

Lawson Heights and Lawson Heights Suburban Centre Neighbourhood Traffic Review



Lawson Heights and Lawson Heights SC Neighbourhood Traffic Review

Authorization

Prepared By:



Sheliza Kelts, P.Eng.
Senior Transportation Engineer



Nathalie Baudais, P.Eng.
Senior Transportation Engineer

Checked By:



David LeBoutillier, P.Eng.
Engineering Manager, Transportation

Acknowledgements

The completion of this review would not be possible without the contribution of the following organizations and individuals:

- Lawson Heights and Lawson Heights Suburban Centre residents
- Lawson Heights Community Association
- Saskatoon Police Service
- Saskatoon Light and Power
- Saskatoon Fire Department
- Saskatoon Transit
- City of Saskatoon Environmental Services
- City of Saskatoon Planning and Development
- City of Saskatoon Roadways, Fleet and Support
- City of Saskatoon Community Standards
- City of Saskatoon Transportation
- Great Works Consulting
- Councillor Randy Donauer

Executive Summary

The objective of the Neighbourhood Traffic Management Program is to address traffic concerns within neighbourhoods such as speeding, shortcutting, and pedestrian safety. The program was revised in August 2013 to address traffic concerns on a neighbourhood-wide basis. The program involves community and stakeholder consultation that provides residents and City staff the opportunity to work together in developing solutions to address traffic concerns within their neighbourhood. The process is outlined in the [Traffic Calming Guidelines and Tools](#), City of Saskatoon, 2016.

A public meeting was held in April 2019 to identify traffic concerns and potential solutions within the Lawson Heights and Lawson Heights Suburban Centre (SC) neighbourhoods. As a result of the meeting, a number of traffic assessments were completed to confirm and quantify the concerns raised by the residents. Based on the residents' input and the completed traffic assessments, a Traffic Plan was developed and presented to the community at a follow-up meeting held in October 2019.

A summary of recommended improvements for the Lawson Heights and Lawson Heights SC neighbourhoods is included in Table ES-1. The summary identifies the locations, recommended improvements, and implementation schedule. The schedule to implement the Traffic Plan can vary depending on the complexity of the proposed improvement. According to the [Traffic Calming Guidelines and Tools](#), the time frame may range from short-term (1 to 2 years); medium-term (3 to 5 years) and long-term (5 years plus). Accordingly, the goals for implementing the improvements ranges from 1 to 5 years.

The Lawson Heights and Lawson Heights SC Traffic Plan is illustrated in Exhibit ES-1.

Lawson Heights and Lawson Heights SC Neighbourhood Traffic Review

Table ES-1: Lawson Heights and Lawson Heights SC Neighbourhood Recommended Improvements

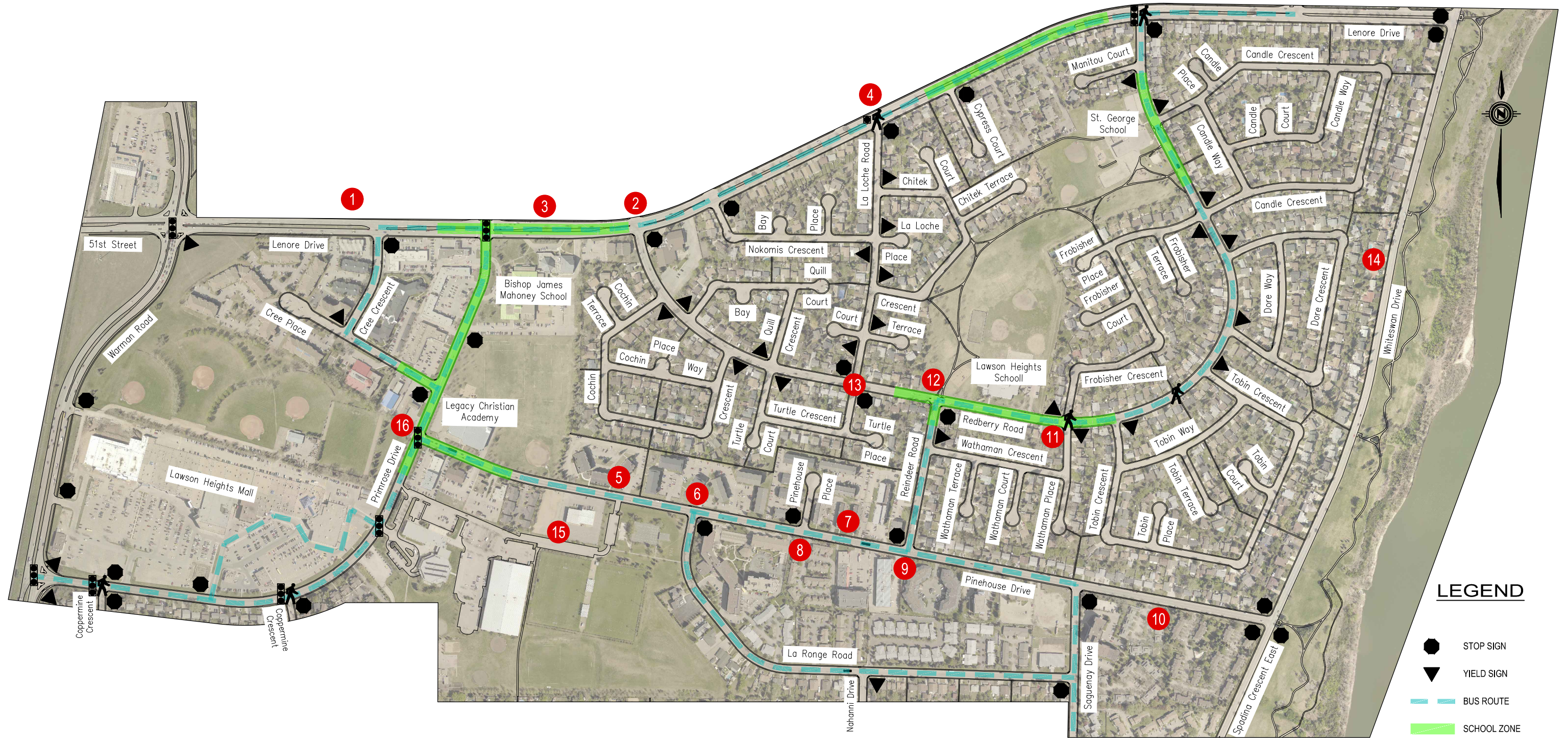
Item	Location	Recommended Improvement	Justification
1	Lenore Drive between Warman Road/ Wanuskewin Road and Primrose Drive	Sidewalk on the north side of Lenore Drive	Sidewalk gap
2	Lenore Drive and Redberry Road/ Roborecki Crescent	Active Pedestrian Corridor (east leg)	Improve pedestrian safety
3	Lenore Drive adjacent to Bishop James Mahoney School	Remove School Zone	Improve traffic operations
4	Lenore Drive and La Loche Road	Remove U-turn restriction for westbound traffic	Improve access to homes on south side of Lenore Drive
		Supplemental flashing beacon	Alert u-turning traffic of device activation
5	Pinehouse Drive Soccer Centre access	Relocate existing sign and install additional sign indicating Soccer Centre access	Improve navigation
6	Pinehouse Drive and La Ronge Road	Median island on west leg	Reduce speed
		Standard crosswalk on south leg	Improve pedestrian safety
7	Pinehouse Drive	Parking restriction on the north side of Pinehouse Drive between Kenwood Manor driveways	Improve sightlines from driveways
8	Pinehouse Drive and Pinehouse Place	Relocate street name blade	Improve navigation
		Pedestrian ramp on the northeast corner	Improve pedestrian accessibility
9	Pinehouse Drive and Reindeer Road	Three-way stop controlled intersection	Improve traffic operations
		Parking restriction on the south of the intersection	Improve compliance with Traffic Bylaw
		Relocate street name blade	Improve navigation
		Median island on the east and west leg	Improve stop sign placement
		Pedestrian ramps on the southeast and southwest corners	Improve pedestrian accessibility
10	425 Pinehouse Drive	Parking restriction at driveway	Improve sightlines from driveways
11	Redberry Road and Wathaman Crescent/ Frobisher Crescent	Median island on west leg	Reduce speed

