having jurisdiction, for the purpose of regulating, warning, guiding or informing road users. See **Section 2.4** for more information.

6. POLICY STATEMENT

The following traffic calming policy is based on a review of traffic calming policies throughout Ontario. The process for implementing traffic calming should be traceable and transparent such that it is understandable to the public and provides guidance to Town staff. While the process is intended to be clear and consistent, it is recognized that each location and traffic issue may be unique. It should be noted that various solutions are often available, and that this traffic calming policy is intended as a guide to aid Town staff in applying their professional judgment. The following traffic calming policy takes a reactive approach (in other words on a complaint basis only). It also concentrates on speeding concerns and not cut-thru concerns.

6.1 Handling of Speeding Concerns

As speeding concerns are received, an investigation is to be conducted as follows:

1. Review any past concerns and past traffic count data if not older than three years, otherwise conduct new counts (volume and speed).

2. Refer to the warrant criteria in **Section 6.1.1** for permanent measures.
3. If warrants for permanent measures are met, implement the appropriate temporary measure as outlined in **Section 6.1.2** first and gather traffic count data (volume and speed) one month after implementation.
4. If the implementation of temporary measures is successful in reducing speeds, then consider implementing permanent measures and proceed to determine ranking of installation as outlined in **Section 6.1.3**.
5. Conduct an after study of speed and volume after the implementation of a measure.
6. If no warrants are met, then request speed enforcement.

6.1.1 Permanent Traffic Calming Measures

Permanent traffic calming measures are to be restricted to the following:

- Textured Crosswalks (Pavement Markings / Zebra Striping)
- Raised Intersections
- Curb Extensions
- Curb Radius Reductions
- Raised Median Islands
- Traffic Circles.

The warrant criteria for permanent measures are shown in **Table 6-1**. All of these requirements must be met to meet the warrant.

Table 6-1: Permanent Traffic Calming Warrant

Warrant	Item	Requirement
1 - Safety Requirements	Road Grade	Road grade less than 5%
	Block Length	Street length must exceed 120 metres between controlled intersections
	Sidewalks	Continuous sidewalks on at least one side of the street.
2 - Technical Requirements	Class of Roadway	Local and minor collector residential roadway
	Vehicle Speeds	85th percentile speed greater than 10 km/h over the posted speed limit of the roadway
	Vehicle Volume	Vehicle volume greater than 900 vehicles per day.
	Daily Traffic	Vehicle volume must be less than 5,000 vehicles per day within a 5 year horizon period
	Transit Route	Roadway is not a transit route

6.1.2 Temporary Traffic Calming Measures

Temporary traffic calming measures are to be implemented first where permanent traffic calming measures are warranted, and include only the following:

- Radar Speed Advisory Boards
- Speed Cushions

The warrant criteria for temporary measures are shown in **Table 6-2**. All of these requirements must be met to meet the warrant.

Table 6-2: Temporary Traffic Calming Warrant

Warrant for	Item	Requirement
Radar Speed Advisory Boards	Class of Roadway	Any
	Vehicle Speeds	Complaints received relevant to vehicle speeds
	Season	Year round use with a minimum duration of 3 months per location
Speed Cushions	Class of Roadway	Local and minor collector residential roadway
	Road Grade	Road grade less than 5%
	Sidewalks	Continuous sidewalks on at least one side of the street
	Transit Route	Roadway is not a transit route
	Vehicle Speeds	Complaints received relevant to vehicle speeds
	Season	To be installed during non-winter maintenance months, April to October with a minimum duration of 3 months per location

6.1.3 Traffic Calming Measure Ranking

The following criterion shall be used to rank each project for determination of an implementation schedule. The point system is as follows:

- Pedestrian Generators – 5 points for each pedestrian generator located in proximity to the proposed traffic calming area. Pedestrian generators include schools, churches, parks, major walking trails, and community centres.
- Vehicle Speeds – 5 points for every km/hr that the 85th percentile speed exceeds 10 km/hr above the posted speed limit.
- Collision History – 5 points for roadways that have experienced at least one collision involving pedestrians or cyclists in the last five years.

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

- Daily Traffic - Points for two way traffic volumes as follows:
  - 900 - 1,500 vehicles = 1 Point
  - 1,501 – 2,500 vehicles = 3 Points
  - 2,501 – 3,500 vehicles = 5 Points
  - 3,501 – 5,000 vehicles = 7 Points.

6.2 PROGRAM MANAGEMENT

6.2.1 Post Implementation Study

Permanently implemented measures are to be monitored for a period of six months to a year after implementation, to determine the effectiveness of the traffic calming devices.

The evaluation will assess the effectiveness of the mitigation to the traffic related problem. An information report shall be prepared for Council, summarizing the effectiveness of the traffic calming program for the year. The report will identify those projects that may require follow-up measures and reintroduction into the traffic calming program. Modifications to, or removal of traffic calming measures will require the same public process, evaluation, and community and Council approval process as implementation of a new project. The findings of post implementation studies will be used to make refinements to the Traffic Calming Policy. As a greater amount of local experience is gained, the effectiveness of various traffic calming measures and impacts will be valuable in gauging their applicability in future traffic calming projects.

6.2.2 Program Planning

The number of traffic calming initiatives undertaken annually will depend on the Town's Capital Budget allocation for traffic calming projects and staff resources available. The list of approved projects and their priority ranking will be maintained and updated annually. Depending on the types of traffic calming measures installed, materials used and extent of their application, the implementation cost will vary. Where funding is limited, a phased project implementation plan shall be considered.

The evaluation of new traffic calming requests shall be coordinated with the annual construction schedule, or two times per year.

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

6.2.2.1 Resource Requirements

Resource requirements encompass a variety of factors and shall be considered upon the start of all traffic calming projects. The following list outlines the factors and the attributing costs associated with each of them:

1. **Administration Costs:** this includes staff time to obtain and analyse data, ongoing prioritizing of requests, public consultation and design of traffic calming measures. The associated costs for the administration would fall under the normal operating budget by utilizing existing staff and resources.
2. **Capital Costs:** construction of traffic calming devices. Different approaches can be taken towards funding:
   - Shared cost with affected residents, this method has many advantages including the residents having a buy-in or sense of ownership. Also minimizes the chance of the traffic calming device being removed in the future.
   - Municipal funding where the costs are solely the responsibility of the Town.
   - A combination of both, where if the priority ranking or severity of the area warrants the need for traffic calming the Town would assume the costs of the project, or if the area requests the project but the priority or severity deems the area adequate with or with out the traffic calming devices implemented then the costs would be shared between the affected residents and the Town. Therefore, the funding may be set up along with the priority ranking, whereby at certain levels of scoring would determine the percentage of cost that would be assumed by both parties.
3. **Local Improvements Program:** a local improvements program could be considered as an alternate means of funding traffic calming projects. A local improvement is any work or service paid for by charging part or all of the cost to property owners who benefit from the work or service. The Local Improvements Program could be initiated either by “Petition” or by “Council Initiatives”. Property owners may petition the Local Improvements Program. However, the petition should be signed by at least half of the property owners representing at least half of the assessed value of the benefiting properties. Council initiated Improvements would be published in the local media and mailed to the benefiting property owners.
4. **Operations and Maintenance Costs:** the costs for maintaining the traffic calming device shall be the responsibility of the Town. However, if the device in the future has a request for removal than the associated cost shall be the responsibility of the residents and stakeholders affected.

POLICY: **Traffic Calming**	**COUNCIL APPROVAL** **DATE:_____** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

6.3 Traffic Calming Removal Process

The process to have traffic calming device(s) removed permanently is as follows:

- A citizen, agency and stakeholder may request that traffic calming devices on a subject street be removed.
- A petition form must be obtained through the Engineering Department where staff would outline a study area in which residents, agencies, and stakeholders are affected by traffic calming devices. The petition must then be signed by a minimum of 60% in support of the removal.
- Once the petition form has be completed and submitted to the Town, staff would review the effectiveness and potential problems with its removal and submit a formal report to Council on their recommendations.
- If recommended for removal and approved by Council, the affected residents, agencies and stakeholders would share in the cost of the removal.
- If removed, the area residents will not be able to request a traffic calming study for a period of not less than three years.

6.4 Checklist

A checklist is provided in **Attachment A**.

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Traffic Calming**	**COUNCIL APPROVAL** **DATE:_____** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Attachment A: Checklist for Determining the Need for Traffic Calming

The following check list is to be used in conjunction with the Traffic Calming Policy document when considering traffic calming methods.

Location of Road/Intersection _____

in Question: _____

Date Inquiry was received: _____

Date Inquiry was completed: _____

Name of Reviewer: _____

Step 1

Review Speeding Concerns

Are there any past concerns for the area in question?	Yes ☐	No ☐
Is there past traffic count data not older than three years?	Yes ☐	No ☐

If yes to either question, move on to Step 2 - Warrant Criteria for Permanent Measures. If no traffic count data is available, conduct new traffic counts prior to moving ahead.

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX-XX (Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Step 2 – Warrant Criteria for Permanent Measures

Warrant	Item	Requirement	Road in Question	Meets Warrants
Safety Requirements	Road Grade	Road grade less then 5%.	Insert road grade	Yes ☐ No ☐
	Block Length	Street length must exceed 120 metres between controlled intersections.	Average length between controlled intersections	Yes ☐ No ☐
	Sidewalks	Continuous sidewalks on at least one side of the street.	Yes ☐ No ☐	Yes ☐ No ☐
Technical Requirements	Class of Roadway	Local and minor collector residential roadway	Insert road class	Yes ☐ No ☐
	Vehicle Speeds	85th percentile speed greater than 10km/h over the posted speed limit of the roadway	Insert average speed	Yes ☐ No ☐
	Vehicle Volume	Vehicle volume greater than 900 vehicles per day.	Insert number of vehicles per day	Yes ☐ No ☐
	Daily Traffic	Vehicle volume must be less than 5000 vehicles per day within a 5 year horizon period.	Insert number of vehicles per day	Yes ☐ No ☐
	Transit Route	Roadway is not a transit route.	Is roadway a transit route? Yes ☐ No ☐	Yes ☐ No ☐

Do all criteria meet warrants? Yes ☐ No ☐

If yes, then move on to Step 3 – Temporary Measures. If no, then traffic calming measures are not warranted at this time.

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Step 3 – Implementation of Temporary Measures

Warrant For	Item	Requirement	Road/Intersection in Question	Meets Warrant
Radar Speed Advisory Boards	Class of Roadway	Any	Insert road class	Yes ☐ No ☐
	Vehicle Speeds	Complaints received relevant to vehicle speeds	Yes ☐ No ☐	Yes ☐ No ☐
	Season	Year round with a minimum of three months per location	Indicate which months	Yes ☐ No ☐
Speed Cushions	Class of Roadway	Local and minor collector	Insert road class	Yes ☐ No ☐
	Road Grade	Road grade less than 5%	Insert road grade	Yes ☐ No ☐
	Sidewalks	Continuous sidewalks on at least one side	Yes ☐ No ☐	Yes ☐ No ☐
	Transit Route	Roadway is not a transit route	Yes ☐ No ☐	Yes ☐ No ☐
	Vehicle Speeds	Complaints received relevant to vehicle speeds	Yes ☐ No ☐	Yes ☐ No ☐
	Season	To be installed during non – winter months from April to October with a minimum of three months per location.	Indicate which months	Yes ☐ No ☐

Do all criteria meet warrants? Yes ☐ No ☐

If yes, then recommend to install temporary measures and collect traffic count data one month after implementation. If no, then traffic calming measures are not warranted at this time.

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Traffic Calming**	**COUNCIL APPROVAL** **DATE:_____** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Step 4 - One Month After Temporary Measures Are Installed
If implementation of temporary measures is successful in reducing speeds, then consider implementing permanent measures and determine ranking of installation as outlined.

The following criterion shall be used to rank each project for determination of an implementation schedule. The point system is as follows:

Criteria	Scoring	Road/Intersection in Question Scoring
Pedestrian Generators	5 points for each pedestrian generator located in proximity to the proposed traffic calming area. Pedestrian generators include schools, churches, parks, major walking trails, and community centres.	
Vehicle Speeds	5 points for every km/hr that the 85th percentile speed exceeds 10 km/hr above the posted speed limit.	
Collision History	5 points for roadways that have experienced at least one collision involving pedestrians or cyclists in the last five years	
Daily Traffic	900 - 1,500 vehicles = 1 Point 1,501 – 2,500 vehicles = 3 Points 2,501 – 3,500 vehicles = 5 Points 3,501 – 5,000 vehicles = 7 Points.	
Total Score		

The scoring will help to rank competing traffic calming installation measures by highest score.

Follow Up Measures
Identify how project will be funded _____
Monitor speeds 6 months – 1 year after permanent measures have been installed. ☐

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Attachment B: Alternative Traffic Calming Policy

The following traffic calming policy is based on one developed for the Municipality of Chatham-Kent, which is a municipality with similar population and characteristics to the Town of Innisfil. Consideration should be given to implementing this policy as the number of traffic calming requests increase. The traffic calming process for this Policy is best summarized by the flow chart shown in **Exhibit 1**.

