

Residential Speed Limit Review – Speed Limit and Eligible Streets

ISSUE

As per the revising speed limits on residential streets project roadmap that was provided in March 2021, and building on the background information and feedback summary that was provided in June 2021, this report provides recommendations to the posted speed limit on residential streets and which streets should be eligible.

BACKGROUND

History

Since 2013, the Administration has been working closely with local residents, community associations, and area Councillors to complete 75 Neighbourhood Traffic Reviews (NTRs), with another 10 currently underway. The most common concern raised by residents is speed of vehicles on neighbourhood streets.

At its Regular Business Meeting held on October 22, 2018, City Council considered the Posted Speed Limit Review report, and resolved:

- “1. That the Administration develop a detailed framework for revising posted speed limits on neighbourhood streets;
2. That the Administration develop a detailed framework for revising posted speed limits in school and playground zones; and
3. That the Administration report on options for addressing speeding and safety in areas of high concentration of seniors.”

At its meeting held on March 1, 2021, the Standing Policy Committee on Transportation received an information report for the Residential Speed Limit Review – Project Roadmap. At its meeting held on June 7, 2021, the Standing Policy Committee on Transportation received an information report for the Residential Speed Limit Review – Background Information and Feedback Summary. Additional Council and Committee referrals related to this issue are included in Appendix 1.

Current Status

Posted speed limits are governed by Bylaw No. 7200, The Traffic Bylaw, which states that the posted speed limit is 50 km/h, with exceptions being specifically listed within Schedule 4. The speed limit is 50 km/h for most residential areas except for Montgomery Place.

City of Saskatoon’s Current Approach

The recommended maximum allowable speeds for new and modified roadways are based on road classification, adjacent land use, driver behaviour and familiarity, and safety concerns. The goal is to establish a reasonable and safe speed limit that is appropriate for a particular roadway based on its design and classification.

OPTIONS

Speed Limit Options

A detailed assessment of three options assessed for speed limits in residential areas is provided below:

Legend: Relative Impact Between Options

	None		Little		Some		Most
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Criteria		Speed Limit Options		
		Option 1 50 km/h	Option 2 40 km/h	Option 3 30 km/h
Traffic Safety	Driver and Vehicle Response ¹	No change.	Improves safety by reducing the distance travelled before a driver can react, increasing the field of vision, and reducing stopping sight distance; however, there may be a larger speed differential.	Significantly improves safety by reducing the distance travelled before a driver can react, increasing the field of vision, and reducing stopping sight distance; however, there may be a larger speed differential.
				
	Anticipated Collisions ^{2 3}	No change.	Less collisions anticipated to occur on streets with reduced speed limit.	Significantly less collisions anticipated to occur on streets with reduced speed limit.
				
	Risk of Severe Injury or Fatality ⁴	No change. At 50 km/h the risk of severe injury or death is 85% for pedestrians, 80% for head-on collisions, 40% for opposing turning collisions, and 8% for rear-end collisions.	At 40 km/h the risk of severe injury or death is lowered to approximately 55% for pedestrians, 45% for head-on collisions, 20% for opposing turning collisions, and <5% for rear-end collisions.	At 30 km/h the risk of severe injury or death is lowered to approximately 25% for pedestrians, 15% for head-on collisions, 9% for opposing turning collisions, and 2% for rear-end collisions.
				

¹ Residential Speed Limit Review – Background Information and Feedback Summary [File No. CK 6320-1], Standing Policy Committee Meeting, June 7, 2021, Section 5.1 of Appendix 1

² SWOV Fact Sheet, The relationship between speed and crashes, Leidschendam, the Netherlands April 2012, https://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa1304/Resources3/08%20-%20The%20Relation%20Between%20Speed%20and%20Crashes.pdf

³ World Health Organization Fact Sheet, 2004, https://www.who.int/violence_injury_prevention/publications/road_traffic/world_report/speed_en.pdf

⁴ Residential Speed Limit Review – Background Information and Feedback Summary [File No. CK 6320-1], Standing Policy Committee Meeting, June 7, 2021, Section 5.3 of Appendix 1

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Criteria		Speed Limit Options		
		Option 1 50 km/h	Option 2 40 km/h	Option 3 30 km/h
	Driver Expectation	Meets driver expectation. Continues current practice.	Initially will be against driver expectation but with time and education drivers will adjust as has happened in other jurisdictions.	Initially will be against driver expectation but with time and education drivers will adjust as has happened in other jurisdictions.
				
