



STRATHCONA
COUNTY

Heritage Hills Community Traffic Safety Review 2019

Final Report

This report summarizes the Heritage Hills community traffic safety review and provides a final traffic safety plan for the neighbourhood.

August 2019

Executive Summary

The purpose of the Heritage Hills Community Traffic Safety Review was:

- 1) to perform a comprehensive review of traffic conditions in Heritage Hills to consider what potential actions could be taken to improve safety with upcoming neighbourhood rehabilitation, and
- 2) to ensure the road environment is ready to safely and efficiently manage traffic when the Wye replacement school opens in 2020.

This report summarizes the traffic review process and outlines a traffic safety plan to improve and maintain traffic safety in Heritage Hills.

The following table summarizes the final Traffic Safety Plan and schedule for its implementation. The plan was developed based on engineering data and community input, using a safe routes to school focus.

Table One: Actions and Implementation Dates for Heritage Hills Traffic Safety Plan

Year	Action(s)
2019	<ul style="list-style-type: none"> • construct speed cushions on Highcliff Road • install driver feedback sign on Highland Drive east of Highland Way • door hangers delivered with project outcomes and safety messages • install warning signs for trail users at the Highland Drive crossing
2020	<ul style="list-style-type: none"> • construct speed cushion and raised crosswalks on Heritage Drive • implement all-way stop at Heritage Drive/Highland Way (July 2020) • revise Heritage Drive playground zone to a school zone • review signal timings at arterial access points to Heritage Hills • construct Highland Way trail crossing pedestrian upgrades • construct curb extensions at Highland Way and Highcliff Road • create school traffic management plan with School Traffic Safety Partnership • assign School Resource Officer (RCMP) and Community Peace Officer responsible for enforcement at school site
With scheduled rehabilitation	<ul style="list-style-type: none"> • construct pedestrian upgrades at the Highland Drive trail crossing and the intersection of Highland Drive and Highland Way (tentatively scheduled for 2020)

Strathcona County will continue to monitor traffic speed, volumes and operations in Heritage Hills after the new school opens to evaluate the effectiveness of the traffic safety plan.

1.0 Introduction

1.1 Background on the Heritage Hills Community Traffic Review

Several collector roads in Heritage Hills are nearing time for regularly scheduled rehabilitation. There are current resident concerns with traffic speed and pedestrian safety in the subdivision. In addition, a new school is under construction on Heritage Drive that will change traffic patterns in the neighbourhood. For these reasons, a community traffic review was initiated for Heritage Hills.

Project Purpose

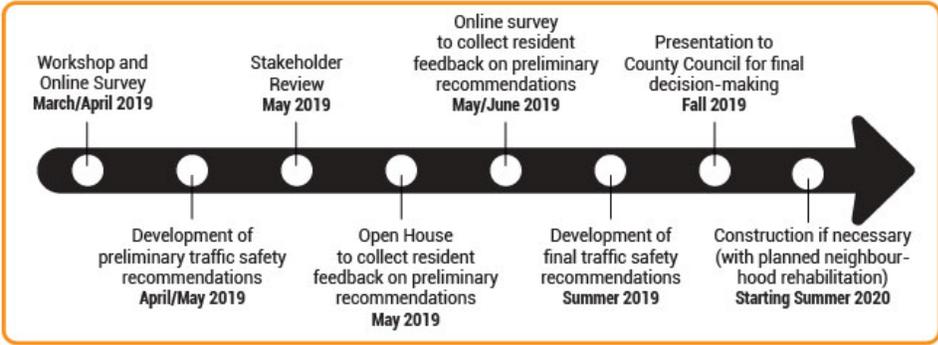
- to perform a comprehensive review of traffic conditions in Heritage Hills to consider what potential actions could be taken to improve safety with upcoming neighbourhood rehabilitation.
- to ensure the road environment is ready to safely and efficiently manage traffic when the Wye replacement school opens in 2020.

This report summarizes the traffic review process and outlines a traffic safety plan to improve and maintain traffic safety in Heritage Hills.