Lawson Heights and Lawson Heights SC Neighbourhood Traffic Review




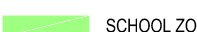





Item	Location	Recommended Improvement	Justification
12	Redberry Road and Reindeer Road	Relocate west leg of crossing area further west and revise pedestrian signage	Improve pedestrian safety
		Pedestrian ramps	Improve pedestrian accessibility
13	Redberry Road and La Loche Road/ Turtle Crescent	Tree trimming on the northwest corner	Improve sightlines
14	Whiteswan Drive between Lenore Drive and Pinehouse Drive	Speed display boards (both directions)	Reduce speed
15	Parking area north of soccer fields and Lawson Heights Civic Centre	Request that the Saskatoon Soccer Centre and City of Saskatoon Parks Division accommodate pedestrian activity through the parking lot area by providing a sidewalk or pathway	Improve pedestrian safety

Other Projects in the Area			
Item	Location	Recommended Improvement	Justification
16	Primrose Drive and Pinehouse Drive	Review traffic signal timing plan	Consider retiming

Exhibit ES1 - Lawson Heights & Lawson Heights Suburban Centre Traffic Plan



LEGEND

-  STOP SIGN
-  YIELD SIGN
-  BUS ROUTE
-  SCHOOL ZONE
-  TRAFFIC SIGNAL
-  PEDESTRIAN ACTUATED SIGNAL LOCATION
-  ACTIVE PEDESTRIAN CORRIDOR SIGNAL LOCATION
-  PEDESTRIAN CORRIDOR LOCATION
-  # RECOMMENDATIONS

LAWSON HEIGHTS & LAWSON HEIGHTS SUBURBAN CENTRE: TRAFFIC PLAN

Contents

Executive Summary.....	iii
1. Introduction	1
2. Identify Issues, Concerns and Possible Solutions.....	2
2.1. Speeding and Shortcutting	2
2.2. Pedestrian Safety	3
2.3. Traffic Control.....	4
2.4. Parking	5
2.5. Maintenance.....	5
2.6. Major Intersections and Corridors	5
3. Develop Draft Traffic Plan	6
3.1. Methodology	6
3.2. Traffic Volume and Speed Assessments.....	6
3.3. Traffic Control Assessments.....	8
3.4. Pedestrian Assessments	10
3.5. Collision Analysis	12
4. Present Traffic Plan	13
4.1. Methodology	13
4.2. Speeding and Shortcutting	13
4.3. Pedestrian Safety	14
4.4. Intersection Safety.....	15
4.5. Parking	15
4.6. Follow-up Consultation – Presentation of Traffic Plan.....	16
4.7. Engagement Summary.....	16
5. Implementation	19

List of Figures

Exhibit ES-1: Lawson Heights and Lawson Heights SC Traffic Plan	vi
Exhibit 5-1: Recommended Lawson Heights and Lawson Heights SC Traffic Plan	25

List of Tables

Table ES-1: Lawson Heights and Lawson Heights SC Neighbourhood Recommended Improvements.....	iv
Table 3-1: City of Saskatoon Street Classifications and Characteristics	7
Table 3-2: Speed Studies and Average Daily Traffic Counts (2019)	8
Table 3-3: All-Way Stop Warrant Criteria	9
Table 3-4: All-Way Stop Warrant Condition Requirements.....	9
Table 3-5: Pedestrian Assessments	10
Table 4-1: Recommended Improvements – Speeding and Shortcutting	13
Table 4-2: Recommended Improvements – Pedestrian Safety	14
Table 4-3: Recommended Improvements – Intersection Safety.....	15
Table 4-4: Recommended Improvements – Parking	15
Table 4-5: Public Meetings Summary.....	16
Table 5-1: Signs, Pavement Markings and Temporary Traffic Calming Cost Estimate	20
Table 5-2: Speed Enforcement Cost Estimate	20
Table 5-3: Pedestrian Safety Devices Cost Estimate	21
Table 5-4: Permanent Traffic Calming Cost Estimate.....	21
Table 5-5: Pedestrian Ramps Cost Estimate.....	21
Table 5-6: Sidewalk Cost Estimate.....	21
Table 5-7: Total Cost Estimate	22
Table 5-8: Lawson Heights and Lawson Heights SC Recommended Improvements.....	23

List of Appendices

APPENDIX A: Public Meeting #1 – April 11, 2019
APPENDIX B: Traffic Data Collection
APPENDIX C: All-Way Stop Assessments
APPENDIX D: Pedestrian Device Assessments
APPENDIX E Collision Analysis
APPENDIX F: Public Meeting #2 – October 3, 2019
APPENDIX G: Decision Matrix
APPENDIX H: Additional Concerns Received After Presentation of Draft Plan
APPENDIX I: Public Feedback

1. Introduction

As the City of Saskatoon continues to grow, many neighbourhoods face issues such as pedestrian safety, cut-through traffic, and increased speeds. In August 2013, City Council adopted the [City of Saskatoon Traffic Guidelines and Tools](#) that outlines a procedure for completing traffic reviews on a neighbourhood-wide basis. Prior to this, neighbourhood traffic issues were dealt with on a case-by-case basis with mixed results. Since 2013, the formal process has proven to be very successful in providing recommendations that improve neighbourhood traffic conditions and pedestrian safety. Recommendations are developed by the Administration and residents in a collaborative manner. Accordingly, this report provides the Traffic Plan for the Lawson Heights and Lawson Heights SC neighbourhoods.

