

Region of Waterloo

Transportation and Environmental Services

Transportation

To: Chair Tom Galloway and Members of the Planning and Works Committee

Meeting Date: June 7, 2022

Report Title: Posted Speed Limits in School Zones

1. Recommendation:

That the Regional Municipality of Waterloo approve the lowering of posted speed limits in school zones on Regional roads by time, day and month as a Pilot Project as per the following additions to Schedule 17, Speed Limits, by amending the Region's Traffic and Parking By-law 16-023, as amended:

- Add to Schedule 17, Rates of Speed, Regional Road 52 (Bridge Street) from 95m South of Woolwich Street to 33m South of Bridle Trail, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 53 (Courtland Avenue) from 32m North of Madison Avenue to 83m North of Peter Street, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 9 (Bridgeport Road) from 100m West of Margaret Avenue to 225m East of Regional Road 8 (Weber Street), Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 1 (Waterloo Street) from 20m North of Laschinger Boulevard to 70m South of Victoria Street/Forrest Avenue, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 50 (Westmount Road) from Gilmour Crescent to 10m South of Greenbrook Drive, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 23 (Katherine Street South) from 40m South of Meadowbrook Place to Allan Street, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 24 (Water Street) from 68m south of Malcolm Street to 15m North of Dayton Street, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 50 (Westmount Road) from 35m North of Dunsmere Drive to 43m North of Regional Road 4 (Ottawa Street), Maximum

Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;

- Add to Schedule 17, Rates of Speed, Regional Road 12 (Bridge Street) from 50m East of Meadowbrook Court to 30m East of Front Street, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 8 (Weber Street) from 93m South of Borden Avenue to 50m South of Stirling Avenue, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 15 (Lobsinger Line) from 140m West of Charles Street to Regional Road 10 (Herrgott Road), Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 58 (Fischer-Hallman Road) from 28m North of McGarry Drive to Queen's Boulevard, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 55 (Victoria Street) from 131m West of Westforest Trail to 130m East of Westforest Trail/Eastforest Trail, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 8 (Weber Street) from 127m South of Montgomery Road to 11m South of Edmund Road, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 6 (Frederick Street) from Spetz Street to 38m East of Lancaster Street (Ellen Street) , Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 21 (Arthur Street) from First Street to 20m South of Ernst Street, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 8 (Weber Street) from 52m South of Broadview Avenue to 50m North of Wilfred Avenue, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 86 (Line 86) from 415m from East of Regional Road 10 (Herrgott Rd) to 810m East of Regional Road 10 (Herrgott Rd)/Sideroad 18, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 57 (University Avenue) from 130m West of Westvale Gate/Resurrection Drive to 103m West of Regional Road 58 (Fischer-Hallman Road) , Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 1 (Snyder's Road) from 197m East of Regional Road 5 (Nafziger Road) to 115m West of Brenneman Drive, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 9 (Erb Street West) from 18m East of Westhaven Street to 192m East of Erbsville Court, Maximum Speed

40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;

- Add to Schedule 17, Rates of Speed, Regional Road 8 (Weber Street) from 20m South of Regional Road 15 (King Street) to 23m South of Milford Avenue, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 70 (Erbsville Road) from 128m South of Laurelwood Drive to 65m South of Wideman Road, Maximum Speed 40km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 38 (Maple Grove Road) from Saltsman Drive to 25m West of Regional Road 17 (Fountain Street), Maximum Speed 50km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 10 (Herrgott Road) from 25m South of Broadway Street to 40m South of Geddes Street, Maximum Speed 60km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June;
- Add to Schedule 17, Rates of Speed, Regional Road 30 (Shantz Station Road) from 400m North of Highway 7 (Victoria Street) to 274m South of Hopewell Creek Road, Maximum Speed 60km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June; and
- Add to Schedule 17, Rates of Speed, Regional Road 16 (Kressler Road) from 227m South of Rocky Lane to 570m South of Rocky Lane, Maximum Speed 60km/h, 7:00 a.m. to 5:00 p.m., Monday to Friday, September to June.

as outlined in Report TES-TRP-22-06 dated June 7, 2022.

2. Purpose / Issue:

This report serves to respond to a motion of Regional Council on January 26, 2022 directing staff to conduct a review and consider options for setting appropriate speed limits in all 35 school zones on Regional roads that do not currently have speed limits of 40km/h.

