

## Update on Council Requested Road Safety Initiatives and Recommended Speed Limit Reductions

**Date:** October 2, 2019  
**To:** Infrastructure and Environment Committee  
**From:** General Manager, Transportation Services  
**Wards:** All

### SUMMARY

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The purpose of this report is to respond to five requests made by City Council of the General Manager, Transportation Services concerning the following road safety related items:

- Impacts associated with increased speed limits on 400 series highways;
- A proposal to introduce controlled crossings at all Toronto Transit Commission (TTC Stops);
- Mobile alerts of School Safety Zones through wayfinding providers;
- A motorcyclist lane filter pilot program; and
- Referral of speed limit reductions on three Ward 23 arterial roadways back to staff.

**Impacts associated with increased speed limits on 400 series highways:** Based on staff's review of potential impacts, this report recommends that City Council request the Ministry of Transportation to not increase the posted speed limits on the 400 series highways.

**Controlled crossings at all TTC Stops:** City staff have assessed the impacts of a policy that all TTC transit stops be provided with controlled crossings. Staff advise that such a policy would be impracticable. This report outlines other existing and upcoming measures to mitigate safety concerns with mid-block crossings at TTC transit stops.

**School Safety Zone notifications through wayfinding providers:** City staff have been advised by Waze that they are working to develop a feature called "high attention zones" which could provide a mobile alert to the driver that they are entering a school, senior or community safety zone or a pedestrian safety corridor. At this time, Waze has not provided a timeline of when such a feature may be added.

**A motorcyclist lane filter pilot program:** After review of Highway Traffic Act regulations, consultation with the Ministry of Transportation and review of the potential safety implications, staff advise that the City does not have the authority from the

Province to introduce a motorcycle lane filtering pilot in the City, as this issue is within the jurisdiction of the Province.

**Speed limit reductions in Ward 23:** Through Vision Zero 2.0, Transportation Services recommended speed limit reductions on about 250 kms of Major Arterial roadways. All but three segments in Ward 23 were approved by Council with the request for further consideration and consultation with the Ward Councillor. After additional review, this report recommends that City Council proceed with the reduction in speed limits on these segments.

## **RECOMMENDATIONS**

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The General Manager, Transportation Services recommends that:

1. City Council request the Ministry of Transportation of Ontario, to consult with the City of Toronto before considering increasing the speed limits on the 400 series highways within the City of Toronto, for the reasons cited in this staff report dated October 2, 2019.

2. City Council reduce the speed limit from 60 km/h to 50 km/h on the following road segments as part of the Speed Management Strategy outlined on page 21 in the (June 13, 2019) Report from the General Manager, Transportation Services and the General Manager, Solid Waste Management Services on Vision Zero 2.0 - Road Safety Plan Update:

- a. Brimley Road from Sheppard Avenue East to Steeles Avenue East;
- b. Markham Road from Milner Avenue to Steeles Avenue East; and
- c. McCowan Road from Milner Avenue to Steeles Avenue East.

## **FINANCIAL IMPACT**

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The cost to install speed limit signage on the road segments referenced in the recommendations is approximately \$26,000. Funding is available within the 2019-2028 Capital Budget and Plan for Transportation Services.

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

## **DECISION HISTORY**

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At its meeting on June 18 and 19, 2019 City Council requested the General Manager, Transportation Services to report to the Infrastructure and Environment Committee in the fourth quarter of 2019, on the Province's intentions regarding increasing speeds on the 400 series highways and the impacts to nearby residential streets. The Council decision can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.MM8.48>

At its meeting of July 16, 17, 18, 2019 City Council requested the General Manager, Transportation Services to report on a number of recommendations in relation to road safety, including; controlled crossings at all TTC Stops; School Safety Zone notifications through wayfinding providers; and a motorcyclist lane filter pilot program. At the same meeting, City Council referred reduction in speed limit from 60 km/h to 50 km/h on three road segments in Ward 23 back to the General Manager, Transportation Services for further consideration and consultation with the Ward Councillor. The Council decision can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.IE6.8>

## COMMENTS

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### Impacts Associated with Increased Speed Limits on 400 Series Highways

In May 2019, the Ministry of Transportation announced that they would launch a pilot by mid-September on three sections of Ontario highways where the posted speed limits would increase from 100 to 110 km/h. The highway segments are:

- Highway 402 from London to Sarnia;
- The Queen Elizabeth Way (QEW) from St. Catharines to Hamilton; and
- Highway 417 from Ottawa/Gloucester to Ontario/Quebec border.

