



**STAFF REPORT
ACTION REQUIRED**

Proposed 30 km/h Speed Limit Policy

Date:	March 20, 2015
To:	Public Works & Infrastructure Committee
From:	General Manager, Transportation Services
Wards:	All
Reference Number:	P:\2015\ClusterB\TRA\TIM\pw15001tim.docx

SUMMARY

The purpose of this report is to respond to a request from the Public Works and Infrastructure Committee on a proposed set of criteria under which the implementation of a 30 km/h speed limit could be recommended on streets in the absence of traffic calming. Currently in the City of Toronto, a 30 km/h speed limit is considered on local and collector roads but only in conjunction with traffic calming measures, such as speed humps, road narrowings, curb "bump-outs", etc. Recently, however, there have been several requests for speed limit reductions to 30 km/h even without the implementation of traffic calming measures

The criteria recommended in this report for the implementation of a 30 km/h speed limit is based on the development of four warrants: (1) Petition (ensures there is a basic level of community support); (2) Road Environment (classification, pavement width, speeds and volumes); (3) School and Cycling Environment (proximity to schools, parks and cycling facilities); and (4) Pedestrian and Traffic Environment (existence of sidewalks, parking, geometric design elements). These warrants will assist staff in determining when to consider a reduction in the speed limit to 30 km/h even in the absence of traffic calming measures.

This report also seeks Council's approval to have the General Manager, Transportation Services report back to the Public Works and Infrastructure Committee on the Ministry of Transportation's proposal to change the default speed limit in the Highway Traffic Act (currently set at 50 km/h) and to identify the implications such a change may have on the City of Toronto.

RECOMMENDATIONS

The General Manager, Transportation Services recommends that:

1. City Council approve the proposed warrants for establishing a 30 km/h speed limit in the absence of traffic calming, as contained in Appendix 'A' attached to this report, and that such speed limits, if warranted, be restricted to local and collector roads.
2. City Council request the General Manager, Transportation Services report back to the Public Works and Infrastructure Committee on what implications the Ministry of Transportation's proposal to amend the current default speed limit, in the Highway Traffic Act, would have on the City of Toronto.

Implementation Points

The implementation of a 30 km/h speed limit will be considered under one or more of the following situations, and will need to meet the proposed 30 km/h speed limit policy:

- Upon receipt of a petition from an affected community;
- In conjunction with a cycling infrastructure project for the installation of sharrows or contra-flow bicycle lanes on local or collector roads;
- In conjunction with road rehabilitation projects where the road is being re-configured.

In the event of a positive warrant calculation, a staff report must be submitted to Community Council recommending the enactment of a by-law to change the posted speed limit to 30 km/h. If a Cycling Infrastructure project has been previously approved by City Council, it does not need to go to Community Council and is exempt from Warrant "A" (Petition) of the proposed 30 km/h speed limit policy.

Financial Impact

The cost associated with the change in speed limit to implement 30 km/h, if approved, will be based on the number of requests for speed limit reductions and how many new signs and poles will be required for each location. The cost of manufacturing and installing one sign is approximately \$225.00. The volume of requests and implementation could require additional funds. If operating budget pressures are identified, any necessary additional funds would have to be secured during the annual budget process.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

The Public Works and Infrastructure Committee (PWIC), at its meeting on March 4, 2014, "...requested the General Manager, Transportation Services, to report to the Public Works and Infrastructure Committee in January 2015 with a set of criteria under which 30 km/h speed limits could be recommended in the absence of physical traffic calming measures." <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2014.PW29.11>

ISSUE BACKGROUND

In the past two years a number of requests have come forth from Ward Councillors to lower the posted speed limit to 30 km/h in the absence of traffic calming measures. These requests have been made to increase public safety and health. Currently, a speed reduction to 30 km/h has only been considered on local and collector roads under the City's Traffic Calming Policy, and only in conjunction with traffic calming measures that are approved for implementation.

Not all streets are suitable for a 30 km/h speed limit and therefore an unsuitable speed limit could result in widespread disregard or non-compliance by motorists. For those reasons, requests for such speed limit reductions must first be assessed using a set of criteria to ensure that the desired 30 km/h speed is appropriate.