3. Strategic Plan:

The report supports Strategic Objective: 2.3, Increase participation in active forms of transportation (cycling and walking), Strategic Objective 2.4 Improve road safety for all users/drivers, cyclists, pedestrians, horse and buggies and Strategic Objective 4.1 Improve child and youth wellbeing in Waterloo Region.

4. Key Considerations:

a) Conditions at Existing School Zones

In 2015, Regional Council requested that staff review options to reduce travel speeds, based on speed surveys and other reviews, on Regional roads in all 35 school zones. To address this request of Regional Council, staff undertook a comprehensive study, summarized in Report TES-TRP-15-03.2 (included in Appendix A). In summary, staff concluded that speeding in existing school zones was not a significant systemic issue

and was not contributing to pedestrian or cyclist collisions near schools.

b) School Zone Speed Limit Strategies

To address the recent request by Regional Council, staff developed and assessed the following school zone speed limit strategies:

- Maintain existing speed limits;
- Reduce speed limits;
- Reduce Speed Limit by time/day when Flashing;
- Reduce speed limit when ASE is implemented; and
- Reduce speed limit by time/day and month.

c) Recommended Strategy

Based on an assessment of the alternative strategies, staff are recommending that posted speed limits in 31 of the 35 school zones on Regional roads be reduced by time/day and month. School zones with Maximum Speed by Time of Day and/or Days and Months can regulate lower speed limits during regular school times. During non-school times, the existing posted speed limit would then be in effect. This strategy adheres to current Regional practices for determining appropriate speed limits. This option would meet both driver and school safety expectations. The motoring public would likely respect variable speed limits by time-of-day more than full time speed limit reductions because lower speed limits during school hours is both meaningful and logical. Additionally, previous speed studies in school zones (as discussed in Report TES-TRP-15-03.2) indicate that drivers are slowing down during school hours. Staff also recommend that those four remaining school zones with existing 24/7 40km/h posted speed limits continue to retain the existing 24/7 40km/h speed limit.

5. Background:

School Zones Fronting Regional Roads

Currently, within the Region of Waterloo, there are 35 school zones fronting Regional roads. Of the 35 school zones, four school zones currently have a 24/7 40km/h posted speed limit. The remaining 31 school zones have a posted speed limit greater than 40 km/h. Each school has frontage or direct access to/from a Regional road. The Highway Traffic Act defines a school zone as a portion of highway that adjoins the entrance to or exit from a school and within 150 metres along a highway, in either direction, beyond the limits of the land used for the purposes of a school. There is a total of 16 Automated Speed Enforcement (ASE) locations in school zones within the Region. Of those 16, there are six school zones fronting a Regional road leaving 29 of the 35 school zones without ASE. Please refer to Appendix B for a summary of school zones on Regional Roads.

ASE in School Zones

The Region's ASE program (Phase 1A) was launched in September 2021, which

included eight sites approved during Phase 1A. All eight sites were commissioned before the end of 2021.

In late 2021, the ASE program was expanded to include eight additional locations (Phase 1B) for a total of 16 sites. All 16 sites are planned to be operational by the summer of 2022. Please refer to Appendix C for a summary of all 16 sites approved as part of Phase 1A and Phase 1B.

Current Regional Practice for Setting Speed Limits

Current Regional practice is to set speed limits at or about the average travel speed of traffic because this is most likely to produce a uniformly moving traffic stream. Traffic flowing at a uniform speed generally results in fewer collisions. With uniform speed, drivers are less impatient, pass less often, and are less likely to tailgate, which reduces both head-on and rear-end collisions. The posting of an appropriate speed limit also simplifies the work of enforcement officers because most of the traffic is moving at or near the posted speed. With an appropriate speed limit, blatant speeders are easily spotted, safe drivers are not penalized, and police officers are not asked to enforce and defend unrealistic and arbitrary speed limits.

Existing Operating Speeds in School Zones

In 2015, Regional Council requested that staff review options to reduce travel speeds, if required, based on speed surveys and other reviews, on Regional roads near school zones. A copy of report TES-TRP-15-03.2 is included in Appendix A. In summary, staff concluded that speeding in existing school zones was not a significant systemic issue and was not contributing to pedestrian or cyclist collisions near schools. At that time, staff did not recommend reducing speed limits in school zones but recommended physical measures to encourage drivers to lower their speed and to implement proven safety countermeasures to enhance school zone safety where applicable and feasible, as part of all transportation capital projects.