Traffic Operations	Travel Time	No change.	Slightly increased travel time for trips along streets with reduced speed limit.	Increased travel time for trips along streets with reduced speed limit.
				
	Equity for Multiple Modes ⁵ ⁶	No change.	Reducing speeds in neighbourhoods makes the road system safer. Increased safety is also perceived, removing a major barrier to people walking or cycling, and can encourage increased physical activity levels.	Reducing speeds in neighbourhoods makes the road system safer. Increased safety is also perceived, removing a major barrier to people walking or cycling, and can encourage increased physical activity levels. Streets with operating speeds of 30 km/h could be considered bikeways.
				
Quality of Life	Vehicle Noise ⁷ ⁸	No change.	Improved quality of life because lower operating speeds would result in lower levels of vehicle noise.	Significantly improved quality of life because lower operating speeds would result in significantly lower levels of vehicle noise.
				

⁵ Safe speed: promoting safe walking and cycling by reducing traffic speed, Dr. Jan Garrard, November 2008
https://www.healthyactivebydesign.com.au/images/uploads/Partners/Resources/Publications/Safe_Speed_Report_Dec_202008.pdf

⁶ Measuring Transport Equity, Karen Lucas and Karel Martens, 2019 https://books.google.ca/books?id=l-GaDwAAQBAJ&pg=PA162&lpg=PA162&dq=speed+limit+and+community+cohesion&source=bl&ots=d1XnFuuVUD&sig=ACfU3U2k3geqKnOVjy_Blm3Cz3_k70Cjdg&hl=en&sa=X&ved=2ahUKEwidsNaZz7XxAhXX7Z4KHVvLBS8Q6AEwEHoECBQQAw#v=onepage&q=speed%20limit%20and%20community%20cohesion&f=false

⁷ Noisy Speeding: Impact of Speed on Noise Level, Camea Technology,
<https://www.cameatechnology.com/articles/noisy-speeding-impact-of-speed-on-noise-level/>

⁸ Speed distribution Influence in Road Traffic Noise Prediction, Gerardo Iannone, Claudio Guarnaccia, Joseph Quartieri, Environmental Engineering and Management Journal, March 2013,
https://www.researchgate.net/publication/256646360_Speed_distribution_influence_in_road_traffic_noise_prediction

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Criteria		Speed Limit Options		
		Option 1 50 km/h	Option 2 40 km/h	Option 3 30 km/h
	Perception of Safety	No change.	Improved quality of life because perception of safety would likely increase.	Improved quality of life because perception of safety would likely increase more.
				
Community Support	Survey Feedback ⁹	No change in speed limit was the most preferred option for respondents from the public open house survey regardless of street type. No change in speed limit was the most preferred option for respondents from the statistically representative survey for collector and arterial streets.	There were more respondents who supported a reduction in speed limit to 40 km/h out of those who supported a reduction in speed limit.	There was some support for a speed limit reduction to 30 km/h, the highest of these respondents supported the change for local streets.
				
	Neighbourhood Traffic Review Input	Will not address ongoing safety concerns for streets where speeding has not been verified by traffic data.	May address some of the safety concerns for streets where speeding has not been verified by traffic data.	May address some of the safety concerns for streets where speeding has not been verified by traffic data.
				

Options for Street Eligibility

Option A: Street Classification - Eligibility would be established according to the approved street classification for the street as shown in the Saskatoon Transportation Master Plan. Street classifications that could be eligible for the speed limit reduction are local and collector streets.

Option B: Street Function - Eligibility would be established according to the adjacent land use and function for the street. Streets with residential land use, on-street parking, driveways, and frontage would be eligible for the speed limit reduction.