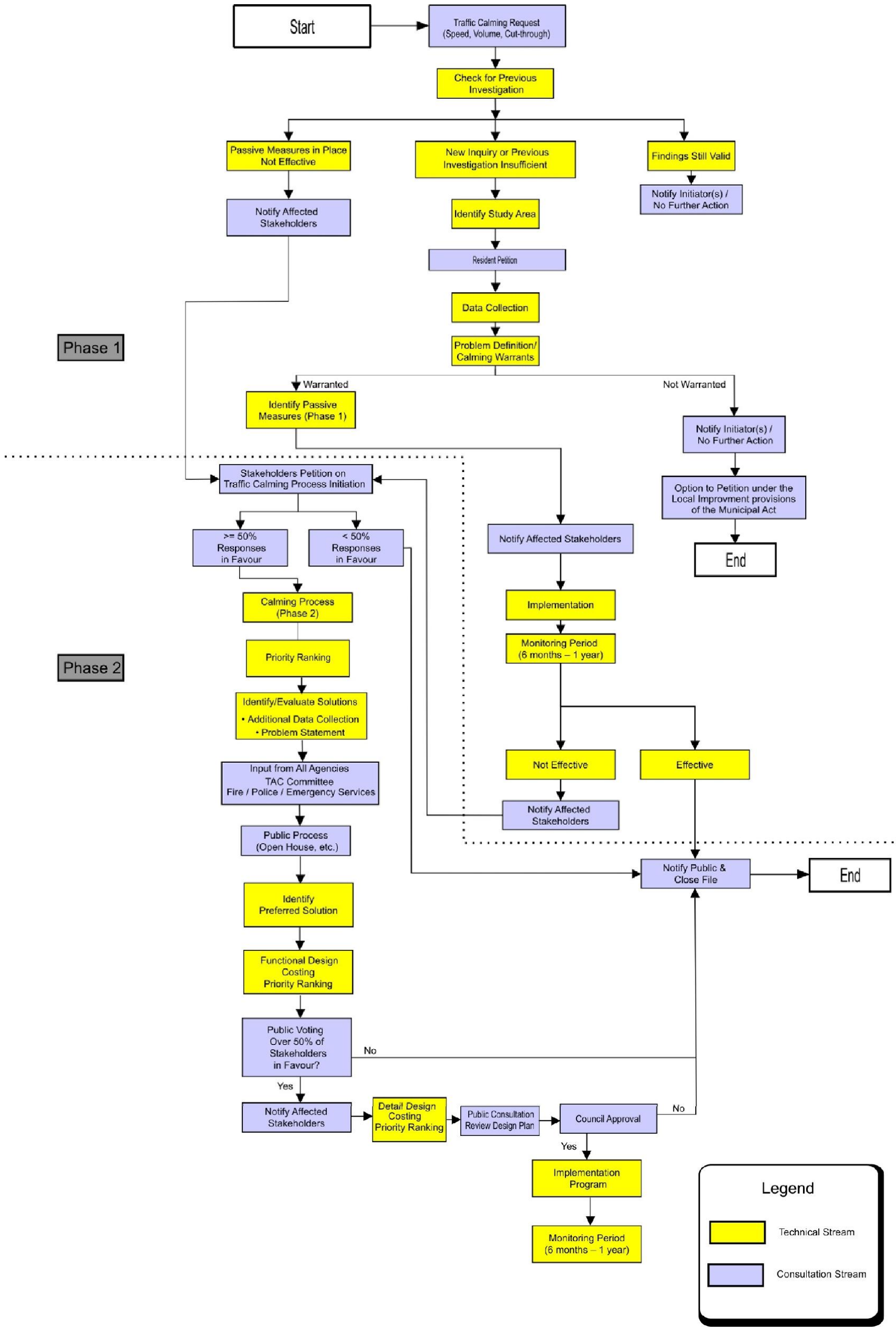
1. Phase 1 – Project Initiation and Screening

1.1 Project Request

Consideration for a traffic calming review process can be identified in a number of ways. The project initiation could be via complaints from the general public, community associations, school boards, or businesses. Another possible means is through a proactive traffic calming review initiated by Town staff to emphasize areas of potential concern.

PROACTIVE (Town staff identifies problem and initiates action)
Identify problems or opportunities based on the measured volumes, speeds and collision history, as well as the possibility of future capital projects or other staff observations.

Exhibit 1: Traffic Calming Process



POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

REACTIVE (Citizen or Community request for action)

- A traffic calming concern could be raised directly in person, by public forum, by letter, by telephone, by e-mail or via fax. A process must be established to record and track the issue so that it cannot be lost or set aside.
- A request form should be created and made available on the Town's website.
- The concern is to be compared to recent or outstanding requests for a traffic investigation and either of the following conducted:
  - If similar requests have been made and an investigation was completed and passive measures were implemented, the investigation should be reviewed to determine if the findings are still pertinent. For example, three year old count data is acceptable providing the count involves an 8 hour study, and 24 to 48 hour speed, volume and classification data. If it is determined that the data is outdated, it is recommended that additional data be collected.
  - If it is determined that the scope of a previous investigation was adequate to address the problem, and that the findings are still valid, a response can then be prepared on the basis of the conclusions of that inquiry.
  - If it is determined that the scope of a previous investigation was inadequate to address the problem, or that the concern is new to the Town, or passive measures are in place but are not found to be effective, then the process for consideration of a physical traffic calming measures review should be initiated.
- Evaluate traffic conditions in the area to determine if they may be the result of temporary conditions (i.e. due to road construction).
- A formal response to the originator is required at this point, to acknowledge receipt of their communication and to advise as to how the issue is to be handled.
- If the request is new or a previous study investigation found insufficient need, a petition of residents in the vicinity of the request should be initiated. The purpose of the petition is to gauge the level of interest of the affected residents and to discourage frivolous applications.

1.2 Study Area Definition

The traffic calming process will be determined based on the extent of the problem area for which the traffic calming review is proposed, as well as the classification of the roadway within the Town's road network. The extent of the study area will also consider the potentially affected residents.

The objective of determining the study area is to ensure that the intended level of service of the particular road classification is maintained. For the purpose of this traffic

POLICY: **Traffic Calming**	**COUNCIL APPROVAL** **DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

calming policy, three methods (levels) will be applied in classifying the impacted area, and the type of traffic calming project. These levels are as follows:

Level 1 - Local and Rural Collector Streets
If a traffic calming project is being considered on a local or rural collector street, a comprehensive solution that will benefit adjacent streets, and not just the subject street, must be considered. Adjacent residential streets captive to the subject street will be included in the review to minimize the potential for impacts. Town staff will perform the investigation of the subject street and the area, and the study limits will be subsequently identified. A Level 1 Traffic Calming project will therefore focus on those residents on the subject street, and residents on any street influenced or defined by the study area. It is expected that the study area for a Level 1 traffic calming project will be larger than the study area for a Level 2 traffic calming project.

Level 2 - Urban Collector Roadways
If a traffic calming project is being considered on an urban collector, the study limits will include the subject street and its characteristics. Town staff will perform the investigation of the subject street, and the study limits will be subsequently identified. A Level 2 traffic calming project will therefore focus on those residents on the subject street.

Level 3 - Urban and Rural Arterial Roadways
Generally, traffic calming would not be considered on arterial roadways. Exceptions would be school areas, areas with high pedestrian generators and downtowns. A Level 3 traffic calming project would therefore focus on two to three blocks before and after the area of concern on the subject street.

1.3 Project Screening to Identify Potential Problem Conditions

Once a traffic calming review process has been initiated, the merits of the request are assessed relative to the Traffic Calming Warrants established by the Town. To assess the merits, the following six steps are undertaken:

1. If historical data is not available or is no longer pertinent (typically no more than 3 years old), conduct preliminary speed and volume data collection, over a 24 to 48 hour period on weekdays, and prepare appropriate summaries. Survey locations to be selected by staff based on the details of the concern and following a site visit.
2. Analyst completes a **Warrant Assessment**. Warrants are listed in **Section 1.5**.
3. If the warrant analysis does not define a problem, then the process is terminated and the originator(s) of the process (public or staff) is notified in writing.

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

4. If at least one warrant is met, then a draft plan of possible passive measure solution(s) to the problem is identified. These could include enforcement, signing and pavement marking. It is the objective of this traffic calming policy that passive measures are the first solutions chosen and implemented to mitigate traffic related problems, in all investigations.
5. Notify the public that a problem is or has been confirmed and that passive measures will be implemented and should be monitored for a period of six to twelve months after implementation, to determine the effectiveness of the measures.
6. After the monitoring period, if it is determined that the passive measures are effective, the public is notified and the project file is closed. If it is determined that the passive measures are not effective, Town staff will notify the affected stakeholders.

1.4 Traffic Calming Warrant Assessment

The Town will consider traffic calming as a speed and volume management tool to maintain traffic conditions within acceptable ranges in areas of potential exposure, including: pedestrian crossings, residential streets, school zones and parks. Speed and volume thresholds have been established in recognition of the following:

- Safety concerns increase significantly at higher levels of speed and volumes;
- There is a difference between road design speeds and regulatory speeds;
- The presence of residential collector roads with long tangent sections;
- Variations in individual driver behaviour;
- Realities of enforcement / conviction of speeding marginally above posted speed limits based on technical requirements such as the environmental aspects and road design elements, as well as engineering practice;
- Higher traffic speeds and volumes increase exposure to conflicts.

Rural communities considering traffic calming will follow the Local Warrant assessment. However, if the roadway being assessed is a rural collector it will follow the Rural Collector Warrant. A rural collector roadway will differ from the urban collector roadway from daily volume to the 85th percentile speed and considerations for implementing traffic calming devices on rural collector versus the urban collector should include the following:

- Typical roadway user in a rural area is likely to be an older resident who may not have encountered traffic calming devices as someone in a more urban setting.
- Vehicle type should be considered as heavy trucks, farming equipment are significant users of the roadway in a rural setting, therefore devices considered for these roadways should accommodate the larger farming equipment.

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

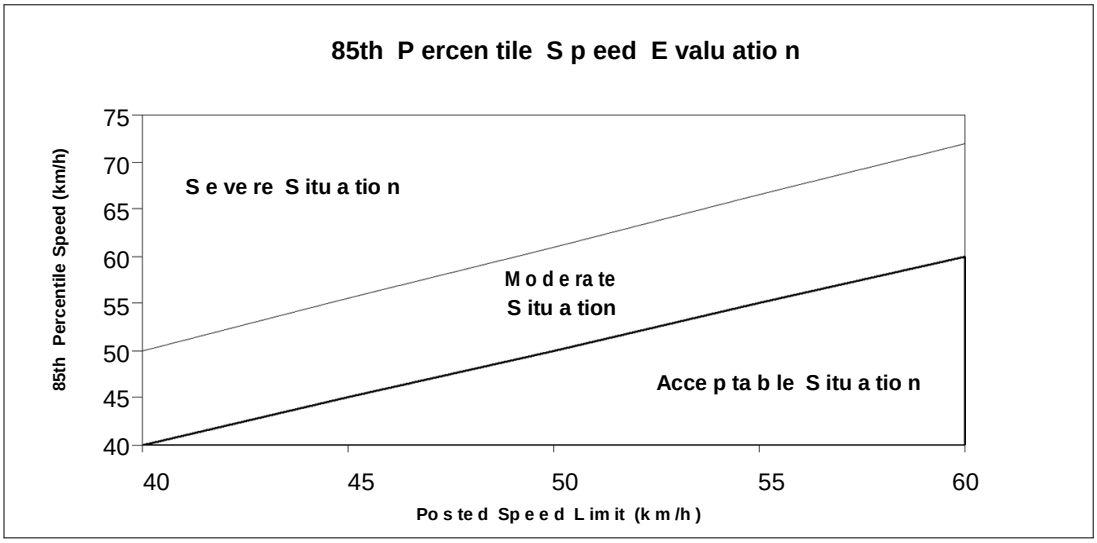
Traffic calming on rural roadways with a speed limit greater than 60km/h should only be addressed in severe cases of speeds volumes, and history.

1.5 Traffic Calming Warrants

The following warrants are the basis for considering the traffic calming review process.

Warrant 1 - 85th Percentile Speed
An investigation of traffic calming is warranted if the 85th percentile speed exceeds the posted speed limit by 10-12 km/h as shown in **Graph 1**, for posted speed limits between 40-60 km/h.

Graph 1: Warrant 1 Thresholds



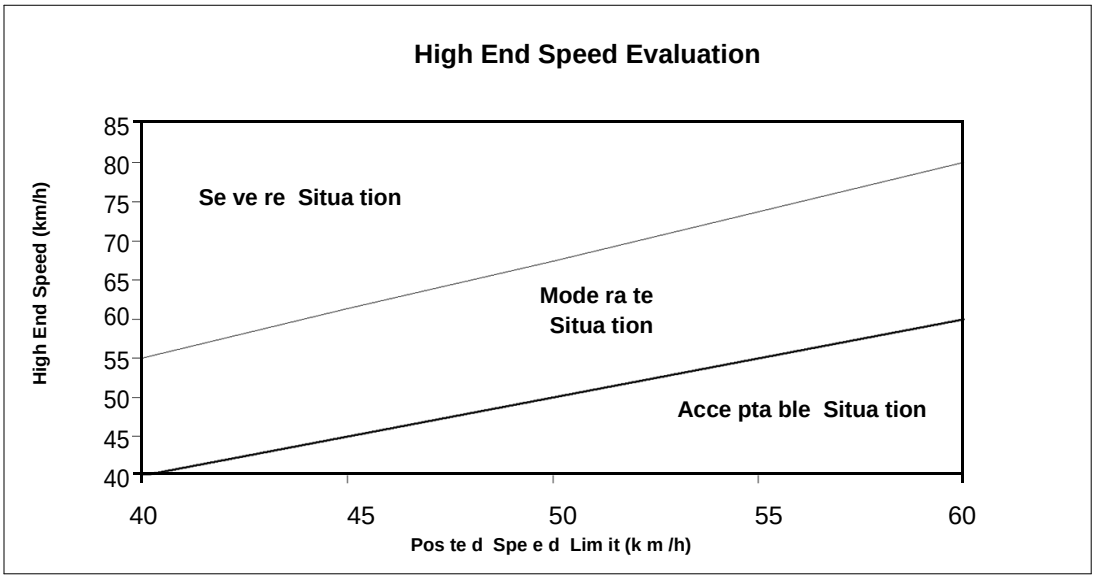
Where Warrant 1 is not met, but observed speeds are severe and the volume of speeding vehicles is significant, a second warrant shall be applied as follows.