1.2 Traffic Safety Review Process

The Heritage Hills Community Traffic Safety Review was an collaborative project, integrating data from neighbourhood residents with engineering data, collected by Strathcona County and by Bunt and Associates (as part of the Transportation Impact Assessment provided by Elk Island Public Schools as part of the development process for the new school). Both internal and external stakeholders were engaged through the process.

Figure One: Heritage Hills Community Traffic Safety Review Process Outline



1.3 Heritage Hills School

The new Heritage Hills Elementary School is being constructed to replace the current Wye School. The school will have a capacity of 650 students, with up to 50 staff members. The school will be a dual track school offering English and French immersion programming for kindergarten to grade 6 students. It is estimated about one quarter of students attending the school will be residents of Heritage Hills. Other English track students will attend from rural Strathcona County.

French Immersion students will be attending from Sherwood Park neighbourhoods east of Clover Bar Road. The school opening is planned for September 2020.

The school will result in the addition of three new access points on the north side of Heritage Drive. Two of the accesses form the one-way bus loop. The west access provides access to staff/visitor parking, as well as a drop off/pick up zone. Egress from this access is limited to a right-turn only movement.

Figure One: Heritage Hills Elementary School site plan



2.0 Data Collection

2.1 Engineering Data

2.1.1 Bunt and Associates Traffic Impact Assessment

The Traffic Impact Assessment (TIA) completed by Bunt and Associates as part of the development requirements for this project concludes, “Overall, the existing roadway network is anticipated to accommodate the traffic generated by the proposed school”.

The TIA projects the school will generate 435 two-way trips during the morning peak and 221 two-way trips during the afternoon peak. In total, 1228 two-way trips are anticipated on a typical school day.

2.1.2 Traffic speed and volume

While the TIA submitted for the project was extensive and reviewed by Strathcona County prior to acceptance, it did not consider traffic speeds, but rather focused on road operations and capacity (which is traditional practice for TIAs). Additional data collection allowed Strathcona County to confirm the volume results collected by Bunt and Associates and to understand current neighbourhood traffic speeds.

Data was collected at each location over a mid-week, 48 hour period. Data collection locations and results are summarized in Appendix 6.0.

Traffic volumes collected support Bunt and Associates' conclusion that the roadway network is sufficient to support the additional traffic generated by the school. Heritage Drive was designed as a major residential collector road, built to accommodate up to 6000 vehicles per day. Given the current volumes measured during data collection of 1399 vehicles per day, volumes on the road are expected to remain well within design capacity when the school opens.

The majority of locations where speed data was collected fall within the expected operating speed for a road signed at 50 km/h. Generally, at locations where the 85th percentile speed exceeds 55 km/h, Strathcona County has a duty of care to make changes to reduce speeds. In particular, speeds recorded at all three locations on Highland Drive are of concern.

2.1.3 Collision history

Generally, Heritage Hills has an excellent traffic safety record. Over the last ten years (2009-2018), on average 11 collisions per year were reported to police.

- none involved a major injury (where someone was admitted to hospital)
- none involved a pedestrian or cyclist
- 11 resulted in a minor injury to a vehicle occupant
- 90% resulted in property damage only
- 36 involved a driver backing into a parked car or stationary object.

The two locations of engineering concern due to collisions are the intersections of Highcliff Road and Highland Way (2 minor injury/2 property damage collisions) and Highland Way and Heritage Drive (3 minor injury/5 property damage collisions). Sightlines at Highcliff Road/Highland Way are problematic due to stop sign set back. Highland Way/Heritage Drive is expected to experience a greater volume of traffic with the school opening.

Figure Two: Heritage Hills 10 Year Collision History (2009-2018)



Collision by Type	Number	Primary Causes
Struck Object	54	Lost control, slippery road surface, unsafe speed
Right Angle	15	Failed to stop, unsafe back out of driveways
Sideswipes	4	Lost control, slippery road surface, unsafe speed
Other	3	Multiple
Run-Off-Road	1	Slippery road surface, unsafe speed
Rear End	1	Followed too closely
Pedestrians and Bicyclist	0	
Total	78	

Note: 36 PDO collisions involving a driver backing into a parked vehicle are not included on the map as they are considered unrelated to general traffic operations

Disclaimer: Collision map is for display and discussion purposes only

2.2 Public Engagement Results

2.2.1 Community Priorities and Concerns

During the first phase of resident engagement, community feedback from 164 households was gathered through a workshop and online survey, exploring resident priorities and concerns. The current level of concern about traffic safety varied greatly amongst residents in Heritage Hills. Residents whose homes lie directly adjacent to collector roads (Heritage Drive, Highland Way, Highland Drive or Highcliff Road) tended to have a higher level of concern than those who do not.

