

Staff Report



Development Services Department

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REPORT TO: Community and Infrastructure Services Committee

DATE OF MEETING: October 4, 2021

SUBMITTED BY: Cronkite, Barry, Director, Transportation Services,
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WARD(S) INVOLVED: All Wards (1-10)

DATE OF REPORT: September 23, 2021

REPORT NO.: DSD-2021-177

SUBJECT: Neighbourhood Speed Limit Review

RECOMMENDATION:

That the speed limit in all residential neighbourhoods within the City of Kitchener be reduced from 50km/h to 40km/h;

That the speed limit in school zones and along signed and identified neighbourhood bikeways be further reduced to 30km/h within residential neighbourhoods;

That the capital budget allocation required for implementation be referred to the 2022 budget process; and further,

That the Uniform Traffic Bylaw be amended accordingly.

REPORT HIGHLIGHTS:

- The purpose of this report is to summarize the results of the Neighbourhood Speed Limit pilot project which evaluated the effectiveness of lowering speed limits in a neighbourhood-wide context in three (3) residential neighbourhoods in Kitchener.
- This report also reviews the experience of other municipalities and outlines the current state of speed limits on Kitchener roads.
- The key finding of this report is that by reducing speed limits (coupled with education and engagement efforts) vehicle operating speeds were reduced by 3km/h (7%) on average. The observed reduction is consistent with the experience of other municipalities reviewed in this report.
- The estimated capital cost for signing the Neighbourhood Speed Limit Areas is **\$550,000**. This includes approximately \$475,000 for signage and installation and \$75,000 for communications and engagement. This project is not expected to have an immediate impact on the operating budget, but it should be noted that regulatory signs are measured for reflectivity on an annual basis and must be replaced once reflectivity reduces beyond a certain threshold.

*** This information is available in accessible formats upon request. ***
Please call 519-741-2345 or TTY 1-866-969-9994 for assistance.

- Community engagement included an online survey to gauge public support for lower speed limits in residential neighbourhoods. The survey showed that 57% of the participants are in support.
- This report supports the strategic priority 3 (Safe and Thriving Neighbourhoods), strategy 3.2 (Create safer streets in our neighbourhoods through new traffic calming approaches), strategic action NB38 (traffic calming) of the City of Kitchener's Strategic Plan.

BACKGROUND:

Speeding in residential neighbourhoods is one of the most common concerns raised by residents to Transportation staff and members of Council. In an effort to address this community wide concern, staff have engaged with local residents, community associations, ward Councillors and other stakeholders through a number of different initiatives to better understand how the community feels that Kitchener's streets can be made safer for all road users.

As a result of continued input and concerns from the community a neighbourhood speed limit review project was launched in 2019, through council's support of report DSD-19-159 – Neighbourhood Speed Limit Review. This pilot project resulted in the speed limits being reduced in three Kitchener communities. The intent of the pilot project was to assess the effectiveness of lowering speed limits on vehicle operating speeds. To better understand the impact of speed limit reduction in residential communities, staff also conducted best practices review and researched the experience of other municipalities.

REPORT:

Relationship Between Speed and Traffic Safety

Vehicle operating speeds and safety are interconnected. Studies conducted through the transportation engineering field have shown a strong and direct correlation between higher speeds and the likelihood of involvement in a casualty collision – a collision that results in serious injury or fatality¹. Studies also show the likelihood of survival in a collision between a vehicle and a pedestrian is approximately 15% when the vehicle is traveling at 50 km/h. However, the likelihood of survival increases to 70% when the vehicle is traveling at 40 km/h². Drivers travelling at lower speeds are typically better able to scan the roadway, and notice objects and unusual movement closer to their vehicle, which lowers the potential for a collision to occur. Reduced speeds also increase opportunity for eye contact between road users, which can also play an important role in preventing collisions³.