The Lawson Heights and Lawson Heights SC neighbourhoods are bound by Warman Road to the west, Lenore Drive to the north, Whiteswan Drive to the east and Primrose Drive, Pinehouse Drive, and La Ronge Road to the south. The land use is primarily residential with some commercial properties located at the Lawson Heights Mall and along a portion of Primrose Drive and Pinehouse Drive.

The neighbourhood traffic review includes four stages:

- **Stage 1** – Identify issues, concerns and possible solutions through the initial neighbourhood consultation and the Saskatoon Engage online discussion.
- **Stage 2** – Develop a draft traffic plan based on residents' input and traffic assessments.
- **Stage 3** – Present the draft traffic plan to the neighbourhood at a follow-up meeting; circulate the plan to other civic divisions for feedback; make adjustments as needed; and present the plan to Standing Policy Committee on Transportation.
- **Stage 4** – Implement the proposed measures in specific time frame, short-term (1 to 2 years), medium-term (3 to 5 years) or long-term (5 years plus).

This report presents the study findings and recommendations.

2. Identify Issues, Concerns and Possible Solutions

A public meeting was held in April 2019 to identify traffic concerns within the Lawson Heights and Lawson Heights SC neighbourhoods. At the meeting, residents were given the opportunity to express their concerns and suggest possible solutions. The meeting minutes and presentation are provided in **Appendix A**.

The following pages summarize the concerns and suggested solutions identified during the initial consultation with the residents including all correspondence, Saskatoon Engage discussion comments and survey comments received prior to the follow-up meeting.

2.1. Speeding and Shortcutting

Shortcutting occurs when non-local traffic passes through the neighbourhood on streets that are designed and intended for low volumes of traffic (i.e. local streets). As speeding often accompanies shortcutting, these concerns have been grouped into one category.

Neighbourhood concerns for speeding and shortcutting were identified at the following locations:

- La Loche Road;
- Lenore Drive;
- Pinehouse Drive;
- Primrose Drive;
- Redberry Road;
- Reindeer Road;
- Saguenay Drive;
- Tobin Crescent;
- Wathaman Crescent; and
- Whiteswan Drive.

The residents suggested the following solutions:

- Install speed display device;
- Install a three-way stop;
- Increase enforcement;
- Eliminate school zone;
- Install speed humps;
- Install photo speed enforcement;
- Reduce speed limit; and
- Reduce the length of the school zone.

2.2. Pedestrian Safety

It is important to address pedestrian safety concerns to support active transportation. Walking to nearby amenities reduces traffic volumes.

Pedestrian crosswalks need to adhere to the City of Saskatoon Council Policy C07-018 Traffic Control at Pedestrian Crossings.

Neighbourhood concerns regarding pedestrian safety were raised at the following locations:

- La Loche Road;
- La Loche Road and Chitek Crescent;
- La Ronge Road;
- Lenore Drive and Primrose Drive;
- Pinehouse Drive;
- Pinehouse Drive and La Ronge Road;
- Pinehouse Drive and Reindeer Road;
- Pinehouse Drive and Saguenay Drive;
- Pinehouse Drive and Cochin Crescent Walkway;
- Redberry Road;
- Redberry Road and Reindeer Road;
- Whiteswan Drive and Lenore Drive;
- Redberry Road and Frobisher Crescent/Candle Crescent;
- Redberry Road and Frobisher Crescent/Wathaman Crescent; and
- Pinehouse Drive between Saguenay Drive and La Ronge Road.

The residents suggested the following solutions:

- Pedestrian crosswalk;
- Speed sign;
- Parking restrictions;
- Enforcement;
- Reduced speed limit;
- Re-paint pedestrian crosswalk;
- Three-way stop;
- Curb extensions;
- Active pedestrian corridor;
- Realign crosswalk; and
- Construct a traffic circle.

2.3. Traffic Control

Traffic control signs are used to assign the right-of-way. City of Saskatoon Council Policy C07-007 Traffic Control – Use of Stop and Yield Signs states that stop and yield signs are not to be used:

- as speed control devices;
- to stop priority traffic over minor traffic;
- on the same approach to an intersection where traffic signals are operational; or
- as a pedestrian crossing device.

An all-way stop must meet the conditions for traffic volumes, collision history, and a balanced volume from each leg to operate sufficiently.

Neighbourhood concerns regarding traffic controls were identified at the following locations:

- Lenore Drive and Cypress Court;
- Lenore Drive and La Loche Road;
- Lenore Drive and Primrose Drive;
- Lenore Drive and Redberry Road;
- Pinehouse Drive and La Ronge Road;
- Pinehouse Drive and Primrose Drive;
- Pinehouse Drive and Reindeer Road;
- Pinehouse Drive and Saguenay Drive;
- Redberry Road and Reindeer Road;
- Spadina Crescent and Pinehouse Drive; and
- Whitesawn Drive and Lenore Drive.

Solutions suggested by residents:

- Three-way stop;
- Remove a three-way stop;
- Traffic circle;
- U-turn lane;
- Remove U-turn restriction;
- Traffic signal; and
- Improve traffic signal timing.

2.4. Parking

Parking is allowed on all city streets unless signage is posted. According to City of Saskatoon Bylaw 7200, The Traffic Bylaw, vehicles are restricted from parking within 10 metres of an intersection and one metre of a driveway or back lane.

Neighbourhood concerns regarding parking were identified at the following locations:

- Pinehouse Drive between Saguenay Drive and La Ronge Road; and
- Pinehouse Drive near the RM of Corman Park office.

Residents requested that parking restrictions be implemented to address these issues.

2.5. Maintenance

Maintenance is requested throughout the consultation process that reflects the work of other civic departments. These include the condition of the street signs (i.e. knocked over, damaged, obstructed by trees), trees obstructing driver's view, or roadway maintenance (i.e. snow clearing, potholes, sanding).