Warrant 2 - High End Speed
An investigation of traffic calming is warranted if:

- For roads with more than 500 vehicles / day, a minimum of 5% of daily traffic exceeds the posted speed limit by 15-20 km/h for posted speed limits between 40-60 km/h, as shown in **Graph 2**; or
- For roads with less than 500 vehicles / day, at least 25 vehicles / day must exceed the posted speed limit by 15-20 km/h for posted speed limits between 40-60 km/h, as shown in **Graph 2**.

POLICY: Traffic Calming	COUNCIL APPROVAL DATE:_____ RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)*
POLICY NO.: *XX.XXX*-XX *(Number assigned by Clerk Services)*	REVISED DATE: December 28, 2012 RES. NO.: CR-….XX

Graph 2: Warrant 2 Thresholds



Warrant 3 – Vehicular Volumes

An investigation of traffic calming is warranted if daily vehicle volumes exceed the thresholds summarized in **Table 1-1**.

Table 1-1: Warrant 3 Thresholds

Road Type	Vehicles Per Day		
	Acceptable	Threshold	Severe
Local Road	< 1,000	3,000	>3,000
Rural Collector Road	< 2,000	5,000	>5,000
Urban Collector Road	< 3,000	8,000	>8,000

1.6 Local Improvement Provisions

If traffic calming is not warranted, residents can petition the Town to implement the traffic calming measures under the Local Improvement provisions of the Municipal Act. Under the Act, residents can petition the municipal government to build an improvement. The property owners with fronting properties pay for the improvements on a per-metre basis share between all affected properties. In order for the improvement to

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

be approved, two thirds of affected property owners representing at least 50 percent of the property values must agree to the improvements. Requests under the Local Improvements provisions must meet the sufficiency tests of the municipality.

2. Phase 2 – Identification and Evaluation of Alternatives

1. In order to initiate Phase 2 of the traffic calming process, proceed with a traffic calming review and identification of alternative(s), the affected stakeholder(s) must submit a petition (prepared by Town staff) signed by a minimum of 50% of households on the affected street(s) within the defined project area as determined by Town staff. Each household or business, considered to be a stakeholder, is entitled to one response.
2. If more than 50% of the affected stakeholders are in favour of a traffic calming review, traffic calming solutions as per ***Table 2-1*** in the Policy document should be considered. If it is determined that the affected residents are not in support of a traffic calming review, then the process is terminated and the affected stakeholders are notified in writing.
3. Upon the receipt of the petition, the Town staff will conduct a Priority Ranking of the street or streets under consideration. Priority ranking is identified and explained in **Section 2.1**.

2.1 Priority Ranking

A priority ranking method is designed to manage traffic calming requests received by the Town and to allocate the funding to the areas of most need. Resources needed to conduct any traffic calming study, should be allocated based on the severity of the problem, the type of roadway and area history. The priority of the project will be assessed relative to other traffic calming initiatives and other capital budget requirements and priorities. Traffic calming studies could come from consultant funds but there would need to be a rationalization of priorities with other consulting requirements and priorities. Some of the ranking steps may require additional temporary resources above the staff level. The criteria to be used to determine the occurrence and seriousness of traffic related issues / problems in the study area are identified as Steps 1 to 4 in **Table 2-1**, **Table 2-2**, **Table 2-3**, andTable 2-4 **Table 2-4** respectively.

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Table 2-1: Ranking Step 1 – Vehicular Speed

Range of Possible Points	40 km/h Posted Speed	Range of Possible Points	50 and 60 km/h Posted Speeds
0 to 10	85th Percentile speeds - 1 point for every km/h greater than 10 km/h over the posted speed limit	0 to 10	85th Percentile speeds - 1 point for every km/h greater than 11-12 km/h over the posted speed limit
0 to 10	High End Speeds - 1 point for every high end speeder	0 to 10	High End Speeds - 1 point for every high end speeder
20 Total Points			

Table 2-2: Ranking Step 2 – Vehicular Volume per Day

Local Street	Rural Collector Street	Urban Collector Street	Possible Points
<1,000	<2,000	<3,000	0
1,000 -1,100	2,000-2,150	3,000-3,250	1
1 point for every additional 100 vehicles / day	1 point for every additional 150 vehicles / day	1 point for every additional 250 vehicles / day	20 maximum points
20 Total Points			

Table 2-3: Ranking Step 3 – Vehicular Cut-through Volumes

Local Street	Rural Collector Street	Urban Collector Street	Possible Points
<20%	<30%	<40%	0
20%-30%	30%-40%	40%-50%	5
5 points for every additional 10% increase	5 points for every additional 15% increase	5 points for every additional 20% increase	30 maximum points
30 Total Points			

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Table 2-4: Ranking Step 4 – Exposure

Range of Possible Points	Local / Rural Collector / Urban Collector
0 to 5	Points assigned for every pedestrian public facility fronting and or having direct access (such as parks, playground, community centers, schools, seniors centre, religious institutions or other public institutions) that generates a significant number of pedestrians on the street.
0 to 5	1 point assigned for every 5 residential driveways per 100 metres
0 to 5	2 points assigned for streets with sidewalks on one side 5 points assigned for streets without sidewalks
0 to 15	Average of 1 to 3 collisions per year over the past 3 years - 5 points for each collision above the average
30 Total Points	

The maximum overall points for the four priority ranking steps is capped at 100 points. The assessment is to be done on each of the three types of roadway classifications (Local, Rural Collector, and Urban Collector). The street with the highest accumulated total points becomes the Town's priority for the upcoming year's capital works program or as a local improvement project.

A result of priority ranking by road classification is equality between the various road classifications, which allows Capital Funding to be allocated to improving all three types of roadways per year.

2.2 Additional Data Collection and Assessment

A detailed assessment of traffic conditions and problem definition for consideration of physical traffic calming measures will include:

- Documenting geometric information, historical collision data, observations of traffic operations at appropriate times-of-day, and any visual information (e.g. skid marks, curb damage etc.);
- Identifying the need for supplementary speed, volume or cut-through traffic data collection where there are transitions in design speed; and

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

- Collecting measures of exposure to the community, including the number and frequency of residential driveways, pedestrian crossing points and generators (schools and parks, etc.).

The detailed assessment will be summarized in a detailed problem statement specific to the site traffic operations and exposure to the community.

2.3 Identification of Alternatives

The development or identification of alternatives depends on the variety of factors including severity, funding and the type of traffic related concern. The use of historical and current data will be a benchmark for the evaluation process. The decision of which alternatives to use will be the decision of the project team as they evaluate the appropriate measures and effectiveness of each individual device on speed, volume, or cut-through traffic. From the identification of the alternatives that are best suited for the roadway and neighbourhood, the evaluation process will begin. The benefits and disbenefits of various traffic calming measures can be found in ***Table 2-2*** and ***Table 2-3*** in the Policy document.

2.4 Evaluation of Alternatives

Alternative traffic calming measures will be considered and assessed based on the following criteria:

- Feasibility of implementation (property, grading, impact to utilities).
- Anticipated effectiveness – enhanced safety for all road users, speed reduction, on-street parking.
- Impact to emergency services, maintenance services, and transit.
- Overall cost.

3. Public and Stakeholders Input and Methodology

Developing an effective public involvement process is critical to the success of any traffic calming project. Consultation should also include Town Fire Services, Public Works, Engineering Department, County Police Services (Traffic Division) and members of Council. It is important to plan public involvement that balances the residents' need to have influence over the project plan, with the jurisdiction's need for a project that is effective and that does not negatively affect the adjoining roadway system. Involvement of community stakeholders in the traffic calming process will ensure the community's support for proposed traffic calming plans and measures.

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

The consultation process for the selection of a preferred alternative should include the following four steps:

1. Preliminary detailed operations review including circulation of the problem and alternative solutions to affected agencies and departments.
2. Notice of Public Meeting – Advertised in local papers, Town web site and flyers circulated to directly affected stakeholders two weeks prior to public meetings.
3. Public Meeting – Display boards will present the problem statement and data summary, concept plans for feasible alternatives, and preliminary evaluation of the alternatives, including their costs and anticipated effectiveness. Public comments should be solicited.
4. Public vote on recommended solution.

The public and agencies can comment at any stage of the process. However, it is the intent of the preliminary circulation to agencies and departments to resolve fundamental issues prior to formally identifying a preferred alternative and presenting it to the public.

4. Identification of a Preferred Alternative and Public Voting

Based on the evaluation of alternatives, as per **Section 2.4,** and comments from the affected stakeholders, Town staff should identify the preferred alternative.

Public input should be solicited on the recommended alternative. The Town Public Works Department should send a mail back survey to all households and businesses within the defined project area determined by Town staff and agencies. The survey should question the public's opinion on the preferred alternative and whether the project should proceed to implementation. A minimum of two weeks should be allowed to permit sufficient time for response to the survey from all affected residents and agencies.

To proceed with implementation of the measures, greater than 50% of all households and businesses on affected roadway(s) must support the proposed traffic calming measure(s) before the traffic calming plan can be brought to Council for approval. Each household or business considered to be a stakeholder is entitled to one response.

POLICY: **Traffic Calming**	**COUNCIL APPROVAL DATE:_____** **RES. NO.: CR-…XX – *(Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

5. Recommendations

5.1 Design and Costing

Upon recommendation of the preferred solution and acceptance by the community, a detailed design should be completed and circulated to the utilities and other agencies and departments for comment. The cost estimate should be refined based on detail design and utility input.

5.2 Potential Solution Approval and Implementation

The recommendation of the preferred solution will be presented to Council for final approval. A council report should include the need and justification summary, public consultation process, the detailed design, costing, and recommended timing for implementation.

It is recommended where feasible to use temporary measures. Temporary measures will only be considered where it is recognized that the project is controversial and / or when the type of traffic calming measure being considered has insufficient post implementation data to confidently gauge the effectiveness of the proposed measure(s).
Allow 6 months to 1 year of monitoring before the measures are implemented with permanent materials.

It is also recommended that the traffic calming plan be implemented in a staged approach. Passive measures should be implemented first. A program of monitoring would determine whether or not further steps are necessary.

If further traffic calming is warranted, then more restrictive measures would be installed. This implementation method would ensure that the level of traffic calming in a neighbourhood does not exceed requirements.

It is recommended that every roadway that warrants traffic calming and that has a defined solution acceptable to the public and Council be incorporated into the capital budget.

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

1. PURPOSE

The objective is to implement all-way stop control to provide right-of-way control to conflicting vehicle movements at intersections where warranted. Warrants should be consistent with engineering practice, be based on traffic and pedestrian demand, be consistent with driver expectation, have recognition of the vulnerability of pedestrian and cyclists and have regard to negative environmental impacts associated with unwarranted installations.

---

2. SCOPE/APPLICATION

2.1 BACKGROUND

Stop-signs are a regulatory device requiring drivers to stop their vehicles completely at an intersection. All-way stops provide gap opportunities at intersections for minor street traffic that would not otherwise be available under two-way stop control.

Notwithstanding the recommended role of stop signs, stop signs have been perceived by the public in some jurisdictions as a solution to speeding. However, experience has shown that unwarranted all-way stops result in increased driver non-compliance. This behaviour has been well understood for over 40 years. Beaubien[1] measured the level of compliance of unwarranted stop signs in the City of Troy, Michigan in the 1970's and concluded that "stop signs placed for speed control are generally disregarded. Approximately half of the motorists made a rolling stop; one quarter came to a full stop; one quarter did not stop at all." Therefore, an estimate of the percentage of drivers who fully comply with unwarranted stop signs is only 25%.

Very similar results have been obtained through much more recent studies in the City of Boulder, Colorado (23% of the drivers made a full stop at unwarranted all-way stops), and in the City of Mississauga.

Implementation of unwarranted all-way stop signs also has negative environmental impacts. Estimates of fuel consumption resulting from the acceleration and deceleration of each stop are 0.065 litres per stop. For a road with daily traffic of 5,000 vehicles, one additional stop sign would result in over 300 litres of fuel per day or 100,000 litres of fuel per year. Similarly, vehicle emissions including Hydrocarbons (HC), Carbon Monoxide

1 Beaubien, R. E. "Stop Signs for Speed Control". Institute of Traffic Engineers. Traffic Engineering. Volume 46. Issue Number 11. 1976

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

(CO), Nitrogen Oxides (NOX), Carbon Dioxide (CO2) and Particulate Matter (PM), would increase with the provision of each additional stop.

Lastly, for operational efficiency, the **Ontario Traffic Manual Book 5** ("OTM" Book 5) notes that "Stop Signs are not intended as speed control devices" and their usage should be "limited to the control of right of way conflicts". Beaubien1 conducted some speed studies on residential streets in the City of Troy, Michigan in the 1970's and concluded that unwarranted "stop signs are not effective in controlling speeds in residential areas. The difference in average speeds is not significant after installation of stop signs but the tendency is for a slight increase in speeds, possibly because motorists are trying to make up for lost time after passing the sign. The same tendency occurs in reverse when stop signs, which have been in place for many years, are removed. After removal, there was no significant change in speeds, but speeds were slightly lower without the stop signs".

