



REVISED PUBLIC AGENDA
STANDING POLICY COMMITTEE
ON TRANSPORTATION

Monday, April 11, 2016, 9:00 a.m.

Council Chamber, City Hall

Committee Members:

Councillor R. Donauer, Chair, Councillor M. Loewen, Vice-Chair, Councillor C. Clark, Councillor T. Davies, Councillor D. Hill, His Worship the Mayor (Ex-Officio)

Pages

1. CALL TO ORDER

2. *CONFIRMATION OF AGENDA*

Recommendation

1. That the letter from Neil Stranden dated April 10, 2016 requesting to speak be added to Item 7.2.1; and
2. That the agenda be confirmed as amended.

3. DECLARATION OF CONFLICT OF INTEREST

4. ADOPTION OF MINUTES

Recommendation

That the minutes of Regular Meeting of the Standing Policy Committee on Transportation held on March 8, 2016 be adopted.

5. UNFINISHED BUSINESS

- 5.1 Inquiry – Councillor Z. Jeffries (September 28, 2015) Intersection of Nelson Road and Lowe Road [Files CK. 6250-1 and TS. 6150-1]** 9 - 13

Recommendation

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

That the intersection of Nelson Road and Lowe Road be added to the priority list of locations for traffic signals.

- 5.2 Inquiry – Councillor Z. Jeffries (September 28, 2015) Nelson Road Corridor – Four-Way Stop [Files CK. 6320-1 and TS. 6280-2]** 14 - 17

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated March 8, 2016, be forwarded to City Council for information.

5.3 Traffic Safety Reserve Program - Budget Adjustment [File No. CK. 1815-1 and TS. 1815-1] 18 - 30

Recommendation

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

1. That the amount of \$165,000 be approved for Capital Project #2446 – Pedestrian Upgrades and Enhanced Pedestrian Safety from the Traffic Safety Reserve.
2. That the amount of \$304,000 be approved for Capital Project # 1137 – Bicycle Facilities from the Traffic Safety Reserve;
3. That the amount of \$60,000 be approved for Capital Project #1512 – Neighbourhood Traffic Reviews from the Traffic Safety Reserve;
4. That the amount of \$30,000 be approved for Capital Project #2548 – Intersection Upgrades for Major Disability Ramp Repairs from the Traffic Safety Reserve;
5. That the amount of \$300,000 be approved for Capital Project #1504 – Traffic Plan Implementation from the Traffic Safety Reserve; and
6. That the amount of \$241,000 be approved for Capital Project #0948 - Sidewalk/Path Retrofit from the Traffic Safety Reserve.

5.4 2015 Traffic Control, Parking Restrictions and Parking Prohibitions Signage [File No. CK. 6280-1] 31 - 36

Recommendation

That the report of the General Manager, Transportation & Utilities Department, dated March 8, 2016, be forwarded to City Council for information.

5.5 MV-1 Fully Accessible Transit Supervisor Van - Purchase Order [Files CK. 1402-1 and TU. 7300-1] 37 - 38

Recommendation

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

1. That the Administration prepare a purchase order with Capitol Motors from Edmonton Alberta for the supply of two MV-1 accessible vans for an estimated cost of \$134,000; and
2. That Purchasing Services issue the appropriate purchase order.

- 5.6 2016 Neighbourhood Traffic Review – Annual Report [File No. CK. 6320-1] 39 - 77

Copies of the Status Report - Neighbourhood Traffic Reviews Implementation Plan were previously provided at the March 8, 2016 meeting and are not being recopied at this time.

Recommendation

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

That the Neighbourhood Traffic Review Implementation Plan be approved.

6. COMMUNICATIONS (requiring the direction of the Committee)

- 6.1 Delegated Authority Matters
- 6.2 Matters Requiring Direction
- 6.3 Requests to Speak (new matters)

7. REPORTS FROM ADMINISTRATION

7.1 Delegated Authority Matters

- 7.1.1 8th Street Transit Corridor Initiative – Public Engagement Results [Files CK. 7310-1 and TR. 7300-1] 78 - 109

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated April 11, 2016 be received as information.

7.2 Matters Requiring Direction

- 7.2.1 Brighton Neighbourhood Proposed Access Change [Files CK. 4110-46 and TS. 6330-1] 110 - 118

A request to speak has been added to this item from Neil Stranden.

Recommendation

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

That the transportation access strategy for the Brighton neighbourhood be revised based on implementation of Alternative 2 as outlined in the report of the General Manager, Transportation & Utilities Department dated April 11, 2016.

7.2.2 2016 Overpass Testing and Inspection Program - Award of Engineering Services [Files CK. 6050-1 and TU. 6050-104-01] 119 - 121

Recommendation

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

1. That the engineering services proposal submitted by CH2M HILL Canada Limited for completion of the 2016 Overpass Testing and Inspection Program, at a total estimated cost, on a lump sum basis, to an upset limit of \$103,829 (including P.S.T. and G.S.T.); and
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

7.2.3 2016 Transit Bus Refurbishment – Request for Proposal Award [Files CK. 1402-1 and TR. 7300-1] 122 - 125

Recommendation

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

1. That the proposal submitted by MTB Transit Solutions for the refurbishment of 10 New Flyer buses, with the option to extend for five additional years, for a total of \$917,694.00 plus taxes be accepted; and
2. That Purchasing Services be authorized to issue the necessary Purchase Order.

- 7.2.4 Polycarbonate Traffic Signal Housings – Award of Contract – Blanket Purchase Order [Files CK. 1000-1 and TS. 1000-3]** 126 - 128

Recommendation

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

1. That the City enter into an agreement with Interprovincial Traffic Services Ltd. to supply Siemens Eagle polycarbonate traffic signal housings over a three year period at an upset limit of \$44,000 (including taxes) in the first year; and
2. That Purchasing Services issue the appropriate purchase order.

- 7.2.5 Inquiry – Councillor Z. Jeffries (January 25, 2016) – Use of Snow Melters [Files CK. 6290-1 and PW. 6290-3]** 129 - 146

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated April 11, 2016 be forwarded to City Council for information.

- 7.2.6 Adelaide-Churchill Neighbourhood Traffic Review [Files CK. 6320-1 and TS. 6320-1]** 147 - 250

Recommendation

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

That the Neighbourhood Traffic Review for the Adelaide-Churchill neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process.

7.2.7 Avalon Neighbourhood Traffic Review [Files CK. 6320-1 and TS. 6320-1] 251 - 347

Recommendation

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

1. That the Neighbourhood Traffic Review for the Avalon neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process;
2. That the speed limit on Clarence Avenue between Glasgow Street and a point 130 metres south of Circle Drive be reduced from 60 kph to 50 kph; and
3. That the City Solicitor be requested to prepare the appropriate bylaw amendment to Bylaw No. 7200, The Traffic Bylaw.

7.2.8 Confederation Park Neighbourhood Traffic Review [Files CK. 6320-1 and TS. 6320-1] 348 - 427

Recommendation

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

That the Neighbourhood Traffic Review for the Confederation Park neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process.

7.2.9 Greystone Heights Neighbourhood Traffic Review [Files CK. 6320-1 and TS. 6320-1] 428 - 500

Recommendation

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

That the Neighbourhood Traffic Review for the Greystone Heights neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process.

- 7.2.10 **Lakeview Neighbourhood Traffic Review [Files CK. 6320-1 and TS. 6320-1]** 501 - 572

Recommendation

That the report of the General Manager, Transportation & Utilities Department, dated April 11, 2016, be forwarded to City Council for information.

- 7.2.11 **Mount Royal Neighbourhood Traffic Review [Files CK. 6320-1 and TS. 6320-1]** 573 - 659

Recommendation

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

That the Neighbourhood Traffic Review for the Mount Royal neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process.

8. URGENT BUSINESS

9. MOTIONS (Notice Previously Given)

10. GIVING NOTICE

11. IN CAMERA AGENDA ITEMS

Recommendation

That the Committee move In Camera to consider Item 11.1.

11.1 Update Report [Files CK. 670-3, x6000-1 and WT. 6170-1]

[In Camera - Danger to Health or Safety]

12. ADJOURNMENT

Inquiry – Councillor Z. Jeffries (September 28, 2015) Intersection of Nelson Road and Lowe Road

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:
That the intersection of Nelson Road and Lowe Road be added to the priority list of locations for traffic signals.

Topic and Purpose

The purpose of this report is to provide information on the assessment completed for the intersection of Nelson Road and Lowe Road to determine the appropriate traffic controls.

Report Highlights

Traffic and pedestrian counts were completed in January 2016 at the intersection of Nelson Road and Lowe Road to determine if traffic signals were warranted. Other factors to determine the appropriate traffic controls include: proximity to other traffic signals and intersections, magnitude of improvement to traffic operations and pedestrian accommodation.

Strategic Goal

This report supports the Strategic Goal of Moving Around by improving safety of all road users (pedestrians, cyclists, and drivers), and helps provide a great place to live, work, and raise a family.

Background

The following inquiry was made by Councillor Z. Jeffries at the meeting of City Council held on September 28, 2015:

“Could Administration please review the intersection of Nelson Road and Lowe Road for consideration of upgrade from a four-way stop to a signalized intersection.”

City Council, at its Regular Business Meeting held December 14, 2015, received an interim report as information advising of the methodology and timeline for a complete response to the inquiry.

Report

To determine the appropriate traffic controls, a traffic signal warrant calculation was completed in accordance with The Traffic Signal and Pedestrian Signal Head Warrant Handbook, Transportation Association of Canada, 2014.

Traffic and pedestrian counts were completed in January 2016 at the intersection of Nelson Road and Lowe Road on a weekday during peak hours (7:00 a.m. to 9:00 a.m., 11:30 a.m. to 1:30 p.m., and 3:00 p.m. to 6:00 p.m.). Based on the inputs required for the Traffic Signal Warrant (traffic and pedestrian counts, distance to nearest signalized intersection, and lane configuration), the resulting point value was 120. Consideration for the implementation of traffic signals is typically a warrant value of 100 points or more. The Traffic Signal Warrant can be viewed in Attachment 1.

Other factors that were considered in determining if a traffic signal is appropriate include:

- Proximity to adjacent traffic signals and intersections:
 - Signalized intersection at Attridge Drive approximately 320 metres south of the intersection;
 - Series of existing roundabouts along Nelson Road west of intersection (two roundabouts within 480 metres);
- Magnitude of improvement in traffic operations:
 - Existing Level of Service (LOS): AM peak hour, LOS C, delay of 18.1 seconds; PM peak hour, LOS C, delay of 23.7 seconds
 - Projected LOS (with traffic signals): AM peak hour, LOS B, delay of 12.1 seconds; PM peak hour, LOS B, delay of 12.8 seconds;
- Pedestrian accommodation: traffic signals will include a walk cycle to ensure pedestrians can safely cross in all directions;
- No constraints such as topography and infrastructure;
- Availability of public right-of-way;
- No impact on neighbourhood short-cutting; and
- No parallel alternate routes created.

Communication Plan

A formal communications plan will be developed, highlighting this as part of the City of Saskatoon's Strategic Goal of Moving Around. General information supporting the addition of the appropriate traffic signals will be highlighted in order to educate residents on the positive impact this will have on the community.

Financial Implications

The estimated cost to install a traffic signal at this location is \$120,000. This location will be added to the traffic signal retrofit program prioritization list and construction will proceed based on available funding.

Other Considerations/Implications

There are no options, public and/or stakeholder involvement, communication, policy, environmental, privacy or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

A report will be submitted in the fall of 2016 to provide an update on the outstanding locations recommended for traffic signals.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. City of Saskatoon Canadian Matrix Traffic Signal Warrant Analysis

Report Approval

Written by: Justine Nyen, Transportation Engineer, Transportation
Reviewed by: Jay Magus, Engineering Manager, Transportation
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS JN – Inq. C Jeffries (Sept 28-15) Intersection Nelson Rd and Lowe Rd

City of Saskatoon Canadian Matrix Traffic Signal Warrant Analysis

Main Street (name) **Lowe Rd**
 Side Street (name) **Nelson Rd**
 Direction (EW or NS) **NS**
 Direction (EW or NS) **EW**
 Quadrant / Int # **JN**
 Comments **JN**
 for Warrant Calculation Results, please hit 'Page Down'

Road Authority: **City of Saskatoon**
 City: **Saskatoon**
 Analysis Date: **10/13/2015**
 Count Date: **2016 Jan 12, Tue**
 Date Entry Format: **(yyyy-mm-dd)**

for Warrant Calculation Results, please hit 'Page Down'

CHECK SHEET

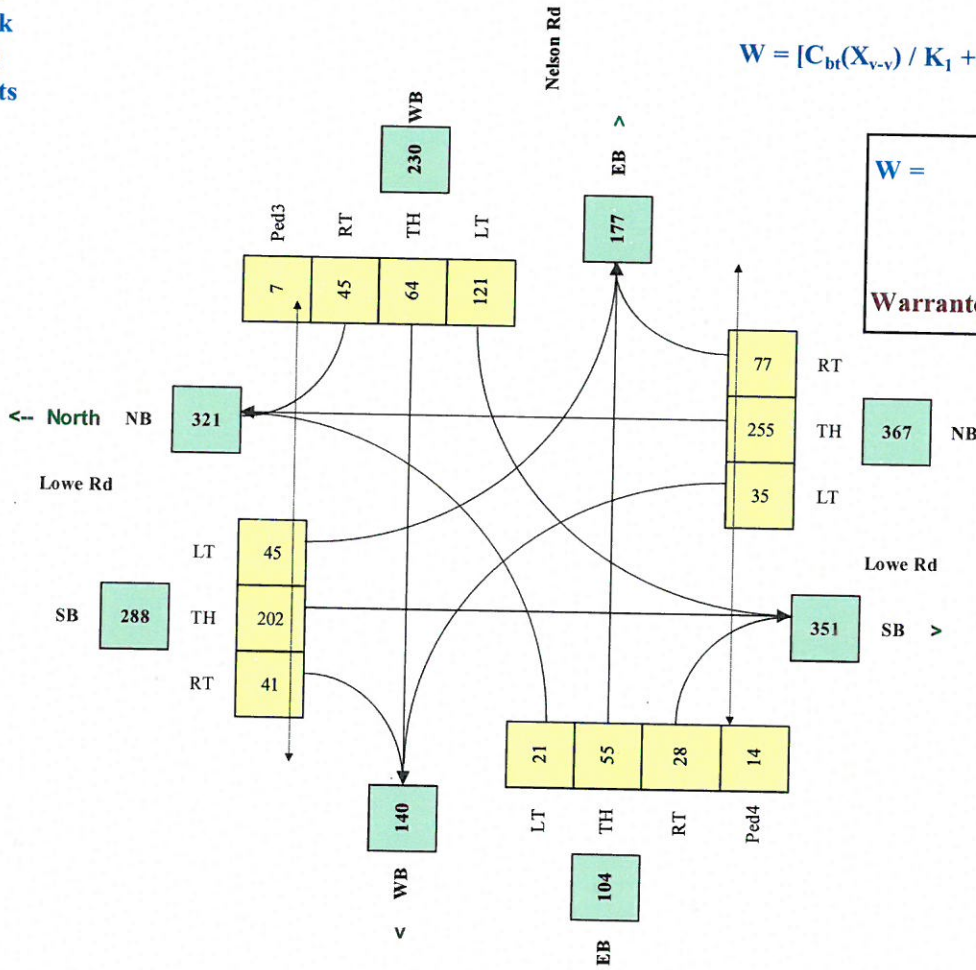
Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Lowe Rd	NB		1				1	1,000	1
Lowe Rd	SB		1				1	320	1
Nelson Rd	WB		1				1		
Nelson Rd	EB		1				1		

Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	250,000
Central Business District	(y/n)	n

Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Lowe Rd	NS	50	1.0%	y	
Nelson Rd	EW	50	1.0%	y	

Traffic Input	Set Peak Hours												Pedestrians			
	NB			SB			WB			EB			Ped1 NS	Ped2 NS	Ped3 EW	Ped4 EW
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S Side
7:00 - 8:00	18	73	20	44	296	23	103	45	18	6	16	11	5	1	9	11
8:00 - 9:00	71	88	49	43	237	129	88	132	16	25	64	28	5	1	6	11
11:30 - 12:30	20	152	100	26	149	15	121	41	23	25	64	28	5	1	6	11
12:30 - 13:30	34	111	75	51	160	31	148	52	53	10	50	21	7		6	9
4:00 - 5:00	30	817	106	47	191	25	152	47	73	33	45	18	6	3	7	25
5:00 - 6:00	35	287	113	59	179	25	115	65	88	29	70	37	3	5	8	14
Total (6-hour peak)	208	1,528	463	270	1,212	248	727	382	271	128	329	166	34	10	44	84
Average (6-hour peak)	35	255	77	45	202	41	121	64	45	21	55	28	6	2	7	14

Average 6-hour Peak Turning Movements



$$W = [C_{bt}(X_{v-v}) / K_1 + (F(X_{v-p})L) / K_2] \times C_i$$

Inquiry – Councillor Z. Jeffries (September 28, 2015) Nelson Road Corridor – Four-Way Stop

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated March 8, 2016, be forwarded to City Council for information.

Topic and Purpose

The purpose of this report is to provide information on the assessment of installing an all-way stop at the intersection of Nelson Road and Heal Avenue, or the intersection of Nelson Road and Heath Avenue.

Report Highlights

1. This report outlines the characteristics of Heath Avenue and Heal Avenue which intersects Nelson Road (a free flowing roadway) under stop controls.
2. The most recent five-year collision data was reviewed at the intersections along Nelson Road and shows one collision at Heath Avenue and seven collisions at Heal Avenue.
3. Analysis of the traffic conditions indicate that neither an all-way stop nor pedestrian crossing devices are warranted at either location. No modifications to the traffic controls are recommended at this time.

Strategic Goal

This report supports the Strategic Goal of Moving Around by improving safety of all road users (pedestrians, cyclists, and drivers), and helps provide a great place to live, work, and raise a family.

Background

The following inquiry was made by Councillor Z. Jeffries at the meeting of City Council held on September 28, 2015:

“Could Administration please review the Nelson Road corridor from Lowe Road to McOrmond Drive for consideration of placement of a four-way stop either at the intersection of Heal Avenue or Heath Avenue.”

City Council, at its Regular Business Meeting held December 14, 2015, received an interim report as information advising of the methodology and timeline for a comprehensive response to the inquiry.

Report

Traffic Characteristics

Nelson Road is aligned east to west between McOrmond Drive and Lowe Road, and is classified as major collector, with traffic on Nelson Road having right-of-way at Heath

Avenue and at Heal Avenue. Both are T-intersections with a driveway access on the north leg and the posted speed limit is 50 km per hour.

Nelson Road roadways characteristics:

- Two traffic lanes and one parking lane in each direction between Lowe Road and Heal Avenue.
- Four traffic lanes and centre median between Heal Avenue and McOrmond Drive.
- Unmarked crosswalk at Heal Avenue.
- Zebra crosswalk at Heath Avenue.
- All-way stop at Lowe Road.
- Traffic signals at McOrmond Drive.
- Right-of-way at Heath Avenue and Heal Avenue (free flow traffic east-west, northbound and southbound traffic controlled by stop signs).
- Residential development towards the west near Lowe Road and commercial development near McOrmond Drive.
- Transit route.

Heath Avenue roadway characteristics:

- One traffic lane and one parking lane in each direction between Nelson Road and Ludlow Street.
- Stop control on Heath Avenue at Nelson Road and Ludlow Street.
- Residential development towards the north end at Nelson Road and commercial development towards the south end at Ludlow Street.

Heal Avenue roadway characteristics:

- One traffic lane and parking lane southbound at Nelson Road and converting to two traffic lanes, and no parking at Ludlow Street.
- Two traffic lanes, and no parking northbound.
- Stop control on Heal Avenue at Nelson Road and traffic signal at Attridge Drive.
- Majority of the development is commercial.
- Transit Route.

Collision Analysis

The most recent five-year collision data (2010 to 2015) for the intersections of Heath Avenue and Heal Avenue with Nelson Road is as follows:

Location	Number of Collisions	Collision Type	Major Contributing Factors
Nelson Road and Heath Avenue	2014 – 1 collision	Side Swipe – Same Direction	Not stated
Nelson Road and Heal Avenue	2010 – 2 collisions 2011 – 1 collision 2012 – 2 collisions 2014 – 0 collisions 2015 – 2 collisions	4 Right Angle 1 Rear End 1 Left-turn Straight 2 Other	3 Fail to Yield 2 Driving too fast for road conditions 3 inattentive driver

Traffic Studies and Analysis

Traffic counts and pedestrian counts were collected in January of 2016 during peak hours (7:00 a.m. to 9:00 a.m.; 11:30 a.m. to 1:30 p.m.; 3:00 p.m. to 6:00 p.m.) at both intersections. The counts were used to complete the warrants for all-way stop controls and pedestrian devices.

City of Saskatoon Council Policy C07-007, Traffic Control – Use of Stop and Yield Signs guides the use of all-way stop controls. The policy outlines that the following conditions must be met to consider an all-way stop:

1. Traffic entering the intersection from the minor street must be at least 35% for a four-way stop and 25% for a three-way stop; and
2. No other all-way stop or traffic signals within 200 metres.

Further conditions that must be met, either individually or in combination, for an all-way stop to be warranted are:

- Five or more collisions are reported in the last twelve month period and are a collision type susceptible to correction by an all-way stop control;
- A peak hour count greater than 600 vehicles, or an average daily traffic (ADT) count is greater than 6,000 vehicles per day;
- Average delay per vehicle on the minor street traffic must be 30 seconds or greater during the peak hour; or
- As in interim measure to control traffic while arrangements are being made for the installation of traffic signals.