Overall, the majority of Heritage Hills respondents disagreed with the use of physical traffic calming measures to manage traffic speed concerns. However, support for traffic calming varied according to where a resident lives. When broken out according to address, 59% of those who reside adjacent to a collector road supported physical traffic calming, while 59% of those who do not live adjacent to a collector road did not. Those who oppose traffic calming tend to do so more strongly than those who agree with it.

When asked about the use of physical measures to improve pedestrian safety at key crossing points, there was a much higher level of support, with 65% of residents supporting these kinds of pedestrian crossing upgrades. When residents were asked their opinion on the effectiveness of digital driver feedback signs in managing traffic speeds, the majority of residents felt the signs are effective.

For residents who are concerned about traffic in the neighbourhood, the most prevalent concerns were with traffic speeds and pedestrian safety. In general, residents tended to be concerned about traffic on the road nearest their home. Heritage Drive and Highland Drive were the most commonly cited locations of concern. Highcliff Road and Highland Way were mentioned less frequently.

Sixty-one percent of Heritage Hills residents indicated they had traffic related concerns with the new school opening on Heritage Drive. Generally, residents are concerned about increased traffic volumes in the area, and all the safety and nuisance concerns that go along with the volume increase. There are also concerns about parent drop off and parking and the impact that will have.

Full results of this phase of consultation are reported in the document, *Heritage Hills Community Traffic Review 2019: Survey and Workshop Report: Community Priorities and Concerns*. The feedback summarized in this report was used alongside engineering data to guide the development of preliminary traffic safety recommendations for Heritage Hills. These plans were presented to the community for their feedback in May 2019.

2.2.2 Community Support for Traffic Safety Options

The second phase of engagement for this project involved an open house and online survey to understand support for traffic safety options presented to the community. In total, 122 responses were received from households in Heritage Hills and five from other neighbourhoods. This represents a 7% response rate for the neighbourhood.

Full results of this phase of engagement are reported in the document, *Heritage Hills Community Traffic Review 2019: Open House and Online Survey Report: Community Support for Traffic Safety Options*. The feedback summarized in this report was used alongside engineering data collected in the neighbourhood to guide the development of the final traffic safety plan for Heritage Hills.

More information on resident support of options will be summarized where applicable in the Traffic Calming Plans to follow.

3.0 Traffic Safety Plan

Public engagement for this project revealed a variety of resident perspectives on traffic safety and traffic calming in the neighbourhood. Generally, there is not support for the implementation of physical traffic calming in Heritage Hills. Residents do support the implementation of physical calming features, however, when specifically used to enhance pedestrian safety.

This traffic safety plan was undertaken with a Safe Routes to School lens that prioritized safe pedestrian routes to encourage students to walk/cycle to school. The majority of the engineering actions align with those already necessitated by Strathcona County's Neighbourhood Traffic Safety Action Plan, which requires the additions of pedestrian safety upgrades at all schools, playgrounds and trail crossings in conjunction with rehabilitation. Other engineering actions have only been included where a specific safety risk has been identified that Strathcona County has a duty of care to mitigate.

Residents tend to be most concerned with traffic safety near their own homes, making it impossible to address every concern through infrastructure changes. Engineering actions are only being implemented at locations of greatest community and engineering concern. Enforcement, education and engagement actions strive to address community concerns more broadly.

3.1 Engineering Actions

3.1.1 Heritage Drive (near Clover Bar Road)

A speed cushion will be installed on Heritage Drive west of Highgrove Court/Highgrove Terrace.