2.2 WARRANTS

OTM Book 5 outlines an all-way stop sign warrant to assist professionals in evaluating whether an all-way stop condition is appropriate. **Table 2-1** summarizes Book 5 thresholds. All warrants must be met.

Table 2-1: All-way Stop Warrant Criteria –OTM Book 5

Warrant 1 - Traffic Control	Installed as an interim measure, where traffic control signals are warranted but cannot be implemented immediately.
Warrant 2A - Minimum Volume	<u>Arterial and Major Roads*</u> Average of 500 vehicles per hour entering the intersection from all approaches. Based on each of any eight hours of the day. <u>Minor Roads*</u> 350 vehicles for the highest hour entering the intersection from all approaches.
Warrant 2B - Minor Road Volume	<u>Arterial and Major Roads*</u> The combined vehicular and pedestrian volume on the minor street exceeds 200 units per hour (all vehicles plus pedestrians wishing to enter the intersection) for each of the same 8 hours, with an average delay to traffic on the minor

	street (either vehicles or pedestrians wishing to enter the intersection) of greater than 30 sec. A volume split that does not exceed 70/30. Volume on the major street is defined as vehicles only. Volume on the minor street includes all vehicles plus any pedestrians wishing to cross the major roadway. <u>Minor Roads*</u> A volume split does not exceed 75/25 for three-way control or 65/35 for a four-way control. Volume is defined as vehicles only.
Warrant 3 - Accidents	Average 4 per year, over 3 year period. Only those accidents susceptible to relief through multi-way stop control must be considered (i.e., right angle and turning type collisions).

Note: * The terminology used here is from the OTM. This Town policy interprets “Arterials and Major Roads” as Arterial Roads and “Minor Roads” as Minor and Major Collector Roads. Please see discussion under Section 2.2.1.

OTM Book 5 also states that All-Way "Stop" sign controls should not be used under the following conditions:

1. Where the protection of pedestrians, school children in particular, is a prime concern. This concern can usually be addressed by other means.
2. As a speed control device.
3. On roadways where progressive signal timing exists.
4. On roadways within urban areas having a posted speed limit in excess of 60 km/hr.
5. At intersections having less than three, or more than four, approaches.
6. At intersections that are offset, poorly defined or geometrically substandard.
7. On truck or bus routes, except in an industrial area, or where two such routes cross.
8. On multi-lane approaches where a parked or stopped vehicle on the right will obscure the "Stop" sign.
9. Where traffic would be required to stop on grades.
10. As a means of deterring the movement of through traffic in a residential area.
11. Where visibility of the sign is hampered by curves or grades, and insufficient safe stopping distance exists.
12. Where any other traffic device controlling right-of-way is permanently in place within 250 m, with the exception of a yield sign.

POLICY: All-Way-Stop Control	COUNCIL APPROVAL DATE: RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)*
POLICY NO.: *XX.XXX*-XX *(Number assigned by Clerk Services)*	REVISED DATE: December 28, 2012 RES. NO.: CR-….XX

In other recent studies, HDR has undertaken a review of other jurisdictions. The review shows that the warrants for all-way stops have been adapted to more local conditions by a number of other municipal agencies in Ontario. Example municipalities include the Towns of Milton, Oakville, Ajax, and Aurora. These municipalities have adopted lower thresholds than those listed in the OTM Book 5.

2.2.1 Volume Thresholds

The warrant thresholds and conditions listed in OTM Book 5 were developed in consideration of all roadways in the Province and, in particular, the Provincial highway network. Also, many other municipalities have adapted the OTM warrant to their own jurisdictions. It is reasonable to consider adapting the OTM all-way-stop warrant for Innisfil as well. However, there must be documented rationale of any changes, and the primary objective of installing an all-way-stop condition, namely to provide right-of-way opportunities for side street traffic, must be upheld.

As shown in **Table 2-1**, the OTM Warrant considers separate criteria for arterial roads ("arterials and major roads") and for collector and local roads ("minor roads") separately. Given the Town's road network consists mainly of local roads, a two tiered warrant seems reasonable and provides for more flexibility for Innisfil as well.

For arterials, the volume thresholds are established based on a certain level of tolerable delay to the side street traffic. In the case of the OTM Warrant for arterials, this delay is approximately 30 seconds. Lower volume thresholds will make the criteria easier to meet and will therefore result in more all-way stop controlled intersections on the Town's arterial road network.

There is a recognized hierarchy to any road network. The hierarchy ranges from local roads (whose purpose is solely to provide access to properties), to freeways (whose purpose is solely to move traffic). Arterials provide an important link in that they establish a secondary highway network intended to service all traffic. As such, it is important that traffic movement be generally considered a higher priority than access for arterials and collector roads. Consequently, no reduction to the all way stop thresholds is being proposed for the Town's arterials or collector (major and minor) roads at this time.

However, there is an opportunity to review the all-way stop warrant thresholds for local roads. Lower thresholds will (if adopted) assist in reflecting a potentially lower tolerance

for side street delay or the need for larger gaps that is often characteristic of less aggressive drivers in Towns such as Innisfil.

The **Highway Capacity Manual** (the "HCM") is a helpful resource to connect delay to Level of Service (LOS). **Exhibit 19-1** from the HCM is shown below.

Exhibit 19-1
Level-of-Service Criteria:
Automobile Mode

Control Delay (s/vehicle)	LOS by Volume-to-Capacity Ratio	
	v/c ≤ 1.0	*v/c* >1.0
0–10	A	F
>10–15	B	F
>15–25	C	F
>25–35	D	F
>35–50	E	F
>50	F	F

Note: The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

The OTM Book 5 Warrant, which is based on 30 seconds of delay on Arterial roads, to side street traffic, corresponds to an LOS D. For local roads, it is reasonable to select an LOS of C for Innisfil drivers before feeling comfortable to proceed. As such, an LOS of C with a corresponding side street delay to traffic of 20 seconds is adopted for local roads only.

Working through the HCM methodology, one can then determine the threshold volumes that are likely to correspond to a side street delay of 20 seconds. The resulting volume suggests that Innisfil may wish to consider a warrant for all-way-stop control when the total volume entering the intersection is higher than 200 vehicles per hour for the highest hour and the total volume on the side streets exceeds 70 vehicles per hour.

It is recommended that the ratio of traffic volumes on a local road, between a main street and side street do not exceed a 65/35 ratio for four way stops and 75/25 for three way stops. This ratio is important because, at locations with an imbalanced traffic demand, drivers get used to not seeing vehicles on the side streets and the compliance with the stop sign on the main street is reduced.

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

2.2.2 Collision History

According to Simpson and Hummer[1], and based upon research conducted at 53 locations in North Carolina, conversion from two-way to all-way stop control (at warranted intersections) results in the following:

- 68% reduction in total crashes
- 77% reduction in injury crashes
- 75% reduction in frontal-impact crashes
- 15% reduction in "ran-stop-sign".

Simpson and Hummer looked for, but found no noticeable increase in rear-end crashes when changing from a two-way to all-way stop control.

Similar results are not expected for unwarranted installations.

No changes to the criteria for Warrant 3 (Collision History) is recommended for the Town of Innisfil. This criterion is stated in OTM Book 5 as:

> "For the purposes of this warrant, a high accident frequency is an average of four collisions per year over a three-year period. Only those accidents susceptible to relief through multi-way stop control must be considered (i.e., right angle and turning type collisions)"

2.2.3 Sight Distance

The sight distance from a vehicle at the intersection must be adequate when viewing the intersecting street. The minimum sight distance should more or less reflect the design of the road. The calculated stopping sight distance according to the **Transportation Association of Canada** ("TAC") **Geometric Design for Canadian Roads** for various design and posted speeds is summarized in **Table 2-2**. This is consistent with other jurisdictions and is recommended.

1 Simpson, C.L. and Hummer, J.E., "Evaluation of the Conversion from Two-Way Stop Sign Control to All-Way Stop Sign Control at 53 Locations in North Carolina." Journal of Transportation Safety and Security, Vol 2, No. 3. 2010. pp. 239-260.

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Table 2-2: Stopping Sight Distance

Design Speed (km/hr)	Typical Posted Speed (km/hr)	Stopping Sight Distance (m)
60	40-50	85
70	60	110
80	60-70	140

2.2.4 Special Considerations

In the **OTM Book 12** section on traffic control signals, there is recognition that when timing pedestrian signal displays for seniors and children, slower walking speeds should be used in calculating clearance times because of their particular needs in crossing the roadway.

The special needs of seniors and children as pedestrians should also be recognized in the all-way Stop warrant. By factoring pedestrian volumes at intersections within a one block radius of schools and senior citizen facilities, the special needs of these two groups should become part of the warrant process. For warrants for all-way stops on local roads, a factor of two vehicles for each pedestrian in these special circumstances is suggested to be applied as crossing the major road being examined. This change will incorporate pedestrian needs and is not likely to result in the installation of all-way stops in inappropriate locations. It is also consistent with general practices in other jurisdictions.

3. EXCEPTIONS

None

4. RESPONSIBILITY

Capital Engineering Services

5. DEFINITIONS:

Stop-signs – are regulatory devices requiring drivers to stop their vehicles completely at an intersection.

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Local Road [Definition taken from OTM Book 5] – A street or road primarily for access to residence, business or other abutting property.

Collector Road [Definition taken from OTM Book 5] – A road for which vehicle movement and access are of equal importance. Direct access to adjacent properties may be permitted in some cases, typically in lower-density residential areas. Intersections are spaced at varying intervals and are typically only signalized where the collector road intersects an arterial road or in some cases another collector road.

Arterial Road [Definition taken from OTM Book 5] – A Major Road, used primarily for through traffic rather than for access to adjacent land, that is characterized by high vehicular capacity and continuity of movement. Intersections are spaced relatively far apart and are frequently signalized.

Level of Service – refers to the delay (in seconds) experienced by vehicles for a specific movement. Level of service is often presented in a 'letter grade' form, ranging from Level of Service A (least delay) to Level of Service F (most delay). The thresholds for each letter grade differ between unsignalized and signalized intersections. **Exhibit 19-1** shows the thresholds for an unsignalized intersection.

Sight Distance – refers to the furthest visually unobstructed line of sight a driver has from their given position, to a given point. This point would be the maximum distance (or earliest occurrence) that a conflicting vehicle (or object on the roadway) can be visually detected by a driver.

Main Street as Opposed to Minor Street – Where two like roadways meet, the Main street is defined by having the higher traffic volume of the two streets.

6. POLICY STATEMENT

The following policy is for the determination of the need for all-way stop control at an intersection. A checklist is provided in **Attachment A**.

All-Way stop sign controls shall not be used under the following conditions:

1. Where the protection of pedestrians, school children in particular, is a prime concern. This concern can usually be addressed by other means.
2. As a speed control device.
3. On roadways where progressive signal timing exists.
4. On roadways within urban areas having a posted speed limit in excess of 60 km/hr.

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

5. At intersections having less than three, or more than four, approaches.
6. At intersections that are offset, poorly defined or geometrically substandard.
7. On truck or bus routes, except in an industrial area, or where two such routes cross.
8. On multi-lane approaches where a parked or stopped vehicle on the right will obscure the stop sign.
9. Where traffic would be required to stop on grades.
10. As a means of deterring the movement of through traffic in a residential area.
11. Where visibility of the sign is hampered by curves or grades, and insufficient safe stopping distance exists.
12. Where any other traffic device controlling right-of way is permanently in place within 250 m, with the exception of a YIELD sign.

For the installation of an all-way stop control the sight distance to the stop sign on the main street must meet the minimum stopping site distance criteria listed in **Table 6-1**.

Table 6-1: Minimum Stopping Sight Distance

Design Speed (km/hr)	Typical Posted Speed (km/hr)	Stopping Sight Distance (m)
60	40-50	85
70	60	110
80	60-70	140

The following warrant criteria, illustrated in **Table 6-2**, shall be used for the justification of an all-way stop on arterial and collector roads (all warrants must be met):

Table 6-2: Warrant Criteria for Arterial and Collector Roads

Warrant 1 – Traffic Control	Installed as an interim measure, where traffic control signals are warranted but cannot be implemented immediately.
Warrant 2A – Minimum Volume	<u>Arterial Roads</u> Average of 500 vehicles per hour entering the intersection from all approaches. Based on each of any eight hours of the day. <u>Collector Roads</u> 350 vehicles for the highest hour entering the intersection from all approaches. Based on any eight hours of the day.

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Warrant 2B - Minor Road Volume	Arterial Roads The combined vehicular and pedestrian volume on the minor street exceeds 200 units per hour (all vehicles plus pedestrians wishing to enter the intersection) for each of the same 8 hours, with an average delay to traffic on the minor street (either vehicles or pedestrians wishing to enter the intersection) of greater than 30 sec.
Warrant 2C – Volume Split	Arterial Roads A volume split that does not exceed 70/30. Volume on the major street is defined as vehicles only. Volume on the minor street includes all vehicles plus any pedestrians wishing to cross the major roadway. Collector Roads A volume split does not exceed 75/25 for three-way control or 65/35 for a four-way control. Volume is defined as vehicles only.
Warrant 3 - Accidents	Average 4 per year, over 3 year period. Only those accidents susceptible to relief through multi-way stop control must be considered (i.e., right angle and turning type collisions).

In the absence of 8-hour volumes for arterials and collector roads, the warrant can be based on 4-hour volume thresholds during the two highest hours of the morning and afternoon peak periods each.