The results of the assessment are presented in the table below.

Location	Peak Hour Count	Average Daily Traffic	Number of Collisions Within Most Recent 12 Months	Percentage of Traffic from Minor Street	Traffic Signals or All-way Stop Within 200m?	Results
Nelson Road / Heath Avenue	580	6,240	-	10%	Yes: (180m from Nelson Road / Lowe Road intersection*)	Not warranted
Nelson Road / Heal Avenue	800	8,000	2	30%	No	Not warranted

*Note: The Administration is recommending traffic signals be installed at Nelson Road and Lowe Road.

Based on the results of the collision history review and the traffic studies, the current traffic controls are sufficient for the existing conditions. Therefore, the Administration is recommending no changes at this time, and will re-evaluate the intersection following installation of the traffic signals at Nelson Road and Lowe Road, and the completion of the North Commuter Parkway Project.

Pedestrian Device Assessment

Pedestrian assessments are conducted to determine the need for pedestrian devices which must meet the guidelines provided in the City of Saskatoon Council Policy C07-018 Traffic Control at Pedestrian Crossings, November 15, 2004. Typical devices used are pedestrian corridors, active pedestrian corridors and pedestrian actuated signals.

A warrant system assigns points for a variety of conditions that exist at the crossing location, including:

- The number of traffic lanes to be crossed;
- The presence of physical median;
- The posted speed limit of the street;
- The distance the crossing point is to the nearest protected crosswalk point; and
- The number of pedestrian and vehicles at the location.

A summary of the pedestrian studies are as follows:

Location	Pedestrians Crossing During Peak Hours	Results
Nelson Road / Heath Avenue	7	Does not warrant any pedestrian crossing device
Nelson Road / Heal Avenue	15	Does not warrant any pedestrian crossing device

Site observations confirmed minimal pedestrian activity at both intersections.

Other Considerations/Implications

There are no options, public and/or stakeholder involvement, communication plan, policy, financial, environmental, privacy, or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

There is no due date for follow-up or project completion. The Administration will re-evaluate the traffic conditions at both intersection following the installation of traffic signals at Nelson Road and Lowe Road and the completion of the North Commuter Parkway Project.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by: Shirley Matt, Senior Transportation Engineer, Transportation
Reviewed by: Jay Magus, Engineering Manager, Transportation
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities Department

Traffic Safety Reserve Program - Budget Adjustment

Recommendation

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

1. That the amount of \$165,000 be approved for Capital Project #2446 – Pedestrian Upgrades and Enhanced Pedestrian Safety from the Traffic Safety Reserve.
2. That the amount of \$304,000 be approved for Capital Project # 1137 – Bicycle Facilities from the Traffic Safety Reserve;
3. That the amount of \$60,000 be approved for Capital Project #1512 – Neighbourhood Traffic Reviews from the Traffic Safety Reserve;
4. That the amount of \$30,000 be approved for Capital Project #2548 – Intersection Upgrades for Major Disability Ramp Repairs from the Traffic Safety Reserve;
5. That the amount of \$300,000 be approved for Capital Project #1504 – Traffic Plan Implementation from the Traffic Safety Reserve; and
6. That the amount of \$241,000 be approved for Capital Project #0948 - Sidewalk/Path Retrofit from the Traffic Safety Reserve.

Topic and Purpose

The purpose of this report is obtain approval for a budget adjustment from the Traffic Safety Reserve to fund transportation safety projects.

Report Highlights

1. As of December 31, 2015, the balance in the Traffic Safety Reserve is \$1,309,000.
2. Funding is being requested from the Traffic Safety Reserve to complete various transportation safety improvement initiatives at a total cost of \$1,100,00.

Strategic Goal

This report supports the Strategic Goal of Moving Around by improving transportation safety and optimizing the flow of people and goods in and around the city safely.

Background

In 2005, the City initiated a program to enforce red light violations automatically at the intersection of Avenue C and Circle Drive to improve traffic safety. Since then, Red Light Cameras (RLC) have been installed at three other intersections:

- Preston Avenue and 8th Street East;
- 51st Street and Warman Road; and
- Idylwyld Drive and 33rd Street.

When the program began in 2005, City Council approved the creation of a Traffic Safety Reserve where the City's portion of the revenue generated from the RLC program is allocated.

Traffic Safety Reserve Program Budget Adjustment

In 2013, the Government of Saskatchewan announced the implementation of a two year pilot Automated Speed Enforcement (ASE) project. The goal of the project was to reduce speeds in areas of high collisions, high traffic volumes, high risk, and high speed areas throughout the province.

In late 2014, ASE cameras were installed at the following locations along Circle Drive:

- East of Clarence Avenue
- South of Taylor Street
- Northwest of Attridge Drive
- West of Airport Drive
- West of Circle Drive South bridge

ASE cameras were also installed within the following school zones:

- St. Michael Community School on 33rd Street East
- École Henry Kelsey School on Valens Drive
- Brownell School on Russell Road
- École Canadienne-Française on Clarence Avenue
- Mother Teresa School and Silverspring School on Konihowski Road

In 2014, City Council approved that revenues generated from the ASE program be dedicated to the Traffic Safety Reserve.

Report

Traffic Safety Reserve Status

The Traffic Safety Reserve is funded through the City's portion of revenues from the RLC and ASE programs. The revenues cover the operational expenditures of these programs with the remaining funds earmarked to fund improvements on the transportation network to enhance safety for drivers, cyclists and pedestrians.

As of December 31, 2015, the balance in the reserve is \$1.309 Million.

Proposed Traffic Safety Initiatives

As the city continues to grow, so do the pressures on the existing transportation network. In order to increase the level of safety for all users (drivers, cyclists, and pedestrians), the Administration continues to monitor the transportation network and recommend modifications and initiatives to improve both the efficiency and safety for all road users. As a result of the monitoring and assessment, the following initiatives have been identified as priorities and are consistent with the prioritization strategy for road network improvements adopted by City Council in 2015:

Traffic Safety Reserve Program Budget Adjustment

	Initiative	Amount	Capital Project #
1	Pedestrian Safety Awareness Campaign	\$ 60,000	2446
2	Active Pedestrian Corridors	105,000	2446
3	Blairmore Bikeway Pedestrian and Cyclist Actuated Corridors: Avenue H and Avenue P	220,000	1137
4	Bike and Pedestrian Data Collection equipment	84,000	1137
5	Industrial Area Traffic Reviews	60,000	1512
6	Accessibility Ramps	30,000	2548
7	Neighbourhood Traffic Calming (2017 planned items)	300,000	1504
8	New Sidewalks	241,000	0948
Total		\$1,100,000	

Details of each recommended initiative are provided in Attachment 1.

Public and/or Stakeholder Involvement

The public and/or stakeholder involvement is listed in the table below:

	Item	Status of Involvement
1	Pedestrian Safety Awareness Campaign	None to date
2	Blairmore Bikeway Pedestrian and Cyclist Actuated Corridors at Avenue H and Avenue P concept	Presented at a public open house in April 2012
3	Industrial Area Traffic Reviews	None to date
4	Active Pedestrian Corridors	None to date
5	Accessibility Ramps	Identified by area residents
6	Bike and Pedestrian Data Collection equipment	None required
7	Neighbourhood Traffic Calming	Significant public involvement via Neighbourhood Traffic Reviews
8	New Sidewalks	Significant public involvement via Neighbourhood Traffic Reviews

Communication Plan

Communication plans will be developed for the individual projects as the planning work proceeds.

Financial Implications

The cost to complete the initiatives is \$1,100,000. The Traffic Safety Reserve has adequate funding available. Upon approval of these funds, a balance of approximately \$209,000 will be maintained in the Traffic Safety Reserve to compensate for any difference in projected versus actual revenues.

Other Considerations/Implications

There are no options, policy, environmental, privacy, or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

If approved, the Administration will proceed with incorporating the initiatives into the 2016 work plan.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Project Information

Report Approval

Written by: Jay Magus, Engineering Manager, Transportation
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS JM – Traffic Safety Reserve Program - Budget Adjustment

Project Information

Project 1 - Pedestrian Safety Awareness Campaign

Background

During community engagement, Transportation division has identified the need to educate the public, both drivers and pedestrians, about rules of the road. Thus, the need was established for a broader awareness campaign.

Objective

Geared towards both pedestrians and drivers, the campaign will:

1. Educate both on the rules of the road;
2. Build understanding of how both can share the road; and
3. Encourage both to pay more attention as they move around.

Details

- The campaign will be launched with heavy campaigning during the initial two weeks.
- Transportation division will partner with Saskatoon Police Service, Saskatchewan Government Insurance and local school boards. The campaign will aim to coincide with increased police enforcement on pedestrian concerns.
- Topics may include: use of cell phones while walking, jay walking, motorists turning right and left at intersections, school zones, and winter walking. New topics may be introduced every month and adjusted according to time of year. For example topics may be relevant to the start of school, the beginning snow and ice conditions, or summer activities, among others.
- Tools to be considered may include news media, social media, saskatoon.ca, as well as paid media such as print and digital advertisements, billboards, bus shelters, posters, flyers, or utility bill accompaniment.
- Although this campaign will be for a limited time, it will be themed/branded for repeat messaging and expanded messaging in the future.

Schedule

The four to six month campaign will begin in late spring 2016, possibly timed with National Road Safety Week.

Budget

\$60,000

Project 2 – Active Pedestrian Corridors

Background

On November 30, 2015 Council approved the report entitled **Pedestrian Crossing Control Criteria and Prioritization**. A report highlight included a prioritized list of pedestrian crossing control device projects based on the following criteria:

- Number of traffic lanes to be crossed;
- Presence of a physical median;
- Posted speed limit of the street;
- Distance the crossing point is to the nearest protected crosswalk point; and
- Number of pedestrians and vehicles at the intersection.

The following seven intersections were identified as warranting Active Pedestrian Crossing (APC) controls:

1. Taylor Street / McEown Avenue
2. 20th Street / Avenue G
3. Cowley Road / Forsyth Way
4. Konihowski Road / Pezer Crescent South
5. Lowe Road / Ludlow Street
6. Konihowski Road / Garvie Road
7. Kingsmere Boulevard / Crean Crescent

The Taylor Street / McEown Avenue location has approved funding and will be completed in 2016. It is recommended that the next three locations on the prioritized list also be completed in 2016.

Objective

The objectives of the pedestrian crossing control program is to improve the pedestrian crossing facilities following a systematic review of criteria. The ultimate goal is to provide an improved level of safety for pedestrians, cyclists, and drivers.

Details

20th Street and Avenue G intersection:

- 20th Street accommodates approximately 12,400 vehicles per day (in 2012) immediately west of Avenue G.
- The recommendation is to install an APC along the eastern edge of the intersection across 20th Street.
- The proposed infrastructure will improve the level of safety for pedestrians crossing 20th Street and potentially access the park or school sites by providing an enhanced pedestrian crossing device.

Cowley Road and Forsyth Way intersection:

- Cowley Road accommodates approximately 1,650 vehicles per day (in 2010) immediately west of Kenderdine Road.
- Opposite Forsyth Way is Father Robinson School, which is immediately adjacent to Ernest Lindner Park.

- The recommendation is to install an APC along the northern edge of the intersection across Cowley Road.
- The proposed infrastructure will improve the level of safety for pedestrians crossing Cowley Road, and potentially access the park or school sites by providing an enhanced pedestrian crossing device.

Konihowski Road / Pezer Crescent (South) intersection:

- Opposite Pezer Crescent (South) is Silverspring Park, which is immediately adjacent to Silverspring School.
- The recommendation is to install an APC along the northern edge of the intersection across Konihowski Road.
- The proposed infrastructure will improve the level of safety for pedestrians crossing Konihoskwi Road and potentially access the park or school sites by providing an enhanced pedestrian crossing device.

Schedule

Two months of work prior to tendering, then construction could proceed in 2016.

Budget

\$105,000

Project 3 - Blairmore Bikeway Pedestrian and Cyclist Actuated Corridors: Avenue H and Avenue P

Background

The Blairmore Bikeway begins at Idylwyld Drive along 23rd Street West connecting to a multi-use path at Circle Drive, and continues to Betts Avenue. The City presented the bike boulevard concept at a public open house in April 2012, installed traffic calming infrastructure in June 2012, and mounted way finding signs in 2013. An assessment of the bikeway is to be complete in 2016. This assessment and subsequent report to City Council will identify improvements as well as next steps to convert temporary measures to permanent. Crossing control at Avenue H and Avenue P will be recommended.

Objective

Crossing control contributes to the bike boulevard's goals are to:

1. Improve cyclist priority and right-of-way with limited delay at major roadway crossings;
2. Increase cyclist comfort and safety; and
3. Reduce conflict with other modes.

Details

- Crossing control at Avenue H and Avenue P will significantly decrease delay, increase cyclist comfort, and reduce conflict with motor vehicles. Particularly, crossing in the westbound direction at Avenue P, a cyclist encounters an uphill grade which significantly decreases acceleration rate and increases crossing time.
- Crossing control may include actuated signals or corridors. Best practices of other municipalities will be reviewed.
- The crossing control installation requires curb extensions and other intersection customization for cyclist ease. Design of the controls and intersection will not require cyclists to dismount. Push buttons will be located as close as possible to the curb.

Schedule

Two months of work prior to tendering, then construction could proceed in 2016.

Budget

\$220,000

Project 4 – Bike and Pedestrian Counters

Background

Due to the variability of cycling use, short-term bicycle counts are inappropriate to properly assess the use of bicycle infrastructure and should be considered anecdotal at best. Bicycle counts should be conducted for at least five weeks to account for volume variations due to changing weather along with the inherent variability of traffic volumes over time. Permanent bicycle counters with calibrated inductive loop sensors allow for more accurate and objective measurement of bicycle travel on dedicated cyclist facilities, multi-use paths and bridges.

Objective

Provide suitable equipment that can properly and accurately access bicycle usage. Accurate information is valuable in confirming the location and type of cycling facility.

Details

Permanent Bike Counters: \$15,000 per install

- Inductive loops cut into pavement along with junction box to store counter (no power hook up required)
- Eco-Counter ZELT Loop: \$4,300 per site (less for one-way detection)
- Installation requires pavement cuts, ducting and junction box:

Locations: University Bridge and Broadway Bridge (two per bridge)

Semi-Permanent Bike Counters: \$6,000 per site

- Inductive loops adhered onto pavement surface Eco-Counter Easy ZELT Loops: \$5,000 per site (less for one-way detection)
- Installation: \$500 per site
- Requires annual replacement of sensor at \$200 per year per site

Locations: 23rd Street Protected Bike Lane and 4th Avenue Protected Bike Lane

Schedule

Upon approval from Council the bike counters could be ordered from the vendors and installed in 2016.

Budget

\$84,000

Project 5 – Industrial Area Traffic Reviews

Background

There is currently no systematic approach to addressing transportation issues that arise within the city's industrial areas. Issues are addressed on a case by case basis. In a similar approach to the successful Neighbourhood Traffic Review program, the Administration is recommending that two Industrial Areas (North Industrial and Hudson Bay Industrial) within Saskatoon undergo an 'Industrial Area Traffic Review'. This will provide a systematic approach in developing recommendations that improve traffic conditions and pedestrian safety within industrial areas.

Objective

The objectives of the industrial area traffic reviews are:

1. Identify current transportation issues and confirm with data collection and engineering assessments;
2. Identify the necessary improvements required to improve safety and operations; and
3. Work with stakeholders throughout the process.

Details

The traffic reviews would be completed as follows:

1. Identify existing problems, issues and possible solutions through consultation with the business owners.
2. Complete data collection and traffic assessments.
3. Develop a draft traffic plan based on the consultation received and traffic assessment.
4. Present a draft traffic plan to the stakeholders for review and comment.
5. Circulate the plan to other civic divisions for feedback; make adjustments as needed, and present the plan to City Council for approval.

Once approved, implement the recommendations within a specific time frame.

Schedule

In 2016, the initial consultation with the business owners could begin in May and June, data collection and assessment completed over the months of July to October, draft traffic plans prepared in November and December, and follow up consultation with the business owners in early 2017.

Budget

\$60,000 (note this is to complete the two traffic reviews only and does not include any funding for the implementation stage).

Project 6 – Accessibility Ramps

Background

The City's goal is to provide well maintained, modern pedestrian facilities throughout all communities and to encourage walking as a viable mode of transportation. In order to address issues for people in need of services throughout the city, the design of sidewalks needs to provide accessibility and have unrestricted travel.

In 2010, the Administration developed an implementation plan for the outstanding accessibility ramps throughout the city. All neighbourhoods were reviewed and required locations for ramps were identified. The outstanding locations were then prioritized into categories for future construction.

The definitions of the priorities are provided below:

Priority	Definition
1	Locations mainly identified through specific requests from residents.
2	The criteria from the 2008 Implementation of Accessibility Action Plan includes the identification of senior residences and Access Transit pick up areas.
3	All additional missing accessibility ramps.

Objective

Provide pedestrian facilities that provide accessibility and promote unrestricted travel.

Details

The following ten locations have been identified as priorities for accessibility ramp installation:

1. McKercher Drive / Heritage Crescent / Avondale Road
2. Balmoral Street / Edward Avenue
3. 11th Street / Weldon Avenue
4. 12th Street / Weldon Avenue
5. Isabella Street / St. Henry Avenue
6. Hilliard Street / St. Henry Avenue
7. Trident Crescent / St. Henry Avenue
8. Coldspring Crescent / Coldspring Place
9. Coldspring Crescent / Coldspring Way East
10. Coldspring Crescent East / Stillwater Road

Schedule

Two months of work prior to tendering, then construction could proceed in 2016.

Budget

\$30,000

Project 7 – Neighbourhood Traffic Calming Permanent Installation

Background

The Administration has prepared a report titled **2016 Neighbourhood Traffic Review Annual Implementation Report** that outlines a plan to convert temporary traffic calming measures to a permanent condition. The plan outlines projects to be completed in 2016, 2017, 2018 and 2019. Funding is in place to complete the 2016 work, but no funding is in place for subsequent years. The Administration proposes that the items identified to be completed in 2017 be added to the 2016 program through additional funding from the Traffic Safety Reserve.

Objective

The objectives of the Neighbourhood Traffic Reviews is to improve safety for all road users within neighbourhoods by installing traffic calming measures, pedestrian crossing facilities, signage, etc.

Details

The following work, originally proposed for 2017, would be completed in 2016:

Neighbourhood	Location	Type	Reason	Cost
Brevoort Park	Early Drive & Webb Crescent	1 median island	Near elementary school	\$ 5,000
	Early Drive & Phillips Crescent (west)	1 median island	Near elementary school	5,000
Caswell Hill	Avenue D & 31 st Street	1 curb extension	Near park	90,000
Hudson Bay Park	Avenue I & 37 th Street	1 median island	Near park	5,000
Mayfair	34 th Street & Avenue E	2 curb extensions	Near school	180,000
	37 th Street & Avenue E	1 median island	Near park	5,000
Westmount	McMillan Avenue & curve north of 31 st Street	2 median islands	Near park	\$ 10,000
Total				\$300,000

Schedule

Two months of work prior to tendering, then construction could proceed in 2016.

Budget

\$300,000

Project 8 – New Sidewalks

Background

There is a backlog of sidewalks required throughout the City. This backlog has been prioritized for construction based on the following:

1. *Priority 1* – Locations with no sidewalks on either side of the road; and a sidewalk would connect to schools or parks; and identified through a Neighbourhood Traffic Review.
2. *Priority 2* – Locations with sidewalks on one side of the road.
3. *Priority 3* – All other locations.

Objective

Provide safe walking facilities for pedestrians by providing a safer place to walk that is physically separated from the road.

Details

The following work would be completed:

Neighbourhood	Location	From	To	Cost
Mayfair	37 th Street	Avenue D North	Avenue B North	\$112,000
Varsity View	McKinnon Avenue	10 th Street	11 th Street	9,000
	Cumberland Avenue	Main Street	Back lane	15,000
	Munroe Avenue	Aird Street	Temperance Avenue	52,000
	Munroe Avenue	15 th Street	Colony Street	53,000
Total				\$241,000

Schedule

Two months of work prior to tendering, then construction could proceed in 2016.

Budget

\$241,000

2015 Traffic Control, Parking Restrictions and Parking Prohibitions Signage

Recommendation

That the report of the General Manager, Transportation & Utilities Department, dated March 8, 2016, be forwarded to City Council for information.

Topic and Purpose

This report provides City Council with information regarding sign installation/removal in 2015.

Report Highlights

1. The Administration is required to provide City Council with a report annually, outlining completed signage throughout the year.
2. In 2015, there were 237 sign installation/removal projects consisting of 651 signs to support parking restrictions (loading zones), parking prohibitions (no parking, no stopping), traffic control (stop and/or yield signs) and schools (school zones).

Strategic Goal

This report supports the Strategic Goal of Moving Around by providing safe movement for all modes of transportation.

Background

City Council at its meeting held on January 26, 2009, delegated authority to the General Manager, Infrastructure Services Department, to proceed with the placement of traffic controls (stop and/or yield signs); the installation of all parking restrictions including general loading zones; church loading zones; hotel loading zones; school loading zones and disability parking zones and parking prohibitions, without City Council approval. Prior to being given delegated authority, the Administration required City Council approval for all requests for new or modified signage.