Neighbourhood Speed Limit Approach

On May 1, 2018, the Highway Traffic Act (HTA) was amended to allow municipalities to define speed limits by identified neighbourhood areas. In this approach, speed limits are posted at the entry and exit points of a neighbourhood, eliminating the need to add signage to each roadway within the designated area

¹Driving speed and the risk of road crashes: A review, Letty Aarts, Ingrid Van Schagen, April 2005, Elsevier

² Vision Zero 2.0 – Road Safety Plan Update, City of Toronto, 2019

³ Residential Speed Limit Review – Background Information, City of Saskatoon, 2021

Effectiveness of Reduced Speed Limits

A number of municipalities throughout Canada have already lowered speed limits throughout selected neighbourhoods. Table 1 summarizes the experience of other municipalities on the effectiveness of reduced speed limits without making any road geometry changes / physical measures.

Table 1 – Experience of Other Canadian Municipalities with Lowering Speed Limits

Location	Details
Saskatchewan, ON	<ul style="list-style-type: none">• Speed limit on all local roads within Montgomery Neighbourhood was reduced from 50 km/h to 40 km/h in 2016.• Changes were effective on some streets resulting in 1.4 to 4.9 km/h reduction in operating speeds. However, the speed limit changes were not evenly effective across the entire neighbourhood.
Toronto, ON	<ul style="list-style-type: none">• Speed limits were reduced from 40 km/h to 30 km/h in some residential areas in 2015 and 2016.• There was a 28% reduction in the collisions involving pedestrians and a 67% reduction in serious and fatal injuries because of the speed reduction.
Calgary, AB	<ul style="list-style-type: none">• Speed limit was reduced to 30 km/h in school zones and playground zones with fixed hours (7 am to 9 pm, 7 days a week)• The mean traffic speed was reduced by 6 km/h from 36 km/h to 30 km/h.• The number of collisions involving pedestrians decreased by 33% in playground zones.
Edmonton, AB	<ul style="list-style-type: none">• Speed limits were lowered in six residential neighbourhoods in 2010.• Operating speeds were reduced as a result of reducing speed limits.• The operating speed reduction ranged from 4% to 11% depending on the community.

Neighbourhood Speed Limit Pilot Results

To assess the effectiveness of the reduced speed limits on a neighbourhood-wide scale, City Council approved a pilot project that reduced the speed limits from 50 km/h to 40 km/h in three (3) residential neighbourhoods. The speed limits were further reduced to 30 km/h in school zones within these areas. To communicate this change and educate the public on Neighbourhood Speed Limit Areas, geotargeted social media content was posted and post cards were sent out to all impacted residents. In addition, notifications were sent to local schools to make parents aware of the speed limit change within school zones. The three (3) residential areas piloted are as follows:

- Huron Area – This area is located in Ward 5 and is bounded by Fischer-Hallman Road, Huron Natural Area and Huron Road
- Doon South Area – This area is located in Ward 4 and is bounded by Homer Watson Boulevard, Conestoga College Boulevard, New Dundee Road, Reidel Road, Caryndale Drive, Stauffer Drive, Tilts Bush and Schneider Greenway
- Idlewood Area – This area is located in Ward 2 and is bounded by River Road East, Ottawa Street North, Lackner Boulevard and Fairway Road North

To better understand the effectiveness of increased enforcement on lowered speed limits, police presence was heightened in one of the three pilot areas during the data collection period. The area selected for heightened police presence was the Huron pilot area

To assess the effectiveness of the pilot program, data was collected in May 2021 and compared with data collected in the three years prior to the speed limit reduction. The results of the before-after study are summarized in Table 2.

Table 2 – Before After Speed Study Results

Neighbourhood	Before Average Operating Speed (km/h)	Before 85 th Percentile Speed (km/h)	After Average Operating Speed (km/h)	After 85 th Percentile Speed (km/h)	# of roads studied	Average Difference (km/h)	85 th Percentile Difference (km/h)
Huron Area	43.90	51.54	39.16	47.21	7	-4.74 (-11%)	-4.33 (-8%)
Doon South Area	46.40	55.03	45.90	53.61	9	-0.50 (-1%)	-1.42 (-3%)
Idlewood Area	48.01	55.84	43.30	51.86	8	-4.71 (-10%)	-3.98 (-7%)