COMMENTS

The safety of all street users, including pedestrians and cyclists, is a priority for the City. Lowering the speed limits on City streets in order to enhance the safety of these users without consideration of the physical configuration of the road and how the road is being used may not result in the desired change in driver behaviour. The resulting variation in operating speeds of vehicles could result in a less safe environment for pedestrians and cyclists and increase the risk of collisions. Therefore, Transportation Services is proposing a set of criteria that will allow staff to determine if it is suitable to implement a speed limit of 30 km/h in the absence of any additional physical measures to reduce travel speeds. This will promote consistent application by the City and motorist compliance with such limits.

Review of Other Jurisdictions

A number of other jurisdictions have adopted some form of 30 km/h speed limit, either on a limited area basis or during specific times of the day.

The City of New York has created neighbourhood 'Slow Zones' where the speed limit is reduced from 30 mph (48 km/h) to 20 mph (32 km/h) within select residential areas. Within these areas the following three components are introduced:

- Gateway signage announcing the presence of a Slow Zone;
- 20 mph pavement markings; and
- Speed humps.

The City of Edmonton recently implemented 30 km/h speed limits between 8 a.m. and 4:30 p.m. on school days where school zone signs are posted. The purpose is to provide motorists with greater opportunity to react when children are crossing the road, and increase the pedestrian survival rate should a pedestrian/vehicle collision occur.

The Province of Quebec has developed a manual for setting speed limits on municipal roads. The manual includes a set of criteria for built-up areas that must be met for the speed limit to be reduced from 50 km/h to 30 km/h. The criteria include road characteristics such as number of traffic lanes, width of the pavement, longitudinal sight distance, traffic flow, etc.

Proposed Warrants for a 30 km/h Speed Limit

In order to guide City staff in the review of requests to reduce the speed limit to 30 km/h without the installation of any traffic calming measures, a warrant was developed by Transportation Services. This warrant was formulated on the basis of findings from the review of various approaches in other jurisdictions, and consideration of existing roadway characteristics and the area environment.

The proposed 30 km/h warrant is comprised of four separate warrants. These warrants were developed based on technical merits and as tested by staff to verify the appropriateness of the criteria. The speed limit can be reduced to 30 km/h if **Warrants "B" and "C" are met OR Warrants "B" and "D" are met**, and only after **Warrant "A"** is satisfied.

Warrant "A" – Petition

This warrant gauges the opinion of the area residents and requires their initial support of reducing the speed limit on their street. In particular, the policy states that consideration of a 30 km/h speed limit on a street be initiated upon receipt of a petition signed by at least 25 percent of affected households on that street (or 10 percent in the case of multiple family rental dwellings).

This would ensure that only those proposals supported by the community are investigated by staff.

Warrant "B" - Road Environment

1. *Local or Collector Roads* – Currently 30 km/h speed limit can be installed only on local and collector roads in conjunction with traffic calming measures. Therefore, similar speed limit reductions without traffic calming measures should only be allowed on these same classes of roads. In situations where a road has existing scheduled transit service, staff will confirm that as a result of a speed limit reduction no significant impacts will be experienced by transit users.
2. *Pavement Width* – Studies have shown that wide pavement/lane widths encourage motorists to drive faster because there are no perceived constraints or risks. Reducing the speed limit without any other physical measures on a wide road is likely to be ineffective and result in a wide variation in operating speeds. Therefore, the reduction in speed limit to 30 km/h should only be considered on roads with pavements no wider than 8.5 metres.
3. *Operating Speed 85th Percentile* (i.e., speed below which 85% of vehicles drive) – The 85th percentile speed should be no higher than 50 km/h. The rationale for this criteria is based on safety considerations, recognizing that risk increases with the deviation of a given driver speed from the speed of the main stream of traffic. If all drivers travel at the same speed, risk is minimal. As some motorists drive faster or slower, risk increases exponentially. Therefore the 85th percentile is viewed the safest speed and where risk is at its lowest. Otherwise, additional measures would be required to effectively reduce operating speeds from 50 km/h to 30 km/h as discussed later in the report in the section titled "Other Measures to Reduce Speeding".
4. *Maximum Traffic Volume* – The traffic volumes on the candidate roads should be less than 8,000 vehicles per day, which is the volume upper threshold for a collector road. It is recognized that lowering speed limits on residential or collector roads would impact travel times, but could be significantly worsen if traffic volumes were above the recommended upper threshold.

ALL criteria in Warrant 'B' **must** be met before considering the other warrants, below.