Report

All signage requests received from the public, City Council, property owners, schools and other civic departments require a thorough review to ensure it meets policies approved by City Council or guidelines to control the placement of signage.

The Traffic Control Retrofit Program was initiated in 2013, after successfully completing a pilot project that involved the installation of stop and/or yield signs in the City Park neighbourhood in 2008. The program also works in conjunction with the Neighbourhood Traffic Management Program to address traffic issues in residential neighbourhoods. In 2015, Buena Vista was the only neighbourhood that was retrofitted with stop and/or yield signs at all uncontrolled intersections.

2015 Traffic Control, Parking Restrictions and Parking Prohibitions Signage

The table below summarizes the number of sign installation/removal projects and number of signs installed/removed in 2015. Numerous requests were denied as they did not meet policy guidelines.

Type	Number of Projects	Number of Signs
<i>Parking Restrictions:</i>		
General Loading Zone	13	26
Disabled Person Parking Zone	57	110
Church Loading Zone	2	4
School Bus Loading Zone	10	25
General Parking Restriction	2	9
5 Minute Parking	21	52
30 Minute Parking	1	4
1 Hour Parking	1	2
90 Minute Parking	2	6
2 Hour Parking	13	34
3 Hour Parking	1	2
<i>Parking Prohibitions:</i>		
No Parking	44	140
No Stopping	8	31
Stopping Prohibited Except School Bus	16	52
<i>Traffic Control:</i>		
Single Yield	8	17
Two-Way Yield	8	68
Single Stop	6	11
Two-Way Stop	5	10
All-Way Stop	5	24
<i>Schools:</i>		
School Zone	14	24
Total	237	651

The detailed list as illustrated in Attachment 1 provides the ward, location, type and number of traffic sign installations/removals in 2015.

The number of projects completed increased by 23% compared to 2014. Additional signage was also installed other than those specifically identified in this report, such as informational signage and warning signage.

Other Considerations/Implications

There are no options, public and/or stakeholder involvement, communication plan, policy, financial, environmental, privacy, or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

An annual report will be provided to City Council regarding the completed installation/removal of traffic signage. The next report will be submitted in early 2017.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Detailed List of All 2015 Sign Installations/Removals

Report Approval

Written by: Mariniel Flores, EIT, Transportation Engineer, Transportation
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS MF – 2015 Traffic Control Parking Restrictions Parking Prohibitions Signage.docx

Detailed List of All 2015 Sign Installations/Removals

Ward	Councillor	Location	Type of Signage	Number of Signs	Date Approved
1	Hill	1415 Ontario Ave	2 Hour Parking	1	29-May-15
1	Hill	1236 Ave B North	2 Hour Parking	2	20-Nov-15
1	Hill	600 Queen St	2 Hour Parking	2	20-Nov-15
1	Hill	1108 Central Ave	2 Hour Parking	1	1-Dec-15
1	Hill	Valens Drive	5 Minute Parking	6	11-Aug-15
1	Hill	North Park Wilson School	5 Minute Parking	3	14-Sep-15
1	Hill	141 Jessop Ave	Disabled Person Parking Zone	2	16-Jan-15
1	Hill	201 Dunlop St	Disabled Person Parking Zone	2	8-Apr-15
1	Hill	1236 Ave B North	Disabled Person Parking Zone	2	20-Nov-15
1	Hill	110 110th St W	Disabled Person Parking Zone	2	1-Dec-15
1	Hill	600 Queen St	General Loading Zone	2	20-Nov-15
1	Hill	1108 Central Ave	General Loading Zone	2	1-Dec-15
1	Hill	230 - 103rd St	No Parking	2	18-Dec-14
1	Hill	1415 Ontario Ave	No Parking	2	29-May-15
1	Hill	Valens Drive	No Parking	1	11-Aug-15
1	Hill	109th St & Egbert Ave	No Parking	2	22-Sep-15
1	Hill	425 115th St E	No Parking	1	9-Oct-15
1	Hill	North Park Wilson School	School Bus Loading Zone	2	14-Sep-15
1	Hill	33rd St & Valens Rd	School Zone	1	17-Jul-15
1	Hill	33rd St (St. Michael School)	School Zone	1	14-Sep-15
1	Hill	41st St	Single Yield	1	20-Jul-15
1	Hill	Valens Drive	Stopping Prohibited Except School Bus	2	11-Aug-15
1	Hill	Egbert Ave & 112th St	Two-Way Stop	2	13-Feb-15
1	Hill	Egbert Ave & 112th St	Two-Way Yield	2	13-Feb-15
1	Hill	41st St	Two-Way Yield	2	20-Jul-15
2	Lorje	Ave D	2 Hour Parking	1	1-Apr-15
2	Lorje	127A Ave D North - 15 GLZ	2 Hour Parking	2	4-Nov-15
2	Lorje	117 32nd St W	2 Hour Parking	2	1-Dec-15
2	Lorje	St. Dominic School	5 Minute Parking	1	18-Sep-15
2	Lorje	Ave P & 17th; Ave H and 17th	All-Way Stop	7	19-Jan-15
2	Lorje	808 20th St W	Church Loading Zone	2	5-Oct-15
2	Lorje	217 - 28th St W	Disabled Person Parking Zone	2	16-Jan-15
2	Lorje	316 - 25th St W	Disabled Person Parking Zone	2	18-Feb-15
2	Lorje	402 Ave D South	Disabled Person Parking Zone	2	8-Apr-15
2	Lorje	532 Ave G South	Disabled Person Parking Zone	2	8-Apr-15
2	Lorje	1141 Ave K South	Disabled Person Parking Zone	2	22-Apr-15
2	Lorje	508 Ave G South	Disabled Person Parking Zone	2	30-Jun-15
2	Lorje	1007 Ave J South	Disabled Person Parking Zone	2	30-Jun-15
2	Lorje	27th St	Disabled Person Parking Zone	2	28-Jul-15
2	Lorje	610 29th St West	Disabled Person Parking Zone	2	5-Aug-15
2	Lorje	808 20th St W	Disabled Person Parking Zone	2	5-Oct-15
2	Lorje	709 Ave I South	Disabled Person Parking Zone	2	9-Oct-15
2	Lorje	511 Ave G S	Disabled Person Parking Zone	2	4-Nov-15
2	Lorje	415 Ave H South	Disabled Person Parking Zone	2	20-Nov-15
2	Lorje	117 32nd St W	Disabled Person Parking Zone	2	1-Dec-15
2	Lorje	11th St & Ave H	General Loading Zone	2	14-Oct-15
2	Lorje	127A Ave D North - 15 GLZ	General Loading Zone	2	4-Nov-15
2	Lorje	Rosewood Blvd; 9th and Broadway Ave; St. Dominic School	No Parking	3	18-Dec-14
2	Lorje	Ave D	No Parking	1	1-Apr-15
2	Lorje	Ave O & 21st St	No parking	3	19-Jun-15
2	Lorje	1383 Fletcher Rd (Buckle Ave)	No Parking	13	17-Jul-15
2	Lorje	Ave I (south of 12th St)	No parking	1	27-Aug-15
2	Lorje	1215 Ave U S	No Parking	2	8-Sep-15
2	Lorje	11th St 3100 block cul-de-sac	No Parking	4	14-Sep-15
2	Lorje	3404 - 11th St West (Viterra)	No Parking	4	14-Sep-15
2	Lorje	11th St & Ave H	No Parking	3	14-Oct-15
2	Lorje	Ave A & 19th St	No Stopping	1	23-Mar-15
2	Lorje	St. Dominic School	School Bus Loading Zone	1	18-Sep-15
2	Lorje	Rosewood Blvd; 9th and Broadway Ave; St. Dominic School	School Zone	2	18-Dec-14
2	Lorje	20th St (St. Mary's)	School Zone	2	9-Apr-15
2	Lorje	20th St (St. Mary's)	School Zone	2	22-Jun-15
2	Lorje	20th St - Ave H to Ave G	School Zone	1	18-Sep-15
2	Lorje	Mountbatten St & Haida Ave	Single Yield	1	23-Mar-15
2	Lorje	Riversdale neighbourhood	Single Yield	4	17-Jul-15
2	Lorje	Sutherland	Single Yield	3	22-Jul-15
2	Lorje	Riversdale neighbourhood	Two-Way Yield	8	17-Jul-15
3	Iwanchuk	McCormack Rd (James Alexander School)	5 Minute Parking	1	1-Apr-15
3	Iwanchuk	McCormack Rd	5 Minute Parking	2	5-Aug-15
3	Iwanchuk	Centennial Dr	5 Minute Parking	1	5-Aug-15
3	Iwanchuk	Father Vachon School	5 Minute Parking	2	25-Sep-15
3	Iwanchuk	Kensington	All-Way Stop	4	9-Jun-15
3	Iwanchuk	3622 Diefenbaker Dr	Disabled Person Parking Zone	2	16-Jan-15
3	Iwanchuk	3233 Milton St	Disabled Person Parking Zone	2	8-Jul-15
3	Iwanchuk	Kensington	Single Stop	6	9-Jun-15
3	Iwanchuk	McCormack Rd (James Alexander School)	Stopping Prohibited Except School Bus	1	1-Apr-15
3	Iwanchuk	McCormack Rd	Stopping Prohibited Except School Bus	2	5-Aug-15
3	Iwanchuk	Centennial Dr	Stopping Prohibited Except School Bus	2	5-Aug-15
3	Iwanchuk	Father Vachon School	Stopping Prohibited Except School Bus	2	25-Sep-15
3	Iwanchuk	Kensington	Two-Way Stop	2	9-Jun-15

Ward	Councillor	Location	Type of Signage	Number of Signs	Date Approved
4	Davies	Ave T North	5 Minute Parking	4	11-Feb-15
4	Davies	Saint Goretti School	5 Minute Parking	2	30-Mar-15
4	Davies	Byers Cres	5 Minute Parking	3	5-Aug-15
4	Davies	23rd St & Montreal Ave	5 Minute Parking	3	21-Aug-15
4	Davies	2205 Richardson Rd	Disabled Person Parking Zone	2	29-Dec-14
4	Davies	203 Ave M North	Disabled Person Parking Zone	2	4-Feb-15
4	Davies	315 Ave M South	Disabled Person Parking Zone	2	22-Apr-15
4	Davies	525 Ave H	Disabled Person Parking Zone	2	17-Jun-15
4	Davies	445 Ave Q North	Disabled Person Parking Zone	2	8-Jul-15
4	Davies	Byers Cres	Disabled Person Parking Zone	2	5-Aug-15
4	Davies	23rd St & Montreal Ave	Disabled Person Parking Zone	2	21-Aug-15
4	Davies	3151 33rd St W	Disabled Person Parking Zone	2	9-Oct-15
4	Davies	326 Ave V North	Disabled Person Parking Zone	2	20-Nov-15
4	Davies	218 Vancouver Ave N	Disabled Person Parking Zone	2	20-Nov-15
4	Davies	714 Confederation Dr	Disabled Person Parking Zone	2	1-Dec-15
4	Davies	103 Bowman Cres	Disabled Person Parking Zone	2	30-Nov-15
4	Davies	30th St	General Parking Restriction	8	24-Dec-14
4	Davies	31st St (Vic Remple Yards)	No Parking	4	1-Jun-15
4	Davies	23rd St & Montreal Ave	No Parking	1	21-Aug-15
4	Davies	Byers Cres	School Bus Loading Zone	2	5-Aug-15
4	Davies	23rd St & Montreal Ave	School Bus Loading Zone	5	21-Aug-15
4	Davies	Ave T North	School Zone	2	11-Feb-15
4	Davies	31st St (Vic Remple Yards)	Single Stop	1	1-Jun-15
4	Davies	Ave T North	Stopping Prohibited Except School Bus	4	11-Feb-15
4	Davies	Saint Goretti School	Stopping Prohibited Except School Bus	2	30-Mar-15
4	Davies	Wedge Rd	Stopping Prohibited Except School Bus	2	30-Jul-15
4	Davies	Richardson Rd & 37th St	Two-Way Stop	2	27-Jan-15
4	Davies	Massey Dr & Matheson Dr	Two-Way Stop	2	14-Sep-15
4	Davies	Massey Dr & Matheson Dr	Two-Way Yield	2	14-Sep-15
5	Donauer	Ontario Ave	2 Hour Parking	2	15-Jan-15
5	Donauer	River Heights School	5 Minute Parking	2	14-Sep-15
5	Donauer	615 Haskamp St	General Loading Zone	2	9-Jul-15
5	Donauer	301 Cree Cres	General Loading Zone	2	8-Sep-15
5	Donauer	611 50th St E	General Loading Zone	4	14-Sep-15
5	Donauer	58th St, 59th St and 60th St	No Parking	8	24-Dec-14
5	Donauer	Alberta Ave	No Parking	5	19-Jan-15
5	Donauer	Faithful Ave	No Parking	2	27-Jan-15
5	Donauer	57th St	No Parking	2	1-Apr-15
5	Donauer	Millar Ave - 51st to 60th	No Parking	6	22-May-15
5	Donauer	301 Cree Cres	No Parking	1	8-Sep-15
5	Donauer	River Heights School	School Bus Loading Zone	2	14-Sep-15
5	Donauer	Lenore Drive & Redberry Rd	School Zone	1	14-Sep-15
5	Donauer	St. Angela School	School Zone	2	25-Sep-15
6	Clark	Wiggins Ave & Colony St (Brunskill School)	1 Hour Parking	2	18-Feb-15
6	Clark	16th & 17th St	2 Hour Parking	2	22-May-15
6	Clark	Police Station (Ontario Ave side)	2 Hour Parking	3	18-Jun-15
6	Clark	24th St (Ontario Ave to Idylwyld Dr)	2 Hour Parking	8	16-Jul-15
6	Clark	16th St E between Temperance St and University Dr	2 Hour Parking	3	8-Sep-15
6	Clark	17th St E between Temperance St and University Dr	2 Hour Parking	5	15-Oct-15
6	Clark	100 Spadina Cres E	3 Hour Parking	2	4-Nov-15
6	Clark	130 4th Ave North	30 Minute Parking	4	14-Sep-15
6	Clark	130 4th Ave North	90 Minute Parking	5	14-Sep-15
6	Clark	South side of 23rd St between 1st Ave & 2nd Ave	90 Minute Parking	1	6-Nov-15
6	Clark	1201 Broadway Ave	Disabled Person Parking Zone	2	23-Jan-15
6	Clark	1520 Lorne Ave	Disabled Person Parking Zone	2	4-Feb-15
6	Clark	718 9th St E	Disabled Person Parking Zone	1	8-Apr-15
6	Clark	812 7th St E	Disabled Person Parking Zone	2	30-Jun-15
6	Clark	1121 Louise Ave	Disabled Person Parking Zone	2	9-Jul-15
6	Clark	1101 4th St E	Disabled Person Parking Zone	2	9-Jul-15
6	Clark	606 McPherson Ave	Disabled Person Parking Zone	2	9-Oct-15
6	Clark	714 Lansdowne Ave	Disabled Person Parking Zone	2	9-Oct-15
6	Clark	100 Spadina Cres E	Disabled Person Parking Zone	1	4-Nov-15
6	Clark	1035 4th St East	Disabled Person Parking Zone	2	30-Nov-15
6	Clark	Police Station (Ontario Ave side)	General Loading Zone	1	18-Jun-15
6	Clark	100 Spadina Cres E	General Loading Zone	1	4-Nov-15
6	Clark	South side of 23rd St between 1st Ave & 2nd Ave	General Loading Zone	2	6-Nov-15
6	Clark	South side of 23rd St between 1st Ave & 2nd Ave	General Parking Restriction	1	6-Nov-15
6	Clark	800 - 900 Block Saskatchewan Cres E	No Parking	4	8-May-15
6	Clark	Back lane - 200 block 1st Ave	No Parking	3	11-May-15
6	Clark	Back lane - 200 block 1st Ave	No Parking	3	27-May-15
6	Clark	6th St & Victoria Ave	No Parking	1	18-Jun-15
6	Clark	Police Station (Ontario Ave side)	No Parking	3	18-Jun-15
6	Clark	375 Cornish Rd	No Parking	1	8-Jul-15
6	Clark	24th St (Ontario Ave to Idylwyld Dr)	No Parking	7	16-Jul-15
6	Clark	24th St (Ontario Ave to Idylwyld Dr)	No Parking	3	16-Jul-15
6	Clark	Wiggins Ave & Colony St (Brunskill School)	No Stopping	2	18-Feb-15
6	Clark	Back lane - 200 block 1st Ave	No Stopping	6	27-May-15
6	Clark	23rd St (1st Ave to 2nd Ave) Alleys	No Stopping	6	11-Sep-15
6	Clark	Buena Vista	Single Yield (Retrofit Program)	5	15-Jun-15

Ward	Councillor	Location	Type of Signage	Number of Signs	Date Approved
6	Clark	Coy Ave & 6th St	Two-Way Yield	2	15-Jun-15
6	Clark	Buena Vista	Two-Way Yield (Retrofit Program)	46	15-Jun-15
7	Loewen	McEown Ave; Holy Cross High School	5 Minute Parking	2	16-Mar-15
7	Loewen	Broadway Ave	5 Minute Parking	2	5-Aug-15
7	Loewen	East Drive	5 Minute Parking	2	5-Aug-15
7	Loewen	Ruth St & Cumberland	All-Way Stop	1	18-Sep-15
7	Loewen	1904 Munroe St	Church Loading Zone	2	13-Jan-15
7	Loewen	2926 Preston Ave S	Disabled Person Parking Zone	2	15-Jan-15
7	Loewen	144 Middleton Cres	Disabled Person Parking Zone	2	30-Jan-15
7	Loewen	2776 Eastview	Disabled Person Parking Zone	2	28-Jul-15
7	Loewen	East Drive	Disabled Person Parking Zone	3	5-Aug-15
7	Loewen	2718 Eastview	Disabled Person Parking Zone	2	4-Nov-15
7	Loewen	2315 Lorne Ave	Disabled Person Parking Zone	2	4-Nov-15
7	Loewen	322 Adelaide St	Disabled Person Parking Zone	2	10-Nov-15
7	Loewen	2202 Lorne Ave	General Loading Zone	2	28-Jul-15
7	Loewen	3140 Louise St	General Loading Zone	2	9-Oct-15
7	Loewen	Willis Cres	No Parking	15	27-Jan-15
7	Loewen	McEown Ave; Holy Cross High School	No Parking	2	16-Mar-15
7	Loewen	Ruth St	No Parking	4	18-Jun-15
7	Loewen	2202 Lorne Ave	No Parking	1	28-Jul-15
7	Loewen	105 Lynd Cres	No Parking	2	9-Oct-15
7	Loewen	2315 Lorne Ave	No Parking	1	4-Nov-15
7	Loewen	East Drive	No Stopping	1	5-Aug-15
7	Loewen	Broadway Ave	School Bus Loading Zone	2	5-Aug-15
7	Loewen	Haultain Ave	School Bus Loading Zone	2	22-Oct-15
7	Loewen	Stonebridge Common & Victor Rd	Single Stop	1	9-Jul-15
7	Loewen	Dickson Cres & Hunter Rd	Single Stop	1	24-Jul-15
7	Loewen	Brand Crt & Brand Rd	Single Stop	1	28-Jul-15
7	Loewen	Brand Crt & Brand Rd	Single Yield	1	28-Jul-15
7	Loewen	East Drive	Stopping Prohibited Except School Bus	2	5-Aug-15
7	Loewen	West and east intersections of Rempel Cove & Rempel Cres	Two-Way Yield	4	1-Apr-15
8	Olauson	College Park School	5 Minute Parking	3	1-Apr-15
8	Olauson	Harrington St	5 Minute Parking	1	30-Jul-15
8	Olauson	Harrington St	5 Minute Parking	2	8-Sep-15
8	Olauson	Harrington St (College Park)	5 Minute Parking	5	18-Sep-15
8	Olauson	Salisbury Dr & Early Dr	All-Way Stop	8	16-Oct-15
8	Olauson	3219 14th St E	Disabled Person Parking Zone	2	4-Feb-15
8	Olauson	College Park School	Disabled Person Parking Zone	1	1-Apr-15
8	Olauson	Harrington St	Disabled Person Parking Zone	2	30-Jul-15
8	Olauson	Harrington St	Disabled Person Parking Zone	1	8-Sep-15
8	Olauson	Harrington St (College Park)	Disabled Person Parking Zone	1	18-Sep-15
8	Olauson	57 & 59 Baldwin Cres	Disabled Person Parking Zone	2	4-Nov-15
8	Olauson	1529 Preston Ave S	General Loading Zone	2	16-Jan-15
8	Olauson	McKercher Dr & Degeer St	No Parking	2	6-Jan-15
8	Olauson	College Park School	No Parking	2	1-Apr-15
8	Olauson	Arlington Ave & Baldwin Cres	No Parking	2	23-Sep-15
8	Olauson	McKercher Dr & Degeer St	No Stopping	2	6-Jan-15
8	Olauson	College Park School	Stopping Prohibited Except School Bus	7	1-Apr-15
8	Olauson	Harrington St	Stopping Prohibited Except School Bus	1	30-Jul-15
8	Olauson	Harrington St	Stopping Prohibited Except School Bus	3	8-Sep-15
8	Olauson	Harrington St (College Park)	Stopping Prohibited Except School Bus	5	18-Sep-15
8	Olauson	8th St & Zimmerman Rd	Two-Way Stop	2	15-May-15
8	Olauson	8th St & Zimmerman Rd	Two-Way Yield	2	15-May-15
9	Paulsen	275 Emmeline Rd (St. Luke School)	No Parking	1	17-Feb-15
9	Paulsen	Wildwood School	No Parking	1	14-Sep-15
9	Paulsen	Wildwood School	School Bus Loading Zone	2	14-Sep-15
9	Paulsen	Lakeridge School	School Bus Loading Zone	2	14-Sep-15
9	Paulsen	Slimmon Rd	Single Stop	1	21-Oct-15
9	Paulsen	Wollaston Cres & Wollaston Court	Single Yield	1	13-Feb-15
9	Paulsen	Slimmon Rd	Single Yield	1	21-Oct-15
10	Jeffries	Willowgrove & Holy Family Schools	5 Minute Parking	3	12-Jan-15
10	Jeffries	Stensrud Rd (Willowgrove)	5 Minute Parking	2	9-Oct-15
10	Jeffries	Stensrud & Shepherd & Addison Rd	All-Way Stop	4	13-Jan-15
10	Jeffries	146 Keedwell St	Disabled Person Parking Zone	2	17-Jun-15
10	Jeffries	410 Boykovich St	Disabled Person Parking Zone	2	9-Oct-15
10	Jeffries	Shepherd Cres	No Parking	5	29-Dec-14
10	Jeffries	Willowgrove & Holy Family Schools	No Parking	2	12-Jan-15
10	Jeffries	2420 Kenderdine Rd	No Parking	4	8-Sep-15
10	Jeffries	Willowgrove & Holy Family Schools	No Stopping	11	12-Jan-15
10	Jeffries	Stensrud Rd (Willowgrove)	No Stopping	2	9-Oct-15
10	Jeffries	Konihowski Rd	School Bus Loading Zone	5	11-Aug-15
10	Jeffries	Willowgrove & Holy Family Schools	School Zone	4	12-Jan-15
10	Jeffries	Centennial Collegiate	School Zone	2	27-Jan-15
10	Jeffries	Stensrud Rd	School Zone	1	6-May-15
10	Jeffries	Kenderdine Rd	School Zone	2	30-Jul-15
10	Jeffries	Stensrud Rd (Willowgrove)	School Zone	1	9-Oct-15
10	Jeffries	Willowgrove & Holy Family Schools	Stopping Prohibited Except School Bus	8	12-Jan-15
10	Jeffries	Willowgrove & Holy Family Schools	Stopping Prohibited Except School Bus	8	6-May-15
10	Jeffries	Stensrud Rd (Willowgrove)	Stopping Prohibited Except School Bus	1	9-Oct-15

MV-1 Fully Accessible Transit Supervisor Van - Purchase Order

Recommendation

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

1. That the Administration prepare a purchase order with Capitol Motors from Edmonton Alberta for the supply of two MV-1 accessible vans for an estimated cost of \$134,000; and
2. That Purchasing Services issue the appropriate purchase order.