The current scope of the pilot does not include any segments within the Greater Toronto Area (GTA). The province is also looking for a suitable highway to pilot higher speeds in Northern Ontario. There is no indication of if or when speed limit increases could be considered on 400 series highways located within the City of Toronto. If the speed limit increase were to be applied on all provincially owned highways, a number of highways within the City of Toronto would be impacted (i.e., Highway 400, Highway 401, Highway 409, and Highway 427).

There are safety concerns around speed differential between freeway conditions and urban roadways and these concerns are relevant today with the existing 100 km/h speed limit. Such concerns are currently addressed, to the extent possible, by setting speed limits appropriate to the expected driving conditions in the immediate vicinity of freeway interchanges. Notably many of the roadways adjacent to Highway 401 interchanges were exempt from the recent city-wide major arterial speed reductions to allow a safer transition to lower speeds.

A change to the speed limit on 400 series highways in Toronto would require an appropriately stepped-down transition to lower speeds around highway interchanges, in order to mitigate impacts on local streets. As such, a review of speed limits on roadways adjacent to interchanges would potentially result in recommendations for increased speed limits on those road segments, contrary to the goals of Vision Zero.

The primary concern with increased speed limits would be the potential increase to the likelihood and severity of collisions on the 400 series highways. A scan of jurisdictions that have recently increased the speed limit on their highways/freeways has shown that the number of collisions has increased. For example, in Kansas, the increase in speed

limit on a number of freeway segments from 70 mph to 75 mph (i.e., 110km/h to 120km/h) saw an increase of 27 percent in total collisions and a 62 percent in fatal and injury collisions from 2012 to 2014<sup>1</sup>. In Canada, the British Columbia government has recently rolled back a previous speed limit increase on 15 highway segments. An analysis of the crashes along these segments since the increase of speed limits in 2014 showed an increase in serious collisions of 11.2 percent<sup>2</sup>.

In addition to an increase in the number of collisions and severity of injuries, there are a number of other negative impacts that can be attributed to these higher number of collisions, such as:

- Higher public health costs in treating injuries;
- Additional demand on Police, Paramedic and Fire Services to respond to incidents;
- Travel time delays to average motorists;
- Economic impact on the Trucking and Goods Movement industry; Potential increase in highway spills of transported hazardous liquid products; and
- An increase in damage to infrastructure (i.e., repair to guidrails, bullnoses, pavement due to vehicle fires).

For the reasons stated above, Transportations Services would recommend that the City of Toronto communicate with the Province that the City does not support speed limit increases on the Province's 400 series highways.

### **Controlled Crossings at All TTC Stops**

In July 2019, City Council requested the General Manager, Transportation Services to review the opportunity for a policy that all TTC stops be provided with a controlled crossing in the immediate vicinity, working in consultation with the TTC to ensure that this policy does not reduce the number of TTC stops.

As reported in Vision Zero 2.0 staff report, every year about 62 pedestrians are killed or seriously injured while crossing mid-block, away from controlled crossings. More pedestrians are killed or seriously injured in this type of collision than any other collision scenario in the City of Toronto. Mid-block collisions account for 40% of pedestrian Killed and Serious Injury (KSI) collisions and 9% of cyclist KSI collisions. The presence of TTC transit stops at mid-block locations and uncontrolled intersections may encourage mid-block crossings.