Warrant "C" – School and Cycling Environment

1. *School Zones* – A lower speed limit on roads near elementary and junior high schools can help alert motorists to areas where there is a high concentration of young children.
2. *Parkland* – The lower 30 km/h speed limit can be extended on those roads which have an improved parkland (i.e., equipped with playgrounds and/or other recreational facilities) that is contiguous to an elementary or junior high school.
3. *Cycling Facilities* – Roads with contra-flow bicycle lanes and sharrows effectively narrow the width of travel lanes and communicate to motorists of the likelihood of significant cycling volumes along those routes. To improve the safety of the cyclists these roads would warrant a lower speed limit of 30 km/h.

At least one of the three above criteria needs to be met for this warrant to be satisfied.

Warrant "D" – Pedestrian and Traffic Environment

1. *Absence of Sidewalk* – Because pedestrians must walk along the edge of the pavement when sidewalks are not available, a slower speed limit should be considered to enhance the safety of these pedestrians.
2. *Parking* – When 'significant parking activity' that results in cars being parked most of the time on both sides of a road, or on one side with a pavement width less than 6.5 metres, it can be considered as a constraint for drivers. This can cause a change in driving speeds.
3. *Curves* – Slower speed limits should be considered in areas where horizontal curves are present in short distance from each other (i.e., < 200 metres) and the safe speed is less than 30 km/h. The 30 km/h safe speed limit would be established by staff undertaking a ball-bank indicator study (i.e., using a ball-bank indicator device mounted in a vehicle, readings are taken at different speeds along a curve to determine a safe travelling speed).
4. *Stopping Distance* – If there is lack of safe stopping distance (65 metres*) based on the operating speed of 40 km/h at two or more locations, a 30 km/h speed limit should be considered. Staff will be required to do a field study/assessment of sight lines to determine the existing stopping distances.

*- based on the Transportation Association of Canada Urban Design Standards Manual

Three out of the four above criteria must be met for this warrant to be satisfied.

The complete proposed warrant for 30 km/h can be found in **Appendix 'A'** attached to this report.

Other Measures to Reduce Speeding

Physical Measures:

If the 30 km/h warrant is not met and, in the view of the community, the location should still be considered for speed reduction, then speed reduction could be achieved through physical means. Implementation of lower speed limit signs in absence of commensurate changes to the physical environment will have no effect on vehicle operating speeds.

The following installations may be considered, to alter the motor vehicle travel area of the roadway. The appropriateness of which intervention(s) would be most suitable for a given location is subject to the evaluation of staff depending on area needs, necessary approvals, available budget, and resources:

- Contra-flow (yellow) bicycle lanes
- On-street bicycle lane
- Painted Buffer (hatched or edge line)
- Painted median
- Physical traffic calming features, as per the City's Traffic Calming Policy
- Road narrowing

Most of these measures will narrow the effective operating width of the road - which is one of the most influential factors in changing a driver's behaviour. In addition, when a road is scheduled for resurfacing or reconstruction, staff should look for opportunities to implement some of the measures above, when feasible.

If any one or more of these interventions is implemented on a section of road, other than traffic calming which automatically triggers a 30 km/h speed limit, the warrant criteria for 30 km/h could be run again to determine if the corresponding posted speed limits should be reduced to 30 km/h.

Enforcement and Education:

Experience has shown that the introduction of a reduced speed limit will only have a short-lived effect on reducing speeds (more so on roads without physical measures) unless accompanied by sustained, visible police enforcement to ensure compliance.

The majority of motorists do comply with posted speed limits, but there will always be those few drivers that cannot seem to regulate their choices and impose a risk on other road users. To ensure compliance with a speed limit regulation requires that it represent a reasonable constraint on behavior. Even if speed limit regulations are generally viewed as legitimate by most motorists, enforcement is essential to ensure conformity of the remaining drivers who will obey the rules of the road only if they believe they are likely to be caught and fined for non-compliance.

Sustained enforcement will not always be possible because of competing demands and resources being limited. Therefore, a high level of compliance with speed limits can only be achieved if a certain level of enforcement is also complimented through regular driver education and awareness programs (e.g., Watch Your Speed), along with road safety messaging.

Amendment to Default Speed Limit in the Highway Traffic Act

The Highway Traffic Act (HTA) currently sets the statutory (default) maximum speed limit within a local municipality at 50 km/h without the need to post signage. Notwithstanding this provision, a municipality also has the right to pass by-laws to set a different rate of speed in a segment of road within its jurisdiction, but must be accompanied by the applicable speed limit signage.