Topic and Purpose

The purpose of this report is to request that City Council approve a purchase order to Capitol Motors for the supply of two MV-1 fully accessible Transit Supervisor vans.

Report Highlights

1. A purchase order is recommended to purchase two MV-1 fully accessible Transit Supervisor vans.
2. Capitol Motors of Edmonton is the closest dealer that can provide the purpose built vehicles like this on the market.
3. Benefits of the purpose built vehicles versus conversions include a better, more comfortable, ride and no invasive frame and suspension modification.
4. The initial cost of the MV-1 is higher than the cost of a new van plus the cost of the conversion; however, long-term operating costs and overall life cycle costs are reduced.

Strategic Goal

This report supports the Strategic Goal of Moving Around by allowing Saskatoon Transit a higher ability to assist people with mobility issues.

Report

Purchase Order is Recommended

Saskatoon Transit is seeking the purchase of two MV-1 accessible vans which will allow Transit Supervisors to better perform their duties while expanding service to clients with reduced mobility. These vans will allow mobility challenged people to be transported in cases where they were unable to board a conventional transit bus. These vans may also be used to transport other customers without the mobility challenges that for whatever reason, could not board a bus.

After searching for, and speaking with several municipalities and accessible coach carriers, it was discovered that the only purpose built accessible van on the market is the MV-1. Being a purpose built vehicle means that the original frame, body structure and suspension, all designed by the OEM, has not been modified, removed, or altered in any way to achieve the accessibility desired.

MV-1 Fully Accessible Transit Supervisor Van - Purchase Order

Purpose Built vs. Conversions

Although the cost of a conversion van would be lower by \$5,000 to \$9,000 than the purchase of an MV-1, conversion vans are not the desired vehicle in this industrial application. The structure and suspension of conversion vans are extensively altered to allow the ramp system to be added. Although conversions are appropriate for personal use, the MV-1 is the preferred vehicle for implementation as a continuous-use transit vehicle.

Compared to conversion vans, the MV-1 is being sought because these vans are the only accessible vans built intentionally for this purpose. Also, the increased capital cost will be offset by the reduced maintenance costs and increased in service time expected from these vans.

Options to the Recommendation

The supply of these accessible vans could be tendered. However, with one supplier the final outcome would be the same. Alternatively, the City could allow a conversion van to be supplied in a tender.

Financial Implications

Funds for the purchase of MV-1 accessible vans are available under Capital Project # 0671, TR – Auxiliary/Vehicle Equipment Project from prior year's budget (GL #14-1575-274).

Other Considerations/Implications

There are no public and/or stakeholder involvement, communication, policy, environmental, Privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

A follow-up report is not required.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by: Paul Bracken, Maintenance Manager
Reviewed by: James McDonald, Director of Saskatoon Transit
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities

TRANS PB - MV-1 Fully Accessible Transit Supervisor Van - Purchase Order

2016 Neighbourhood Traffic Review – Annual Report

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:
That the Neighbourhood Traffic Review Implementation Plan be approved.

Topic and Purpose

This report provides City Council with information on the implementation of recommendations from the completed Neighbourhood Traffic Reviews and plans for permanent construction.

Report Highlights

1. The implementation of 196 adopted recommendations are in progress (145 recommendations have been implemented with 51 on the list to be completed) and include: traffic calming, signage, crosswalk improvements, sidewalk and accessibility ramp installations, additional studies, etc.
2. Criteria is provided for prioritizing the permanent construction of temporary traffic calming measures and sidewalk construction.
3. A summary is provided for temporarily installed traffic calming measures being considered for permanent construction, and 17 locations are recommended to be permanently installed in 2016 based on the criteria established.
4. A summary is provided for required sidewalks recommended to be considered for construction within 2016 with available funding.

Strategic Goal

This report supports the Strategic Goal of Moving Around by providing a plan to guide the installation of traffic calming devices and pedestrian safety enhancements to improve the safety of pedestrians, motorists, and cyclists.

Background

City Council, at its meeting held on August 14, 2013, approved a new process within the Neighbourhood Traffic Management Program. This process includes a strategy to review concerns on a neighbourhood-wide basis by engaging the community and stakeholders in first identifying specific traffic issues, and secondly jointly developing recommendations that address the issues. Eleven Neighbourhood Traffic Reviews were completed beginning in late 2013 and through 2014, with the following recommendations adopted by City Council:

Neighbourhood	Adoption Date
Mayfair – Kelsey Woodlawn	August 19, 2014
Brevoort Park	February 23, 2015
Holliston	February 23, 2015
Westmount	February 23, 2015
Hudson Bay Park	February 23, 2015
Caswell Hill	March 23, 2015
City Park	April 27, 2015
Haultain	April 27, 2015
Nutana	May 25, 2015
Varsity View	May 25, 2015

In 2015, installation of the adopted recommendations began, and many of the temporary traffic calming measures have proven effective and permanent installation is recommended.

Report

Summary of Recommendations

There are 196 adopted recommendations from the Neighbourhood Traffic Reviews. Each improvement was, or will be, implemented according to the specified time frames as follows:

Short-term (1 to 2 years)	Temporary traffic calming measures, signage, pavement markings, accessible pedestrian ramps
Medium-term (3 to 5 years)	Permanent traffic calming devices, roadway realignment, sidewalks (in some cases), major intersection reviews
Long-term (5 years plus)	Permanent traffic calming devices, roadway realignment, sidewalks

The following table summarizes the implementation status of the various adopted recommendations:

Neighbourhood	Recommendations				
	Total	Implemented	Outstanding	Installed and Removed	Revised
Brevoort Park	17	15	2	1	1
Caswell Hill	21	13	8	-	1
City Park	11	9	2	-	1
Haultain	17	11	6	-	-
Holliston	15	15	-	-	-
Hudson Bay Park	9	8	1	1	-
Mayfair	37	30	7	3	-
Kelsey Woodlawn	11	5	6	-	-
Nutana	26	15	11	1	-
Varsity View	18	11	7	-	-
Westmount	14	13	1	2	-
Totals	196	145	51	8	3

Criteria for Prioritizing Permanent Construction

Traffic calming measures are installed temporarily for a period of at least one year to evaluate effectiveness. Devices such as curb extensions and median islands are evaluated based on community feedback, discussions with stakeholders and site observations. More complex measures such as directional closures require additional data collection and assessment. Once proven effective, traffic calming devices will be installed permanently and prioritized based on the following criteria:

1. Traffic calming devices temporarily installed prior to August 14, 2013.
2. Locations adjacent to schools or parks.
3. Locations addressing speed and shortcutting issues.
4. All other locations.

The prioritization of sidewalk construction is based on the following criteria:

- Priority 1 - Locations with no sidewalks on either side of the road; no connecting sidewalk to schools or parks, and/or identified through a Neighbourhood Traffic Review.
- Priority 2 - Locations with sidewalks on one side of the road.
- Priority 3 - All other locations.

2016 Recommended Permanent Installations

In consideration of the criteria, the temporarily installed traffic calming measures recommended to be made permanent in 2016 are outlined in the table below:

Neighbourhood	Locations		Cost
	Description	Number	
Brevoort Park	Salisbury Drive at curve west of Conn Avenue	1	\$ 10,000
Caswell Hill	Avenue E / 30 th Street	1	10,000
City Park	7 th Avenue / Duke Street	1	90,000
Haultain	Lansdowne Avenue / 4 th Street Lansdowne Avenue / 6 th Street Dufferin Avenue / 1 st Avenue Dufferin Avenue / 3 rd Avenue Dufferin Avenue / 5 th Avenue Dufferin Avenue / 7 th Avenue	6	60,000
Holliston	Grosvenor Avenue / 5 th Street Grosvenor Avenue / 3 rd Street Louise Avenue / Hilliard Street Louise Avenue / 7 th Street	4	25,000
Hudson Bay Park	Valens Drive (Henry Kelsey School)	1	90,000
Mayfair	35 th Street & Avenue E 37 th Street & Avenue B 38 th Street and Avenue D	3	55,000
Total		17	\$340,000

Capital Project #1504 - Traffic Plan Implementation includes \$340,000 of approved funding to complete the above identified work in 2016.

2016 Recommended Sidewalk Construction

Capital Project #0948 - Sidewalk/Path Retrofit includes an additional \$150,000 of approved funding to construct new sidewalks in 2016. The Administration originally intended to construct sidewalks at the following two locations: Alberta Avenue from 33rd Street to 36th Street (east side), and Quebec Avenue from 33rd Street to 34th Street. Upon preliminary design of these locations, constraints such as removal of trees, utilities, and fire hydrants have been identified, resulting in substantially higher construction costs. The Administration has re-evaluated and is recommending the following sidewalks be constructed in 2016, taking into consideration the prioritization criteria and the level of available funding:

Neighbourhood	Location	Reason for Installation	Cost
Kelsey-Woodlawn	Alberta Avenue – 33 rd Street to 34 th Street	Initially was to be installed on east side. Revised to west side to avoid trees, poles, and hydrants. Connects to Kelsey/SIASST.	\$ 75,000
Mayfair	Avenue D - between 38 th Street & alley near park	Near AH Browne Park	20,000
Caswell Hill	Avenue F between parking lot south of pool & 31 st Street	Near Ashworth Holmes Park	20,000
Caswell Hill	Avenue E & 30 th Street (asphalt pathway connection)	Near Ashworth Holmes Park	15,000
Varsity View	11 th Street - Clarence Avenue & multi-use trail	Albert Community Centre	20,000
Total			\$150,000

Attachment 1 provides an update on the status of all the Neighbourhood Traffic Review recommendations and a plan for permanent construction.

The Administration will be submitting a further report on the comprehensive list of outstanding sidewalk requests later in 2016. This report will provide further details on the prioritization and funding strategies to address the backlog of requests.

Options to the Recommendation

The Administration prepared a report regarding a budget adjustment for the Traffic Safety Reserve. This report outlines numerous additional projects funded by the Traffic Safety Reserve that possibly can be completed in 2016. Two of these additional projects are included in the Neighbourhood Traffic Reviews as follows:

1. Completing the 2017 permanent traffic calming measures identified in this report in 2016.
2. Construct additional new sidewalks as follows:
 - Mayfair, 37th Street from Avenue D to Avenue B
 - Varsity View, McKinnon Avenue from 10th Street to 11th Street
 - Varsity View, Cumberland Avenue from Main Street to back lane
 - Varsity View, Munroe Avenue from Aird Street to Temperance Street
 - Varsity View, Munroe Avenue from 15th Street and Colony Street

Accordingly, if the Traffic Safety Reserve budget adjustment is adopted by City Council, the Administration will proceed with also constructing the 2017 permanent traffic calming measures in 2016 at an additional cost of \$300,000; and constructing new sidewalks at an additional cost of \$241,000.

Public and/or Stakeholder Involvement

Through the preparation of each individual Neighbourhood Traffic Review, feedback was provided by the neighbourhood and internal civic stakeholders of various divisions and departments on the proposed improvements: Public Works, Saskatoon Transit, Saskatoon Police Service, Environmental Services, Saskatoon Light and Power, and the Saskatoon Fire Department.

Communication Plan

The final implementation plans will be shared with the residents of the impacted neighbourhood using the City website and the appropriate Community Association.

Financial Implications

Funding of \$340,000 is in place for 2016 from Capital Project #1504 - Traffic Plan Implementation to permanently construct the identified temporary traffic calming measures, and \$150,000 from Capital Project #0948 – Sidewalk/Path Retrofit to construct sidewalks.

Funding for 2017 and future years will be reviewed through the 2017 budget preparation process.

Environmental Implications

The overall impact of the recommendations on traffic characteristics, including the impacts on greenhouse gas emissions, has not been quantified at this time.

Other Considerations/Implications

There are no policies, privacy, or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

If adopted by City Council, the identified temporary traffic calming devices will be made permanent during the 2016 construction season.

A further report will outline the criteria for prioritizing sidewalk construction by mid- 2016.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Status Report – Neighbourhood Traffic Reviews Implementation Phase, February 11, 2016

Report Approval

Written by: Shirley Matt, Senior Transportation Engineer, Transportation
Jay Magus, Engineering Manager, Transportation
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS SM – 2016 Neighbourhood Traffic Review – Annual Report.docx

Status Report – Neighbourhood Traffic Reviews Implementation Plan



February 11, 2016

Authorization

Prepared By:

Shirley Matt, P. Eng.,
Senior Transportation Engineer

Checked By:

Jay Magus, P. Eng.,
Engineering Manager, Transportation

Cover Photograph: FayLynn Reed

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1 INTRODUCTION

City Council at its meeting held on August 14, 2013 approved a new process within the Neighbourhood Traffic Management Program. This process includes a strategy to review concerns on a neighbourhood-wide basis by engaging the community and stakeholders in firstly identifying specific traffic issues, and secondly jointly developing recommendations that address the issues. Beginning in late 2013 and through 2014 eleven Neighbourhood Traffic Reviews were completed. These include: Mayfair - Kelsey Woodlawn (combined), Brevoort Park, Holliston, Westmount, Hudson Bay Park, Caswell Hill, City Park, Haultain, Nutuna and Varsity View.

Recommendations for each of these neighbourhoods were adopted by City Council as follows:

Neighbourhood	Adoption Date	Neighbourhood	Adoption Date
Mayfair – Kelsey Woodlawn	August 19, 2014	Caswell Hill	March 23, 2015
Brevoort Park	February 23, 2015	City Park	April 27, 2015
Holliston	February 23, 2015	Haultain	April 27, 2015
Westmount	February 23, 2015	Nutuna	May 25, 2015
Hudson Bay Park	February 23, 2015	Varsity View	May 25, 2015

The type of adopted recommendations included in the tables are as follows:

Signage – stop and yield, pedestrians, parking and other;

Traffic calming, including curbing and signage

Pavement markings

Accessibility ramp and sidewalks

Pedestrians devices such as Activated Pedestrian Corridors

Others - Speed board requests, parking enforcement locations , major intersection reviews

This report provides an update on the status of the Neighbourhood Traffic Reviews implementation phase for each of the eleven neighbourhoods completed in 2013 and 2014. In general:

All signage has been completed.

All of the traffic calming has been installed temporarily.

All of the pavement markings (crosswalks and stop lines) will be completed in spring of 2016.

Accessibility ramps and pedestrian devices are typically not complete yet, and accordingly a defined installation schedule is provided.

Sidewalks have been added to the sidewalk installation program.

Specifics for each neighbourhoods adopted recommendations including where, the type of improvement, and the implementation status (installed temporarily, complete, etc.) is provided in Chapter 2.

2 014 NEIGHBOURHOOD TRAFFIC REVIEWS DETAILS

Details of each of the neighbourhoods that completed a Neighbourhood Traffic Review in 2014 is provided in the following tables:

Table 2-1: Brevoort Park Implementation Status

Table 2-2: Caswell Hill Implementation Status

Table 2-3: City Park Implementation Status

Table 2-4: Haultain Implementation Status

Table 2-5: Holliston Implementation Status

Table 2-6: Hudson Bay Park Implementation Status

Table 2-7: Mayfair Implementation Status

Table 2-8: Kelsey-Woodlawn Implementation Status

Table 2-9: Nutana Implementation Status

Table 2-10: Varsity View Implementation Status

Table 2-11: Westmount Implementation Status

Table 2-1: Brevoort Park Implementation Status

#	Location	Proposed Measure	Time Frame	Installation date	Status
1	Arlington Avenue (south of Baldwin Crescent)	"No parking" signs on southeast corner of Arlington Ave (approximately 7m)	1-2 years	2015	Complete
2	Arlington Avenue & Early Drive	Standard pedestrian crosswalk	1-2 years	2015	Complete
3	Early Drive & Salisbury Drive	Remove temporary traffic calming; alter direction of stop signs	1-2 years	2015	Complete - changed to four-way stop
4	Early Drive & curve west of Salisbury Drive	"Curve ahead" signs & chevrons	1-2 years		Removed
5	Salisbury Drive at curve west of Conn Avenue	Permanent median islands	1-2 years	Installed Temporarily in 2015	Permanent in 2016
6	Salisbury Drive & lane leading to park	Standard pedestrian crosswalk	1-2 years	2015	Complete
7	3rd Street & Argyle Avenue	Two-way stop	1-2 years	2015	Complete
8	3rd Street & Tucker Crescent	Two-way stop	1-2 years	2015	Complete
9	Back lanes – west of Argyle Avenue	20kph speed signs	1-2 years	2015	Complete
10	Back lanes - north of Taylor Street	20kph speed signs	1-2 years	2015	Complete
11	Back lane - west of Arlington Avenue	One-way signs	1-2 years	2015	Complete
12	Brevoort Park School & St. Matthew School	Drop-off / Pick-up zone	1-2 years		Will need to contact School in 2016
13	In front of Brevoort Park School & St. Matthew School	Parking enforcement (i.e. parking over crosswalks, blocking driveways)	1-2 years	2014	Sent to Parking Enforcement in Feb of 2014
14	Early Drive & Webb Crescent	Raised median island	3-5 years	Installed Temporarily in 2015	Permanent in 2017
15	Early Drive & Phillips Crescent (west)	Raised median island	3-5 years	Installed Temporarily in 2015	Permanent in 2017
16	Arlington Avenue & Early Drive	Curb Extension	3-5 years	Installed Temporarily in 2015	Permanent in 2019
17	Taylor Street & Arlington Avenue	Major intersection review	5 years plus		Reviewed under intersection improvement program

Table 2-2: Caswell Hill Implementation Status

#	Location	Proposed Measure	Time Frame	Installation Date	Status
1	Avenue B & 27th Street	Stop signs	1 - 2 years	2015	Complete
2	32nd Street & Avenue D	Alternate direction of stop signs	1 - 2 years	2015	Complete
3	Avenue C & 30th Street	Change yield signs to stop signs	1 - 2 years	2015	Complete
4	Jamieson Street & Avenue C	Change yield sign to stop sign	1 - 2 years	2015	Complete
5	Avenue F & 30th Street	Change yield sign to stop sign; install closer to intersection	1 - 2 years	2015	Complete
6	Avenue H & 31st Street	Zebra crosswalks	1 - 2 years	2015	Complete
7	Avenue F - north of 30th Street (at curve)	30kph advisory speed sign & curve ahead sign	1 - 2 years	2015	Complete
8	Avenue D & 30th Street	"No parking" signs	1 - 2 years	2015	Complete
9	29th Street & Avenue C	Zebra crosswalk	1 - 2 years	2015	Complete
10	29th Street & Avenue B	Pedestrian corridor & zebra crosswalk	1 - 2 years	2015	Complete
11	Avenue E & 30th Street	Raised Median islands	3 - 5 years	Installed Temporarily in 2015	Permanent in 2016
12	Avenue E & 30th Street	Accessibility Ramps (2 ramps)	3 - 5 years		On ramp accessibility list for 2017
13	Avenue E & 30th Street	Pathway connection into park	3 - 5 years		On sidewalk retrofit list as Priority 1
14	Avenue E & 30th Street	Add reflectors to park posts	3 - 5 years		Incomplete - work will be issued in 2016
15	Avenue D & 23rd Street	Directional Closure, signage, & pavement markings to restrict northbound through movement (Subject to CP approval)	3 - 5 years		To be installed when bus barns are moved - Permanent in 2019