⁹ [Residential Speed Limit Review – Background Information and Feedback Summary \[File No. CK 6320-1\]](#), Standing Policy Committee Meeting, June 7, 2021, page 10 of Appendix 2

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Criteria		Street Eligibility Options	
		Option A Street Classification	Option B Street Function
Safety	Conflict points	Local and collector streets in residential areas have a high number of intersections and driveways.	Streets with residential land use have a high number of intersections and driveways.
		√	√
	Anticipated Compliance	Compliance may vary depending on the street design; however, applying speed limits to local and collector streets only will be more straightforward and easier to understand so better compliance is anticipated. Many local streets are already operating below the 50 km/h speed limit. ¹⁰	Compliance may vary depending on the street design; however, applying speed limits to streets with residential land use will be highly dependent on signage and adjacent street context so compliance may be lower.
		√	
	Driver Expectation	Meets driver expectation because the lower speed limit would align with typical street design. Local and collector streets also aligns with community amenities in most neighbourhoods (i.e. schools, parks, libraries, etc.).	May not meet driver expectation if the street design is not indicative of a lower speed limit (i.e. multi-lane arterial streets or short segments of residential land use).
		√	
Quality of Life	Liveable Streets	Local and collector streets in residential neighbourhoods	All streets with residential properties with frontage, on-street parking, and driveways.
			√
Community Support	Survey Feedback	No change in speed limit was the most preferred option for respondents from the public open house survey regardless of street type.	No change in speed limit was the most preferred option for respondents from the public open house survey regardless of street type.
		No change in speed limit was the most preferred option for respondents from the statistically representative survey for arterial and collector streets.	No change in speed limit was the most preferred option for respondents from the statistically representative survey for arterial and collector streets.
		√	
	Neighbourhood Traffic Review Input	Will not address ongoing safety concerns for arterial streets with adjacent residential land use.	May address some of the safety concerns for arterial streets with adjacent residential land use.
			√

The street classification map for the City of Saskatoon can be found [here](#).

¹⁰ [Residential Speed Limit Review – Background Information and Feedback Summary \[File No. CK 6320-1\]](#), Standing Policy Committee Meeting, June 7, 2021, Section 3, Table 1 of Appendix 1.

RECOMMENDATION

That the Standing Policy Committee on Transportation recommend to City Council:

1. That Option 2 – 40 km/h Speed Limit for residential neighbourhoods be approved in principle;
2. That Option A – Street Classification be approved in principle to determine street eligibility for the speed limit reduction in residential neighbourhoods; and
3. That the 40 km/h speed limit in residential neighbourhoods be approved in principle for local streets and collector streets.

RATIONALE

The recommendation is based on a balanced approach between quantitative and community values criteria. An example of a quantitative criteria is traffic safety impacts, while examples of community values include quality of life and perception of safety. The recommendation is also consistent with very recent decisions by the cities of Calgary and Edmonton to lower their residential speed limit to 40 km/h.

Specifically, a 40 km/h speed limit is recommended because:

- It will improve traffic safety resulting in less severe injuries and fatalities.
- It will improve quality of life by lowering vehicle noise and increasing the perception of safety within neighbourhoods.
- Driver compliance for 40 km/h is anticipated to be attainable since it aligns well with the existing operating speeds on local streets and results in very little change to travel time.
- Provides equity for people walking and cycling and can encourage physical activity.

Collector streets were included as:

- They have similar characteristics as local streets in terms of pedestrian activity, driveways, parking, and single-family homes. They do have higher traffic volumes and are quite often transit routes.
- The anticipated impact to driving times on collector streets is minimal and is outweighed by the safety benefits.
- Including collector streets will be easier to implement.

The option of using street classification was recommended because:

- Easier for drivers to understand.
- Will meet driver expectations.
- Aligns well with typical street design so is anticipated to have better compliance than the street eligibility option.
- Easier to implement because it would not result in varying speed limits along a corridor.

A triple-bottom line assessment was completed and is included in Appendix 2.