Neighbourhood concerns regarding maintenance were identified at the following locations:

- La Ronge Road;
- Pinehouse Drive and La Ronge Road;
- Primrose Drive;
- Redberry Road and Candle Crescent; and
- Wathaman Crescent.

2.6. Major Intersections and Corridors

Major intersections include roadways with higher traffic volumes (i.e. arterials, collectors) or intersections with an existing traffic signal.

Neighbourhood concerns regarding major intersections were raised at Warman Road and Lenore Drive.

3. Develop Draft Traffic Plan

3.1. Methodology

Stage 2 of the neighbourhood traffic review included development of a draft traffic plan. This was completed through the following actions:

- Create a detailed list of all the issues provided by the residents.
- Collect historical traffic studies and information the City has on file for the neighbourhood.
- Prepare a data collection program that will provide the appropriate information needed to undertake the assessments.
- Complete the data collection, which may include:
 - Daily and weekly traffic counts;
 - Speed measurements;
 - Intersection turning movement counts;
 - Pedestrian counts;
 - Site observations; and
 - Collision analysis.
- Assess the issues by using the information in reference with City policies, bylaws, and guidelines, transportation engineering design guidelines and technical documents, and professional engineering judgment.

The following sections provide details on the data collected for traffic volume and speed assessments, traffic control assessments, pedestrian crossing assessments, traffic signal assessments and collision analysis. A map of the traffic data collection is shown in **Appendix B**.

3.2. Traffic Volume and Speed Assessments

Traffic volumes and travel speeds were measured to assist in determining the need for traffic calming devices. In Saskatoon, the neighbourhood streets are classified typically as either local or collector streets. Traffic volumes (referred to as Average Daily Traffic) on these streets should meet the City of Saskatoon guidelines shown in Table 3-1.

Lawson Heights and Lawson Heights SC Neighbourhood Traffic Review

Table 3-1: City of Saskatoon Street Classifications and Characteristics

Characteristic	Classifications								
	Back Lanes		Locals		Collectors		Arterials		Freeways / Expressways
	Residential	Commercial	Residential	Commercial	Residential	Commercial	Minor	Major	
Traffic Service Function	Land access function only (traffic movement not a consideration)		Land access primary function (traffic movement secondary consideration)		Traffic movement and land access of equal importance		Traffic movement major consideration	Traffic movement primary consideration	Traffic movement primary consideration
Land Service/ Access	Land access only function		Land access primary function		Traffic movement and land access of equal importance		Some access control	Rigid access control	No access
Typical Traffic Volume (veh/day)	<500	<1,000	<1,000	<5,000	<5,000	8,000 to 10,000	5,000 to 25,000		>20,000 >10,000
Traffic Flow Characteristics	Interrupted flow		Interrupted flow		Interrupted flow		Uninterrupted flow except at signals and crosswalks		Uninterrupted flow except at signals Free-flow (grade separated)
Typical Posted Speed Limit (kph)	20		50		50		50 to 70		80 to 90
Typical Vehicle Type	Passenger and service vehicles	All types	Passenger and service vehicles	All types	Passenger and service vehicles	All types	All types	All types, large portion of trucks	All types, large portion of trucks
Desirable Network Connections	Lanes, Locals		Lanes, Locals, Collectors		Locals, Collectors, Arterials		Collectors, Arterials, Freeways/Expressways		Arterials, Freeways/ Expressways
Transit Service	Not permitted		Generally avoided		Permitted		Permitted		Express buses only
Cyclist Facilities	No restrictions or special facilities		No restrictions or special facilities		No restrictions; special facilities considered		No restrictions; special facilities considered		Prohibited*
Pedestrians Facilities	Permitted, no special facilities		Sidewalks provided both sides		Sidewalks provided both sides, separation from traffic lanes preferred		Sidewalks provided both sides, separation from traffic lanes required		Prohibited*
Typical Parking Restrictions	Some restrictions		No restrictions or restrictions one side only		Few restrictions other than peak hour		Permitted, restricted or prohibited	Prohibited or peak hour restrictions	Prohibited
Minimum Intersection Spacing (m)	As needed		60		60		200	400	800 or 1,600 between interchanges
Typical Right-of-Way Width (m)	6		15 to 22		21 to 41		33 to 43		75 to 125

*May be considered beyond the clear zone

Vehicle speeds were measured to determine the 85th percentile speed, which is the speed at which 85 percent of vehicles are travelling at or below. The speed limit in the Lawson Heights and Lawson Heights SC neighbourhoods is 50 kph, except for school zones where the speed limit is 30 kph from September and June, Monday to Friday, 8:00 am to 5:00 pm.

The speed studies and Average Daily Traffic (ADT) on streets where speeding was identified as a concern are summarized in Table 3-2.

Lawson Heights and Lawson Heights SC Neighbourhood Traffic Review

Table 3-2: Speed Studies and Average Daily Traffic Counts (2019)

Street	Between	Class	Average Daily Traffic (vehicles per day)	Speed (kph)
La Loche Road	Chitek Crescent and Nokomis Crescent	Collector	500	48
La Ronge Road	Pinehouse Drive and Nahanni Drive	Collector	1,650	51
Pinehouse Drive	Reindeer Road and Saguenay Drive	Collector	4,280	58
Redberry Road	Reindeer Road and Wathaman Crescent / Frobisher Crescent	Collector	2,965	54 41 (school zone)
Redberry Road	Candle Crescent and Candle Crescent	Collector	1,235	55 44 (school zone)
Saguenay Drive	La Ronge Road and Assiniboine Drive	Collector	1,850	45
Whiteswan Drive	Lenore Drive and Pinehouse Drive	Arterial	4,760	59

3.3. Traffic Control Assessments

Yield, stop, and all-way stop controls need to meet City of Saskatoon Council Policy C07-007 Traffic Control – Use of Stop and Yield Signs.

Turning movement counts were completed to determine the need for an all-way (i.e. three-way or four-way) stop control. Criteria outlined in Council Policy C07-007 that may warrant an all-way stop include:

- A peak hour count greater than 600 vehicles;
- an ADT greater than 6,000 vehicles per day; or
- when five or more collisions are reported in the last twelve month period and are of a type susceptible to correction by an all-way stop control.

Further conditions that must be met for an all-way stop to be warranted are:

1. At least 35% of the traffic entering the intersection from the minor street for a four-way stop and 25% for a three-way stop.
2. No other all-way stop or traffic signals within 200 m.

Results of the studies are shown in Table 3-3 and Table 3-4.