Rationale

The preliminary plans for this location presented to the community offered a speed cushion placed further east, near Highgrove Crescent, or a driver feedback sign (DFBS). Overall, an equal number of residents strongly supported the DFBS and speed cushion options presented. Both options are supported by the majority of residents, but the DFBS is supported more strongly. Many more residents do not support the speed cushion, compared with the DFBS. Two residents whose homes lie adjacent to the roadway in close proximity to the speed cushion that provided feedback both strongly support and prefer the speed cushion.

Ten residents on Highgrove Court participated in the engagement; the highest density of any location. Most of these residents expressed concerns with sightlines when turning left out of the cul-de-sac. These residents feel the speed cushion would be better placed west of Highgrove Court/Terrace. One

resident noted that children travelling to the school from Highgrove Court would want to cross Heritage Drive at this location to access the school through Highgrove Terrace.

Strong resident concerns about sightlines when exiting Highgrove Court are supported by engineering review. This location will also be the most affected with the opening of Heritage Hills Elementary School, with the TIA anticipating an increase of 800 vehicles per school day. Although overall results favour the DFBS, the majority of residents living in close proximity to this location favoured the speed cushion. Given sightline concerns and anticipated increases in traffic volumes, a stronger solution than a DFBS is warranted.

Figure Three: Heritage Drive (near Clover Bar Road)- Speed Cushion



3.1.2 Heritage Drive (in front of the park/school)

Raised crosswalks will be added to the curb extensions already in place. No other physical modifications will be made.

Rationale

Residents were offered two options on Heritage Drive in front of the playground/school site: to add raised crosswalks to the curb extensions already in place, or to leave the road as it is today. A strong majority (67%) of residents supported adding the raised crosswalks. This decision aligns with the Safe System philosophy and will provide significant protection for pedestrians accessing the school/park 24/7.

Figure Four: Heritage Drive (in front of the park/school)- Raised Crosswalks



3.1.3 Highcliff Road (at the park/school access)

Two speed cushions will be installed on Highcliff Road near the park/school access

Rationale

Residents were provided with two options on Highcliff Road at the park/school access: two speed cushions or a raised crosswalk with curb extensions. While the majority of residents supported both options, speed cushions were most strongly supported and less strongly opposed than the raised crosswalk.

This location is likely to be a drop off point for the school. In similar locations near other Strathcona County schools, where crossing facilities are offered, pedestrians tend to take the shortest path rather than using the crosswalk. The speed cushions will act to lower speeds in the whole area, rather than just at one crossing point, adding safety for pedestrians regardless of their crossing behaviour. The speed cushions are also less costly than a raised crosswalk, particularly given storm water drainage requirements in the area. Speed cushions are also a better option for emergency vehicle access.

Figure Five: Highcliff Road (at the park/school access)- Speed Cushions



3.1.4 Intersection of Heritage Drive and Highland Way

All-way stop control will be implemented at Heritage Drive and Highland Way one month prior to the school opening.

Rationale

Several residents noted this location as a concern during the first phase of public engagement and felt this should be a four-way stop. This intersection already has the highest collision history in the neighbourhood, experiencing three minor injury collisions and five property damage collisions in the last ten years. The TIA estimates 257 additional vehicles travelling through this intersection each school day. Adding the stop along Heritage Drive will also help manage speeds and improve safety for students crossing to school.

Figure Six: Intersection of Heritage Drive and Highland Way- All-Way Stop



3.1.5 Highland Drive (at the trail crossing and Highland Way intersection)

The crosswalk at the Highland Drive trail crossing will be realigned and have curb extensions and flashing beacons added. A crosswalk with curb extensions will also be added at the intersection of Highland Drive and Highland Way.