The following warrant criteria, illustrated in **Table 6-3**, shall be used for the justification of an all-way stop on local roads (all warrants must be met):

Table 6-3: Warrant Criteria for Local Roads

Warrant 1 – Traffic Control	Installed as an interim measure, where traffic control signals are warranted but cannot be implemented immediately.
Warrant 2A – Minimum Volume	200 vehicles for the highest hour entering the intersection from all approaches. Pedestrian volumes crossing the major street in the vicinity (within one block) of elementary schools and senior citizens facilities to be included in the traffic

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

	volume as two vehicles for each pedestrian.
Warrant 2B - Minor Road Volume	The total volume entering the intersection from the minor street exceeds 70 vehicles per hour for the same hour of the day, with an average delay to traffic on the minor street (either vehicles or pedestrians wishing to enter the intersection) of greater than 20 sec.
Warrant 2C – Volume Split	The ratio of the traffic volume on the main street to the total traffic volume not exceed 65/35 for four-legged intersections and 75/25 for three legged intersections. The traffic volume is as defined in Warrant 2A.
Warrant 3 - Accidents	Average 4 per year, over 3 year period. Only those accidents susceptible to relief through multi-way stop control must be considered (i.e., right angle and turning type collisions).

The warrant criteria for the higher class road shall apply to any intersection where two different class roads meet.

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Attachment A: Checklist for Determining the Need for All-way Stop Control
The following check list is to be used in conjunction with the All-way Stop Policy document when considering justifying an all-way stop.

Intersection in Question: _____
Date Inquiry was received: _____
Date Inquiry was completed: _____
Name of Reviewer: _____

Section 1

Criteria for Where All-way Stop Control Should Not be Used:	Yes	No
1. Is the protection of pedestrians, school children in particular, a prime concern?	☐	☐
2. Is it to be used as a speed control device?	☐	☐
3. Will it be placed on a roadway where progressive signal timing exists?	☐	☐
4. Will it be placed on a roadway within an urban area having a posted speed limit in excess of 60km/hr?	☐	☐
5. Will it be placed at an intersection having less than three, or more than four approaches?	☐	☐
6. Will it be placed at an intersection that is offset, poorly defined or geometrically substandard?	☐	☐
7. Will it be placed on a truck or bus route, except in an industrial area, or where two such routes cross?	☐	☐
8. Will it be placed at an intersection that has a multi-lane approach where a parked or stopped vehicle on the right will obscure the stop sign?	☐	☐
9. Will it be placed where traffic would be required to stop on a grade?	☐	☐
10. Is it to be used as a means of deterring the movement of through traffic in a residential area?	☐	☐
11. Will it be placed where the visibility of the sign will be hampered by curves or grades, and insufficient stopping distance exists?	☐	☐
12. Will it be placed where any other traffic device controlling right-of-way is permanently in place within 250 m, with the exception of a YIELD sign?	☐	☐

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

If Yes has been checked for any of the above criteria, this location is not warranted for all-way stop control. If all criterions above have been checked no, then move on to section 2.

Section 2

Highest Road Class at Intersection

Arterial ☐
Collector ☐
Local ☐

Move to Section 3 and the Sub-Section that applies to the above checked road class.

Section 3

Minimum Stopping Distance

Design Speed (km/h)	Typical Posted Speed (km/h)	Stopping Sight Distance (m)
60	40-50	85
70	60	110
80	60-70	140

What is the posted speed limit for the highest road class in this location as checked above?

_____

Is there sufficient stopping distance from the intersection back to uninhibited view of the intersection?

Yes ☐ No ☐

If yes, move on to Section 4. If no, all-way stop control is not warranted.

Section 4

4.1 Arterial Roads

Warrant	Recommendation	Road in Question	Meets All Warrant Criteria
Warrant 1 – Traffic Control	Installed as an interim measure, where traffic control signals are warranted but cannot be implemented immediately.	Yes ☐ No ☐	Yes ☐ No ☐

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Warrant	Recommendation	Road in Question	Meets All Warrant Criteria
Warrant 2A – Minimum Volume	Average of 500 vehicles per hour entering the intersection from all approaches. Based on each of any eight hours of the day.	Insert volume _____	Yes ☐ No ☐
Warrant 2B – Minor Road Volume	The combined vehicular and pedestrian volume on the minor street exceeds 200 units per hour (all vehicles plus pedestrians wishing to enter the intersection) for each of the same 8 hours, with an average delay to traffic on the minor street (either vehicles or pedestrians wishing to enter the intersection) of greater than 30 sec.	Insert combined vehicular and pedestrian volume _____ Average delay to traffic in seconds _____	Yes ☐ No ☐
Warrant 2C – Volume Split	A volume split that does not exceed 70/30. Volume on the major street is defined as vehicles only. Volume on the minor street includes all vehicles plus any pedestrians wishing to cross the major roadway.	Volume Split _____	Yes ☐ No ☐
Warrant 3 – Accidents	Average 4 per year, over 3 year period. Only those accidents susceptible to relief through multi-way stop control must be considered (i.e., right angle and turning type collisions).	Average number of accidents per year _____	Yes ☐ No ☐

Does the road in question meet all warrant criteria? Yes ☐ No ☐

If yes, than all-way stop control is recommended. If no, than all-way stop control is not recommended.

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Recommended Action: Yes/No, all-way stop control is/is not recommended at this intersection.

4.2 Collector Roads

Warrant	Recommendation	Road in Question	Meets All Warrant Criteria
Warrant 1 – Traffic Control	Installed as an interim measure, where traffic control signals are warranted but cannot be implemented immediately.	Yes ☐ No ☐	Yes ☐ No ☐
Warrant 2A – Minimum Volume	Average of 350 vehicles per hour entering the intersection from all approaches. Based on any eight hours of the day.	Insert volume _____	Yes ☐ No ☐
Warrant 2B – Volume Split	A volume split that does not exceed 75/25 for three control or 65/35 for a four way control. Volume on the major street is defined as vehicles only.	Volume Split _____	Yes ☐ No ☐
Warrant 3 – Accidents	Average 4 per year, over 3 year period. Only those accidents susceptible to relief through multi-way stop control must be considered (i.e., right angle and turning type collisions).	Average number of accidents per year _____	Yes ☐ No ☐

Does the road in question meet all warrant criteria? Yes ☐ No ☐

If yes, than all-way stop control is recommended. If no, than all-way stop control is not recommended.

Recommended Action: Yes/No, all-way stop control is/is not recommended at this intersection.

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

4.3 Local Roads

Warrant	Recommendation	Road in Question	Meets All Warrant Criteria
Warrant 1 – Traffic Control	Installed as an interim measure, where traffic control signals are warranted but cannot be implemented immediately.	Yes ☐ No ☐	Yes ☐ No ☐
Warrant 2A - Volume	Average of 200 vehicles per hour entering the intersection from all approaches. Pedestrian volumes crossing the major street in the vicinity (within one block) of elementary schools and senior citizens facilities to be included in the traffic volume as two vehicles for each pedestrian.	Insert combined vehicular and pedestrian volume. _____	Yes ☐ No ☐
Warrant 2B – Minor Road Volume	The total volume entering the intersection from the minor street exceeds 70 vehicles per hour for the same hour of the day, with an average delay to traffic on the minor street (either vehicles or pedestrians wishing to enter the intersection) of greater than 20 sec. A volume split that does not exceed 75/25 for three control or 65/35 for a four way control. Volume on the major street is Traffic volume is as defined in Warrant 2A.	Insert combined vehicular and pedestrian volume. _____ Volume Split _____	Yes ☐ No ☐
Warrant 3 – Accidents	Average 4 per year, over 3 year period. Only those accidents susceptible to relief through multi-way stop control must be considered (i.e., right angle and turning type collisions).	Average number of accidents per year _____	Yes ☐ No ☐

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **All-Way-Stop Control**	**COUNCIL APPROVAL** **DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Does the road in question meet all warrant criteria? Yes ☐ No ☐
If yes, than all-way stop control is recommended. If no, than all-way stop control is not recommended.

Recommended Action: Yes/No, all-way stop control is/is not recommended at this intersection.

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Speed Limits**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

1. PURPOSE

The objective is to implement consistent, enforceable and safe speed limits in urban areas; and in rural areas, to set speed limits consistent with driver expectation, roadway environment, road function, and in consideration of community needs.

---

2. SCOPE/APPLICATION:

2.1 Background

Speed regulations and controls aid the motorist in selecting speeds that are safe for the prevailing conditions. The maximum safe speed at any location will vary as road geometry, traffic demands and road environment change.

The decision of defining specific speed limits must take into consideration legislative limitations, public recognition and understanding, ease of implementation, capital and maintenance costs, and adherence to recognized engineering standards and practices.

2.2 Highway Traffic Act

The **Highway Traffic Act of Ontario** (the "HTA") Section 128.1 provides that roads within a city, town, village, police village or built-up area have a statutory speed limit of 50 km/hr, unless otherwise designated. Outside of these areas, the statutory speed limit is 80 km/hr, unless otherwise designated. The HTA requires that signage be placed where the speed limit varies from the statutory requirement.

2.3 Existing Conditions

Many urban roads have no regulatory speed signage and as such, implicitly have a 50 km/hr limit. Lower speed limits have been implemented adjacent to elementary schools, in order to address site specific concerns. Speed limits of 60 km/hr are typical on higher order roads with limited or no access/egress points between intersections. Many rural roads also have no regulatory speed signage and as such, implicitly have an 80 km/hr speed limit. Lower speed limits have been implemented in order to address site specific concerns.

POLICY: **Speed Limits**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

2.3.1 Speed Concerns

In order to differentiate between perceived speeding problems and actual speed non-compliance, measurement of the profile of vehicle operating speeds is appropriate. Speeding concerns should be reviewed by comparing the 85th percentile observed speeds to the posted speed limits. If a variance greater than 10 km/hr exists between these two values, then additional review is appropriate. The review may result in a recommendation to increase or decrease the posted speed limit, or no change at all. The recommendation may also include specific actions, such as increased enforcement, education programs and physical changes to the roadway.

Elvik[1] reports that studies have shown that actual changes in mean speeds rarely mirror the changes in speed limits. In fact, the actual change in mean speed is, on average, around 25% of the change in the speed limit (Elvik et al. 2004). A 10 km/h speed limit increase, for example, would lead to approximately a 2.5 km/h increase in speed. Conversely, a study of a speed limit reduction by Long et al.[2] in South Australia showed that the mean vehicle speed for all vehicles was decreased by 2 km/h after a speed limit change from 110 km/h to 100 km/h.

A simple change in the speed limit posted sign is not necessarily enough to change driver speed. Parker[3] looked at the effect of changing speed limits at 98 highway sites in 22 U.S. states. Depending on the site, speed limits were raised as much as 24 km/h and lowered as much as 32 km/h. At these sites, the only change that was made was the posted speed limit sign; no other engineering or enforcement changes were made. Before and after studies show minimal changes in speed, and at times even changes that were opposite in direction to the change in speed limit. None of the sites showed a major change in 85th percentile speed, that is, a change greater than 8 km/h. At 21 of

[1] Elvik, R.; Christensen, P.; Amundsen, A. *Speed and road collisions*. Oslo: Institute of Transport Economics (TOI), December 2004.

[2] Long, A. D.; Kloeden, C .N.; Hutchinson, T. P.; McLean, A. J. *Reduction of speed limit from 110 km/h to 100 km.h on certain roads in South Australia: a preliminary evaluation*. Adelaide: Centre for Automotive Safety Research CASR Report Series CASR024, August 2006.

[3] Parker, M. R. Jr. *Effects of Raising and Lowering Speed Limits on Selected Roadway Sections*. FHWA-RD-97-084, Final Report. Federal Highway Administration, June 1996.

the study locations, the existing speed limits had been more than 8 km/h below the 85th percentile speeds.

At these locations, the mean difference in percentile speeds was less than 1 km/h when the speed limits were raised to within 8 km/h of the 85th percentile speed.

Kockelman[4] also found that the mean speed increase in response to a speed limit increase of 8 km/h was very small based on analysis of two highway segments in Washington State. The increase in average speed associated with the study sites from Washington State was 1.9 – 2.6 km/h.

Findings from these studies suggest that there is essentially little change in driver speed resulting from a change of the speed limit sign without any further changes to other factors such as enforcement levels and geometric improvements. When speed limits are raised widely, studies have shown that the resulting change in the mean speed is approximately 25% of the change in the speed limit.

It is desirable to have low standard deviation in vehicle speeds on a given road to limit overtaking and other unsafe manoeuvres. Given varying adherence to speed regulations, it is desirable to maintain regulatory speeds that have regard for design speeds.

2.3.2 Considerations in Selecting Speed Limits

Speed regulations and controls aid the motorist in selecting speeds that are safe for the prevailing conditions. The maximum safe speed at any location will vary as road geometry, traffic demands and road environment change.

The decision of defining specific speed limits must take into consideration legislative limitations, public recognition and understanding, ease of implementation, capital and maintenance costs for the design speed geometric requirements and adherence to recognized engineering standards and practices.

The system of road hierarchy allocates different functions and roles for local, collector and arterial roads (see **Attachment A** that summarizes the characteristics of urban road

[4] Kockelman, K. Safety Impacts *and Other Implications of Raised Speed Limits on High-Speed Roads, Final Report*. National Cooperative Highway Research Program Web only Document 90 (Project 17-23). Transportation Research Board, March 2006.

classifications and **Attachment B** that summarizes the characteristics of rural road classifications according to the **Transportation Association of Canada's Geometric Design Guide for Canadian Roads)**. Where higher order roads have appropriate capacity and mobility (including operating speed), higher order roads will continue to serve their primary function of traffic movement, and reduce the likelihood of traffic infiltration through lower order roads.

Local roads typically have equal or lower operating speeds reflecting the primary role of facilitating land access. A 40 km/hr speed limit may be considered where location specific conditions dictate, such as:

- School frontage of elementary schools, or
- Geometric characteristics contributing to road elements with a design speed (e.g. sight distance or horizontal or vertical curvature) of less than 60 km/hr.