Table 2-2 Continued

#	Location	Proposed Measure	Time Frame	Installation Date	Status
16	Avenue F & 31st Street	Curb extensions & raised median island	3 - 5 years	Installed Temporarily in 2015	Road was too narrow for median and curbs; changed to curbs on south side (Permanent in 2017)
17	Avenue D & 31st Street	Curb extension	3 - 5 years	Installed Temporarily in 2015	Permanent in 2017
18	30th Street between Idylwyld Drive & Avenue C (South side)	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
19	Avenue F between parking lot south of pool & 31st Street (west side)	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
20	Avenue D (portions on east side, north & south of 23rd Street to connect to existing)	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
21	Avenue E between 28th Street & 29th Street (east side)	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1

Table 2-3: City Park Implementation Status

#	Location	Proposed Measure	Time Frame	Installation Date	Status
1	7 th Avenue & 33 rd Street	Install advanced four-way stop signs; install zebra pavement markings in all crosswalks	1 - 2 years	2015	Complete
2	Spadina Crescent between Queen Street & Duke Street	Install speed display board in summer	1 - 2 years	2015	Complete
3	1 st Avenue & 26 th Street	Remove parking on west side; enhance pedestrian signs; install zebra pavement markings	1 - 2 years		Changed to parallel parking on west side & 15min loading zone. To be complete in 2016
4	26 th Street between 2 nd Avenue & 5 th Avenue	Install "no parking" signs near back lanes	1 - 2 years	2015	Complete
5	Bottom of University bridge	Move advanced pedestrian sign; add tab "watch for pedestrians"	1 - 2 years	2015	Complete
6	7 th Avenue & Princess Street	Install "no parking" signs on northwest corner	1 - 2 years	2015	Complete
7	1 st Avenue & Queen Street	Install zebra crosswalk	1 - 2 years	2015	Complete
8	7 th Avenue & Duchess Street	Install curb extensions	3-5 years	Installed Temporarily in 2015	Permanent in 2016
9	7 th Avenue & Duchess Street	"no parking" signs	1 - 2 years	2015	Complete
10	7 th Avenue & Duke Street	Install curb extension	3-5 years	Installed Temporarily in 2015	Permanent in 2018
11	1 st Avenue & 26 th Street	Install pedestrian accessibility ramps (2 ramps)	3-5 years		On ramp accessibility list for 2017

Table 2-4: Haultain Implementation Status

#	Location	Proposed Measure	Time Frame	Installation Date	Status
1	Broadway Avenue & 1st Street	Install "no parking" signs on southeast corner of Broadway Avenue 15m from intersection and on northeast corner of 1st Street 10m from intersection.	1 - 2 years	2015	Complete
2	Taylor Street & Dufferin Avenue	Install "no parking" signs on northeast corner of Taylor St 10m from intersection	1 - 2 years	2015	Complete
3	Clarence Avenue between 2nd Street & alley to north	Install "no parking" signs between bus stop & alley (approximately the length of 2 parking spaces)	1 - 2 years	2015	Complete
4	Back lane beside Shell gas station (between 8th Street & 7th Street near Broadway Avenue)	20kph speed sign	1 - 2 years	2015	Complete
5	Broadway Avenue & 6th Street	Install standard pedestrian crosswalk	3-5 years	2015	Complete
6	Lansdowne Avenue & 4 th Street	Install raised median island with additional yield sign	3-5 years	Installed Temporarily in 2015	Permanent in 2016
7	Lansdowne Avenue & 6th Street	Install raised median island with additional yield sign	3-5 years	Installed Temporarily in 2015	Permanent in 2016
8	Dufferin Avenue & 1st Street	Install raised median island with additional yield sign	5 years plus	Installed Temporarily in 2015	Permanent in 2016

Table 2-4 Continued

#	Location	Proposed Measure	Time Frame	Installation Date	Status
9	Dufferin Avenue & 3rd Street	Install raised median island with additional yield sign	5 years plus	Installed Temporarily in 2015	Permanent in 2016
10	Dufferin Avenue & 5th Street	Install raised median island with additional yield sign	5 years plus	Installed Temporarily in 2015	Permanent in 2016
11	Dufferin Avenue & 7th Street	Install raised median island with additional yield sign	5 years plus	Installed Temporarily in 2015	Permanent in 2016
12	Albert Avenue between Taylor Street & 4th Street (west side)	Install sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
13	Lansdowne Avenue between 2nd Street & 8th Street (east side)	Install sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
14	Dufferin Avenue between Taylor Street & 1st Street (east side)	Install sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
15	Dufferin Avenue between 2nd Street & 8th Street (east side)	Install sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
16	Taylor Street & Clarence Avenue	Major intersection review	TBD		Will be reviewed under the intersection improvement program in 2016
17	8 th Street between Broadway Avenue & Clarence Avenue	Include review in Active Transportation Plan with options to add pedestrian/cyclist crossing.	TBD		Active Transportation Plan - March of 2016

Table 2-5: Holliston Implementation Status

#	Location	Proposed Measure	Time Frame	Installation Date	Status
1	Louise Avenue (20m south of 8th Street)	"No parking" sign on west side	1 - 2 years	2015	Complete
2	Grosvenor Avenue (beside The Keg & Jerry's access)	"No parking" signs 5m on either side	1 - 2 years	2015	Complete
3	Louise Avenue & 5th Street	"No parking" signs on Louise Avenue (10m on southwest corner, 15m on northwest corner)	1 - 2 years	2015	Complete
4	Back Lane (between 7th / 3rd Streets & Preston / Grosvenor Avenues)	20kph speed signs	1 - 2 years	2015	Complete
5	Back Lane (behind Sobeys & beside 1615 - 7th Street E)	"Local Traffic Only" sign, 20kph speed sign & stop sign	1 - 2 years	2015	Complete
6	Isabella Street near Canon Smith Park	Playground sign	1 - 2 years	2015	Complete
7	5th Street between Louise Avenue & Grosvenor Avenue	Playground signs	1 - 2 years	2015	Complete
8	3rd Street & Sommerfeld Avenue	Standard crosswalk (west leg)	1 - 2 years	2015	Complete
9	Taylor Street & Grosvenor Avenue	Zebra crosswalks; "no parking" sign 15m on Taylor Street (southwest corner)	1 - 2 years	2015	Complete
10	All uncontrolled intersections	Yield signs	1 - 2 years	2015	Complete
11	Louise Avenue & Hilliard Street	Raised median island (south leg)	3-5 years	Installed Temporarily in 2015	Permanent in 2016
12	Grosvenor Avenue & 3rd Street	Raised median island & zebra crosswalks	3-5 years	Installed Temporarily in 2015	Permanent in 2016
13	Grosvenor Avenue & 5th Street	Zebra crosswalk, curb extension & Raised median island (south leg)	3-5 years	Installed Temporarily in 2015	Permanent in 2016
14	Louise Avenue & 7th Street	Zebra crosswalk (north leg); Raised median islands (north & south leg)	3-5 years	Installed Temporarily in 2015	Permanent in 2016
15	Louise Avenue & 7th Street	"no parking" sign (northeast corner of Louise Avenue to fire hydrant - approximately 20m)	1 - 2 years	2015	Complete

Table 2-6: Hudson Bay Park Implementation Status

#	Location	Proposed Measure	Time Frame	Installation Date	Status
1	Avenue P & Bowerman Street	Install stop sign	1 - 2 years	2015	Complete
2	Avenue P & Edmonton Avenue	Install stop sign	1 - 2 years	2015	Complete
3	Avenue H & 31st Street	Install zebra crosswalks (north and south legs)	1 - 2 years	2015	Complete
4	Faulkner Crescent & McMillan Avenue	Upgrade yield sign to stop sign (northbound)	1 - 2 years	2015	Complete
5	32nd Street at Avenue I, Avenue J, Avenue K, & Avenue L	Install yield signs	1 - 2 years	2015	Complete
6	Avenue I & 37th Street	Install median island & standard crosswalk (north leg)	3-5 years	Installed Temporarily in 2015	Permanent in 2017
7	Avenue I & 36th Street	Install median island (north leg)	3-5 years	Installed Temporarily in 2015	Removed - street too narrow
8	Valens Drive (in front of Henry Kelsey School)	Install permanent curb extension	5 years plus	Installed Temporarily in 2013	Permanent in 2016
9	Avenue I between Howell Avenue & 36th Street	Install sidewalk (on west side/park side)	5 years plus		On sidewalk retrofit list as Priority 1

Table 2-7: Mayfair Implementation Status

#	Location	Proposed Measure	Time Frame	Installation Date	Status
1	34th Street & Avenue E	Install Zebra crosswalk	1-2 years	2015	Complete
2	34th Street & Avenue F	Install Zebra crosswalk	1-2 years	2015	Complete
3	35th Street & Avenue E	Install Zebra crosswalk	1-2 years	2015	Complete
4	36th Street & Avenue E	Install Zebra crosswalk	1-2 years	2015	Complete
5	37th Street & Avenue D	Install Zebra crosswalk	1-2 years	2015	Complete
6	37th Street & Avenue E	Install Zebra crosswalk	1-2 years	2015	Complete
7	37th Street & Avenue F	Install Zebra crosswalk	1-2 years	2015	Complete
8	34th Street & Avenue I	Install Zebra crosswalk	1-2 years	2015	Complete
9	34th Street & Avenue C	Change yield signs to stops signs	1-2 years	2015	Complete
10	35th Street & Avenue D	Change yield signs to stops signs	1-2 years	2015	Complete
11	37th Street & Avenue C	Change yield signs to stops signs	1-2 years	2015	Complete
12	37th Street & Avenue F	Change yield signs to stops signs	1-2 years	2015	Complete
13	37th Street & Avenue B	No Parking signs 10m from intersection	1-2 years	2014	Complete
14	Back lane between 38th Street/39th Street & Avenue B/Avenue C	20kph speed signs	1-2 years	2015	Complete
15	Back lane between 37th Street/38th Street & Avenue C and Avenue D	20kph speed signs	1-2 years	2015	Complete
16	39th Street & Idylwyld Drive	Accessibility Ramps	1-2 years		On Ramp Accessibility list for 2017
17	34th Street & Avenue E	Curb extensions (northwest and southwest corners)	1-5 years	Installed Temporarily in 2015	Permanent in 2017
18	34th Street & Avenue I	Median Islands	1-5 years	Installed Temporarily in 2015	Removed - street too narrow, transit issues
19	35th Street & Avenue E	Curb extension (southwest corner)	1-5 years	Installed Temporarily in 2015	Permanent in 2016

Table 2-7 Continued

#	Location	Proposed Measure	Time Frame	Installation Date	Status
20	35th Street & Avenue I	Curb extensions (northwest and northeast corners)	1-5 years	Installed Temporarily in 2015	Removed - street too narrow, transit issues
21	36th Street & Avenue C	Directional Closure	1-5 years	Installed Temporarily in 2015	Traffic study in 2016 to determine effectiveness - Permanent in 2018
22	36th Street & Avenue E	Curb extensions (northwest and southwest corners)	1-5 years	Installed Temporarily in 2015	Permanent in 2018
23	36th Street & Avenue G	Median island (east leg)	1-5 years	Installed Temporarily in 2015	Remove - street too narrow
24	37th Street & Avenue B	Median islands (north and south legs)	1-5 years	Installed Temporarily in 2014	Permanent in 2016
25	37th Street & Avenue D	Curb extension (northwest corner)	1-5 years	Installed Temporarily in 2013	Permanent in 2019
26	37th Street & Avenue E	Median island (west leg)	1-5 years	Installed Temporarily in 2015	Permanent in 2017
27	38th Street & Avenue C	Directional Closure	1-5 years	Installed Temporarily in 2014	Traffic study in 2016 to determine effectiveness - Permanent in 2018
28	38th Street & Avenue D	Median Island (east, west and south legs)	1-5 years	Installed Temporarily in 2014	Permanent in 2016
29	38th Street & Avenue G	Median island (east leg)	1-5 years	Installed Temporarily in 2015	Permanent in 2019
30	39th Street & Avenue E	Median islands (east and west legs)	1-5 years	Installed Temporarily in 2015	Permanent in 2019
31	Avenue C - south of railway tracks	Curb extension and median island	1-5 years	Installed Temporarily in 2015	Traffic study in 2016 to determine effectiveness - Permanent in 2018

Table 2-7 Continued

#	Location	Proposed Measure	Time Frame	Installation Date	Status
32	36th Street & Idylwyld Drive	Operations improvements	1-5 years		TBA
33	39th Street & Idylwyld Drive	add left turn phase	1-5 years		TBA
34	37th Street & Avenue B and Avenue D (both sides)	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
35	37th Street between Avenue F and Avenue I (north side)	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
36	38th Street between Idylwyld Drive & Avenue G (both sides)	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
37	Avenue D between 38th Street & Alley near park (west side)	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1

Table 2-8: Kelsey-Woodlawn Implementation Status

#	Location	Proposed Measure	Time Frame	Installation Date	Status
1	1st Avenue between 34th Street & 38th Street	Yield signs	1-2 years	2015	Complete
2	2nd Avenue between 34th Street & 39th Street	Yield signs	1-2 years	2015	Complete
3	39th Street & Saskatchewan Avenue	change yield signs to stop signs	1-2 years	2015	Complete
4	39th Street & Alberta Avenue	change yield signs to stop signs	1-2 years	2015	Complete
5	39th Street & Quebec Avenue	Zebra crosswalk	1-2 years	2013	Complete
6	Alberta Avenue between 33rd Street & 34th Street (both sides)	Sidewalk	5 years plus		Installed in 2016 West side only- too many constraints trees, poles, and hydrants to move
7	Alberta Avenue between 34th Street & 35th Street (west side)	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
8	39th Street between Idylwyld Drive & 1st Avenue (both sides)	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
9	Quebec Avenue between 33rd Street and 40th Street (both sides)	Sidewalk	5 years plus		Not recommended because of too many constraints such as trees and poles, hydrants
10	Ontario Avenue between 33rd Street & 39th Street (both sides)	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
11	38th Street between Quebec Avenue & 2nd Avenue (both sides)	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1

Table 2-9: Nutana Implementation Status

#	Location	Proposed Measure	Time Frame	Installation Date	Status
1	Dufferin Avenue & 9th Street	Stop signs	1-2 years	2015	Complete
2	Dufferin Avenue & 10th Street	Stop signs	1-2 years		Not complete and will be installed in 2016
3	Eastlake Avenue & 10th Street	Stop signs	1-2 years		Not complete and will be installed in 2016
4	Eastlake Avenue & Main Street	Four-way stop	1-2 years		Not complete and will be installed in 2016
5	Broadway Avenue between 9th St and 12th St	Combine school zones	1-2 years		Not complete and will be installed in 2016
6	Clarence Avenue & 14th Street	Zebra crosswalk & enhance pedestrian signs	1-2 years	2015	Complete
7	Saskatchewan Crescent East & McPherson Avenue	Enhance pedestrian signs & parking restrictions	1-2 years	2015	Complete
8	Saskatchewan Crescent West & 8th Street West	Zebra crosswalks	1-2 years		Not complete and will be installed in 2016
9	Eastlake Avenue & 11th Street	Zebra crosswalks	1-2 years		Not complete and will be installed in 2016
10	Saskatchewan Crescent West between Idylwyld Crescent & 8 th Street West	Curb extension & midblock crossing	1-5 years	Installed Temporarily in 2015	Permanent in 2018
11	12th Street & Lansdowne Avenue	Median island & parking restrictions	1-5 years	Installed Temporarily in 2015	Permanent in 2019
12	8th Street West & Poplar Crescent	Median island, curb extension & zebra crosswalk	1-5 years	Installed Temporarily in 2015	Permanent in 2018
13	14th Street between Temperance Street & Lansdowne	Roadway closure (temporary post and dead end signs)	1-5 years	Installed Temporarily in 2016	Permanent in 2017
14	14th Street & Temperance Street	standard pedestrian crosswalks; yield signs, & parking restrictions	1-5 years	2015	Complete

Table 2-9 Continued

#	Location	Proposed Measure	Time Frame	Installation Date	Status
15	Temperance Street / Lansdowne Avenue	Curb extensions, median island, & yield sign	1-5 years	Installed Temporarily in 2015	Permanent in 2018
16	Lansdowne Avenue / 14th Street	standard crosswalks & parking restrictions	1-5 years	2015	Complete
17	9th Street & Idylwyld Drive / Lorne Avenue	Directional closure	1-5 years	Installed Temporarily in 2015	Removed
18	9th Street & McPherson Avenue	Remove temporary roundabout	1-5 years	Installed Temporarily in 2011	Complete
19	Dufferin Avenue & 11th Street	Stop signs	1-5 years		Not complete and will be installed in 2016
20	Dufferin Avenue & 11th Street	permanent curb extension (northwest corner)	1-5 years	Installed Temporarily in 2013	Permanent in 2017
21	Clarence Avenue & 11th Street	Active pedestrian corridor	1-5 years	2015	Complete
22	Broadway Avenue & 9th Street	Pedestrian-activated signal	1-5 years		Will be installed in 2016
23	Broadway Avenue	Chirping' sound to indicate crossings at intersections where traffic signals are present	1-5 years		Will be complete in 2016
24	Various locations	Parking enforcement	ongoing		On-going with Parking Enforcement
25	Saskatchewan Crescent between Cherry Street and 8th Street	Install speed display board in summer	1-2 years		Will review in 2016
26	18th Street & University Drive	Installed median island	Concerns were addressed after the initial plan was approved	Installed Temporarily in 2015	Permanent in 2019

Table 2-10: Varsity View Implementation Status

#	Location	Proposed Measure	Time Frame	Installation Date	Status
1	Clarence Avenue & 14th Street	Zebra crosswalk; advanced pedestrian sign; enhance pedestrian crossing signs	1-2 years	2015	Complete
2	University Drive & McKinnon Avenue	Pavement markings to indicate stop lines for four-way stop	1-2 years	2015	Complete
3	Colony Street & Bottomley Avenue	Zebra crosswalk	1-2 years	2015	Complete
4	14th Street & McKinnon Avenue	Stop signs	1-2 years	2015	Complete
5	Wiggins Avenue & 14th Street	Move northbound "no parking" sign to stop sign is not obstructed	1-2 years	2015	Complete
6	McKinnon Avenue & Colony Street	"No parking" sign	1-2 years	2015	Complete
7	Back lane north of park (Cumberland Avenue & Bottomley Avenue)	20kph & playground signs	1-2 years	2015	Complete
8	Hugo Avenue & 15th Street	"No parking" signs	1-2 years	2015	Complete
9	Temperance Street & McKinnon Avenue	Stop signs or four-way stop	1-2 years	2015	Complete
10	Back lane near 1100 block of Elliott Street (and Munroe Avenue)	20kph speed sign	1-2 years	2015	Complete
11	Clarence Avenue & 11th Street	Active pedestrian corridor	1-5 years	2015	Complete
12	Munroe Avenue between 15th Street & Colony Street	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
13	Munroe Avenue between Aird Street & Temperance Street	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
14	McKinnon Avenue between 15th Street & Colony Street	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
15	11th Street between Clarence Avenue & multi-use trail behind Albert Community Centre	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1

Table 2-10 Continued

#	Location	Proposed Measure	Time Frame	Installation Date	Status
16	McKinnon Avenue between 10th Street to 11th Street	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
17	Munroe Avenue between 11th Street to 12th Street	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1
18	Cumberland Avenue between Main Street and back lane (south)	Sidewalk	5 years plus		On sidewalk retrofit list as Priority 1

Table 2-11: Westmount Implementation Status

#	Location	Proposed Measure	Time Frame	Installation Date	Status
1	All uncontrolled intersections	34 yield signs	1-2 years	2015	Complete
2	Bedford Road & Avenue K; Bedford Road & Avenue I	4 stop signs (east-west facing)	1-2 years	2015	Complete
3	Rusholme Road between Avenue M & Avenue K	Extend school zone	1-2 years	2015	Complete
4	Avenue H & 31st Street	2 zebra crosswalks on Avenue H	1-2 years	2015	Complete
5	29th Street & McMillan Avenue	2 zebra crosswalks on 29 th Street	1-2 years	2015	Complete
6	29th Street & Avenue L	2 zebra crosswalks on 29 th Street	1-2 years	2015	Complete
7	29th Street & Avenue I	1 zebra crosswalk on 29th Street	1-2 years	2015	Complete
8	29th Street & Avenue I	move mailboxes on southeast corner	1-2 years	2015	Canada post was contacted in April 2015
9	McMillan Avenue & Trotter Crescent	1 raised median island on McMillan Avenue	3-5 years	Installed Temporarily in 2015	Removed - Residents not in favour
10	McMillan Avenue & curve north of 31st Street	2 raised median islands on McMillan Avenue	3-5 years	Installed Temporarily in 2015	Permanent in 2017
11	29th Street & McMillan Avenue	2 curb extensions on 29th Street	3-5 years	Installed Temporarily in 2015	Removed - Residents not in favour
12	29th Street & Avenue L	2 curb extensions on 29th Street	3-5 years	Installed Temporarily in 2015	Permanent in 2018
13	Avenue M between 22nd Street & 23rd Street	Sidewalk (west side)	5 years plus		On sidewalk retrofit list as Priority 1
14	McMillan Avenue (curve north of 31st Street)	Install median islands on north & south side of crosswalk/curve	3-5 years	Installed Temporarily in 2015	Permanent in 2017

3 2017 TO 2019 RECOMMENDED PERMANENT INSTALLATIONS

This section of the status report provides details on the outstanding list of temporary traffic calming measures installed and awaiting permanent installation. The traffic calming devices will be installed permanently based on the following criteria:

1. Traffic calming devices temporarily installed prior to August 14, 2013
2. Locations adjacent to schools or parks.
3. Locations addressing speed and short-cutting issues.
4. All other locations.