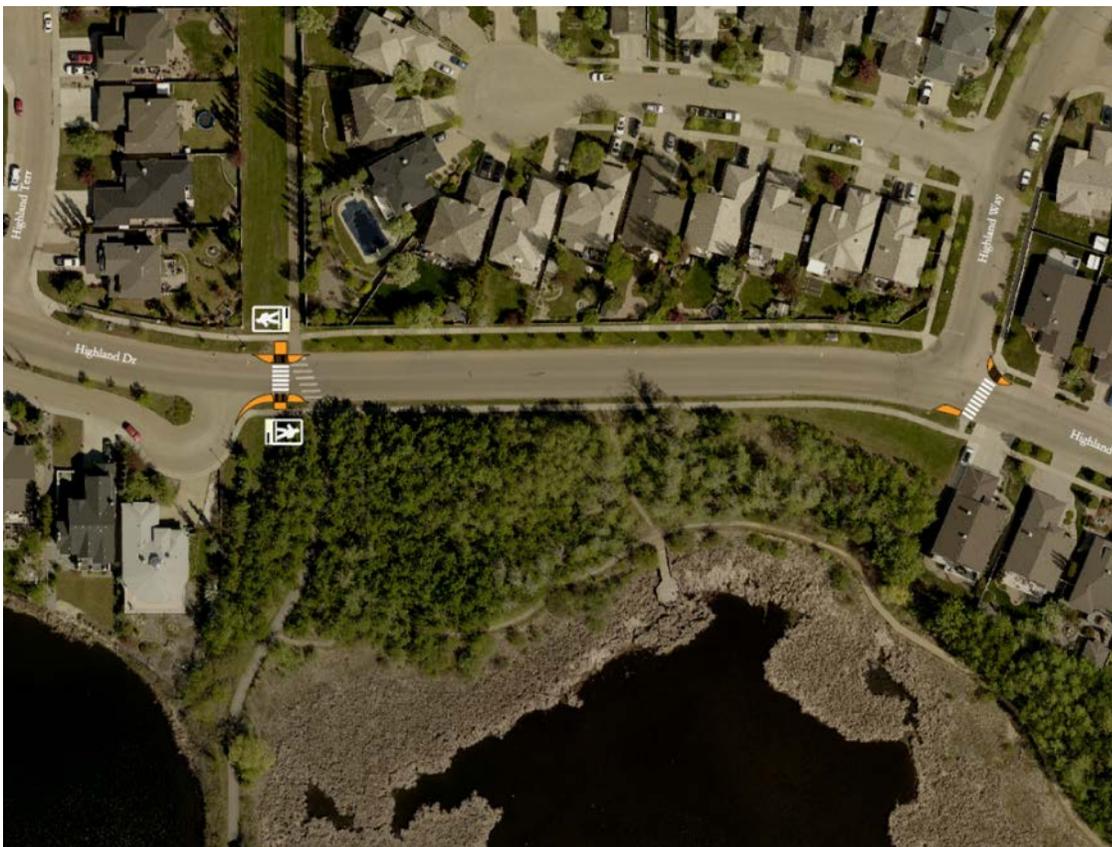
Rationale

Residents were also offered the option of raising the crosswalk, along with the realignment, curb extensions and flashing beacons. The majority of residents supported both options, although fewer residents (50%) supported raising the crosswalk than those who supported the curb extensions and beacons only (70%). The raised crosswalk had the most Strongly Support ratings (31%), but also the most Strongly Do Not Support ratings (26%). Several comments alluded to how fast traffic moves on this road, regardless of their opinion on how to best address speeding. Some comments suggested that pedestrian/cyclist behaviour is the problem: “signage required for pedestrians to watch for traffic”.

Highland Drive experiences the highest traffic speeds in the neighbourhood. The curb extensions and flashing beacons will add to pedestrian safety; however, curb extensions may not provide enough speed reduction to reduce risk at this location. Strathcona County will continue to monitor speeds along Highland Drive. If there is no reduction noted, the crosswalk may be raised at a later time.

Curb extensions and a marked crosswalk will be added at the corner of Highland Way and Highland Drive. Using a Safe Routes to School lens, it was noted that students travelling from the southeast corner of Heritage Hills did not have a defined crossing point. Given the high speeds on Highland Drive, the curb extensions will improve visibility and shorten crossing distance for these students.

Figure Seven: Highland Drive (Trail Crossing and Highland Way Intersection): Crosswalk with Curb Extensions/Pedestrian Beacons



3.1.6 Highland Drive (east of Highland Way)

No physical changes to the road are planned for Highland Drive east of Highland Way. Instead, education will be used at this location (DFBS).