Lawson Heights and Lawson Heights SC Neighbourhood Traffic Review

Table 3-3: All-Way Stop Warrant Criteria

Location	Criteria 1: Peak Hour Count (greater than 600)	Criteria 2: Average Daily Traffic (greater than 6,000 vpd)	Criteria 3: Collisions within most recent 12 months (5 or more)	Results
Pinehouse Drive and La Ronge Road	876	9,130	2	Criteria Met. Proceed to Step 2.
Pinehouse Drive and Saguenay Drive	470	4,870	1	Criteria Not Met. All-way stop NOT warranted.
Pinehouse Drive and Reindeer Road	608	7,240	3	Criteria Met. Proceed to Step 2.
Lenore Drive and Whiteswan Drive	533	5,970	2	Criteria Not Met. All-way stop NOT warranted.
Redberry Road and Reindeer Road	418	4,880	1	Criteria Not Met. All-way stop NOT warranted.

Provided one of the above criteria are met, continue to Step 2 to check the condition requirements.

Table 3-4: All-Way Stop Warrant Condition Requirements

Location	Condition 1: Traffic on minor street is at least 35% (25% for a 3-way stop)	Condition 2: No all-way stop or traffic signals within 200 metres	Results
Pinehouse Drive and La Ronge Road	Condition Not Met	Condition Met	All-way stop NOT warranted.
Pinehouse Drive and Reindeer Road	Condition Met	Condition Met	Warranted

Details of the all-way stop assessments are provided in **Appendix C**.

3.4. Pedestrian Assessments

Pedestrian assessments were conducted to determine the need for pedestrian actuated signalized crosswalks in adherence to the City of Saskatoon Council Policy C07-018 Traffic Control at Pedestrian Crossings.

Pedestrian crossing devices include:

- standard crosswalk;
- zebra crosswalk;
- rectangular rapid flashing beacon (ground mounted flashing lights);
- actuated pedestrian corridor (overhead flashing yellow lights); and
- pedestrian actuated signals.

The policy provides a decision matrix for locating pedestrian devices considering a number of elements:

- traffic signal warrants;
- pedestrian and traffic volumes;
- distance to nearest traffic control device;
- pedestrian desire line; and
- network connectivity.

Once a location has been identified as a necessary pedestrian connection, the type of pedestrian device is selected using a treatment matrix which considers traffic volume, posted speed limit and number of lanes for pedestrian crossing.

A summary of the pedestrian studies are provided in Table 3-5 and details are provided in **Appendix D**.

Table 3-5: Pedestrian Assessments

Location	Pedestrian Desire Confirmation	Results
Pinehouse Drive and La Ronge Road (south leg)	Confirmed	Distance from nearest control >200 m. Connection to crosswalk on west leg of this intersection and bus stops. Standard crosswalk is appropriate.
Pinehouse Drive and La Ronge Road (west leg)	Confirmed	Distance from nearest control >200 m. Connection to transit stop. Existing standard crosswalk is appropriate.
Pinehouse Drive and Reindeer Road	Confirmed	Distance to nearest control >200 m. Connection to commercial centre. All-way stop is recommended.

Lawson Heights and Lawson Heights SC Neighbourhood Traffic Review

Location	Pedestrian Desire Confirmation	Results
Pinehouse Drive and Saguenay Drive (west leg)	Confirmed	Distance from nearest control >200 m. Connection to neighbourhood walkway system. Standard crosswalk is appropriate. Existing zebra crosswalk to remain.
Redberry Road and Candle Crescent North Intersection (south leg)	Confirmed	Distance to nearest control ~200 m. Connection to St. George School. Standard crosswalk is appropriate. Existing zebra crosswalk to remain.
Redberry Road and Candle Crescent/Frobisher Crescent (north leg)	Confirmed	Distance to nearest control >200 m. Connection to Lawson Heights and St. George Schools. Existing standard crosswalk is appropriate.
Redberry Road and Walkway between Tobin Crescent intersections	Confirmed	Distance to nearest control >200 m. Connection to neighbourhood walkway system. Standard crosswalk is appropriate. Existing pedestrian corridor to remain.
Redberry Road and Wathaman Crescent/Frobisher Crescent (west leg)	Confirmed	Distance to nearest control >200 m. Connection to Lawson Heights School. Standard crosswalk is appropriate. Existing pedestrian corridor and zebra crosswalk to remain.
Redberry Road and Cochin Place Walkway	Low	Distance to nearest control <200 m. Not a candidate for pedestrian control.
La Loche Road and Chitek Crescent South Intersection (north leg)	Confirmed	Distance from nearest control <200 m. Not a candidate for pedestrian control.
Lenore Drive and Redberry Road/Roborecki Crescent	Confirmed	Distance from nearest control >200 m. Connection to Bishop James Mahoney School. Active Pedestrian Corridor recommended.
Lenore Drive and Cypress Court	Confirmed	Distance from nearest control <200 m. Connection to Marion M Graham Collegiate. Existing standard crosswalk is appropriate.
Spadina Crescent/Whiteswan Drive and Pinehouse Drive	Confirmed	Distance to nearest control >200 m. Connection to Meewasin Valley Trail system. Existing all-way stop control is appropriate.
Lenore Drive and Whiteswan Drive	Confirmed	Distance from nearest control >200 m. Connection to Meewasin Valley Trail system. Existing standard crosswalk is appropriate.

3.5. Collision Analysis

The most recently available five-year collision data (2014 to 2018) was provided by Saskatchewan Government Insurance (SGI). High-collision locations, typically noted as the locations with an average of two or more collisions per year, were reviewed in more depth to identify trends and possible improvements. Signalized intersections were not included in the collision analysis as they have higher traffic volumes resulting in higher collision trends. These intersections are studied as part of the major intersection reviews. The intersection of Pinehouse Drive and Primrose Drive had two or more collisions per year.

Details of the collision analysis are provided **Appendix E**.

4. Present Traffic Plan

4.1. Methodology

Stage 3 of the neighbourhood traffic review included finalizing the traffic plan. This was achieved by completing the following steps:

- Based on the assessments, prepare a draft plan that illustrates the appropriate recommended improvements.
- Present the draft plan to the residents at a follow-up public meeting.
- Circulate the draft plan to the civic divisions for comment.
- Revise the draft plan based on feedback from the stakeholders.
- Prepare a technical document summarizing the recommended plan and project process.

The tables in the following sections provide the details of the recommended traffic plan, including the location, recommended improvement and justification of the recommended improvement.

4.2. Speeding and Shortcutting

As stated in Council Policy C07-007 Traffic Control – Use of Stop and Yield Signs, “stop signs are not to be used as speed control devices.”

The recommended improvements to address speeding and shortcutting are detailed in Table 4-1.