On urban collector or arterial roads with higher design speeds, consideration should be given to speeds of 60 km/hr.

Posted speeds on some sections of the Town's road network have been lowered to address community concerns or better reflect the road environment or design. In some instances, in rural road environments, Town of Innisfil roads have higher posted speeds than adjacent Simcoe County roads. In these circumstances, traffic may be encouraged to travel on Town roads rather than the adjacent County roads, despite that the latter may have a higher design standard and higher road function.

2.3.3 Enforcement

Law Enforcement is a fundamental part of speed management. It reinforces the effectiveness of speed zoning by the enforcing of posted speed limits. The charges applied (e.g. fines, demerit points) act as a deterrent. The visible presence of police reminds people to behave less aggressively. Law Enforcement plays a vital role in enforcing posted speed limits, both in terms of charges applied (e.g. fines, demerit points) and public presence.

Enforcement in the Town of Innisfil is provided by South Simcoe Police Service (North Division) and by Ontario Provincial Police. These officers are the front line in speed enforcement.

POLICY: **Speed Limits**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

It is recognized that enforcement is an essential element to the speed management strategy, however, the policy should reflect that Police resources are limited and do not permit enforcement to be a sole solution to speeding issues.

3. EXCEPTIONS

None

4. RESPONSIBILITY

Capital Engineering Services

5. DEFINITIONS:

Speed Limit – the maximum vehicular speed allowed within any given posted or unposted Speed Zone.

Local Road – A street or road primarily for access to residence, business or other abutting property.

Collector Road – A road for which vehicle movement and access are of equal importance. Direct access to adjacent properties may be permitted in some cases, typically in lower-density residential areas. Intersections are spaced at varying intervals and are typically only signalized where the collector road intersects an arterial road or in some cases another collector road.

Arterial Road – A Major Road, used primarily for through traffic rather than for access to adjacent land, that is characterized by high vehicular capacity and continuity of movement. Intersections are spaced relatively far apart and are frequently signalized.

School Zone – A school zone is defined by first the abutting streets that are used for the drop-off and pick-up of students adjacent to the school property. Secondly the school zone may encompass one or more blocks beyond the school property where school crossings may exist or it is determined that prior notice of the school area is necessary.

POLICY: **Speed Limits**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

6. POLICY STATEMENT

The following policy is for the setting of speed limits on Town roads. A checklist is provided in **Attachment C**.

6.1 Urban Speed Limits

The Highway Traffic Act (HTA) of Ontario provides that roads within a city, town, village, police village or built-up area have a statutory speed limit of 50km/hr unless otherwise designated. Based on the Highway Traffic Act, signage is required on urban Town roads where the speed limit varies from the statutory 50km/hr.

The Made in Innisfil urban road speed limits policy endeavors to set speeds that are consistent with the HTA. Posted speed limits will continue to be 60 km/h on urban arterial roads and 50 km/h on urban local and collector roads.

Reduced speed limit designation will be given to areas such as:

- School zones or proximity to schools which will be set at 40km/h during school hours where signed; and
- Unfavourable geometric characteristics contributing to road elements with design speeds of 60km/h or more (sight distance, horizontal or vertical curvature).

Transitions between one speed limit and another shall be no less than 500m apart for arterial roads and 250m for collector and local roads. The speed differential between two speed limits within the transition shall be no greater than 10 km/h.

6.2 Rural Speed Limits

The HTA of Ontario provides that roads outside of the above designation of roads are 80km/h. Based on the HTA, signage is required on a rural Town road where the speed limit varies from the statutory 80km/h.

Rural road speed limit designation will not divert from the HTA as the current speed limits are reasonable for the Town of Innisfil rural roads.

The proposed policy for rural roads sets the speed limit at 80km/h or at 20km/h below the design speed, unless reduced speed designation is appropriate due to:

POLICY: **Speed Limits**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

- A school zone or proximity of schools which will reduce speed limit to 60km/h in an 80 km/h zone or to 40km/hr in an already existing 60km/hr designated speed limit during school hours where signed; and
- Unfavourable geometric characteristics contributing to road elements with design speeds (sight distance, horizontal or vertical curvature) of 90 km/h or less.

Transitions between one speed limit and another shall be no less than 500m apart for arterial roads and 500m for collector and local roads. The speed differential between to speed limits within the transition shall be no greater than 20 km/h.

6.3 School Zone Signing

Flashing lights shall accompany all reduced speed limit signs in school zones. Such signs shall also be accompanied by signage stating that the lower speed limit is only in force while lights are flashing. The timing of the flashing lights shall be limited to the operating times of the adjacent school. These times are typically between 8:00am and 5:00pm on a weekday.

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Speed Limits**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Attachment A: Characteristics of Urban Roads (Transportation Association of Canada, 1999)

Table 1.3.4.2 Characteristics of Urban Roads

	Public Lanes	Locals	Collectors	Arterials		Expressways	Freeways
	Residential Commercial	Residential Indust./Comm.	Residential Indust./Comm.	Minor	Major		
traffic service function	traffic movement not a consideration	traffic movement secondary consideration	traffic movement and land access of equal importance	traffic movement major consideration	traffic movement primary consideration	traffic movement primary consideration	optimum mobility
land service / access	land access only function	land access primary function	traffic movement and land access of equal importance	some access control	rigid access control	no access	no access
traffic volume (veh/day) (typical)	<500 <1000	<1000 <3000	<8000 1000 – 12 000	5000 – 20 000	10 000 – 30 000	>10 000	>20 000
flow characteristics	interrupted flow	interrupted flow	interrupted flow	uninterrupted flow except at signals and crosswalks		uninterrupted flow except at signals	free-flow (grade separated)
design speed (km/h)	30 - 40	30 - 50	50 - 80	50 - 70	60 - 100	80 - 110	80 - 120
average running speeds (km/h) (off-peak)	20- 30	20 - 40	30 - 70	40 - 60	50 - 90	60 - 90	70 - 110
vehicle type	passenger and service vehicles all types	passenger and service vehicles all types	passenger and service vehicles all types	all types	all types up to 20% trucks	all types up to 20% trucks	all types up to 20% trucks
desirable connections	public lanes, locals	public lanes, locals, collectors	locals, collectors, arterials	collectors, arterials, expressways, freeways		arterials, expressways, freeways	arterials, expressways, freeways
transit service	not permitted	generally avoided	permitted	express and local buses permitted		express buses only	express buses only
accommodation of cyclists	no restrictions or special facilities	no restrictions or special facilities	no restrictions or special facilities	lane widening or separate facilities desirable		prohibited	prohibited
accommodation of pedestrians	pedestrians permitted, no special facilities	sidewalks normally on one or both sides sidewalks provided where required	sidewalks provided both sides sidewalks provided where required	sidewalks may be provided, separation for traffic lanes preferred		pedestrians prohibited	pedestrians prohibited
parking (typically)	some restrictions	no restrictions or restrictions one side only	few restrictions other than peak hour	peak hour restrictions	prohibited or peak hour restrictions	prohibited	prohibited
min. intersection spacing[1] (m)	as needed	60	60	200	400	800	1600 (between interchanges)
right-of-way width (m) (typically)	6 - 10	15 - 22	20 - 24	20[2] - 45[3]		>45[3]	>60[3]

Notes:
1. Further information on intersection spacing is provided in Chapter 2.3, Intersections.
2. Arterial rights of way 20 m in width applicable to retrofit conditions only.
3. Wider rights of way are often required to accommodate other facilities such as utilities, noise mitigation installations, bikeways, and landscaping. For new streets, the immediate provision of wider rights of way may be considered to accommodate such facilities.

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Speed Limits**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Attachment B: Characteristics of Rural Roads (Transportation Association of Canada, 1999)

Table 1.3.4.1 Characteristics of Rural Roads

	Rural Locals	Rural Collectors	Rural Arterials	Rural Freeways
service function	traffic movement secondary consideration	traffic movement and land access of equal importance	traffic movement primary consideration	optimum mobility
land service	land access primary consideration	traffic movement and land access of equal importance	land access secondary consideration	no access
traffic volume vehicles per day (typically)	<1000 AADT	<5000 AADT	<12 000 AADT	>8000 AADT
flow characteristics	interrupted flow	interrupted flow	uninterrupted flow except at	freeflow (grade separated) major intersections
design speed (km/h)	50 - 110	60 - 110	80 - 130	100 - 130
average running speed (km/h) (free flow conditions)	50 - 90	50 - 90	60 - 100	70 - 110
vehicle type	predominantly passenger cars, light to medium trucks and occasional heavy trucks	all types, up to 30% trucks in the 3 t to 5 t range	all types, up to 20% trucks	all types, up to 20% heavy trucks
normal connections	locals collectors	locals collectors arterials	collectors arterials freeways	arterials freeways

POLICY: **Speed Limits**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Attachment C: Checklist for Setting Speed Limits

The following check list is to be used in conjunction with the Speed Limit Policy document when considering changing the statutory speed limit.

Location of Road in Question: _____
_____

Date Inquiry was received: _____
Date Inquiry was completed: _____
Name of Reviewer: _____

Section 1

What is the road type? Urban ☐ Rural ☐

What is the road class? Arterial ☐ Collector ☐ Local ☐

Please continue to appropriate subsection of Section 2.

POLICY: **Speed Limits**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Section 2

2.1 Urban Arterial
Posted speeds shall be set at 60 km/hr and signed as such unless reduced speed designation is appropriate.

The following are reasons for reduced speed designation. Please check those that apply to the road section being examined.

1. School Zone ☐
   - Speeds shall be reduced to 40 km/hr in school zones. Transition space required is 500m. Flashing lights indicating when the reduced speed zone is in effect shall accompany the reduced speed zone sign.

2. Geometric characteristics that contribute to road elements (sight distance or horizontal or vertical curvature) ☐
   - A reduction to 50 km/hr is to be considered. Transition space required is 500m.

3. Where Town roads are within the area of influence (1.5 km) of a County Road with lower or higher posted speeds ☐
   - A reduction or increase of 10km/hr on the Town road, to bring it closer to the County Road speed limit, is to be considered.
     Transition space required is 500m.

If concern has been addressed, please move onto recommendations sections. If concern has not been addressed, then no recommendations can be made at this time.
Recommendations

1. The speed limit shall remain at 60 km/hr. ☐
2. The speed limit shall change to 50km/hr. ☐
3. The speed limit shall change to 40 km/hr. ☐

POLICY: **Speed Limits**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

2.2 Urban Collector

Posted or statutory speeds shall be set at 50 km/hr unless reduced speed designation is appropriate.

The following are reasons for reduced speed designation. Please check those that apply to the road section being examined.

1. School Zone ☐
   - Speeds shall be reduced to 40 km/hr in school zones. Transition space required is 250m. Flashing lights indicating when the reduced speed zone is in effect shall accompany the reduced speed zone sign.

2. Geometric characteristics that contribute to road elements (sight distance or horizontal or vertical curvature) ☐
   - A reduction to 40 km/hr is to be considered. Transition space required is 250m.

3. Where Town roads are within the area of influence (1.5 km) of a County Road with lower or higher posted speeds. ☐
   - A reduction or increase of 10km/hr on the Town road, to bring it closer to the County Road speed limit, is to be considered.
     Transition space required is 250m.

If concern has been addressed, please move onto recommendations sections. If concern has not been addressed, then no recommendations can be made at this time.

Recommendations

4. The speed limit shall remain at 60 km/hr. ☐
5. The speed limit shall change to 50km/hr. ☐
6. The speed limit shall change to 40 km/hr. ☐

POLICY: **Speed Limits**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

2.3 Urban Local

Posted or statutory speeds shall be set at 50 km/hr unless reduced speed designation is appropriate.

The following are reasons for reduced speed designation. Please check those that apply to the road section being examined.

1. School Zone ☐
   - Speeds shall be reduced to 40 km/hr in school zones. Transition space required is 250m. Flashing lights indicating when the reduced speed zone is in effect shall accompany the reduced speed zone sign.

2. Geometric characteristics that contribute to road elements (sight distance or horizontal or vertical curvature) ☐
   - A reduction to 40 km/hr is to be considered. Transition space required is 250m.

3. Where Town roads are within the area of influence (1.5 km) of a County Road with lower or higher posted speeds ☐
   - A reduction or increase of 10km/hr on the Town road, to bring it closer to the County Road speed limit, is to be considered.
     Transition space required is 250m.

If concern has been addressed, please move onto recommendations sections. If concern has not been addressed, then no recommendations can be made at this time.

Recommendations

7. The speed limit shall remain at 50 km/hr. ☐
8. The speed limit shall change to 50km/hr. ☐
9. The speed limit shall change to 40 km/hr. ☐

POLICY: **Speed Limits**	COUNCIL APPROVAL DATE: RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)*
POLICY NO.: *XX.XXX*-XX *(Number assigned by Clerk Services)*	REVISED DATE: December 28, 2012 RES. NO.: CR-….XX

2.4 Rural Arterial
Posted speeds shall be set at 80 km/hr unless reduced speed designation is appropriate.

The following are reasons for reduced speed designation. Please check those that apply to the road section being examined.

1. School Zone ☐
   - Speeds shall be reduced to 60 km/hr in school zones. Transition space required is 1km. Flashing lights indicating when the reduced speed zone is in effect shall accompany the reduced speed zone sign.

2. Geometric characteristics that contribute to road elements (sight distance or horizontal or vertical curvature) ☐
   - A reduction to 60 km/hr is to be considered. Transition space required is 1km.