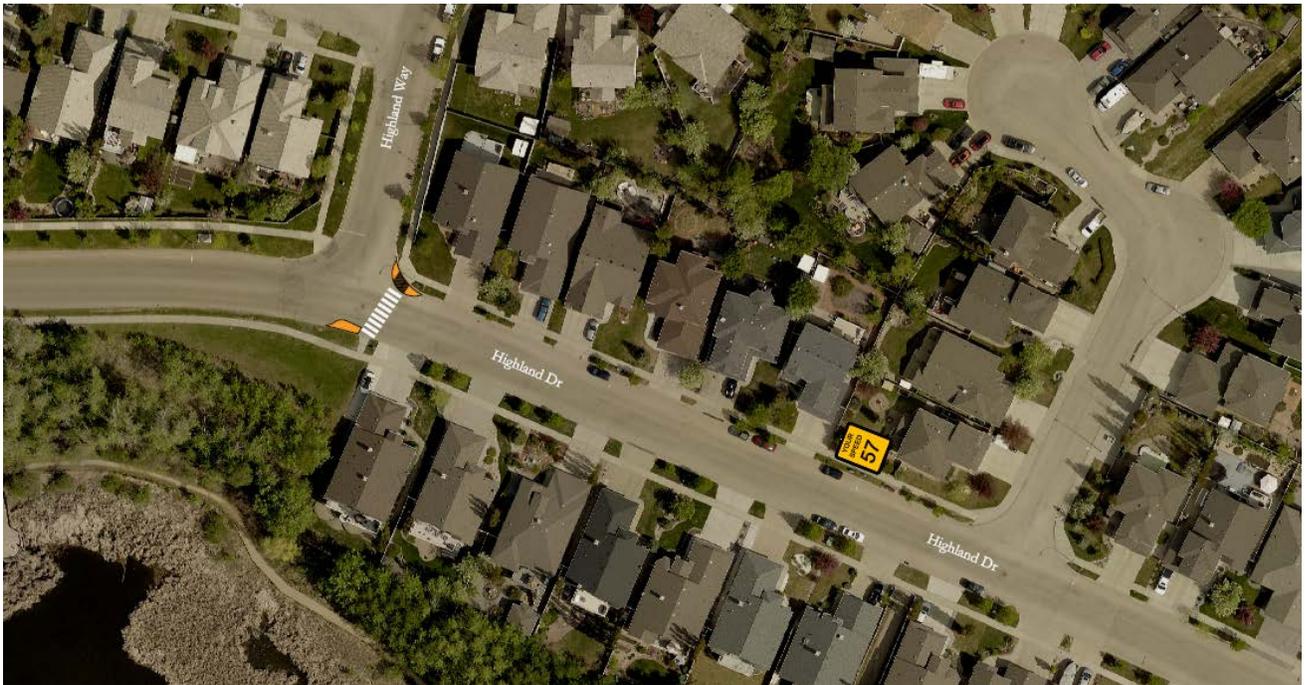
Rationale

Residents were provided with two options for this location: a DFBS or a speed cushion. When all responses were taken into consideration, the majority of residents supported both options, but the DFBS was the most supported and the least strongly opposed.

However, when responses were limited to those residents who would be directly impacted by the features, support for the DFBS was markedly higher (69%), and opposition was very high for the speed cushion, with 69% not supporting its installation.

As previously noted, Highland Drive experiences the highest traffic speeds in the neighbourhood. The DFBS and other education actions are expected to lower speeds; however, the DFBS may not provide enough speed reduction to address the engineering duty of care at this location. Strathcona County will continue to monitor speeds along Highland Drive. If there is no reduction noted, the speed cushion may be added at a later time.

Figure Eight: Highland Drive (east of Highland Way)- Driver Feedback Sign



3.1.7 Highland Way (at the trail crossing and Highcliff Road intersection)

Curb extensions and flashing beacons will be added at the Highland Drive trail crossing. Curb extensions will be added on the east corners of the intersection of Highland Way and Highcliff Road.