Table 4-1: Recommended Improvements – Speeding and Shortcutting

Location	Recommended Improvement	Justification
Lenore Drive adjacent to Bishop James Mahoney School	Remove School Zone	Improve traffic operations where there is limited school activity (school zone will remain until the active pedestrian corridor is installed at Lenore Drive and Redberry Road/Roborecki Crescent)
Lenore Drive and La Loche Road	Remove U-turn restriction for westbound traffic	Improving access to the homes on the south side of Lenore Drive will reduce the amount of drivers navigating through the neighbourhood
Pinehouse Drive and La Ronge Road	Median island on west leg	Reduce speed
Redberry Road and Wathaman Crescent/Frobisher Crescent	Median island on west leg	Reduce speed and improve pedestrian safety
Whiteswan Drive between Lenore Drive and Pinehouse Drive	Speed display boards (both directions)	Reduce speed

4.3. Pedestrian Safety

The recommended improvements to increase pedestrian safety are detailed in Table 4-2.

Table 4-2: Recommended Improvements – Pedestrian Safety

Location	Recommended Improvement	Justification
Lenore Drive between Warman Road/Wanuskewin Road and Primrose Drive	Sidewalk on the north side of Lenore Drive	Sidewalk gap
Lenore Drive and Redberry Road/Roborecki Crescent	Active Pedestrian Corridor (east leg)	Improve pedestrian safety
Lenore Drive and La Loche Road	Supplemental flashing beacon at active pedestrian corridor	Alert u-turning traffic of device activation
Pinehouse Drive and La Ronge Road	Median island on west leg	Reduce speed and improve pedestrian safety
	Standard crosswalk on south leg	Improve pedestrian safety
Pinehouse Drive and Pinehouse Place	Pedestrian ramp on the northeast corner	Improve pedestrian accessibility
Pinehouse Drive and Reindeer Road	Pedestrian ramps on the southeast and southwest corners	Improve pedestrian accessibility
Redberry Road and Reindeer Road	Relocate west leg of crossing area further west and revise pedestrian signage	Improve pedestrian safety
	Pedestrian ramps	Improve pedestrian accessibility
Parking area north of soccer fields and Lawson Heights Civic Centre	Request that the Saskatoon Soccer Centre and City of Saskatoon Parks Division accommodate pedestrian activity through the parking lot area by providing a sidewalk or pathway	Improve pedestrian safety

4.4. Intersection Safety

The recommended improvements to intersections that will improve the level of safety by clearly identifying the right-of-way through traffic controls are provided in Table 4-3.

Table 4-3: Recommended Improvements – Intersection Safety

Location	Recommended Improvement	Justification
Pinehouse Drive and Pinehouse Place	Relocate street name blade	Improve navigation
Pinehouse Drive Soccer Centre access	Relocate existing sign and install additional sign indicating Soccer Centre access	Improve navigation
Pinehouse Drive and Pinehouse Place	Relocate street name blade	Improve navigation
Pinehouse Drive and Reindeer Road	Install three-way stop controlled intersection	Improve traffic operations
	Relocate street name blade	Improve navigation
	Install median island on the east and west leg and	Improve stop sign placement
Redberry Road and La Loche Road/Turtle Crescent	Tree trimming on the northwest corner	Improve sightlines

4.5. Parking

The recommended improvements to parking that will improve the level of safety are provided in Table 4-4.

Table 4-4: Recommended Improvements – Parking

Location	Recommended Improvement	Justification
Pinehouse Drive	Parking restriction on the north side of Pinehouse Drive between Kenwood Manor driveways	Improve sightlines from driveways
Pinehouse Drive and Reindeer Road	Parking restriction on the south of the intersection	Improve compliance with Traffic Bylaw
425 Pinehouse Drive	Parking restriction at driveway	Improve sightlines from driveways

4.6. Follow-up Consultation – Presentation of Traffic Plan

The recommended improvements were presented to residents and stakeholders at a follow-up public meeting in October 2019. The meeting minutes and feedback from emails and phone calls are provided in **Appendix F**. Recommended improvements that were not supported were eliminated or altered accordingly.

A decision matrix detailing the list of recommended improvements presented at the follow-up meeting are included in **Appendix G**. Additional issues raised during and after the follow-up meeting were assessed and outlined **Appendix H**. Recommendations were added to the list of improvements if necessary. The revised list of recommendations received general support from Saskatoon Police Service, Saskatoon Light & Power, Saskatoon Fire Department, Environmental Services, Parking Services, Roadways, Fleet & Support and Transit.

4.7. Engagement Summary

For the NTRs, residents and stakeholders were invited to participate in the process through two public meetings that are outlined in Table 4-5.

Table 4-5: Public Meetings Summary

Meeting Details	Meeting Purpose	Meeting Materials
Meeting #1 April 11, 2019 Lawson Heights Alliance Church 36 attendees	To identify specific traffic concerns and potential improvements	Meeting minutes and presentation included in Appendix A
Meeting #2 October 3, 2019 Lawson Heights Alliance Church 25 attendees	To discuss the draft neighbourhood traffic plan	Meeting minutes, presentation and draft traffic plan included in Appendix F

Residents and stakeholders in Lawson Heights and Lawson Heights SC were notified of the meetings via:

- a flyer delivered to each residence in the neighbourhood;
- City of Saskatoon events calendar, saskatoon.ca/engage, and saskatoon.ca/NTR;
- changeable message signs placed on Pinehouse Drive prior to the first meeting;
- requesting the neighbourhood community associations and schools to post the information on their website or social media pages; and
- notifying the appropriate City Councillor.

The Engage page was used to disseminate information about the meetings, as well as status updates and notifications for the project. It also provided a forum for resident comments. Eight residents subscribed for email updates. Study updates were provided to these residents at several milestones throughout the project.

Residents were invited to provide their concerns and feedback through the following:

- the saskatoon.ca/engage webpage;
- the report a traffic issues application;
- written submissions at the meetings;
- written notes taken by the Administration at the meetings; and
- written, verbal, and e-mail submission to the Administration.

Residents and business owners who could not attend the meetings were able to view the meeting materials and provide feedback via the City's saskatoon.ca/engage website, or by phone, email, or mail. Feedback received throughout the process is included in **Appendix I**.

Lawson Heights and Lawson Heights SC Neighbourhood Traffic Review

Photo 1: Meeting #1 Presentation



Photo 2: Meeting #2 Presentation



5. Implementation

Stage 4, the final stage of the neighbourhood traffic review, is to install the recommended improvements. The time frame depends upon the complexity and cost of the solution. A short-term time frame is defined by implementing the improvements within 1 to 2 years; medium-term is 3 to 5 years; and long-term is 5 years plus.