3. Where Town roads are within the area of influence (1.5 km) of a County Road with lower or higher posted speeds ☐
   - A reduction or increase of 10km/hr on the Town road, to bring it closer to the County Road speed limit, is to be considered.
     Transition space required is 1km.

If concern has been addressed, please move onto recommendations sections. If concern has not been addressed, then no recommendations can be made at this time.

Recommendations

1. The speed limit shall remain at 80 km/hr. ☐

2. The speed limit shall change to 70km/hr. ☐

3. The speed limit shall change to 60 km/hr. ☐

POLICY: **Speed Limits**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

2.5 Rural Collector
Posted speeds shall be set at 80 km/hr unless reduced speed designation is appropriate.

The following are reasons for reduced speed designation. Please check those that apply to the road section being examined.

1. School Zone ☐
   - Speeds shall be reduced to 60 km/hr in school zones. Transition space required is 500m. Flashing lights indicating when the reduced speed zone is in effect shall accompany the reduced speed zone sign.

2. Geometric characteristics that contribute to road elements (sight distance or horizontal or vertical curvature) ☐
   - A reduction to 60 km/hr is to be considered. Transition space required is 500m.

3. Where Town roads are within the area of influence (1.5 km) of a County Road with lower or higher posted speeds ☐
   - A reduction or increase of 10km/hr on the Town road, to bring it closer to the County Road speed limit, is to be considered.
     Transition space required is 500m.

If concern has been addressed, please move onto recommendations sections. If concern has not been addressed, then no recommendations can be made at this time.

Recommendations

10. The speed limit shall remain at 80 km/hr. ☐

11. The speed limit shall change to 70km/hr. ☐

12. The speed limit shall change to 60 km/hr. ☐

POLICY: **Speed Limits**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

2.6 Rural Local
Posted speeds shall be set at 80 km/hr unless reduced speed designation is appropriate.

The following are reasons for reduced speed designation. Please check those that apply to the road section being examined.

1. School Zone ☐
   - Speeds shall be reduced to 60 km/hr in school zones. Transition space required is 500m. Flashing lights indicating when the reduced speed zone is in effect shall accompany the reduced speed zone sign.

2. Geometric characteristics that contribute to road elements (sight distance or horizontal or vertical curvature) ☐
   - A reduction to 60 km/hr is to be considered. Transition space required is 500m.

3. Where Town roads are within the area of influence (1.5 km) of a County Road with lower or higher posted speeds ☐
   - A reduction or increase of 10km/hr on the Town road, to bring it closer to the County Road speed limit, is to be considered.
     Transition space required is 500m.

If concern has been addressed, please move onto recommendations sections. If concern has not been addressed, then no recommendations can be made at this time.

Recommendations

1. The speed limit shall remain at 80 km/hr. ☐
2. The speed limit shall change to 70km/hr. ☐
3. The speed limit shall change to 60 km/hr. ☐

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Parking and Stopping Regulations**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

1. PURPOSE

The objective is to implement parking regulations where they will provide benefit to the community with full regard to the needs of traffic and to safety.

---

2. SCOPE/APPLICATION:

2.1 BACKGROUND

There have been the following concerns around the parking and stopping of vehicles:

- The parking of vehicles too close to driveways and on both sides of local streets, where this parking obstructs traffic. This behaviour predominantly occurs during the ice fishing period during the winter and periodically in the summer.
- Drop-off / pick-up activity around elementary schools disrupting traffic.
- Parking and stopping in close proximity to pedestrian crossovers.
- Parking in widened paved shoulder areas reserved for pedestrians and cyclists.

Comprehensive Parking By-law 070-11 (the "By-law") regulates, in part, the standing, stopping and parking of vehicles on roadways within the Town, and has within it the ability to discourage most of the above noted behaviour.

2.1.1 Parking Too Close to Driveways

The By-law has a Sub-Section for parking too close to driveways as follows:

> 8.1.3. No person shall park a vehicle or permit a vehicle to remain parked on any highway in front of or within one and one half metres (1.5m) 4.9 feet of a laneway or driveway.

The enforcement of this prohibition allows for the owner of a vehicle entering or exiting a driveway to manoeuvre that vehicle into and out of that driveway without obstruction.

This prohibition does not need to be signed.

2.1.2 Parking on Both Sides of the Road

POLICY: **Parking and Stopping Regulations**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

There are several Sub-Sections in the By-law that can be enforced to control the parking and stopping of vehicles on one or both sides of a local road, where this parking or stopping obstructs traffic. They are as follows:

8.1.5. No person shall park a vehicle or permit a vehicle to remain parked on any highway in such a position that will prevent the convenient removal of any other vehicle previously parked.

8.1.8. No person shall park a vehicle or permit a vehicle to remain parked on any highway on the roadway where the width of the roadway is six metres (6m) 19.6 feet or less.

8.1.10. No person shall park a vehicle or permit a vehicle to remain parked on any highway so as to impede or obstruct the flow of other traffic during their lawful use of the highway.

9.1.6. No person shall stop a vehicle or permit a vehicle to remain stopped on any highway on the roadway side of any stopped or parked vehicle.

11.2. No person shall park a vehicle or permit a vehicle to remain parked on a highway:

11.2.1. so as to interfere in any manner with the work of clearing and/or removing snow or ice there from, or

11.2.2. in such a manner so as to interfere with any highway cleaning, clearing and maintenance operations (year round).

These prohibitions do not need to be signed.

2.1.3 Parking and Stopping Within the Vicinity of Elementary Schools

The By-law has a Sub-Section for stopping within the vicinity of a school as follows:

10.1. When authorized signs have been erected, no person shall stop a vehicle or permit a vehicle to remain stopped:

10.1.2. on either side of a highway adjacent to a school between the hours of 8:00am and 5:00pm

POLICY: **Parking and Stopping Regulations**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

The By-law does not have a Sub-Section for parking within the vicinity of a school. It is recommended that the By-law be amended to add a Sub-Section under Section 7 that would read as follows:

7.1. When authorized signs have been erected, no person shall park a vehicle or permit a vehicle to remain parked on any highway:

7.1.5. on either side of a highway adjacent to a school between the hours of 8:00am and 5:00pm

It is further recommended that stopping be prohibited on the opposite side of the street of elementary schools and parking be prohibited along the frontage of elementary schools. This would discourage the dropping off of students on the opposite side of the street from elementary schools where they would need to cross the street to access the school. This would also discourage the parking of vehicles along the frontage of the school where they could become a hazard to students being dropped off.

These prohibitions must be signed.

2.1.4 Parking and Stopping Within the Vicinity of Pedestrian Crossovers

The By-law has several Sub-Sections for discouraging parking and stopping within the vicinity of pedestrian crossovers as follows:

7.1. When authorized signs have been erected, no person shall park a vehicle or permit a vehicle to remain parked on any highway:

7.1.6. within thirty metres (30m) 98.4 feet of the approach side of a cross walk that is not located at an intersection;

7.1.7. within fifteen metres (15m) 49.2 feet of the departure side of a cross walk that is not located at an intersection;

These prohibitions must be signed.

9.1. No person shall stop a vehicle or permit a vehicle to remain stopped on any highway:

9.1.2. within an intersection or crosswalk;

9.1.3. within thirty metres (30m) 98.4 feet of the approach side of a crosswalk that is not located at an intersection;

9.1.4. within fifteen metres (15m) 49.2 feet of a departure side of a crosswalk that is not located at an intersection;

These prohibitions do not need to be signed.

2.1.5 Parking in Paved Shoulder Areas Reserved for Pedestrians and Cyclists

Accommodation of pedestrians and cyclists is desired on some roadways where a sidewalk or multi-use trail is either not feasible or economically viable. In these cases, it is proposed to widen the existing paved shoulder to accommodate these users. Parking on these shoulders could force a pedestrian or cyclist into the travelled way. It is desirable to prohibit parking in some of these areas.

It is recommended that the prohibition of parking be considered in conjunction with the design of these facilities. Depending upon the roadway's characteristics, the prohibition should be limited to certain times of the day and certain days of the week. The time and day limitations should be tailored to the specific location in consultation with abutting property owners. These prohibitions must be signed.

3. EXCEPTIONS

None

4. RESPONSIBILITY

Capital Engineering Services

5. DEFINITIONS:

The following definitions are excerpted from Comprehensive Parking By-law 070-11.

POLICY: **Parking and Stopping Regulations**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Standing – refers to a vehicle (usually in the curb lane) that is stopped to pick up / drop off passengers, or load / unload etc... The driver need not be in the car at the time the vehicle is stopped. Typically this lasts for a short duration.

Stopping – refers to a vehicle (usually in the curb lane) that has stopped for whatever reason (except when legally required to do so).

Parking – refers to a vehicle that is stopped (usually in the curb lane) and is left for an extended period of time. The driver is usually not in the vehicle when it is parked, and the vehicle may or may not be attended.

6. POLICY STATEMENT

As noted in Section 2.0 above, there are mechanisms within By-law 070-11 to control most of the parking and stopping of vehicles on streets. A checklist to assist in implementing parking and stopping regulations is contained in **Attachment A**.

6.1 Enforcement

Enforcement is to occur on a complaint basis only. Enforcement is to be increased during those times of the year that complaints are typically received in relation to the tourist peak seasons in the winter and summer. Sections 7, 8, 9, 10 and 11 of the By-law are to have special increased enforcement during these times.

6.2 Parking and Stopping Within the Vicinity of Elementary Schools

Stopping is prohibited on the opposite side of the street of all elementary schools and parking is prohibited along the frontage of all elementary schools. These prohibitions must be signed.

6.3 Parking and Stopping Within the Vicinity of Pedestrian Crossovers

Parking is prohibited within thirty metres of the approach side and within fifteen metres of the departure side of any cross walk that is not located at an intersection. These prohibitions must be signed.

6.4 Parking in Paved Shoulder Areas Reserved for Pedestrians and Cyclists

The prohibition of parking is to be considered in conjunction with the design of these facilities. Depending upon the roadway's characteristics, the prohibition is to be limited to certain times of the day and certain days of the week. The time and day limitations should be tailored to the specific location in consultation with abutting property owners. These prohibitions must be signed.

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Parking and Stopping Regulations**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Attachment A: Checklist for Implementing Parking and Stopping Regulations

The following check list is to be used in conjunction with the Parking and Stopping Regulations Policy document, when considering changing the Parking and Stopping Regulations on a street.

Location of Road in Question: _____
_____

Date Inquiry was received: _____
Date Inquiry was completed: _____
Name of Reviewer: _____

Section 1

What is the Issue? Parking ☐ Stopping ☐

What are the Existing Regulations?

None ☐
Parking Allowed ☐
Stopping Allowed ☐
Parking Restricted ☐
Stopping Restricted ☐

What time does the issue occur?

From 8am – 5pm ☐
From 5pm – 8am ☐
If seasonally, which season? _____

What is the zone or feature?

Proximity to the End of a Driveway ☐
Parking on Both Sides of the Road ☐
Proximity to an Elementary School Zone ☐
Pedestrian Crossover ☐
Paved Shoulder Reserved for Pedestrians and Cyclists ☐

Please proceed to associated zone/feature Sub-section in Section 2.

POLICY: **Parking and Stopping Regulations**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Section 2
2.1 Proximity to the End of a Driveway

Comprehensive Parking By-law 070-11

No person shall park a vehicle or permit a vehicle to remain parked on any highway in front of or within one and one half metres (1.5m) 4.9 feet of a laneway or driveway.

Does this mitigate the concern? Yes ☐ No ☐

If yes, move to recommendations. If no, then no recommendation can be made at this time.

Recommendations

1. If subject area already has sufficient signage, then recommend that Municipal Law and/or local police service increase enforcement efforts.

2. If this is the first parking related checklist preformed for this section of road, recommend that Municipal Law and/or local police service increase enforcement efforts.

Recommendation Statement: _____

POLICY: **Parking and Stopping Regulations**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

2.2 Parking on Both Sides of the Road

Comprehensive Parking By-Law 070-11

Check which by-law subsections would mitigate the concern?

- No person shall park a vehicle or permit a vehicle to remain parked on any highway in such a position that will prevent the convenient removal of any other vehicle previously parked. ☐
- No person shall park a vehicle or permit a vehicle to remain parked on any highway on the roadway where the width of the roadway is six metres (6m) 19.6 feet or less. ☐
- No person shall park a vehicle or permit a vehicle to remain parked on any highway so as to impede or obstruct the flow of other traffic during their lawful use of the highway. ☐
- No person shall stop a vehicle or permit a vehicle to remain stopped on any highway on the roadway side of any stopped or parked vehicle. ☐
- No person shall park a vehicle or permit a vehicle to remain parked on a highway ☐
    - so as to interfere in any manner with the work of clearing and/or removing snow or ice there from, or ○
    - in such a manner so as to interfere with any highway cleaning, clearing and maintenance operations (year round). ○

If at least one of the above subsections is checked, then move to the recommendations section. If no, then a recommendation cannot be made at this time.

POLICY: **Parking and Stopping Regulations**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Recommendations

1. If subject area already has sufficient signage, then recommend that Municipal Law and/or local police service increase enforcement efforts.

2. If this is the first parking related checklist preformed for this section of road, recommend that Municipal Law and/or local police service increase enforcement efforts.

3. If subject area does not have sufficient signage and this is the second or subsequent parking related checklist preformed for this location, then recommend that signage be erected along subject area.

Recommended signage to install:

No parking signs ☐
No stopping signs ☐
No parking signs between XX hour and XX hour signs ☐
No stopping signs between XX hour and XX hour signs ☐
Seasonal Signage ☐
(Check this and the other option that applies)

Recommended location:

One side of the road (indicate which side) ☐ _____
Both sides of the road ☐

Recommendation Statement: _____

POLICY: **Parking and Stopping Regulations**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

2.3 Parking or Stopping in Proximity to an Elementary School

Check which subsections would mitigate the concern?