Rationale

Two options were presented for upgrading the Heritage Trail crossing on Highland Way: curb extensions or curb extensions with pedestrian beacons. Both options were supported by about 60% of residents. Those who supported the beacons tended to do so more strongly than those who supported curb extensions only. Pedestrian beacons will add to safety at this busy crossing.

Several residents expressed concern with safety the intersection of Highland Way and Highcliff Road, citing sightline issues. Engineering review found sightlines are appropriate, but only if the drivers pull up much farther than the stop bar. The curb extensions will allow the stop bar to move forward and improve visibility for drivers.

Figure Nine: Highland Way trail crossing- Curb Extensions with Pedestrian Beacons



3.1.8 Speed Limits

The playground zone on Heritage Drive will be revised to a school zone just prior to the school opening. No change will be made in the short-term to the default residential speed limit of 50 km/h in Heritage Hills.

Rationale

Strathcona County will be converting the current playground zone on Heritage Drive to a school zone just prior to the school opening. This action has been chosen for several reasons. Firstly, school zones in Strathcona County are effective from 7:30 a.m. to 4:30 p.m. on school days. Playground zones are effective from 8:30 a.m. to one hour after sunset, meaning the reduced speed limit would not be in effect for most of the morning peak time. Further, the two raised crosswalks on Heritage Drive and the all-way stop control at Highland Way will cause significant speed reductions on Heritage Drive 24/7. The TIA did not factor these features into its analysis.

A slim majority of residents support a decreased default speed limit in Heritage Hills (46% support a limit of 40 km/h and 8% support a limit of 30 km/h). Strathcona County is currently considering possible options for reducing residential speed limits across our urban areas. Discussions are planned with the Traffic Safety Advisory committee to recommend a course of action. Strathcona County will defer decision-making on the Heritage Hills speed limit until after these discussions take place.

3.1.9 Arterial Signal Timings

Signal timings at all three arterial entrances into Heritage Hills will be reviewed against the TIA and adjusted if necessary prior to the school opening. Strathcona County will continue to monitor these intersections once the school opens to ensure efficiency is maintained.

3.2 Education Actions

Door hangers will be distributed to every home in Heritage Hills to inform residents about the outcomes of this project. Traffic safety messages will be included, educating residents about the importance of watching their speed in the neighbourhood and asking them to be part of the solution to traffic concerns.

A permanent driver feedback sign (DFBS) will be installed on Highland Drive east of Highland Way in the westbound direction. Advanced warning signs will be added for trail users at the Highland Drive crossing.

Temporary electronic driver feedback signs will be posted on Heritage Drive for the first 3 weeks of the school opening. These signs, as well as “Give Our Kids a Brake” signs, are always available for temporary posting in the neighbourhood on resident request.

3.3 Enforcement Actions

Every school in Strathcona County has a defined School Resource Officer (SRO) from the RCMP. In addition, Enforcement Services assigns a Community Peace Officer (CPO) to every school. These police officers are able to develop relationships with school administrators and neighbours to help manage traffic concerns in the area of the school. These officers will add to the police presence in the neighbourhood.

Speed data collected in the neighbourhood is shared with the police to help them focus their enforcement efforts. RCMP and Enforcement Services will continue to undertake routine patrols in Heritage Hills and address any resident concerns as they emerge.

3.4 Engagement Actions

The Strathcona County School Traffic Safety Partnership (STSP) is a collaboration between school boards, student transportation providers, the police and Strathcona County which was formed to proactively address school-related traffic safety issues. The STSP works with all schools in the region to develop traffic management plans. The STSP will be working with administrators at Heritage Hills Elementary School to develop a site specific plan to maximize safety and encourage active transportation prior to the opening of the school.

The STSP also acts as an ongoing resource for Parent Councils, providing monetary and educational resources towards initiatives to improve traffic safety as needed.

3.5 Evaluation Actions

Strathcona County will continue to monitor traffic speed, volumes and operations in Heritage Hills after the new school opens to evaluate the effectiveness of the traffic safety plan.