Details of the implementation plan to make the temporary traffic calming measures permanent in post 2016 is provided in the following tables 3-1 to 3-9.

In addition to the traffic calming devices, sidewalks and ramps need to be constructed. Sidewalks are included as part of the Sidewalk Retrofit Program and ramps are include on the Accessibility Ramp List.

The Sidewalk Retrofit Program consists of all the missing sidewalks in the city. The list has been prioritized based on the following criteria:

1. Locations primarily include outstanding resident requests including neighbourhood reviews, and locations were not sidewalk exists on either side of the roadway.
2. Locations around high pedestrian areas such as parks, schools and public facilities.
3. Locations were areas that have sidewalk alone one side of the roadway and do not lead to a park, school, seniors complex or public facility/

The Accessibility Ramp program is an inventory of missing ramps within the city. The list is prioritized based on the following criteria:

1. Resident requests
2. Locations identified by criteria taken from the implementation of the Accessibility Action plan
3. Other

Details of the sidewalk and ramps is provided in table 3-10 to 3-17.

Table 3-1: Brevoort Park 2016 – 2019 Implementation Plan

Location	Types of Traffic Calming			Catch Basin Required	Reason for installation	Budget by Year			
	Curb Extensions	Median Islands	Other			2016	2017	2018	2019
Salisbury Drive at curve west of Conn Ave		2			In place since 2011	\$10,000			
Early Drive & Webb Cres		1			Near Brevoort Park Elementary School		\$5,000		
Early Drive & Phillips Cres (west)		1			Near Brevoort Park Elementary School		\$5,000		
Arlington Avenue & Early Drive	1			1	Other			\$0	\$90,000

Table 3-2: Caswell Hill 2016 – 2019 Implementation Plan

Location	Types of Traffic Calming			Catch Basin Required	Reason for installation	Budget by Year			
	Curb Extensions	Median Islands	Other			2016	2017	2018	2019
Avenue E & 30th Street		2			Near Ashworth Holmes Park and within budget	\$10,000			
Avenue D & 31st Street	1			1	Near Ashworth Holmes Park		\$90,000		
Avenue D & 23rd Street	1			1	2017 - Will installed temporary when bus barns move; traffic studies completed to determine effectiveness				\$90,000
Avenue F & 31st Street (south)	2				Near Ashworth Holmes Park			\$90,000	

Table 3-3: City Park 2016 – 2019 Implementation Plan

Location	Types of Traffic Calming			Catch Basin Required	Reason for installation	Budget by Year			
	Curb Extensions	Median Islands	Other			2016	2017	2018	2019
7 th Avenue & Duke Street	1		Pedestrian Corridor	1	Other	\$90,000			
7 th Avenue & Duchess Street	2			1	Other			\$135,000	

Table 3-4: Haultain 2016 – 2019 Implementation Plan

Location	Types of Traffic Calming			Catch Basin Required	Reason for installation	Budget by Year			
	Curb Extensions	Median Islands	Other			2016	2017	2018	2019
Lansdowne Avenue & 4 th Street		2			Speeding concern	\$10,000			
Lansdowne Avenue & 6 th Street		2			Speeding concern	\$10,000			
Dufferin Avenue & 1 st Street		2			Speeding concern	\$10,000			
Dufferin Avenue & 3 rd Street		2			Speeding concern	\$10,000			
Dufferin Avenue & 5 th Street		2			Speeding concern	\$10,000			
Dufferin Avenue & 7 th Street		2			Speeding concern	\$10,000			

Table 3-5: Holliston 2016 – 2019 Implementation Plan

Location	Types of Traffic Calming			Catch Basin Required	Reason for installation	Budget by Year			
	Curb Extensions	Median Islands	Other			2016	2017	2018	2019
Grosvenor Avenue & 5th Street		1			Near Holliston Park	\$5,000			
Louise Avenue & Hilliard Street		1		that	Near Holliston Park	\$5,000			
Grosvenor Avenue & 3rd Street		1			Other	\$5,000			
Louise Avenue & 7th Street		2			Other	\$10,000			

Table 3-6: Hudson Bay Park 2016 – 2019 Implementation Plan

Location	Types of Traffic Calming			Catch Basin Required	Reason for installation	Budget by Year			
	Curb Extensions	Median Islands	Other			2016	2017	2018	2019
Valens Drive (in front of Henry Kelsey School)	2				In place since 2013 and in front of school	\$90,000			
Avenue I & 37th Street		1			Near Henry Kelsey Park		\$5,000		

Table 3-7: Mayfair 2016 – 2019 Implementation Plan

Location	Types of Traffic Calming			Catch Basin Required	Reason for installation	Budget by Year			
	Curb Extensions	Median Islands	Other			2016	2017	2018	2019
34th Street & Avenue E	2			2	Near Mayfair Community School		\$180,000		
35th Street & Avenue E	1				Near Mayfair Community School	\$45,000			
36th Street & Avenue C			Directional closure		2016 – requires traffic counts to verify effectiveness			\$45,000	
36th Street & Avenue E	2				Between A.E. Browne Park and Mayfair Community School				\$90,000
37th Street & Avenue B		2			Near A.E. Browne Park	\$5,000			
37th Street & Avenue D	2			1	Other				\$90,000
37th Street & Avenue E		1			A.E. Browne Park		\$5,000		
38th Street & Avenue C	1		Directional closure		2016 – requires traffic counts to verify effectiveness			\$45,000	
38th Street & Avenue D		1			Near A.E. Browne Park	\$5,000			
38th Street & Avenue G		1			Other				\$5,000
39th Street & Avenue E		2			Other				\$10,000
Avenue C – south of Railway tracks	1	1			2016 – requires traffic counts			\$50,000	

Table 3-8: Nutana 2016 – 2019 Implementation Plan

Location	Types of Traffic Calming			Catch Basin Required	Reason for installation	Budget by Year			
	Curb Extensions	Median Islands	Other			2016	2017	2018	2019
Saskatchewan Crescent – Idylwyld Drive to 8th Street W	1				Near Gabriel Dumont Park			\$45,000	
12th Street & Lansdowne Avenue		1			Other				\$5,000
8th Street W & Popular Crescent	1	1			Near Popular Park			\$50,000	
Temperance St / Lansdowne Avenue / 14th Street	2	1			Other			\$95,000	
18th Street & University Drive	1				Other				\$45,000
Dufferin Avenue & 11th Street	1			1	In place since 2013 near École Victoria School		\$90,000		
14th Street – Temperance Street to Lansdowne Avenue				1 road closure	Other			\$5,000	

Table 3-9: Westmount 2016 – 2019 Implementation Plan

Location	Types of Traffic Calming			Catch Basin Required	Reason for installation	Budget by Year			
	Curb Extensions	Median Islands	Other			2016	2017	2018	2019
29th Street & Avenue L	2			1	Near Pierre Radisson Park				\$135,000
McMillan Avenue & curve north of 31 st Street		2			Near Pierre Radisson Park		\$10,000		

Table 3-10: Caswell Hill Sidewalk and Ramp Summary

Street Location	Location	# of Ramps	Status
Avenue E & 30th Street		2	On ramp accessibility list for 2017
Avenue E & 30th Street (asphalt pathway)	Near Ashworth Holmes Park		Constructed in 2016
30th Street between Idylwyld Drive & Avenue C Street (south side)	Residential		On sidewalk retrofit list as Priority 1
Avenue F between parking lot south of pool & 31st Street (west side)	Near Ashworth Holmes Park		Constructed in 2016
Avenue D (portions on east side, north & south of 23rd Street to connect to existing)	Residential		On sidewalk retrofit list as Priority 1
Avenue E between 28th Street & 29th Street (east side)	Residential		On sidewalk retrofit list as Priority 1

Table 3-11: City Park Sidewalk and Ramp Summary

Street Location	Location	# of Ramps	Status
1st Avenue & 26th Street		2	On ramp accessibility list for 2017

Table 3-12: Haultain Sidewalk and Ramp Summary

Street Location	Location	# of Ramps	Status
Albert Avenue between Taylor Street & 4th Street (west side)	Residential		On sidewalk retrofit list as Priority 1
Lansdowne Avenue between 2nd Street & 8th Street (east side)	Residential		On sidewalk retrofit list as Priority 1
Dufferin Avenue between Taylor Street & 1st Street (east side)	Residential		On sidewalk retrofit list as Priority 1
Dufferin Avenue between 2nd Street & 8th Street (east side)	Residential		On sidewalk retrofit list as Priority 1

Table 3-13 Hudson Bay Park Sidewalk and Ramp Summary

Street Location	Location	# of Ramps	Status
Avenue I between Howell Avenue & 36th Street (west side)	Near Henry Kelsey Park		On sidewalk retrofit list as Priority 1

Table 3-14 Mayfair Sidewalk and Ramp Summary

Street Location	Location	# of Ramps	Status
39th Street & Idylwyld Drive		2	On ramp accessibility list for 2017 On ramp
37th ^h Street between Avenue B & Avenue D (both sides)	Residential		On sidewalk retrofit list as Priority 1
37th Street between Avenue F & Avenue I (both sides)	Residential		On sidewalk retrofit list as Priority 1
38th Street between Idylwyld Drive to Avenue G (both sides)	Residential		On sidewalk retrofit list as Priority 1
Avenue D between 38th Street & Alley near park (west side)	Near AH Browne Park		Constructed in 2016

Table 3-15 Kelsey-Woodlawn Sidewalk and Ramp Summary

Street Location	Location	# of Ramps	Status
Alberta Avenue between 33rd Street & 34th Street (both sides)	Near St. Michael School & Kelsey/SIAS		Constructed in 2016 on west side only. Too many constraints on east side such as poles, trees and hydrants to move.
Alberta Avenue between 34th Street & 35th Street (west side)	Residential		On sidewalk retrofit list as Priority 1
39th Street between Idylwyld Drive & 1st Avenue (both sides)	Near St. Michael School		On sidewalk retrofit list as Priority 1
Quebec Avenue between 33rd Street & 40th Street (both sides)	Residential		On sidewalk retrofit list as Priority 1
Ontario Avenue between 33rd Street & 39th Street (both sides)	Near St. Michael School		On sidewalk retrofit list as Priority 1
38th Street between Quebec Avenue & 2nd Avenue (both sides)	Residential		On sidewalk retrofit list as Priority 1

Table 3-16 Varsity View Sidewalk and Ramp Summary

Street Location	Location	# of Ramps	Status
Munroe Avenue between 15th Street & Colony Street	Near President Murray Park		On sidewalk retrofit list as Priority 1
Munroe Avenue between Aird Street & Temperance Street	Near President Murray Park		On sidewalk retrofit list as Priority 1
McKinnon Avenue between 15th Street & Colony Street	Residential		On sidewalk retrofit list as Priority 1
11th Street between Clarence Avenue & multi-use trail behind Albert Community Centre	Near Albert Community Centre		Constructed in 2016
McKinnon Avenue between 10th Street to 11th Street	Near Raoul Wallenberg Park		On sidewalk retrofit list as Priority 1
Munroe Avenue between 11th Street to 12th Street	Near President Murray Park		On sidewalk retrofit list as Priority 1
Cumberland Avenue between Main Street & back lane (south)	Residential		On sidewalk retrofit list as Priority 1

Table 3-17 Westmount Sidewalk and Ramp Summary

Street Location	Location	# of Ramps	Status
Avenue M between 22nd Street & 23rd Street	Residential		On sidewalk retrofit list as Priority 1

4 COST ESTIMATE

The total estimated cost to construct the temporary traffic calming measures permanently is presented in **Table 4-1** below.

Table 4-1: Estimated Cost for Permanent Traffic Calming Construction

The total estimated cost to complete the work required to construct sidewalks and ramps identified in each neighbourhood is presented in **Table 4-1** below.

Neighbourhood	Permanent Traffic calming Capital Project 1504			
	2016	2017	2018	2019
Brevoort Park	\$10,000	\$10,000		\$90,000
Caswell Hill	\$10,000	\$90,000	\$90,000	\$90,000
City Park	\$90,000		\$135,000	
Haultain	\$60,000			
Holliston	\$25,000			
Hudson Bay Park	\$90,000	\$5,000		
Mayfair	\$55,000	\$185,000	\$145,000	\$195,000
Kelsey-Woodlawn				
Nutana		\$90,000	\$195,000	\$50,000
Varsity View				
Westmount		\$10,000		\$135,000
Totals	\$340,000	\$390,000	\$560,000	\$560,000

Table 4-2: Estimated Cost for Sidewalk and Ramp Construction

Neighbourhood	Sidewalk	Ramp
Brevoort Park		
Caswell Hill	\$173,000	\$6,400
City Park		\$6,400
Haultain	\$643,000	
Holliston		
Hudson Bay Park	\$77,000	
Mayfair	\$800,000	\$6,400
Kelsey-Woodlawn	\$2,000,000	
Nutana		
Varsity View	\$389,840	
Westmount	\$37,400	
Totals	\$4,130,240	\$19,200

8th Street Transit Corridor Initiative – Public Engagement Results

Recommendation

That the information be received.

Topic and Purpose

The purpose of this report is to provide further information on the 8th Street Transit Corridor Initiative and the results of public engagement activities which took place in March 2016.

Report Highlights

1. Saskatoon Transit completed a Transit Corridor Review which proposed a demonstration of concepts associated with the Growth Plan to 500,000 and would see a service frequency under 10 minutes along 8th Street.
2. Saskatoon Transit engaged businesses, key stakeholders and Saskatoon residents from March 11 to March 25, 2016, on the 8th Street Initiative.
3. Feedback on the 8th Street Initiative was generally positive with 72% of respondents who strongly agree, agree or somewhat agree that being able to access bus service along 8th Street more frequently is positive.

Strategic Goals

This report supports the Strategic Goal of Moving Around, including the 4-Year Priority to change attitudes around public transit and increase Saskatoon Transit ridership. This report also supports the implementation of principles and concepts found in the Growth Plan and demonstrates support for higher frequency service in the short term using existing resources.

Background

At its meeting on November 23, 2015, City Council considered a report brought forward by Saskatoon Transit outlining a proposal to re-deploy current resources in an effort to provide higher frequency service along 8th Street. Saskatoon Transit was asked to further develop the proposal, conduct public consultations and community engagement and report back through committee in April of 2016.

Report

To gather feedback on the 8th Street Concept, Saskatoon Transit facilitated a public engagement process involving presentations from senior Transit leadership at stakeholder consultations, and a public open house. Feedback was collected from interactive discussion at these events as well as from an online survey hosted on the Saskatoon Transit website. This report presents further details on the 8th Street Initiative along with the results of the engagement process, including key highlights.

The 8th Street Initiative

Saskatoon Transit Administration reviewed the service currently provided along the 8th Street Corridor. Transit planners originally thought that it might be possible to re-deploy current resources and achieve service approaching 5 minute frequencies along 8th Street during peak hours, and 10 minute frequency for off peak hours on weekdays and on Saturday, using existing resources. Frequency of 30 minutes would be provided on evenings (Monday to Saturday), early Saturday mornings, and on statutory holidays and Sundays.

After consultations with the public, Amalgamated Transit Union (ATU) Local 615, and after conducting a more in depth review of available resources, transit planners determined that while achievable, attempting to run 5 minute frequency would be challenging to maintain with the current resources available. Instead, transit planners recommend that 7.5 minute frequency during peak periods would be more reliably achieved and would address some of the comments received during consultations. In essence, existing route timing would be de-coupled from the current pulse approach and routes would be re-timed to ensure frequency of 7.5 minutes during peak periods and 10 minutes at off-peak periods. This would mean an average wait time of approximately 3.75 minutes during peak periods.

The frequency map found in Attachment 1 of this report demonstrates the level of frequent service that will be provided to various routes as a result of the proposed changes. It is important to note that the majority of routes are built on the grid system and intersect the 8th Street Corridor. This grid style means individuals can transfer to a higher frequency service at these intersection points and riders will no longer have to ride the entirety of a route to get to their final destination or transfer point. To support this, Saskatoon Transit will coordinate with Planning and Development and Transportation divisions to ensure that appropriate measures are developed for pedestrian crossings where required.

Saskatoon Transit is focusing on the 8th Street Corridor for this concept demonstration because it is a fairly self-contained area for transit service. The current routing more easily lends itself to the creation of a higher frequency service. There are not as many external influences, most notably rail crossings, in this area of the city that would impede higher frequency service.

Public Engagement – Results

Saskatoon Transit conducted public engagement from March 11 to March 25, 2016, around the 8th Street Initiative to gauge the level of support for providing 5-10 minute frequency along 8th Street.

Feedback regarding the 8th Street Initiative, as it was presented by Transit Administration, was generally positive although there were some concerns raised by both ATU and members of the public that will be important to consider in order for the initiative to be successful. Some of these concerns were about the selection of 8th street over other corridors, that 5 minute frequency may be too strenuous on resources

or that the need for 5 minute frequency was not there. The process also suggests that people want not only to see the 8th Street Initiative in the context of Transit's overall strategic plan, but also in terms of how the initiative integrates with the big picture of transit in the Growing Forward future plans for Saskatoon.

Overall, stakeholders and online survey respondents recognize that Saskatoon is growing and changing, and that the City needs to provide more options to facilitate movement of citizens. The move to a frequency model was regarded as a step in the right direction by most stakeholders, open house participants and survey respondents. A listing of key findings include:

- A majority (53%) of respondents agree that being able to access transit service along 8th Street more frequently is positive, including 31% who strongly agree. Agreement increases to 72% if we include respondents who select somewhat agree. The ratio of strongly agree to strongly disagree is almost 3:1, showing that the frequency concept is seen as a positive one. Most (59%) also agree at least somewhat that Saskatoon should move transit away from a coverage model and toward a frequency model (25% strongly agree).
- People appear to agree that a frequency model could change how citizens choose to move around in the future. Two-thirds (66%) of respondents agree, at least somewhat, that people in Saskatoon would use transit more often if service frequency were increased along major corridors like 8th Street, including 24% who strongly agree.
- The majority (70%) of respondents agree, at least, somewhat that moving to a frequency model along 8th Street will benefit Saskatoon residents. Perceived benefits include no more waiting/not having to plan ahead to catch a bus (knowing one is readily available), faster service, less car traffic/more transit ridership and improved access to 8th Street (and future corridor) businesses.

The full engagement report, outlining the results of public consultations conducted around the 8th Street initiative, including a breakdown of survey results, all comments from respondents and additional topics of concern from citizens and stakeholders can be found in Attachment 2 of this report.

Options to the Recommendation

Committee could choose to add to or change the recommendation.

Public and/or Stakeholder Involvement

Saskatoon Transit conducted public engagement from March 11 to March 25, 2016, around the 8th Street Initiative to gauge the level of support for providing 5-10 minute frequency along 8th Street.

Communication Plan

A campaign will be developed to target individual homes and residents surrounding the 8th Street Corridor in an effort to promote high frequency service along 8th Street. Saskatoon Transit will also develop a communications plan to deliver specific

information about new route timing, route changes, transfers points and new routes which will be targeted toward existing customers.

Financial Implications

The service outlined in this plan is a re-deployment of current resources, there should be no additional funding required. Funding from the current operating budget will be used for marketing initiatives upon implementation.