Reducing the speed limits in residential neighbourhoods has resulted in a 1% to 11% reduction in vehicle operating speeds, depending on the neighbourhood. Staff feel that a key component of the reduction is also the education and engagement efforts that were undertaken. It is worth noting that heightened police presence may have also contributed to lower vehicle operating speeds in the Huron neighbourhood. The further reduction of speed limits in school zones showed the greatest impact in reduced vehicle operating speeds. Data collected in school zones showed a 12% (from 41.2 to 36.4 km/h) reduction in the average operating speed and a 13% (49 to 42.4 km/h) reduction in the 85th percentile speeds. Staff also conducted a detailed analysis of the data collected to gain a greater understanding of the impact on higher operating speeds; the 15% that drive above the 85th percentile speeds. The data showed a greater reduction in speeds in this segment, which should lead to an increase in overall road user safety.

Recommendations

Based on the results described in the previous sections, staff recommend lowering speed limits from 50 km/h to 40 km/h in all residential neighbourhoods within the City of Kitchener. Further, staff recommend that, school zones' and neighbourhood bikeways' speed limits within the residential areas be reduced to 30 km/h. Similar to the pilot project, a gateway signage approach is required at all locations.

Staff have developed a map sectioning the City into potential Neighbourhood Speed Limit Areas. These areas are mostly bounded by arterial streets and regional roads. This map is provided in **Appendix A**. As shown in the map, several arterial roads and major collector roads intended to move and distribute large volumes of traffic are not included in the 40km/h zones. These include roads such as Block Line Road, Huron Road, Belmont Ave W, Queen's Boulevard, Strasburg Road, etc.

Staff will develop criteria to help prioritize an implementation schedule over 2022 to 2024. These criteria include but are not limited to speed related concerns from residents, school zones, pedestrian destinations, and operational efficiency.

Communications and Engagement Plan

A number of initiatives to engage and inform the public are proposed. Communication initiatives will include the following:

- Social media posts on City accounts, included geo-targeted posts for Neighbourhood Speed Limit Areas being implemented;
- Pamphlets and posters at city facilities;
- Direct mailings to residents within the project areas;
- Notifications sent home with students from local schools; and,
- Webpage for information, updates and ongoing feedback.

STRATEGIC PLAN ALIGNMENT:

This report supports the strategic priority 3 (Safe and Thriving Neighbourhoods), strategy 3.2 (Create safer streets in our neighbourhoods through new traffic calming approaches), strategic action NB38 (traffic calming) of the City of Kitchener's Strategic Plan.

FINANCIAL IMPLICATIONS:

Capital Budget – The estimated cost for signing the Neighbourhood Speed Limit Areas project is **\$550,000** including \$475,000 for 40 km/h signage and installation, \$75,000 for communications and engagement to inform and educate residents of the proposed speed limit changes. This program is unfunded, and staff recommend that this program be referred to the 2022 Capital budget review. It is expected that this project would be implemented over 3 year timeframe (2022-2024).

Operating Budget – The recommendation has no immediate impact on the Operating Budget, but staff do note that these signs will become part of the ongoing monitoring program and will need replaced at end of life (10+ years).

COMMUNITY ENGAGEMENT:

INFORM – This report has been posted to the City's website with the agenda in advance of the council / committee meeting.

CONSULT – The City has conducted surveys to gauge public support for lower speed limits in neighbourhoods. The support for this type of initiative has generally been positive.

COLLABORATE – An online survey was conducted to gauge public desire for a review of neighbourhood speed limits. The survey showed that 57% of the respondents agree that lowering traffic speeds is a priority in their neighbourhood. 27% disagree with that statement, while 16% were neutral or not sure. The top three priorities for speed limit reduction were: Commonly used school routes (78% of respondents), residential neighbourhood roads (72% of respondents), and pedestrian shopping and market areas (69% of respondents). More details about the survey is provided in Report DSD-19-159.