Ongoing monitoring will include traffic speed and volume data collection on collector roads (Highcliff Road, Highland Way, Heritage Drive and Highland Drive). Evaluation will also include continued monitoring of traffic management at the school site, arterial intersections and the new all-way stop at Heritage Drive/Highland Way.

4.0 Implementation Plan/Conclusion

One of the goals of the Heritage Hills Community Traffic Safety Review is to ensure the road networks are safe and efficient and will manage traffic when the school opens. Construction will be completed on all features deemed necessary to meet that goal prior to the school opening.

Infrastructure changes that are more distant from the school site will be implemented with scheduled rehab where possible. All education and engagement actions will be undertaken as soon as time and budgets permit.

Table Two: Implementation of Heritage Hills Traffic Safety Plan

Year	Action(s)
2019	<ul style="list-style-type: none"> • Construct speed cushions on Highcliff Road • Install driver feedback sign on Highland Drive east of Highland Way • Door hangers delivered with project outcomes and safety messages • Install warning signs for trail users at the Highland Drive crossing
2020	<ul style="list-style-type: none"> • Construct speed cushion and raised crosswalks on Heritage Drive • Implement all-way stop at Heritage Drive/Highland Way (July 2020) • Revise Heritage Drive playground zone to a school zone • Review signal timings at arterial access points to Heritage Hills • Construct Highland Way trail crossing pedestrian upgrades • Construct curb extensions at Highland Way and Highcliff Road • Create school traffic management plan with School Traffic Safety Partnership • Assign School Resource Officer (RCMP) and Community Peace Officer responsible for enforcement at school site
With scheduled rehabilitation	<ul style="list-style-type: none"> • Construct pedestrian upgrades at the Highland Drive trail crossing and the intersection of Highland Drive and Highland Way (tentatively scheduled for 2020)

5.0 Appendix: Traffic Speed and Volume Data

Figure Ten: Traffic data collection locations



Table One: Traffic data summary

#	Date of Collection	Location	Type of Road	Direction	Average Speed (km/h)	85 th Percentile Speed ¹ (km/h)	Volume (vehicles per day) ²
1	September 2015	Highland Drive (East of Highland Close)	Major Collector	Eastbound	44.1	55.4	1907
				Westbound	47.8	56.7	
2	September 2015	Highland Drive (East of trail crossing)	Major Collector	Eastbound	47.9	56.9	1983
				Westbound	49.7	61.4	
3	September 2018	Highland Drive (just west of trail crossing)	Major Collector	Eastbound	49.4	57.3	1900
				Westbound	49.1	57.0	
4	July 2016	Heritage Drive (east of playground #338)	Major Collector	Northbound	37.8	49.8	705
				Southbound	40.7	52.6	
5	September 2018	Heritage Drive (in playground zone)	Major Collector	Eastbound	38.5/44.3*	47.1/53.9*	858
				Westbound	40.1/47.0*	49.5/55.2*	
6	September 2018	Heritage Drive (east of Highgrove Court)	Major Collector	Northbound	45.9	53.9	1399
				Southbound	46.6	54.8	
7	September 2018	Highcliff Road (South of Hickory Crescent)	Major Collector	Northbound	43.1	50.4	2866
				Southbound	44.8	51.5	
8	September 2018	Highcliff Road (South of Hilltop Crescent)	Major Collector	Northbound	44.6	52.1	1225
				Southbound	47.4	54.9	
9	May 2016	Highland Way (North of Harmony Place)	Major Collector	Northbound	38.9	48.4	973
				Southbound	44.9	54.8	
10	September 2018	Highland Way (West of Hudson Crescent)	Major Collector	Eastbound	39.9	48.6	689
				Westbound	37.5	46.6	
11	September 2018	Highland Way (near Highland Crescent)	Major Collector	Northbound	40.4	48.4	1038
				Southbound	39.8	48.3	
12	September 2018	Highland Way (South of Heritage Drive)	Major Collector	Northbound	42.3	51.2	654
				Southbound	41.2	49.9	

¹85% of vehicles are going this speed or slower.

²Major Collector roads are designed to handle up to 6000 vehicles per day. Minor collector roads are designed for up to 2500 vehicles per day.

*playground zone in effect/playground not in effect