Comprehensive Parking By-Law 070-11

- When authorized signs have been erected, no person shall stop a vehicle or permit a vehicle to remain stopped on either side of a highway adjacent to a school between the hours of 8:00am and 5:00pm ☐

Made in Innisfil Parking Policy

- Prohibiting stopping on the opposite side of the street of all elementary Schools between the hours of 8:00am and 5:00pm ☐
- Prohibiting parking along the frontage of all elementary schools between the hours of 8:00am and 5:00pm. ☐

If at least one of the above subsections is checked, then move to the recommendations section. If no, then a recommendation cannot be made at this time.

Recommendations

1. If subject area already has sufficient signage, then recommend that Municipal Law and/or local police service increase enforcement efforts.

2. If this is the first parking related checklist preformed for this section of road, recommend that Municipal Law and/or local police service increase enforcement efforts.

3. If subject area does not have sufficient signage and this is the second or subsequent parking related checklist preformed for this location, then recommend that signage be erected along subject area.

Recommended signage to install:

No parking signs ☐
No stopping signs ☐
No parking signs between XX hour and XX hour signs ☐
No stopping signs between XX hour and XX hour signs ☐
Seasonal Signage ☐
(Check this and the other option that applies)

Recommended location:

One side of the road (indicate which side) ☐ _____
Both sides of the road ☐

Recommendation Statement: _____

POLICY: **Parking and Stopping Regulations**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

2.4 Parking or Stopping in Proximity to a Pedestrian Crossover

Check which subsections would mitigate the concern?

Comprehensive Parking By-Law 070-11

- When authorized signs have been erected, no person shall park a vehicle or permit a vehicle to remain parked on any highway: ☐
  - within thirty metres (30m) 98.4 feet of the approach side of a cross walk that is not located at an intersection; ○
  - within fifteen metres (15m) 49.2 feet of the departure side of a cross walk that is not located at an intersection; ○
- No person shall stop a vehicle or permit a vehicle to remain stopped on any highway: ☐
  - within an intersection or crosswalk; ○
  - within thirty metres (30m) 98.4 feet of the approach side of a crosswalk that is not located at an intersection; ○
  - within fifteen metres (15m) 49.2 feet of a departure side of a crosswalk that is not located at an intersection; ○

If at least one of the above subsections is checked, then move to the recommendations section. If no, then a recommendation cannot be made at this time.

Recommendations

1. If subject area already has sufficient signage, then recommend that Municipal Law and/or local police service increase enforcement efforts.
2. If this is the first parking related checklist preformed for this section of road, recommend that Municipal Law and/or local police service increase enforcement efforts.
3. If subject area does not have sufficient signage and this is the second or subsequent parking related checklist preformed for this location, then recommend that signage be erected along subject area.

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Parking and Stopping Regulations**	**COUNCIL APPROVAL** **DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Recommended signage to install:

No parking signs	☐
No stopping signs	☐
No parking signs between XX hour and XX hour signs	☐
No stopping signs between XX hour and XX hour signs	☐
Seasonal Signage	☐
(Check this and the other option that applies)	

Recommended location:

One side of the road (indicate which side)	☐	_____
Both sides of the road	☐	

Recommendation Statement: _____

POLICY: **Parking and Stopping Regulations**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

2.5 Paved Shoulder Reserved for Pedestrians or Cyclists

Made in Innisfil Parking Policy

The prohibition of parking is to be considered in conjunction with the design of these facilities. Depending upon the roadway's characteristics, the prohibition is to be limited to certain times of the day and certain days of the week. The time and day limitations should be tailored to the specific location in consultation with abutting property owners.

Has Shoulder Been Designated a Pedestrian or Cycling corridor? Yes ☐ No ☐

If yes, move on to recommendations section. If no, then there are no recommendations at this time.

Recommendations

1. If subject area already has sufficient signage, then recommend that Municipal Law and/or local police service increase enforcement efforts.

2. If this is the first parking related checklist preformed for this section of road, recommend that Municipal Law and/or local police service increase enforcement efforts.

3. If subject area does not have sufficient signage and this is the second or subsequent parking related checklist preformed for this location, then recommend that signage be erected along subject area.

Recommended signage to install:

No parking signs	☐
No stopping signs	☐
No parking signs between XX hour and XX hour signs	☐
No stopping signs between XX hour and XX hour signs	☐
Seasonal Signage	☐
(Check this and the other option that applies)	

Recommended location:

One side of the road (indicate which side)	☐	_____
Both sides of the road	☐	

Other Recommendations:

Line Painting or Separation from Traffic Required ☐

Recommendation Statement: _____

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Community Safety Zones**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

1. PURPOSE

The objective is to implement community safety zones where they will provide the greatest benefit.

---

2. SCOPE/APPLICATION:

2.1 BACKGROUND

Community Safety Zones were introduced on Ontario roads in the Fall of 1998. As stated in the **Ontario Traffic Manual Book 5 ("OTM" Book 5)**:

> "The purpose of the Community Safety Zone is to inform the driver that they are entering a zone that the community has designated as an area where the safety of its children/citizens is paramount."

All rules of the road remain unchanged; however, there are increases to the fines for moving violations that occur within a Community Safety Zone. As such, a by-law and the appropriate on-street signing (as listed in OTM Book 5) are required.

2.2 WARRANTS

There is no specific warrant provided in the Ontario Traffic Manual for Community Safety Zones. However, their effectiveness depends on selective and appropriate deployment. Drivers should not encounter a Community Safety Zone in such a wide variety of applications that they lose their special designation. Rather, as cited in OTM Book 5, Community Safety Zones are intended for:

> "roadways near schools, day care centres, playgrounds, parks, hospitals, senior's residences, and may also be used for collision prone locations within a community"

An important aspect of the effectiveness of a Community Safety Zone is the ability of the police to enforce it. As such, the input of the Police is strongly recommended when assessing a section of road for a Community Safety Zone.

There are no specific guidelines related to the length or area for a Community Safety Zone. However, the OTM Book 5 does indicate that the entire length of a roadway is not

the intended application, rather they should be limited to areas / segments of special concern to the community.

The designation of a Community Safety Zone requires careful consideration and therefore a "blanket" Community Safety Zone designation in all school zones is not recommended.

It is recommended that the warrant criteria employed by the Region of York be implemented for Community Safety Zones within the Town.

2.3 Town of Innisfil's Community Safety Zone Warrant Criteria

The Town of Innisfil will employ Community Safety Zone warrant criteria which has two separate warrants, both of which must be met in order to install a Community Safety Zone. The first component, Designated Areas of Special Consideration, recommends that Community Safety Zones only be considered for implementation in areas of special concern that are obvious to road users.

These areas include:

- Community centres;
- Elementary or secondary schools;
- High pedestrian traffic locations (defined as a location experiencing an average of 100 pedestrians per hour or more for any eight hours of the day); and
- Seniors' centres and residences.

The second component, Safety Performance, consists of collision and risk components that consider the following factors:

- Posted speed;
- Daily traffic volumes;
- Number of lanes;
- Length of sidewalks;
- Pedestrian volumes; and
- Intersections and entrances per kilometre.

The collision warrant specifies a rate of collision threshold and the risk warrant involves analyzing the features of the road section. Before the risk warrant for a road section can be evaluated, there must be positive confirmation from the local Police service from field observations that there is an unusually high violation rate at the location. The policy guides the analyst to assign a risk factor score to road sections, which will determine the potential for safety improvements.

POLICY: **Community Safety Zones**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Niagara Region, Waterloo Region and York Region apply a similar in-house Community Safety Zone warrant criteria for evaluation. The City of Hamilton, the City of Ottawa and the City of Toronto, through their own evaluation studies, have found Community Safety Zones to be generally ineffective in changing driver behaviour. Accordingly they are not currently considering additional locations for Community Safety Zones.

Therefore the recommended policy should be used with great care and caution.

3. EXCEPTIONS

None

4. RESPONSIBILITY

Capital Engineering Services

5. DEFINITIONS:

Community Safety Zone – refers to a zone that the community has designated as an area where the safety of its children/citizens is paramount.

6. POLICY STATEMENT

Community Safety Zones (“CSZ”) are to be used on "parts of a roadway" where public safety is of special concern to a community. The CSZ warrant outlines two major components. The first component, Warrant 1, Designated Areas of Special Concern, must be satisfied before continuing onto Warrant 2. Warrant 2 considers collision and risk components. One of these components must be satisfied in order for a CSZ to be implemented. A checklist to assist in implementing CSZs is contained in **Attachment A**.

6.1 Warrant 1: Designated Areas of Special Consideration

CSZs must only be implemented at locations of special concern that are obvious to the road user. Therefore, CSZs must only be implemented at the following locations:

- Elementary or secondary schools
- Community centres
- High pedestrian traffic locations
- Seniors' centres and residences

POLICY: Community Safety Zones	COUNCIL APPROVAL DATE: RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)*
POLICY NO.: *XX.XXX*-XX *(Number assigned by Clerk Services)*	REVISED DATE: December 28, 2012 RES. NO.: CR-….XX

A proposed CSZ must be a minimum of one kilometre in length to a maximum of 2.5 kilometres. For the purposes of this warrant, a high pedestrian location is defined as a location experiencing an average of 100 pedestrians per hour or more for any 8 hours of the day.

6.2 Warrant 2: Safety Warrant

The safety warrant is comprised of collision history and risk components. Either the collision history or the risk component must be satisfied for the safety warrant to be met. Roads with a posted speed greater than 60 km/h shall not be considered for a CSZ.

6.2.1 Collision History

A CSZ should be implemented if the collision ratio is less than 1:900 (collisions per year to AADT), averaged over 36 consecutive months.

6.2.2 Risk

It is recognized that a significant safety concern may exist even though it is not shown in the collision record, therefore, a second warrant based on the elements of risk is available. Prior to using the risk warrant, field observations or the local Police Service must verify that there is an unusually high violation rate at the subject location. The minimum accepted value for the risk factor is 15 based on the scoring summarized in Table 6-1.

Table 6-1: Risk Factor Component

Risk Factor	High (Score 3)	Moderate (Score 2)	Low (Score 1)	Score
Posted speed (km/h)	40	50	60	
Average daily volume	Over 20,000	10,000 to 20,000	Under 10,000	
Number of lanes	>4	3 or 4	2	
Length of sidewalks	<25%	25 to 75%	>75%	
Truck volume	>5 %	3-5 %	<3 %	
Pedestrians crossing in any 8 hours	>100	50 to 100	< 50	
Intersection and entrances per km	> 10	4 to 10	< 4	
			Total Score	

TOWN OF INNISFIL
CORPORATE POLICY

POLICY: **Community Safety Zones**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

Attachment A: Checklist for Implementing CSZs

The following check list is to be used when considering implementing a CSZ on a street in conjunction with the CSZ policy document.

Location of Road in Question: _____
_____

Date Inquiry was received: _____
Date Inquiry was completed: _____
Name of Reviewer: _____

Section 1 – Warrants

1.1 Designated Areas of Special Concern

1. Is this location a:
   - School zone or in proximity to a school zone? Yes ☐ No ☐
   - Community Centre? Yes ☐ No ☐
   - High Pedestrian Traffic Location? Yes ☐ No ☐
   - Senior's Centre or Residence? Yes ☐ No ☐

***High pedestrian traffic is defined as 100 pedestrians per hour or more for any 8 hours of the day.**

If yes has been checked for any of the above options, move on to section 1.2 – Safety Warrants

POLICY: **Community Safety Zones**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

1.2 Safety Warrant

Warrant Criteria	Recommendation	Length of Road in Question	Meets Warrant Criteria
Posted or statutory speed?	CSZs shall not be placed on road sections with a speed limit greater than 60km/hr.	Insert Speed Limit _____ Km/hr	Yes ☐ No ☐
What is the collision ratio?	A CSZ should be implemented if the collision ratio is less than 1:900 (collisions per year to AADT), averaged over 36 consecutive months.	Insert collision ratio 1: _____	Yes ☐ No ☐
If collision ratio does not meet warrant criteria but significant safety concerns still exist, move on to the following risk factor questions.			

Prior to using the risk warrant matrix, field observations or the local Police service must verify that there is an unusually high violation rate at the subject location.

POLICY: **Community Safety Zones**	**COUNCIL APPROVAL DATE:** **RES. NO.: CR-…XX – (*Indicate Council Resolution Number here)***
POLICY NO.: ***XX.XXX*-XX *(Number assigned by Clerk Services)***	**REVISED DATE: December 28, 2012** **RES. NO.: CR-….XX**

1.2.2 Risk Factor Components

*Must have a score of 15 or higher to meet risk factor components.

Risk Factor	High (Score 3 Points)	Medium (Score 2 Points)	Low (Score 1 Point)	Score of Road in Question	Meets Risk Factor Component
Posted Speed	40	50	60		
Average Daily Volume	Over 20,000	10,000 - 20,000	Under 10,000		
Number of lanes	More than 4	3 or 4	2		
Length of Sidewalks	Less than 25%	25-75%	More than 75%		
Truck volume	More than 5%	3-5%	Less than 3%		
Pedestrians Crossing in any 8 Hours	More than 100	50-100	Less than 50		
Intersections and Entrances Per Km	More than 10	4-10	Less than 4		
Total Score for Road Section in Question					Yes ☐ No ☐

Does road section in question meet risk factor components? Yes ☐ No ☐

Recommendation: Yes/No, this road section is/is not recommended for CSZ designation.