Impacts to Transit will be provided as part of the implementation strategy, after direction is received regarding the posted residential speed limit, potential changes to the school zones, and potential inclusion of playground zones, senior zones, and/or bikeways. Saskatoon Transit comments are included in Appendix 3.

Emergency services can exceed the posted speed limit when responding to emergencies. However, if the posted speed limit is reduced on arterial streets, which are the primary response routes, there may be a greater impact. If the decision of City Council is to lower the posted speed limits on arterial streets, then through the implementation strategy greater commentary on the impacts to emergency services would be provided.

FINANCIAL IMPLICATIONS

Detailed financial implications of implementing speed limit revisions, playground zones, changes to school zones, and consideration of senior zones will be refined as decisions are made and more certainty is known. At this point order of magnitude cost estimates are provided below, with some considerations yet to be decided.

	50 km/h	40 km/h	30 km/h
Local and Collector Streets	None	<p>\$400,000 - Signs required on arterial streets, and on local and collector streets in non-residential areas</p> <p>Or, \$500,000 - Signs required at all neighbourhood entrances in residential areas</p>	<p>\$400,000 - Signs required on arterial streets and local and collector streets in non-residential areas.</p> <p>Or, \$500,000 - Signs required at all neighbourhood entrances in residential areas</p>
Local Streets Only	None	<p>\$600,000 - Signs required on arterial and collector streets, and on local streets in non-residential areas</p> <p>Or, also \$600,000 - Signs required on all local streets in residential areas</p>	<p>\$600,000 - Signs required on arterial and collector streets and local streets in non-residential areas</p> <p>Or, also \$600,000 - Signs required on all local streets in residential areas</p>

These cost estimates do not reflect potential future changes regarding school zones, playground zones, senior zones, and bikeways.

Cost estimates for education and awareness campaigns, and operational impacts will follow as part of the implementation strategy.

Funding considerations will be provided as part of the implementation strategy, after direction is received regarding the posted residential speed limit, potential changes to the school zones, and potential inclusion of playground zones, senior zones, and/or bikeways.

LEGAL IMPLICATIONS

Option B – Street Function may require a partial re-write of the Traffic Bylaw. There could also be legal implications due to the difficulty of enforcing and prosecuting tickets issued under this option.

ADDITIONAL IMPLICATIONS/CONSIDERATIONS

There are no privacy, social, or environmental implications identified with this report.

COMMUNICATION ACTIVITIES

The following stakeholder meetings have occurred since June:

1. External on July 6, 2021 - Representatives from Medavie Health Services West, Saskatchewan Health Authority, Saskatoon Council on Aging, Greater Saskatoon Catholic Schools, and Saskatoon Public Schools. Regrets received from Saskatoon Safety Council representative, and Saskatchewan Government Insurance.
2. Internal on July 13, 2021 - Representatives from Sustainability, Roadways, Fleet and Support, Planning and Development, Community Standards, Saskatoon Transit, Saskatoon Fire Department, Parks, Saskatoon Police Service and Transportation.

NEXT STEPS

1. Prepare 'approval in principle' reports, if and as required, to address speed limits for schools, playgrounds, areas with a high concentration of seniors, and streets designated as neighbourhood bikeways.
2. Prepare a final report for final approval. This final report will present for final approval all components of the residential speed limit review, including but not limited to:
 - posted speed limits;
 - which streets the posted speed limit will be applicable to;
 - school zones;
 - playground zones;
 - senior zones;
 - impacts to transit;
 - financial considerations;
 - a schedule and process for implementation; and,
 - required bylaw revisions.

Following this approach of several staged 'approvals in principle' reports, closing with a 'final report' for final approval that brings all the information together at the end of the project, provides flexibility if project components have to be revisited, if further information is required, and provides information for consideration and 'approvals in principle' in manageable components.

The planned project schedule is included as Appendix 4.

APPENDICES

1. Council History
2. Triple Bottom Line Assessment
3. Saskatoon Transit Feedback
4. Anticipated Residential Speed Limit Review Project Schedule

Report Approval

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