Collision History Within School Zones

Staff assessed the Region's most recent 5-year collision history (2014 to 2018) involving pedestrians, cyclists and motorists within all school zones and Regional roads abutting schools. Staff concluded again that there were no unusual collision patterns involving pedestrians and or cyclists within school zones or abutting Regional roads. Table 1 below summarizes the 5-year collision history involving pedestrians and cyclists within school zones and abutting Regional roads.

Table 1 – Pedestrian and Cycling Collision History (2014 to 2018)

	Pedestrian Collision Location				Cycling Collision Location		
	Traffic Signal	Midblock	Stop Control		Traffic Signal	Midblock	Stop Control
Elementary Aged	0	1	0	Elementary Aged	0	0	0
Secondary Aged	0	2	0	Secondary Aged	0	0	0
Adult	0	0	0	Adult	0	1	0
Total	0	3	0	Total	0	1	0

School Zone Speed Limit Strategies Considered

Regional staff developed and assessed the following school zone speed limit strategies:

- Maintain existing speed limits;
- Reduce speed limits;
- Reduce Speed Limit by time/day when Flashing;
- Reduce speed limit when ASE is implemented; and
- Reduce speed limit by time/day and month.

The following is an assessment of the above options.

Maintain Existing Speed Limits

As summarized in Report TES-TRP-15-03.2, motorists are largely adhering to the posted speed limits fronting schools; drivers in general are slowing down during regular school hours. The following table is an excerpt from report TES-TRP-15-03.2 that summarized the average speed of motorists observed in school zones and abutting Regional roads by existing posted speed limit.

Table 2 – Average Observed Operating Speeds

Posted Speed Limit	School Frontages	Average Speed Observed	Average Speed Observed During School Periods
40 km/h	3	48 km/h	45 km/h
40 km/h when flashing	2	50 km/h	45 km/h
50 km/h	31	52 km/h	50 km/h
60km/h	8	58 km/h	56 km/h
70 km/h	2	71 km/h	70 km/h
80 km/h	2	71 km/h	68 km/h

The observed average speed of motorists on Regional roads indicated that drivers were generally respecting speed limits set at 50 km/h or above. It was also noted that drivers were not necessarily respecting speed limits set lower than 50 km/h. Overall, Regional staff determined that drivers however were reducing their speeds in school zones during school hours.

Reduce Speed Limits

Existing speed limits are appropriate as outlined in Report TES-TRP-15-03.2. Research and local experience indicates that posting an artificially low speed limit, without additional measures, has little to no effect on driver behaviour and may cause an increase in collisions due to increased variability of driver speed causing tailgating and unsafe passing.

School zones where the Region has reduced the speed limit from 50km/h to 40km/h, with the use of signs only, shows that the average travel speed within these zones is 48km/h. This indicates that simply changing the posted speed limit by way of speed limit signs alone has little to no affect on reducing overall average travel speeds.

Reduce Speed Limit by Time/Day When Flashing

The Region has two (2) school zones on Myers Road that currently utilize School Zone Maximum Speed When Flashing signs. These signs include the use of two alternating flashing beacons, and when operated, regulate a lower speed limit during school hours. Regional staff studies regarding the effectiveness of these signs have shown little to no impact on driver speeds. Recently Regional Council approved lowering the speed limit on Myers Road to 40 km/h that will necessitate the removal of these signs.

The implementation of these School Zone Maximum Speed When Flashing signs in remaining school zones on Regional roads would negate the ability to utilize Automated Speed Enforcement (ASE) technology given potential legal challenges associated with the operation of the flashing beacons. The cost to install 66 School Zone Maximum Speed signs When Flashing in school zones on Regional roads would be approximately \$765,000. The funds required to install these signs would likely be considered “throw-away costs” as Region staff anticipate the future expansion of the ASE program to school zones currently without ASE. Regional staff therefore does not recommend this option.

Reduce Speed Limit When ASE is Implemented

This recommendation would see the speed limit within a school zone reduced when ASE is implemented. School zones on Regional roads having speed limits of 50 km/h would be reduced by 10km/h and school zones on Regional roads with speed limits greater than 50 km/h would be reduced by 20km/h. School zones having speed limits of 40 km/h would remain at 40 km/h. Supporting ASE would be a key element in helping to ensure that the speed limit in these school zones are respected.