Across the City, there are approximately 2,700 TTC transit stops at locations without traffic control. Installing controlled crossings would involve the addition of an estimated 1,350 new traffic control devices on arterial roadways and 600 new traffic control devices on collector roadways. With approximately 2,300 traffic control devices in operation in the City today, this would almost double the number of traffic control devices across the City.

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1 Shirazinejad, R. S., Dissanayake, S., & Pishro, A. A. (2019). Assessing the Safety Impacts of Increased Speed Limits on Kansas Freeways. *Journal of Transportation Technologies*, 9, 56-77

2 Zussman, R. (2018, November 6). B.C. government rolling back speed limits on 15 highway stretches in the province. Retrieved from Global News: <https://globalnews.ca/news/4634832/bc-speed-limits/>

Doubling the number of traffic control devices in the City through such a policy would likely result in reduced transit reliability and increased in travel time for transit riders and general traffic.

Each new traffic signal costs approximately \$150,000 and each new pedestrian crossover costs approximately \$60,000 to build. Transportation Services currently builds approximately 25 new signals/pedestrian crossovers each year. Based on the above costs in 2019 dollars, at the current rate of new signal delivery, it would take over 50 years and over \$200 million to deliver this proposed policy.

Based on the above considerations, staff advise that it would be impracticable to provide controlled crossings at all TTC stops without reducing the number of stops. . It is recommended that safety concerns with mid-block crossings be mitigated through measures such as proactively identifying new locations for controlled mid-block crossings, TTC transit stop rationalization process, improving pedestrian facilities around mid-block stops, and efforts to reduce vehicle travel speeds.

The Vision Zero 2.0 staff report identified several ways to address the safety concerns related to mid-block crossings at TTC transit stops. A significant number of existing mid-block TTC transit stops are at locations where motor vehicle speeds and crossing distances do not present safety concerns. A network-wide review will be conducted in order to proactively identify and prioritize mid-block segments prone to high-risk mid-block collisions and develop appropriate solutions for these segments. This review will consider factors such as:

- the width of roadways;
- the speed and volume of roadways;
- the walking distance between controlled crossings;
- adjacent land uses that encourage mid-block crossings such as TTC transit stops; and
- pedestrian and cyclist desire lines.

In coordination with this review, TTC staff will be carrying out a detailed, system-wide stop rationalization review over the next year and will report back to the TTC Board.

In addition, the revised traffic signal warrant introduced in Vision Zero 2.0 staff report incorporates a contextual checklist for future traffic signal investigations. Transportation Services continues to work towards integrating the considerations under this checklist, including adjacent land uses and the presence of TTC transit stops, as part of all investigations for new traffic signals. This will result in the installation of new signals where they may have previously not been warranted.

Another effective measure to reduce midblock crossings is relocating existing transit stops to nearby protected pedestrian crossings. TTC staff regularly review projects that could impact transit stops throughout the City and reasonably applies this principle. This both reduces the number of midblock crossings and preserves access to transit service in the catchment area. At locations with no nearby protected pedestrian crossings, TTC's standard practice is to comprehensively review the corridor area and place transit stops in a location that both optimizes customer access to transit and facilitates a

potential future protected pedestrian crossing. Most TTC stops were placed in their current location between the 1950s and 1990s and as part of Transit Service Planning, the TTC undertakes reviews of stop placement on a route by route basis.

The stop rationalization process strives to meet the needs of transit riders with mobility concerns and is based on the TTC's technical criteria and Board approved Service Standards prepared in consultation with TTC's Advisory Committee on Accessibility Transit (ACAT). Reducing the number of transit stops on a route results in longer walking distances for riders. Increased walking distances would disproportionately disadvantage riders with mobility limitations. When identifying appropriate stop spacing, it is necessary to strike a balance between the competing objectives of passenger convenience, operating efficiency, safety and community impacts.