The placement of signs, pavement markings and temporary traffic calming will be completed short-term (1 to 2 years). Most often the installations take place in spring/summer of the following year. Installations for Lawson Heights and Lawson Heights SC are likely to begin in spring/summer 2020.

The estimated costs of the improvements included in the Neighbourhood Traffic Plan are outlined in the following tables:

- Table 5-1: Signs, Pavement Markings and Temporary Traffic Calming Cost Estimate
- Table 5-2: Speed Enforcement Cost Estimate
- Table 5-3: Pedestrian Safety Devices Cost Estimate
- Table 5-4: Permanent Traffic Calming Cost Estimate
- Table 5-5: Pedestrian Ramps Cost Estimate
- Table 5-6: Sidewalk Cost Estimate
- Table 5-7: Total Cost Estimate

Lawson Heights and Lawson Heights SC Neighbourhood Traffic Review

Table 5-1: Signs, Pavement Markings and Temporary Traffic Calming Cost Estimate

Location	Device/Task	Cost Estimate	Implementation Goal
Lenore Drive adjacent to Bishop James Mahoney School	Alter School Zone signage	\$500	1 to 2 years (all traffic calming devices will be installed temporary for at least one year to measure effectiveness)
Lenore Drive and La Loche Road	Flashing beacon (1)	\$2,000	
Pinehouse Drive Soccer Centre access	Alter Soccer Centre access signage and Soccer Centre sign (1)	\$1,000	
Pinehouse Drive and La Ronge Road	Temporary median island (1)	\$500	
Pinehouse Drive	No Parking signs (2)	\$500	
Pinehouse Drive and Pinehouse Place	Relocate sign (1)	\$250	
Pinehouse Drive and Reindeer Road	Stop signs (6)	\$1,500	
	No Parking signs (2)	\$500	
	Temporary median islands (2)	\$1,000	
425 Pinehouse Drive	No Parking signs (2)	\$500	
Redberry Road and Wathaman Crescent/Frobisher Crescent	Temporary median island (1)	\$500	
Redberry Road and Reindeer Road	Relocate standard crosswalk and revise signage	\$500	
Total		\$9,250	

Table 5-2: Speed Enforcement Cost Estimate

Location	Device	Cost Estimate	Implementation Goal
Whiteswan Drive between Lenore Drive and Pinehouse Drive	Speed display boards (2)	\$0 (Ten devices purchased in 2017 are relocated annually.)	1 to 2 years
Total		\$0	

Lawson Heights and Lawson Heights SC Neighbourhood Traffic Review

Table 5-3: Pedestrian Safety Devices Cost Estimate

Location	Device	Cost Estimate	Implementation Goal
Lenore Drive and Redberry Road/Roborecki Crescent	Active Pedestrian Corridor (1)	\$45,000	3 to 5 years
Total		\$45,000	

Table 5-4: Permanent Traffic Calming Cost Estimate

Location	Device	Cost Estimate	Implementation Goal
Pinehouse Drive and La Ronge Road	Median island (1)	\$5,000	3 to 5 years
Pinehouse Drive and Reindeer Road	Median island (2)	\$10,000	
Redberry Road and Wathaman Crescent/Frobisher Crescent	Median island (1)	\$5,000	
Total		\$20,000	

Table 5-5: Pedestrian Ramps Cost Estimate

Location	Device	Cost Estimate	Implementation Goal
Pinehouse Drive and Pinehouse Place	Pedestrian ramp (1)	\$3,500	5 plus years
Pinehouse Drive and Reindeer Road	Pedestrian ramp (2)	\$7,000	
Redberry Road and Reindeer Road	Pedestrian ramp (1)	\$3,500	
Total		\$14,000	

Table 5-6: Sidewalk Cost Estimate

Location	Device	Cost Estimate	Implementation Goal
Lenore Drive between Warman Road/Wanuskewin Road and Primrose Drive	Sidewalk (500 metres)	\$250,000	5 plus years
Total		\$250,000	

Lawson Heights and Lawson Heights SC Neighbourhood Traffic Review

Table 5-7: Total Cost Estimate

Category	Implementation Goal		
	Short-Term (1-2 years)	Medium-Term (3 to 5 years)	Long-Term (5 years plus)
Signs, Pavement Markings and Temporary Traffic Calming	\$9,250	-	-
Speed Enforcement	\$0	-	-
Pedestrian Safety Devices	-	\$45,000	-
Permanent Traffic Calming	-	\$20,000	-
Pedestrian Ramps	-	-	\$14,000
Sidewalks	-	-	\$250,000
Total	\$9,250	\$65,000	\$264,000

The total cost estimate for short-term improvements (signs, pavement markings and temporary traffic calming) is \$9,250. The total cost estimate for medium and long-term improvements (permanent traffic calming, pedestrian safety devices, pedestrian ramps and sidewalks) is \$329,000.

The list of recommended improvements resulting from the neighbourhood traffic review including the location and justification is summarized in Table 5-8. The resulting recommended Lawson Heights and Lawson Heights SC Neighbourhood Traffic Plan is illustrated in Exhibit 5-1.