By the end of June 2022, the Region will have 16 ASE locations ready for active enforcement. 29 designated school zones along Regional Roads would remain without ASE until processing constraints can be removed from the ASE administrative framework as noted in Report TES-TRP-22-04 and further funding is provided to support the expansion of the ASE program. The existing ASE locations could also have a full-time reduction to the posted speed limit by 10km/h or 20km/h depending on the location.

Reduce Speed Limit by Time, Day and Month

Maximum posted speed limit signs having time, day and month limits is a new regulation passed by the Province to address ASE legal concerns associated with School Zone Maximum Speed When Flashing signs. This regulation permits a reduction to the posted speed limit in designated school zones by time of day, day of week and month of year using regulatory signs only. Regional staff lobbied and met with Provincial staff to develop new school zone regulatory signing without the use of flashing beacons. The new regulation, with the use of signs only, is the result of Regional staff's contributions on the ASE Committee.

School zones with Maximum Speed by Time of Day and/or Days and Months can regulate lower speed limits during regular school times. During non-school times, the existing posted speed limit would then take affect. This option adheres to current Regional practices for determining appropriate speed limits. This option would meet both driver and school safety expectations. The motoring public would likely respect variable speed limits by time-of-day more than full time speed limit reductions because lower speed limits during school hours is both meaningful and logical. Additionally, Regional staff speed studies in school zones already indicate that drivers are slowing down during school hours.

6. Area Municipality Communication and Public/Stakeholder Engagement:

Nil.

7. Financial Implications:

It is estimated that the cost to reduce posted speed limits by implementing a maximum time of day posted speed reduction fronting 31 of the 35 schools along Regional roads with the use of signs only would be approximately \$25,000. The Region's approved 2022-2031 Transportation Capital Program includes a budget of \$135,000 in 2022 for Pedestrian and Cycling Countermeasures (Project #09646) to be funded from the Transportation Capital Reserve.

8. Conclusion / Next Steps:

After reviewing the options noted within this report, it is recommended that Regional Council approve the option to implement a Maximum Speed by Time, Day and Month within school zones that have a posted speed limit greater than 40km/h and that front a

Regional Road as a Pilot Project.

This practice could be implemented within all school zones now while not jeopardizing future ASE planned expansion. Regional road locations that have existing ASE would also receive a Maximum Speed by Time, Day and Month reduction to the posted speed limit. School zones would have the posted speed limit lowered by 10km/h to 20km/h depending on the location. Existing school zones having posted speed limits of 40 km/h would remain at 40 km/h. Table 3 summarizes the recommend speed limits by time, day and month. School zones currently without ASE would continue to be prioritized for ASE as planned.

Table 3 – Proposed Speed Limit Reductions by Time, Day and Month

Current School Zone Speed Limit	Proposed School Zone Time of Day Speed Limit	Proposed Hours	Proposed Days	Proposed Months
40	N/A	N/A	N/A	N/A
50	40	7am – 5pm	Mon – Fri	Sept – Jun
60	40	7am – 5pm	Mon – Fri	Sept – Jun
70	50	7am – 5pm	Mon – Fri	Sept - Jun
80	60	7am – 5pm	Mon – Fri	Sept – Jun

Figure 1 below illustrates an example of the required signage.

Figure 1 - School Zone with Maximum Speed by Time of Day/Days and Month



Staff anticipate that all new posted speed signs could be in place by the start of the 2022/2023 school year (September 2022). Staff will monitor operating speeds at all school zones and report back to Regional Council on the results. Staff will also continue to work with Area Municipal staff on the expansion of the ASE program.

9. Attachments / Links:

Appendix A: TES-TRP-15-03.2 (Docs 1971479)

Appendix B: School Zones fronting Regional Roads (DOCS 4057546)

Appendix C: Summary of ASE Locations (DOCS 4057546)

Prepared By: **Mike Jones**, Supervisor Traffic

Bob Henderson, Manager of Transportation Engineering

Reviewed By: **Steve van De Keere**, Director, Transportation

Approved By: **Thomas Schmidt**, Commissioner, Transportation and
 Environmental Services