The TTC's Technical Criteria on the Placement of Transit Stops emphasizes placing stop infrastructure as close as reasonably possible to protected pedestrian crossings such as traffic signals, mid-block pedestrian signals, pedestrian crossovers and stop signs. At locations where this is not possible, TTC staff review pedestrian-motorist sightlines to ensure compliance with existing traffic safety standards. Proactively identifying new opportunities for controlled mid-block crossings combined with relocation or consolidation of existing mid-block stops is considered as part of the stop rationalization process.

In some cases, missing or damaged sidewalks near transit stops may force riders to cross mid-block to reach safer pedestrian environments. City staff will continue to work with TTC to identify locations with inadequate sidewalk infrastructure and resolve such issues.

Lastly, in line with the Vision Zero approach to road safety, in addition to striving to minimize the frequency of mid-block collisions, efforts are made to minimize the severity of such collisions when they do occur. These include multiple actions through the speed management strategy as outlined in Vision Zero 2.0 staff report, including reductions in speed limits, influencing driver behaviour through redesigning roadways, enforcement, and road user education.

TTC supports the Vision Zero 2.0 Road Safety Plan objectives and is working cooperatively with City staff to implement Vision Zero 2.0 initiatives. TTC also recognizes that every transit customer is a pedestrian as part of their trip, and like all urban transit organizations TTC aims to provide a safe and comfortable environment for pedestrians as part of their seamless customer journey.

### **School Safety Zone Notifications through Wayfinding Providers**

In July 2019, City Council requested the General Manager, Transportation Services to engage with Waze and other wayfinding providers to explore the possibility of such providers adding school safety zone notifications or mobile alerts for motorists entering a school safety zone.

Waze has indicated that they are working on developing a feature called "high attention zones" which could signal to the driver that they should be more aware of their

surroundings as they drive through specific zones of the city. Representatives of Waze have indicated that these zones could include School Safety Zones. The City has also asked Waze to include Senior Safety Zones, Community Safety Zones and Pedestrian Safety Corridors as high attention zones. Staff are in communication with Waze to understand the timelines for implementation of such a feature, but at this time, Waze has not provided a timeline of when such a feature may be added.

### **Motorcyclist Lane Filter Pilot Program**

In July 2019, City Council requested the General Manager, Transportation Services to review a recommendation for a motorcyclist lane filter pilot program at a suitable location within the city and advise the Ministry of Transportation of the motorcyclist lane filter pilot for their review and comment.

As outlined in the Vision Zero 2.0 staff report, although the Highway Traffic Act (HTA) does not expressly prohibit lane filtering, it is clear that such maneuvers would be illegal and any motorcyclist performing such a maneuver would very likely be charged under several provisions of the HTA. The following subsections describe some such illegal movements:

- Subsection 148(8) prohibits passing another vehicle going in the same direction unless the roadway to the front and left of the vehicle is clear to do so. If both lanes of traffic are occupied with vehicles, the way in front and to the left of the vehicle being passed by the motorcyclist is not clear.
- Subsection 150(1) prohibits passing to the right of another vehicle unless there is sufficient unobstructed pavement for two or more lines of vehicles in each direction.
- Subsection 154(1) requires a vehicle to be driven entirely within a single lane and to only move from the lane when this can be done safely.
- Lane filtering may be considered careless driving under Section 130.
- Lane filtering may fall within the definition of a “stunt” under O. Reg. 455/07 (Races, Contests and Stunts) and the street racing provisions in section 172 of the HTA.

Transportation Services staff have consulted with the Ministry of Transportation (MTO) regarding motorcycle lane filtering. The Ministry is currently preparing a formal response to the City of Toronto, however in the interim have advised that motorcycle lane filtering is illegal based on the HTA and there are currently no plans to amend the HTA to allow lane filtering.