If the City wishes to implement speed limit reductions on a broader scale, without the applicable speed limit signage, then that would need to be achieved through an amendment to the default speed limit in the HTA.

Recently, in response to the Office of Chief Coroner's recommendation made in the "Pedestrian Death Review" report (related to pedestrian fatalities in 2010), the Ministry of Transportation has responded by actively studying the feasibility of allowing municipalities to set their own new default speed limit (e.g., from 50 km/h to 40 km/h). Such an amendment to the HTA could be a positive step forward in managing speeds on our roads and keeping communities safe. However, the potential change to the default

speed may have a significant impact to the City and would need to be examined more closely. It is therefore recommended that the General Manager, Transportation Services undertake more research and analysis to fully understand the implications of a change in default speed limit in terms of enhanced safety, additional travel time, cost of implementation, as well as compliance, and report back at a later date on those findings.

Conclusion

The benefits of slower local traffic far outweigh any perceived inconvenience to motorists. Reduced speeds, and more importantly, compliance with those reduced speed limits, is essential to reducing the severity of collisions and injuries, and possibly the number of potential fatalities. Slower speeds also mean that motorists will have better visibility of the road and therefore a greater opportunity to react in time to brake and stop in shorter distances, avoiding potential injury to themselves and vulnerable pedestrians and cyclists. City Council's adoption of the proposed 30 km/h speed limit warrant criteria for local and collector roads will ensure that the speed limit is appropriate for the street being considered. Furthermore, it will also ensure that the speed is not set artificially or arbitrarily low, which will in all likelihood render it ineffective and result in non-compliance by motorists.

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SIGNATURE

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ATTACHMENT

Appendix A: Proposed 30 km/h Speed Limit Warrant

APPENDIX A

30 km/h Speed Limit Warrant

- i. Implementation must be approved by Community Council.
- ii. 30 km/h speed limit can be implemented (without traffic calming) if either Warrants "B" and "C" are met **OR** "B" and "D" are met.
- iii. In situations where a road has existing scheduled transit service, staff will confirm that as a result of a speed limit reduction no significant impacts will be experienced by transit.

Warrant "A" – PETITION

Consideration of 30km/h speed limit on a street upon receipt of a petition signed by at least 25% of affected households (or 10% in the case of multiple family rental dwellings).

Warrants "B ", "C" and "D" will not be considered until Warrant "A" is satisfied.

ROAD ENVIRONMENT

Warrant "B" – ALL of the following criteria must be met

1. Local or Collector road	Yes / No
AND	
2. Pavement width less or equal to 8.5 metres	Yes / No
AND	
3. Operating speed 85 th percentile no greater than 50 km/h	Yes / No
AND	
4. Maximum traffic volume Local & Collector – less than 8,000 vehicles/day	Yes / No

SCHOOL AND CYCLING ENVIRONMENT

Warrant "C" – At least ONE of the following criteria must be met

1. Elementary or junior high school abuts the road - <i>(The 30 km/h maximum speed limit must extend at a minimum 150 metres beyond the boundary of school property and can be extended to include full road section)</i>	Yes / No
OR	
2. Improved parkland abuts the road that is contiguous to and used to gain access to an elementary or junior high school - <i>(The 30 km/h maximum speed limit must extend at a minimum 150 metres beyond the boundary of the parkland and can be extended to include full road section)</i>	Yes / No
OR	
3. Presence of cycling facilities identified by means of a contra-flow bicycle lane, mid-block sharrows or signed bicycle route	Yes / No

PEDESTRIAN AND TRAFFIC ENVIRONMENT

Warrant "D" – At least <u>THREE</u> of the following criteria must be met	
1. Absence of continuous sidewalk on both sides of the road or major portion of the road	Yes / No
OR	
2. 'Significant parking activity' that results in cars being parked most of the time on both sides of the road or parked on one side, and the pavement width is less than 6.5 metres	Yes / No
OR	
3. 2 or more curves in short distance from each other (< 200 metres) with a safe operating speed less than 30 km/h	Yes / No
OR	
4. Lack of sufficient safe stopping distance (65 metres) based on the operating speed of 40 km/h at two or more locations	Yes / No

OVERALL WARRANT SUMMARY

Warrants "B" and "C" met OR "B" and "D" met	Yes / No
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