Other Considerations/Implications

There are no policy, environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

Saskatoon Transit will provide an update to Committee in summer 2017 on how the year over year statistics compare regarding ridership and comments received.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

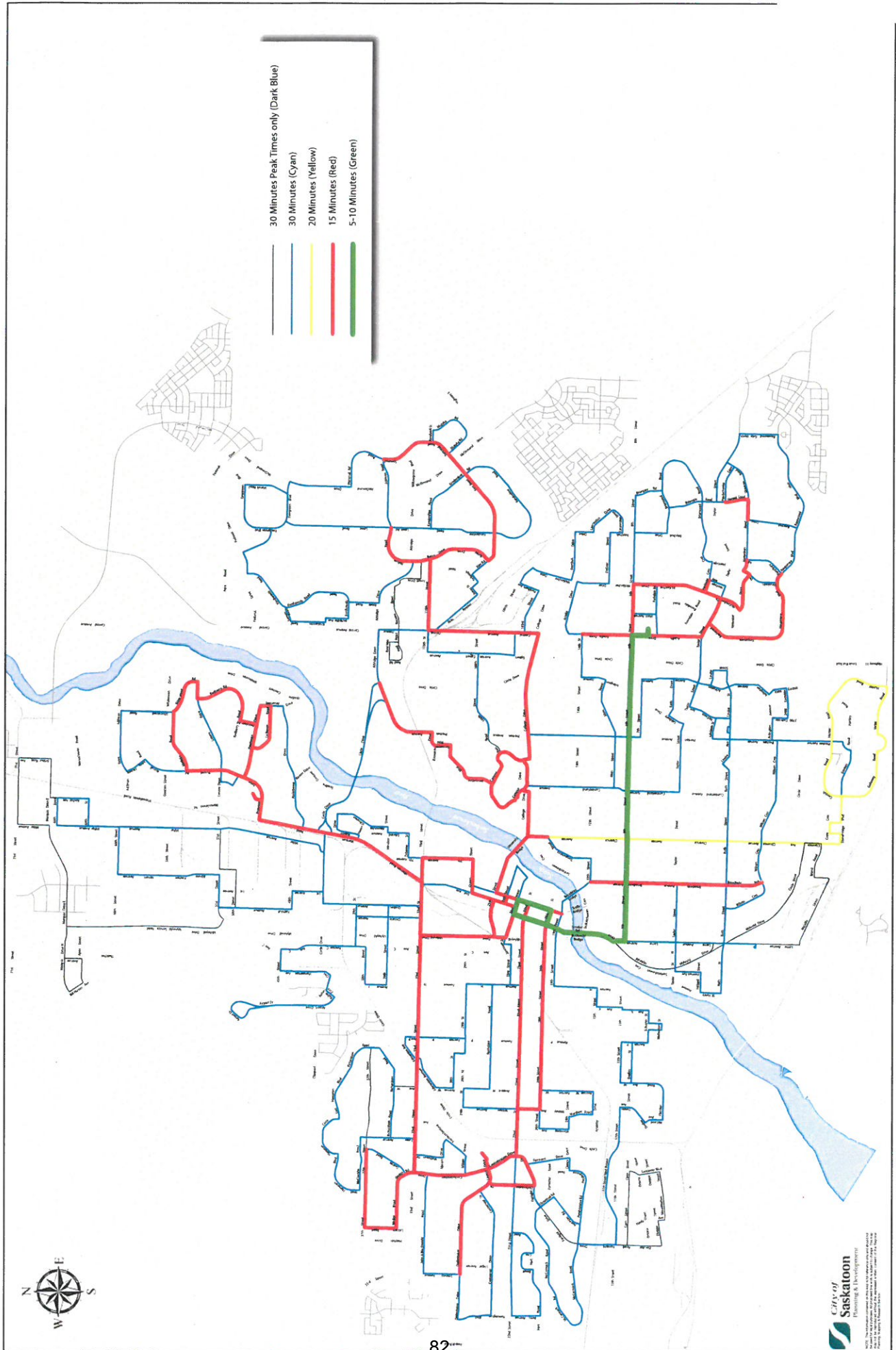
Attachments

1. 8th Street Initiative Frequency Map
2. Saskatoon Transit: 8th Street Initiative Consultation Report - Fast Consulting, March 2016

Report Approval

Written by: Colin Stinson, Marketing Consultant, Corporate Performance
Reviewed by: James McDonald, Director of Saskatoon Transit
Reviewed by: Michael Moellenbeck, Operations Manager, Saskatoon Transit
Reviewed by: Catherine Gryba, General Manager, Corporate Performance
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities

TRANS CS - 8th Street Transit Corridor Initiative – Public Engagement Results



Saskatoon Transit

8th Street East Concept Consultation Report

March 2016

Prepared for:

Saskatoon Transit
22 - 23rd Street East
Saskatoon, SK S7K 0J5

Submitted by:

Fast Consulting
117 - 3rd Avenue South
Saskatoon, SK S7K 1L6

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Executive Summary

Public transit is a key component of the City of Saskatoon's strategic goal of Moving Around, as well as one of six main themes of Growing Forward! Shaping Saskatoon, the City's growth plan to half a million. Saskatoon Transit currently offers pickups within 450 meters of any residence in Saskatoon, routing most service through the Downtown Terminal and providing service to stops roughly every 35 minutes. Increased service is offered in the morning and afternoon peak hours and in areas of higher demand. This is a coverage transit model.

In an effort to better serve citizens and grow ridership, Saskatoon Transit is considering moving to a frequency transit model, which reallocates resources to increase frequency along popular routes. The 8th Street East Concept is an initiative being developed for the summer of 2016. It will provide 5 minute frequencies along the 8th Street East corridor during peak periods and 10 minute frequencies during the remainder of the week day, with 30 minute frequencies during evenings, weekends, and statutory holidays. This frequency model means that some pickups would be further away than 450 meters and/or the bus would come less frequently into outlying neighbourhoods.

To gather feedback on the 8th Street Concept, Saskatoon Transit facilitated a public engagement process involving presentations from senior Transit leadership at stakeholder consultations, and a public open house. Feedback was collected from interactive discussion at these events as well as from an online survey hosted on the Saskatoon Transit website. This report presents the results of the engagement process, including key highlights.

Highlights

Feedback around the 8th Street Concept as it was presented by senior Transit leadership is generally positive, although with some concerns or issues that people think will be important to consider in order for the initiative to be successful. The engagement process also shows that people do not necessarily look at one element of transit in Saskatoon, in this case movement away from a coverage model and more towards a frequency model, in isolation; often feedback from stakeholders or the public about this initiative references elements of transit outside of the frequency model. The process also suggests that people want not only to see the 8th Street Concept in the context of Transit's overall strategic plan, but also in terms of how the initiative integrates with the big picture of transit in the Growing Forward future plans of Saskatoon.

A Step in the Right Direction

- › Overall, stakeholders and online survey respondents recognize that Saskatoon is growing and changing, and that the City needs to provide more options (other than car) to facilitate movement of citizens. The frequency transit model is regarded as a step in the right direction by most stakeholders, open house participants and survey respondents.

- The majority (53%) of respondents agree (4 or 5 on an agreement scale between 1 and 5) that being able to access bus service along 8th Street more frequently is positive, including 31% who strongly agree. Agreement increases to 72% if we include respondents who select 3 on the 1 to 5 scale (somewhat agree). The ratio of strongly agree to strongly disagree is almost 3:1 that the frequency concept is positive. Most (59%) also agree at least somewhat that Saskatoon should move transit away from a coverage model and toward a frequency model (25% strongly agree).
- People appear to agree that a frequency transit model could change how citizens choose to move around in the future. Two-thirds (66%) of respondents agree at least somewhat that people in Saskatoon would use transit more often if service frequency were increased along major corridors like 8th Street, including 24% who strongly agree.
- The majority (70%) of respondents agree at least somewhat that moving to a frequency model along 8th Street will benefit Saskatoon residents. This includes 27% who strongly agree. Perceived benefits include no more waiting/not having to plan ahead to catch a bus (knowing one is readily available), faster service, less car traffic/more transit ridership and improved access to 8th Street (and future corridor) businesses.
- The Downtown and Broadway BIDs and University/USSU representatives would like to see the pilot initiated to test the concept and suggest a year-long test is necessary to gauge the impact on University of Saskatchewan students and to capture the different ways people move around in different seasons.

Bus Malls

- Some stakeholders have concerns about locating bus terminal(s) on 8th Street and the impact on commercial property owners. There are also concerns about the Downtown Bus Mall. Some view the Downtown Bus Mall as a significant deterrent to transit usage, and are pleased to hear there are plans to move the Downtown Bus Mall to 3rd Avenue. Meanwhile, the University/USSU is concerned about the long term plan to move the bus mall off campus to College Drive.

22nd Street/West Side

- Some people wonder whether the frequency transit model would work on 22nd Street; in fact, they wonder whether the west side might not be a better choice for a pilot project. Saskatoon Transit notes that, since the frequency model pilot is dependent on zones of control, it cannot be initiated on 22nd Street at this time because of unpredictable and frequent train crossings which, unlike 8th Street, disrupt traffic on that corridor.

Park-and-Rides

- The issue of Park-and-Rides is raised by in the stakeholder discussions, at the open house and in the online survey. Clearly, people have heard about or seen Park-and-Rides in other cities, and ask whether there are plans to develop locations in Saskatoon. Saskatoon Transit notes that while Park-and-Rides are a strategic part of planning going forward, there are no plans on the immediate horizon.



Stakeholder Consultation

Two stakeholder consultations were conducted to gather feedback on the 8th Street East Concept. The sessions were held on March 10th, 2016 with 5 participants representative of the Downtown and Broadway Business Improvement Districts (BIDs) and the 8th Street Business Association, and on March 15th, 2016 with 23 representatives of the University of Saskatchewan and University of Saskatchewan Students' Union.

Discussion Summary

A Step in the Right Direction

BID representatives recognize that demographics are changing in Saskatoon and the City needs to provide more options (other than car) to facilitate movement of citizens. They also suggest that the frequency transit model is a step in the right direction. They would like to see the pilot initiated to test the concept, but suggest a year-long test is necessary to gauge the impact when University of Saskatchewan students return in the fall. USSU stakeholders agree the pilot should continue through a calendar year to capture the different ways people move around Saskatoon in different seasons.

Many stakeholders agree that a frequency model has the potential to impact culture—if people know a bus is always available on a main thoroughfare such as 8th Street, their confidence grows that Saskatoon Transit can get them where they need to be in reasonable time, leading to increased ridership.

Broadway BID participants would eventually also like to see a frequency model expanded to include Broadway Avenue as well.

Park-and-Rides

Stakeholders suggest that Park-and-Rides would be effective in increasing ridership, especially if they were linked to high frequency priority routes such as the 8th Street concept. They ask if Saskatoon Transit has selected suitable areas for Park-and-Rides or if it is in the process of negotiating with landowners for locations. Stakeholders are skeptical that suburban malls in outlying areas would be receptive to offering themselves up as Park-and-Ride locations, despite having large parking lots. In the discussions, Saskatoon Transit indicated that while Park-and-Rides are a strategic part of planning going forward, there are no plans on the immediate horizon.

Communicate in Colour

From a stakeholder perspective, how people learn about changes to service on 8th Street is a key consideration. It will be important for Saskatoon Transit to communicate the frequency model to both current and potential customers, as people will need to know how the routes they rely on are impacted, as well as which routes are changing and which are not. Stakeholders suggest using colour coded maps to visually depict impacted routes and frequencies. Different routes could be

colour-coded by frequency: 5 minutes, 15 minutes, 30 minutes, 1 hour. They also suggest visually communicating what the different frequency scenarios would look like today and in the future:

- now, during the 8th Street Concept pilot
- in middle term with the system moving more toward the frequency model
- in the long term with the system having shifted to the frequency model

In addition to communicating clearly (e.g. visually) with city residents and riders, stakeholders suggest it will also be important to communicate clearly with businesses, starting with businesses on 8th Street, then Broadway Avenue and area, then Downtown.

8th Street Business Association Concerns

Representatives from the 8th Street Business Association at the stakeholder session expressed concern that a frequency model has the potential to negatively impact current shoppers and businesses along the corridor. They are concerned that the frequency model will eventually lead to a dedicated lane for buses, thereby reducing the number of parking stalls available for people patronizing 8th Street businesses as well as the number of lanes available for motorists. They believe this may result in more traffic congestion, less parking and lack of access to businesses.

Another concern is that a dedicated transit lane for transit will eventually require 8th Street to be widened, which will also disrupt businesses along the corridor. Saskatoon Transit representatives indicate that this may occur over the long term (5 to 10 years), but there are no plans for a dedicated lane or street widening in the short term. Transit also suggests that more frequent service will bring more people to 8th Street, increasing the number of potential shoppers in the area.

The 8th Street Association, however, is concerned that the 8th Street Concept initiative will cause disruption and inconvenience for businesses and shoppers even in the short term. Thus, they have concerns with the initial steps associated with the pilot. They also question whether Saskatoon Transit is giving any consideration to using Main Street to provide more frequent bus service instead of 8th Street.

Some of the concerns of the 8th Street Business Association representatives related to the 8th Street Concept are around a review of bylaws which they suggest currently restricts development along 8th Street. These bylaws are related to flow-through, density, setbacks, parking, heights of buildings, etc. Another potential obstacle to zoning changes or redevelopment/infill would be changes to parking ratio restrictions along 8th Street, which would run contrary to the concept of increased bus frequency. This leads stakeholders to suggest that the 8th Street Concept should be integrated into a bylaw review and an overall plan for 8th Street, and the overall plan should be clearly defined in the context of Saskatoon's overall growth.

University of Saskatchewan/USSU Concerns

University of Saskatchewan students are Saskatoon Transit's largest customer group and generally seem supportive of the 8th Street Concept. A variety of issues were discussed at the stakeholder session with University/USSU representatives, including the number of students who live on each side of the city and travel to campus everyday and current transit levels in other parts of the city. The concerns largely revolve around having the bus mall moved off campus (away from Place Riel)

onto College Drive, sparse transit coverage currently available in some areas of the city, infrequent service, particularly in newer neighbourhoods (e.g. Evergreen, Rosewood) and in some areas on the west side, and the lack of availability of GPS-based information and apps for customers.

University of Saskatchewan/USSU stakeholders also ask whether the 8th Street Concept will impact bus service along Cumberland and into the campus.

Bus Malls

Some stakeholders have concerns about locating bus terminal(s) on 8th Street and the impact on commercial property owners.

The University/USSU is concerned about the long term plan to move the bus mall off campus from its current location at Place Riel to somewhere along College Drive.

There are also concerns among some stakeholders about the Downtown Bus Mall, including the reluctance of current/potential transit customers to use it. Stakeholders view the Downtown Bus Mall as a significant deterrent to transit usage, and are pleased to hear there are plans to move the Downtown Bus Mall to 3rd Avenue.

Frequency vs. Coverage

Stakeholders generally recognize that the level of transit service must increase in order for ridership to increase, and they understand that frequency, similar to reliability, is one of the key drivers of service.

Stakeholders ask how committed City Council is/will be to moving away from a coverage model to a frequency model. One stakeholder asks this in terms of, “where are we on the ‘spectrum’ of frequency vs. coverage models, and where do we want to be?”

Saskatoon Transit responds, saying its current model is about 70% coverage to 30% frequency and that it is looking to move along the continuum to find the optimum balance between coverage and frequency to maximize customer service. One of the objectives of the 8th Street Concept is to get the process going. Initially, Saskatoon Transit will goal-set for a bus at least every 10 minutes along 8th Street, with the eventual goal of having a bus every 5 minutes.

Stakeholders also wonder whether the frequency model would work on 22nd Street and how it might integrate with Riversdale BID growth plans. Saskatoon Transit notes that, since the frequency model pilot is dependent on zones of control, it cannot be initiated on 22nd Street at this time because of unpredictable and frequent train crossings.

Overall, stakeholders feel it will be important to measure whether the 8th Street Concept is increasing Saskatoon Transit ridership.



Public Open House

A public open house was held Wednesday, March 16th at TCU Place to give members of the public an opportunity to learn more about the 8th Street East Concept. The open house was held at TCU Place from 4pm to 8pm. Representatives of Saskatoon Transit were on hand to engage participants and answer questions.

Participants were encouraged to share their opinions, either by asking questions of Transit consultants after a presentation about the concept, filling out a comment form available at the open house or by completing the online survey. The open house attracted 37 participants; 16 filled out a comment form (*responses are integrated with online survey responses, see Online Survey Results*). This section provides an overview of the comments and questions raised at the open house and on the comment forms.

Discussion Summary

Accessibility and Convenience

Most of the feedback from the open house is that being able to access bus service along 8th Street more frequently is positive. Questions and concerns raised at the public open house are reflected in those collected on comment sheets and the online survey.

There is a concern from some with the possibility of having to walk farther than the current 450-meter threshold to a bus stop. The Saskatoon Transit representative noted that the current threshold may not apply with a new system focused more on frequency on popular routes than coverage on all areas. Buses will run up and down 8th Street every 5 to 10 minutes and take riders to the University or Downtown. Buses covering loops in outer neighbourhoods will hook up by transfer to frequent coverage on 8th Street.

Access is another concern. One participant who suggests having bus stops at strategic locations along 8th Street (Broadway Avenue, Cumberland Avenue, Preston Avenue, Acadia Drive) qualifies this as “good walkability.” Another participant is concerned because while they understand the need for a frequency transit model, they feel the piecemeal implementation may make connectivity difficult on a city-wide basis.

Some comments focused on amenities such as covered shelters. One participant expressed concern about missed connections—how are other routes going to fit in once the pilot is initiated and what will transfer schedules look like?

This ties to a related point—communication of the new routes and schedules. One participant suggested using more descriptive route names, such as “8th Street via Idylwyld” or “Downtown via Idylwyld.” A suggestion similar to one in the stakeholder discussions is to communicate visually, meaning using colour or graphics to visually show the new routes, connectors and

frequencies. It is also important to clearly communicate any buses that will not run (or will run less frequently/fewer stops) evenings, weekends or non-peak times.

Park-and-Rides

Park-and-Ride was a question brought forward at the open house; people want to know if there is a Park-and-Ride system planned for Saskatoon. Saskatoon Transit notes that although Park and Ride is not a part of the 8th Street Concept, it is part of the long term plan. There are planning issues that need to be addressed in terms of community and business acceptance of Park-and-Ride locations.

Snow Days

Snow is an issue for riders. People question whether the 5 to 10 minute frequency model along 8th Street is feasible on snow days. Since 8th Street is a priority snow route, Saskatoon Transit is confident the corridor will be cleared and the frequency model will work on snow days. Snow needs to be cleared, not only along high frequency routes but also all bus stops to allow unimpeded access for customers with mobility challenges.

Give It Time

Several comments focused on encouraging open, constructive communication among the various parties: City administration, Saskatoon Transit, stakeholders, businesses and riders. Maintaining a constructive, “open-minded” dialogue and working together will ultimately benefit Saskatoon Transit riders, both current and potential.

Several participants also caution again too many changes to routes used by populations with potentially higher needs, such as seniors travelling to Market Mall or Downtown.

At the same time, one participant makes the point that once the pilot gets underway, it should not change dramatically for “at least two to three years.” The rationale is that people are slow to change. Saskatoon Transit will need to “advertise the benefits like crazy” to encourage people to consider using transit, and people are less likely to consider transit if they perceive the model is in flux.



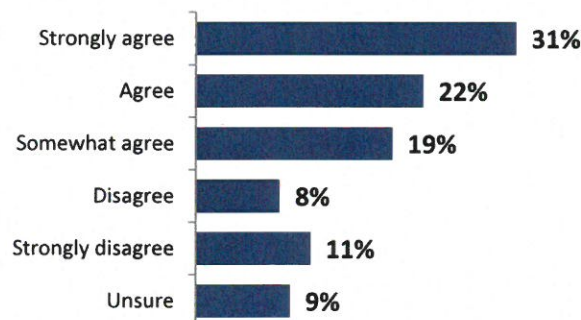
Online Survey Results

An online survey accessed through the Saskatoon Transit website encouraged members of the public to provide feedback on the 8th Street East Concept initiative. The survey included links to a map of altered bus routes and pdfs of new/revised routes impacted by the initiative. A total of 174 people completed the online survey.¹

Respondent Profile

- ▶ Over half (54%) of online survey respondents are young (age 34 and younger) and female (56% vs. 44% male). A third (33%) are students and a quarter (24%) work Downtown.
- ▶ Close to half (47%) use Saskatoon Transit everyday (5 days a week) and another 22% use transit from 1 to 4 days a week. While 24% of respondents use transit to get Downtown and 20% to get to the University, nearly half (47%) use it to get to other parts of the city.
- ▶ Close to half (43%) drive or cycle along 8th Street from 1 to 5 days/week, while 31% do so 1 to 3 days a month. The large majority (81%) of respondents travel Downtown every week, including 42% who travel Downtown daily.

Q1. *Do you agree or disagree that being able to access bus service along 8th Street more frequently, for example every 5 minutes on certain portions, is positive?*



- The majority (53%) of respondents agree (4 or 5 on an agreement scale between 1 and 5) that being able to access bus service along 8th Street more frequently is positive, including 31% who strongly agree. Agreement increases to 72% if we include respondents who select 3 on the 1 to 5 scale (somewhat agree). The ratio of strongly agree to strongly disagree is almost 3:1 that the frequency concept is positive.

¹ The Market Research and Intelligence Association (MRIA) suggests that because online survey participants are self-selected, a margin of sampling error should not be calculated or quoted. The MRIA also recognizes, however, that online research polls have for a number of years produced results that have proven to be reliable estimates of public opinion.

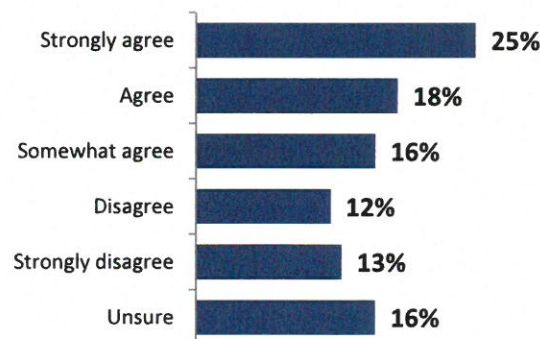
Q2. Why do you say that?

- Respondents cite a variety of reasons when asked why they agree or disagree that more frequent service would be positive. Over a third (36%) say more frequent service would mean no more waiting/planning (positive), 12% say business on 8th Street will benefit, and 10% think traffic might decrease and transit ridership increase.
- A significant percentage think west side routes should be improved first (21%) and/or don't use the 8th Street route (20%), while 11% think a bus every 5 minutes is too often.