A preliminary review of the safety impacts of introducing lane filtering found that, while motorcycle riders may perceive a higher sense of safety when lane filtering, data does not show improved safety outcomes. While lane filtering aims to reduce the likelihood of rear-end collisions, a review of historical collisions in the City of Toronto suggests that less than 1% of KSI collisions involving motorcyclists may have been avoided by the legal use of lane filtering. Research has shown that the risk of motorcycle riders being involved in injury crashes while filtering is significantly higher than the risk for riders who

do not filter<sup>3</sup>. Furthermore, lane filtering may lead to increased risk to pedestrians due to motorcyclists potentially intruding into the pedestrian crosswalk<sup>4</sup>.

The MTO has directed the City to Section 195 of the HTA, which provides that any by-law regulating traffic that is inconsistent with the HTA will be deemed to be repealed. Therefore, barring amendments to the HTA by the Province, a lane filtering pilot is not feasible given the current statutory framework.

For the reasons outlined above, the City does not have the authority from the Province to introduce of a motorcycle lane filtering pilot in the City, as this issue is within the jurisdiction of the Province. Staff will continue working towards improving motorcyclist safety through efforts to reduce vehicle travel speeds and targeting impaired/distracted driving.

### **Speed Limit Reductions in Ward 23**

In July 2019, City Council approved speed limit reductions from 60 km/hr to 50 km/hr on over 200 kms of Major Arterial roadways across the City as recommended by Staff in Vision Zero 2.0. At the same meeting City Council requested the General Manager, Transportation Services to review a proposed speed reduction from 60 km/h to 50 km/h on three Major Arterial road segments in Ward 23. The three segments to be reviewed are:

- Brimley Road from Sheppard Avenue East to Steeles Avenue
- Markham Road from Milner Avenue to Steeles Avenue East; and
- McCowan Road from Milner Avenue to Steeles Avenue East.

Higher speeds contribute to higher risk of serious injuries and fatalities by reducing driver reaction time, increasing the vehicle stopping distance, and inflicting more severe blunt force trauma on victims upon impact. Revision of speed limits is a tool in the City's Speed Management Strategy which aims to reduce the number of road traffic crashes and the serious injury and death that can result from high vehicle speeds.

Through Vision Zero 2.0 the speed limit on major arterial roads with a speed limit of 60 km/hr higher were proposed to be reduced by 10 km/h with the exception of roadway segments that meet one or more of the following criterion. The criteria exclude road segments where lower speed limits would be artificially low for the existing road environment and create significant speed differentials, which would be a safety concern.

- Sections just off of Highway 401 (typically between on/off ramps).
- Sections through industrial areas, or
- Sections with limited number of driveways present and/or very large boulevards with setback sidewalks.

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3 4 Nicolas Clabaux, J.-Y. F.-E. (2017). Powered two-wheeler riders' risk of crashes associated with filtering on urban roads. *Traffic Injury Prevention*, VOL. 18, NO. 2, 182–187

4 Transport for New South Wales (2014). Motorcycle lane filtering trial.

<https://roadsafety.transport.nsw.gov.au/downloads/motorcyclists/lane-filtering-results.pdf>



Transportation Services staff attended a townhall in Ward 23 on Tuesday September 17, 2019 where the context specific factors supporting the proposed speed reductions in the ward were presented. These include the following:

- Scarborough has the highest ratio of pedestrian collisions resulting in fatalities compared to other districts in the city.
- From 2014 to present, there have been 6 fatalities and 20 serious injury incidents on the three road segments proposed for speed limit reduction. These road segments represent 5.6% of the roadways in Ward 23, but 25.2% of serious injury and fatalities in the ward occurred on them.
- Any potential impact on travel times would be minimal.

On July 16th, 2019 City Council approved speed limit reductions from 60km/h to 50km/hr on over 200 kms of Major Arterials. These reductions will go into effect in November and December of this year along with a coordinated public education campaign about speeding and enforcement campaign through Toronto Police. In order for the holistic speed management study to be successful, it must be applied consistently across the entire city. Speed limit reductions are a key tool in the strategy. Transportation staff has performed an additional review of the proposed speed limit reduction from 60 km/h to 50 km/h on three segments in Ward 23 and continue to recommend the reduction.

## **CONTACT**

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## **SIGNATURE**

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