PREVIOUS REPORTS/AUTHORITIES:

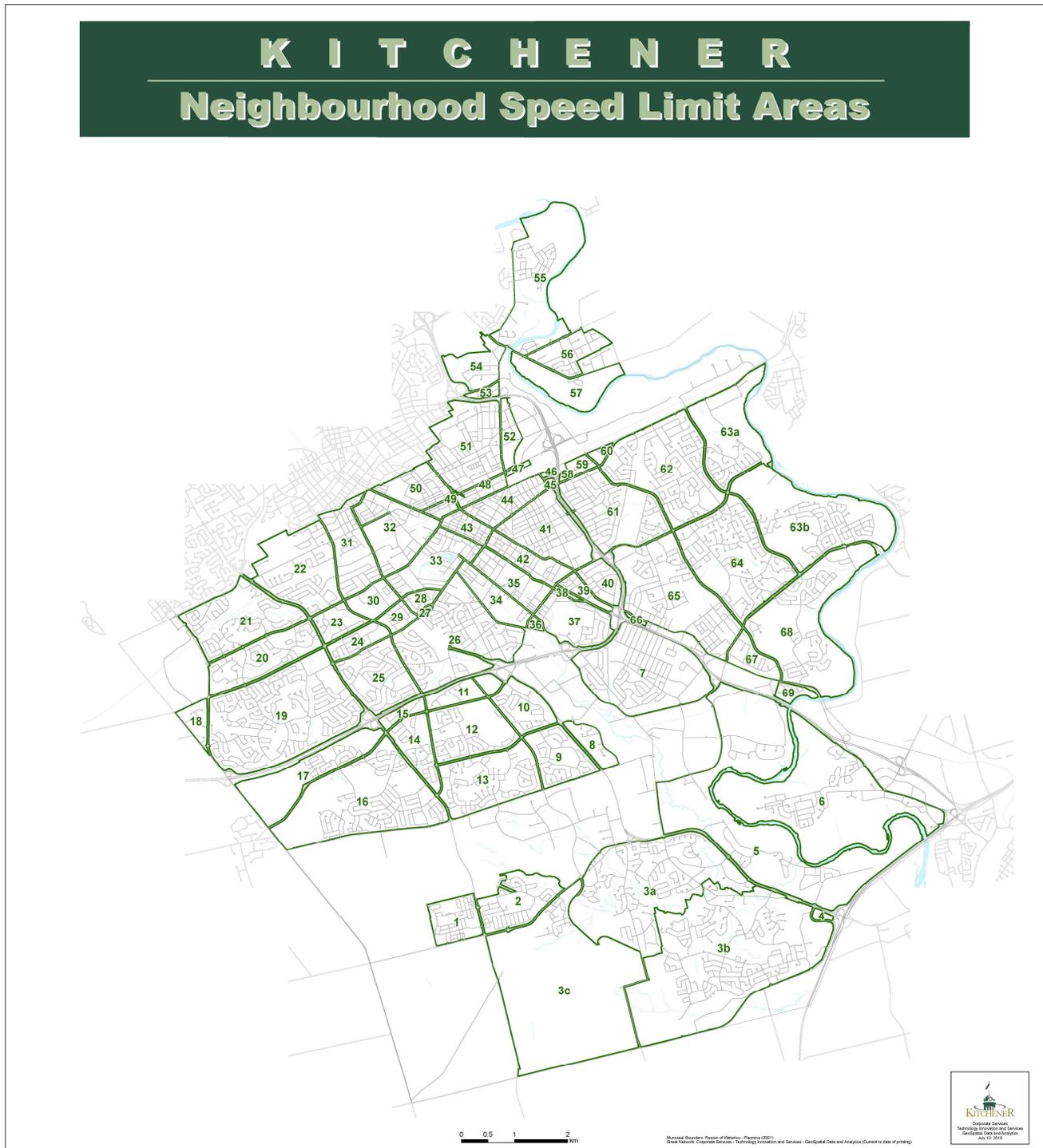
- Report DSD-19-159

APPROVED BY: Justin Readman, General Manager
Development Services Department

ATTACHMENTS:

Attachment A – Neighbourhood Speed Areas – Map

Appendix A – Neighbourhood Speed Areas – Map



*This map is for illustration purposes only. Some zones may be revised during implementation and based on operational factors.