Lawson Heights and Lawson Heights SC Neighbourhood Traffic Review

Table 5-8: Lawson Heights and Lawson Heights SC Recommended Improvements

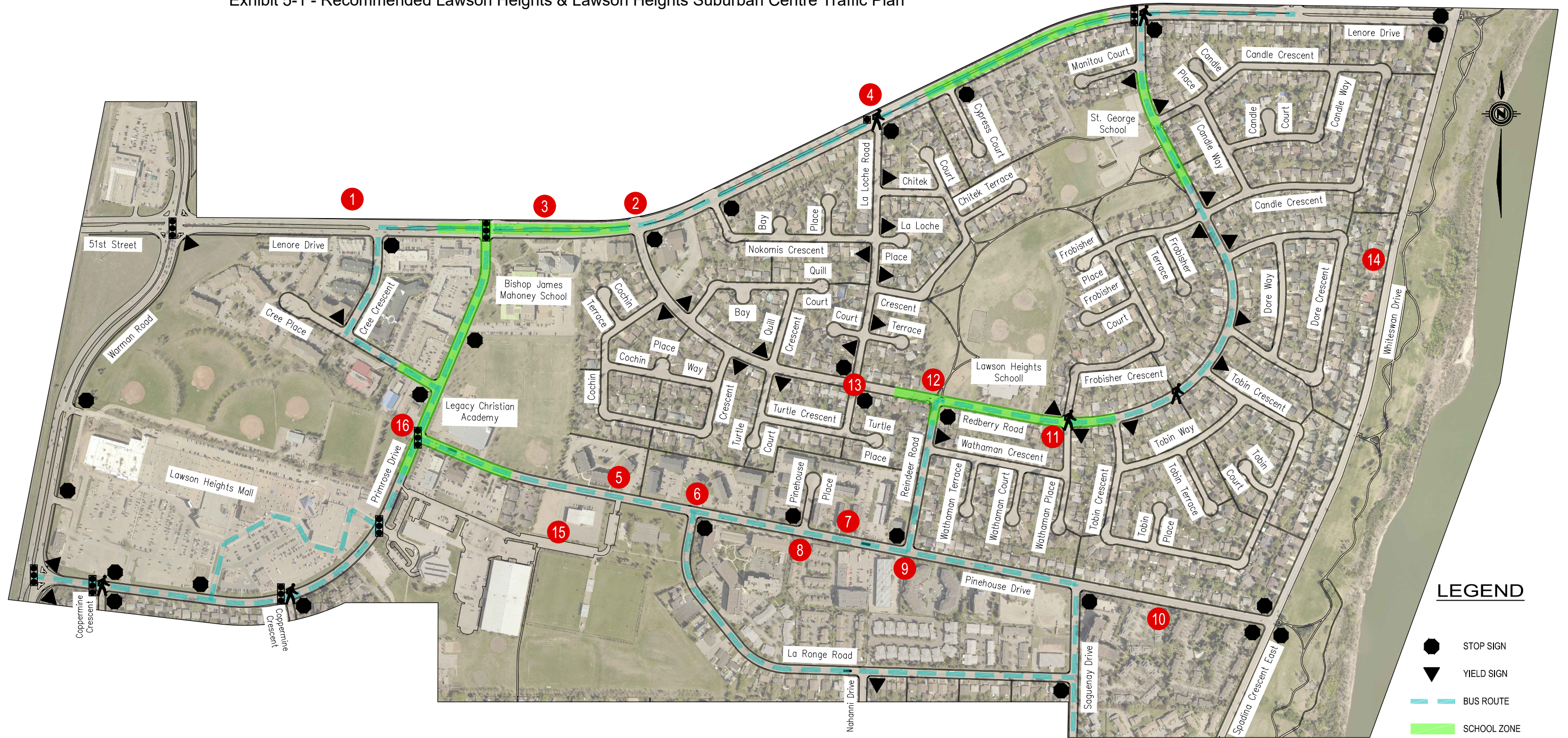
Item	Location	Recommended Improvement	Justification
1	Lenore Drive between Warman Road/ Wanuskewin Road and Primrose Drive	Sidewalk on the north side of Lenore Drive	Sidewalk gap
2	Lenore Drive and Redberry Road/ Roborecki Crescent	Active Pedestrian Corridor (east leg)	Improve pedestrian safety
3	Lenore Drive adjacent to Bishop James Mahoney School	Remove School Zone	Improve traffic operations
4	Lenore Drive and La Loche Road	Remove U-turn restriction for westbound traffic	Improve access to homes on south side of Lenore Drive
		Supplemental flashing beacon	Alert u-turning traffic of device activation
5	Pinehouse Drive Soccer Centre access	Relocate existing sign and install additional sign indicating Soccer Centre access	Improve navigation
6	Pinehouse Drive and La Ronge Road	Median island on west leg	Reduce speed
		Standard crosswalk on the south leg	Improve pedestrian safety
7	Pinehouse Drive	Parking restriction on the north side of Pinehouse Drive between Kenwood Manor driveways	Improve sightlines from driveways
8	Pinehouse Drive and Pinehouse Place	Relocate street name blade	Improve navigation
		Pedestrian ramp on the northeast corner	Improve pedestrian accessibility
9	Pinehouse Drive and Reindeer Road	Three-way stop controlled intersection	Improve traffic operations
		Parking restriction on the south of the intersection	Improve compliance with Traffic Bylaw
		Relocate street name blade	Improve navigation
		Median island on the east and west leg and	Improve stop sign placement
		Pedestrian ramps on the southeast and southwest corners	Improve pedestrian accessibility
10	425 Pinehouse Drive	Parking restriction at driveway	Improve sightlines from driveways
11	Redberry Road and Wathaman Crescent/ Frobisher Crescent	Median island on west leg	Reduce speed

Lawson Heights and Lawson Heights SC Neighbourhood Traffic Review




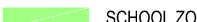





Item	Location	Recommended Improvement	Justification
12	Redberry Road and Reindeer Road	Relocate west leg of crossing area further west and revise pedestrian signage	Improve pedestrian safety
		Pedestrian ramps	Improve pedestrian accessibility
13	Redberry Road and La Loche Road/ Turtle Crescent	Tree trimming on the northwest corner	Improve sightlines
14	Whiteswan Drive between Lenore Drive and Pinehouse Drive	Speed display boards (both directions)	Reduce speed
15	Parking area north of soccer fields and Lawson Heights Civic Centre	Request that the Saskatoon Soccer Centre and City of Saskatoon Parks Division accommodate pedestrian activity through the parking lot area by providing a sidewalk or pathway	Improve pedestrian safety

Other Projects in the Area			
Item	Location	Recommended Improvement	Justification
16	Primrose Drive and Pinehouse Drive	Review traffic signal timing plan	Consider retiming

Exhibit 5-1 - Recommended Lawson Heights & Lawson Heights Suburban Centre Traffic Plan



LEGEND

-  STOP SIGN
-  YIELD SIGN
-  BUS ROUTE
-  SCHOOL ZONE
-  TRAFFIC SIGNAL
-  PEDESTRIAN ACTUATED SIGNAL LOCATION
-  ACTIVE PEDESTRIAN CORRIDOR SIGNAL LOCATION
-  PEDESTRIAN CORRIDOR LOCATION
-  # RECOMMENDATIONS

LAWSON HEIGHTS & LAWSON HEIGHTS SUBURBAN CENTRE: TRAFFIC PLAN

Appendix A

Public Meeting #1 – April 11, 2019

Appendix B

Traffic Data Collection

Appendix C

All-Way Stop Assessments

Appendix D

Pedestrian Device Assessments

Appendix E

Collision Analysis

Appendix F

Public Meeting #2 – October 3, 2019

Appendix G

Decision Matrix

Appendix H

Additional Concerns Received
After Presentation of Draft Plan

Appendix I

Public Feedback