Positive		Concerns	
Would mean no more waiting/planning	36%	Transit should improve west side routes first	21%
Business on 8th will benefit	12%	I don't use 8th Street route/don't go	20%
Might decrease traffic/encourage transit	10%	Every 5 minutes is too often/not realistic	11%
Transit system needs to be overhauled	7%	Will negatively impact traffic/parking	4%
		Negatively impacts my current route	3%
		Like to stop more often/don't want straight	1%

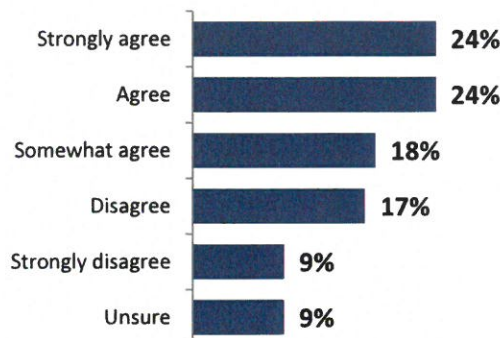
**Multiple response allowed*

Q3. Saskatoon should move public transit away from a coverage model and more to a frequency model.



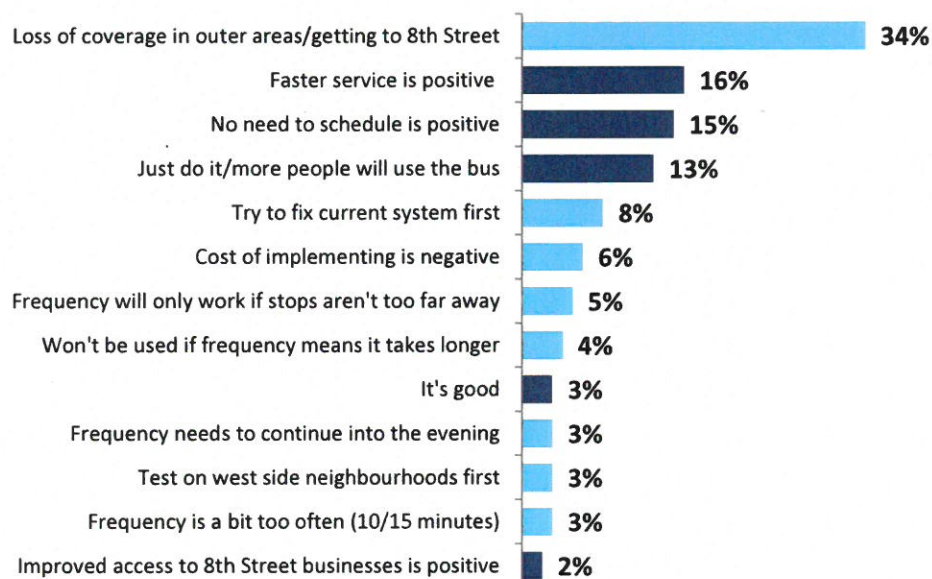
- Most (59%) respondents agree at least somewhat that Saskatoon should move public transit away from a coverage model and toward a frequency model, including 25% who strongly agree. The ratio of strongly agree to strongly disagree is almost 2:1 in support of a frequency model.

Q4. *People in Saskatoon would use transit more often if service frequency were increased along major corridors like 8th Street.*



- Two-thirds (66%) of respondents agree at least somewhat that people in Saskatoon would use transit more often if service frequency were increased along major corridors like 8th Street, including 24% who strongly agree. The ratio of strongly agree to strongly disagree is more than 2:1.

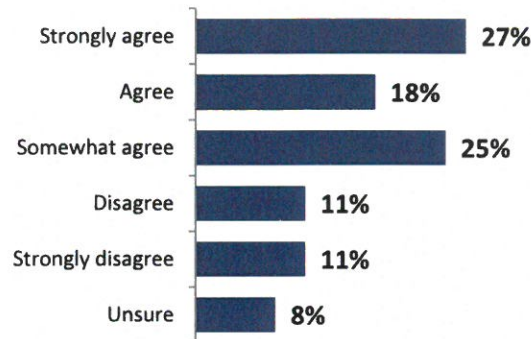
Q5. *What do you like or what concerns you about moving transit to a frequency model?*



**Multiple response allowed*

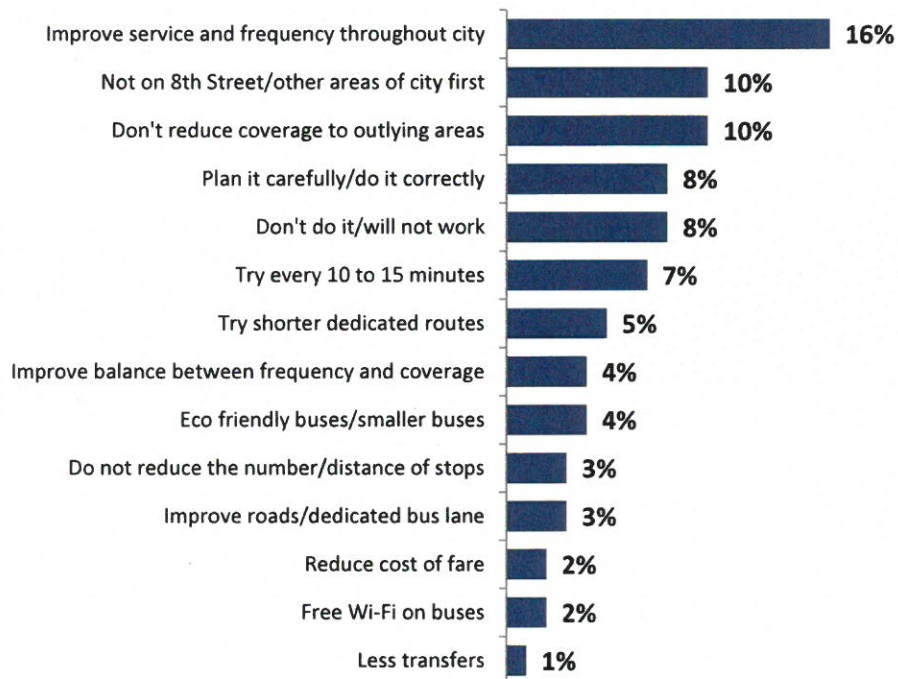
- Respondents see a number of positives in moving to a frequency model, including faster service (16%), no need to schedule (15%) and more people using the bus (13%).
- The main concern among respondents appears to be loss of coverage and what this means—how will they actually get to the 8th Street corridor (34%). Other concerns include cost of implementing the service (8%), stops too far apart (5%) and longer overall travel time to destination (4%).

Q6. *I believe moving to a frequency model along 8th Street will benefit Saskatoon residents.*



- The majority (70%) of respondents agree at least somewhat that moving to a frequency model along 8th Street will benefit Saskatoon residents. This includes 27% who strongly agree. The ratio of strongly agree to strongly disagree is more than 2:1.

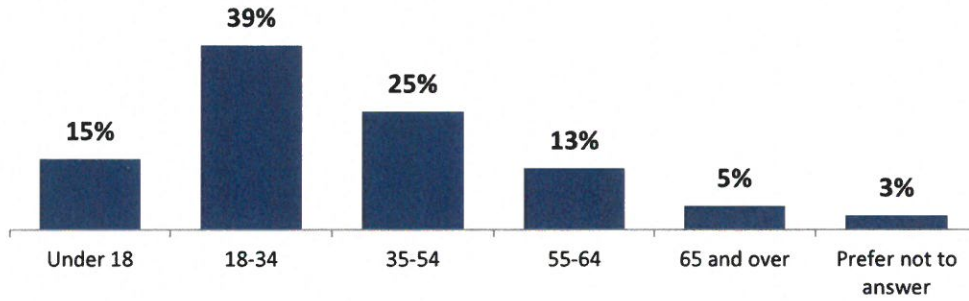
Q7. *If you had the ability to change anything in this plan, what would you change and why?*



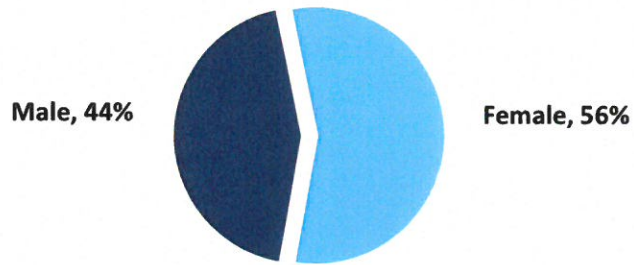
- Respondents suggest a number of changes to the concept, including improving service and frequency city-wide (16%), focussing on a different area of the city (i.e. west side) first (10%), not reducing coverage to outlying areas (10%), planning carefully (8%), reducing the frequency from 5 minutes to 10 or 15 minutes (5%).

Profile of Online Survey Respondents

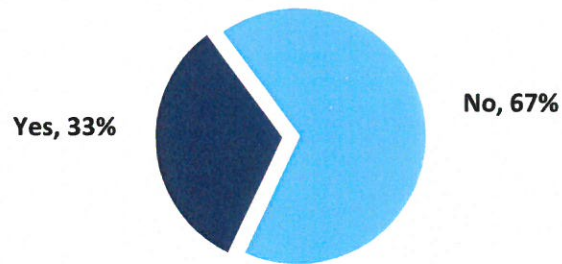
Age



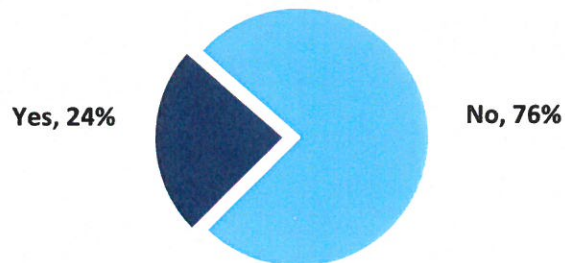
Gender



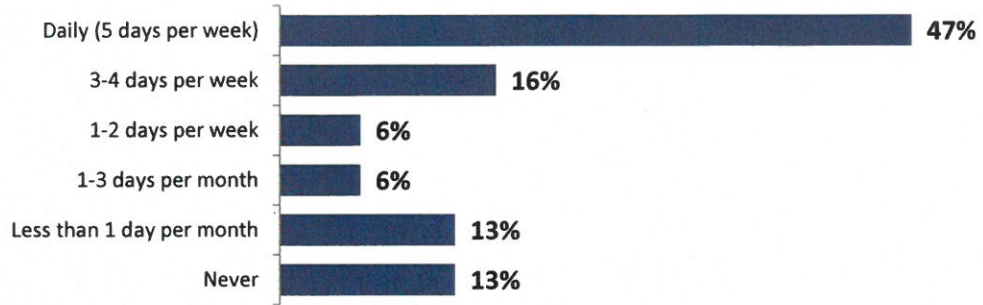
Student



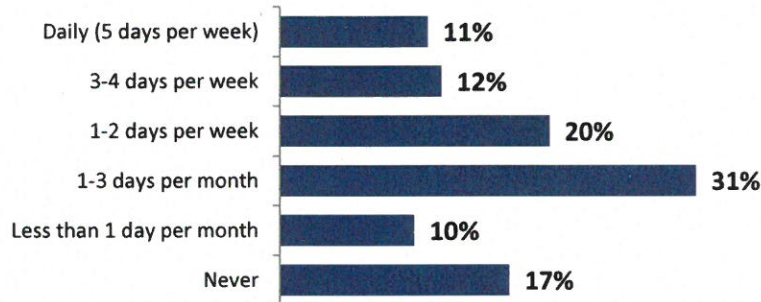
Work Downtown



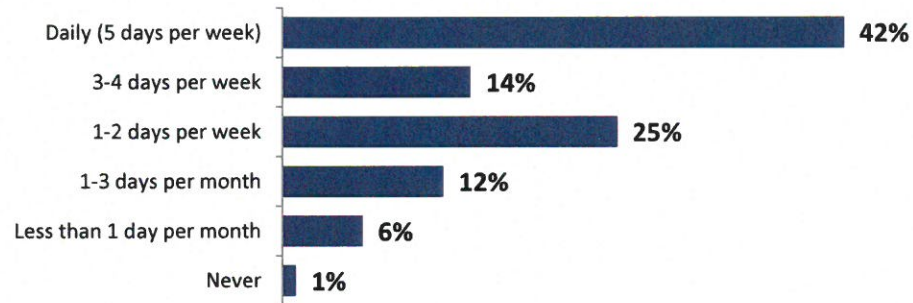
Q. *How often do you use Saskatoon Transit?*



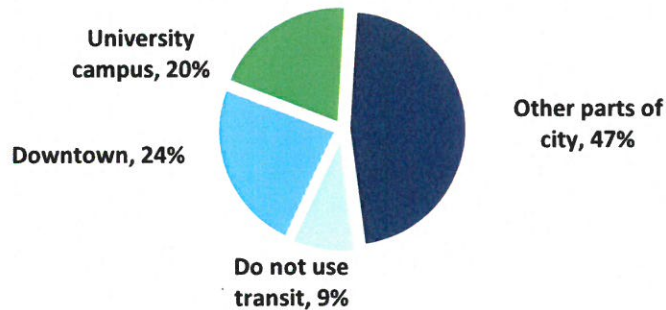
Q. *How often do you drive or cycle on 8th Street?*



Q. *How often do you travel to downtown?*



Q. *Do you currently use transit primarily to get . . . ?*





Appendix

Verbatim Comments

If you had the ability to change anything in this plan, what would you change and why?

- A frequency model would suite areas like 8th street because it is a business area and we need to have the ability to move passengers at an increased rate
- 10 min day service, from 6am every 20 mins from 5am until 11pm. Weekends. All routes. Saturday- 20 min service 6am to 11pm. 30 min service on Sunday's from 8am to 7pm. That's all we need. This isn't rocket science, it's just how I would wish my tax dollars would be spent, that's all. And please stop changing the routes. Don't that just happen 2/3 years ago. No wonder transit is only used by 4% of our population. Figure it out!
- 10 minute frequency on 8th could help as long as coverage available now doesn't change.
- 5 minute frequency seems a bit excessive. 10 minutes is plenty. Moving from 8th street's current 30 minute service to 10 minute service would only mean increasing from 2 buses dedicated to driving back and forth from Centre Mall to the Downtown Terminal (not flip-flopping between #8 and #1), to 6. Even only an additional 2 would change the service from 30 minutes to 15 minutes, which is fine. When the University Bridge was closed for repairs, there was a very frequent shuttle running between the University Terminal and the Downtown Terminal. It was a brilliant idea, and every time I was on it, it was full. And the rest of the routes were not changed, we still had the coverage in the local bus stops. Why not increase the frequency of routes between all the terminals? This seems like a more effective way of getting people around than only increasing the frequency of rides along 8th street, and certain corridors. The goal may be to increase ridership, which should always be a good idea,
- 8th Street is not really residential. Do enough people live along it to make it worthwhile? I would look at increasing frequency of existing routes instead.
- 8th street is not the center of the universe of Saskatoon.
- A bit more flexibility for other routes to transfer to it.
- A bus down 8th Street every 15 minutes instead of every half hour. Every half hour in the evening and on weekends. Then possibly increase the frequency of the lesser routes as the budget allows. Increasing ridership will be a balance of coverage and frequency, not one or the other. If my family has a choice of planning a time to go somewhere and walking an extra two or three blocks with the kids, we'll pick planning the time. If one of us is working however, walking an extra few blocks to catch a bus on a major route to get us home a half hour earlier would be little inconvenience.
- Add more buses so that services aren't taken away from neighbourhoods.
- Add more driving lanes for both cars and buses if you have to make a change at all. The effort to get people to ride bikes and or buses only benefits a very small portion of the population and ignores the pressing needs of the taxpaying majority.

- Again, I am not sure who it is benefiting. I assume someone has tallied the total numbers of riders currently taking routes down 8th street to prove this is necessary? Also, I should note that the meters in the bus (for scanning the passes) are often down in the older buses - at least once a week - the 13 Broadway and Lawson being an example. This may result in lower ridership rates for these routes, when in reality people are taking them more frequently.
- As I indicated earlier, I can easily live with 10-minute frequency on Mon-Sat. Between the various services from Downtown (some via University) to Wildwood I would definitely need better evening hours (say every 10-15 min until 9:00 PM), and I would also like to see better Sunday service (frequency and expanded span).
- Because this plan doesn't show times and especially how routes will connect with each other, it gives a very incomplete picture. Getting rid of the old route 2- that went from Confederation to Centre Mall- was the dumbest thing the transit planners ever did, especially as it left buses going up Broadway only once an hour in the evenings. Reinstating some version of that would be my first suggestion.
- Better service for the industrial area in the north end, especially in the am and afternoons.
- Bus service everywhere faster, on Sunday better service
- Bus stops along 8th Street need to be placed strategically, i.e. Broadway, Cumberland, Preston or Acadia. Good walkability needed.
- Buses service every 15 mins even on Sundays
- Can get around more effective
- College Drive should also get more frequent service - more people have difficulty moving out of the NE by vehicle than in any other area of the City.
- Concerned about missed connections when forward shift to 8th Street.
- Continue to be open minded and know that the riders of Saskatoon can benefit if we all work together
- Covered shelters
- Don't take coverage away from other areas
- ECO FRIENDLY BUSES!
- Ensure the high frequency routes go directly to and from other high use destinations rather than extending the trip and winding around a residential area after reaching a high use destination. Have more, smaller, feeder buses picking up people in the residential areas, and delivering them direct to 8th St (or 22nd St West, 33rd St W, College Drive, Circle Drive), a high frequency, fast bus along a high use corridor. Then they can take a feeder bus (or walk) from the high frequency corridor to get to their destination. At night, after a movie, or night at a bar, a high frequency route can get patrons at least close to home so they are not walking hours, or spending large amounts of money on taxis.
- Ensuring west side has good transportation coverage and frequency
- Find a balance between coverage and frequency
- Find a balance in between a frequency and coverage bus routes and roll with it. Instead of a bus every five minutes make it every ten minutes.
- First of all, Transit Management doesn't listen to the people who take the Transit System. Instead of catering to the east side, 20th Street or 22nd Street, how about catering to the residents of Dundonald, Westview, Hudson Bay Park, Mayfair? Why is Transit catering to the

people on Welfare who pay \$25 for a bus pass & get bus service every 15 minutes when the people on 33rd street don't get any reliable transit service.

- FREE Wi-Fi (Because it helps to stay relevant)
- Frequency is great, but I take the bus every day and know that 80% of the time my bus will be late. So if one bus is late will that make frequency decrease? You can't ensure frequency. But if you add more routes and more buses people at least have a different bus to take when their first choice is late
- Give transit vehicles more priority access over cars. Bus only lanes.
- Have a bus come every 10-15 minutes
- have a secret rider on board every bus to record their driving skills and habits. your drivers are dangerous
- Have the frequency model apply not only to 8th Street; instead, expand it to include downtown. Improve the way people can get downtown from all of the outlying areas. A lot of people work downtown. At present, I take the No. 3 out of College Park in the morning to my job downtown. It is full every morning with other people going downtown. If the route terminates at the University as proposed, unless there is a shuttle bus that goes downtown every fifteen minutes (at least during peak hours), it is going to be a logistic nightmare.
- I'd like to see how the public responds to some changes and evaluate what worked and is most beneficial, productive and cost effective.
- I'll change it to every 15 minutes with different connections. Also reduce waiting time for other buses as some come every 30 minutes and later every hour. It just doesn't make sense by.
- I'm still don't know why I have to transfer in downtown when my final destiny is in the opposite side. There should be more local terminals with rapid buses between them to avoid downtown or place Riel
- I am not so sure 8th street is such a big corridor. What about getting a decent downtown bus station, since most buses converge there and many trips require a change there.
- I believe that 8th street wouldn't be the best target area for bus service. Instead having better services to places such as between north Saskatoon and north industrial would be helpful. (Needed with the new bridge.)
- I can't comment at this time; I will need to see the plan in action
- I can think of nothing. I reviewed the route change that would affect me, and that all seems in order. I can't speak for how the other routes will interlink together, but I trust that people who know what they're talking about put things together.
- I don't have the ability to change anything actually. I'll have to just wait and see. I'm happy you are trying though.
- I don't know yet as I haven't seen details.
- I don't understand the idea that more people will ride the bus because of this. I would not reallocate everything to concentrate on such a narrow idea. People with disabilities and older people will suffer if there is less coverage and more frequency.
- I hesitate to offer my layman drivel. I know there are infrastructure of bridges and roads concerns, bottleneck congestions and many other factors you're juggling. Also, I haven't studied every map in depth. I see several routes where I don't see why you don't "close the circle". An example is some poor student living near Lorne Ave and 8th St having to get on

"Route E", travel the entire length of 8th to Circle Centre and then back to the University. If E was circle, he could catch it one direction for a movie at Circle Centre or the other direction to cut thru downtown to campus.

- I know that in future it will include 22nd St. but I would like to see something similar for 33rd St. I feel that there is as many people catching the bus there as there is along 8th St. and 22nd St.
- I like route 70 that goes through Evergreen and Silverspring and goes to BOTH the university and downtown. I have lived in Evergreen for almost 4 years and have never taken the bus because it would be a waste of my time and energy with how infrequent the bus came, how long the ride took, I would have to transfer during peak times, and it just wouldn't be running on non-peak times when I would have to go home. As I am nearing the end of my university career I would no longer see the benefit to the university service but see it as beneficial with the number of basement suites, and condos in the area. Now that I have a professional degree the downtown service would be a huge asset to me so I could go downtown conveniently. I might suggest having a route solely for evergreen/Silverspring/willow grove. I find there is already ample service in Sutherland, and having the inconvenience of all the additional stops and transfers, and getting bogged down in that area is a huge deterrent to using
- I like the changes.
- I think I would make the busses run routes from places like the center mall to midtown then go to other popular malls
- I think that 8th street isn't the best target for this service
- I think that there are more places than just 8th street that need more frequent buses. if they add more buses to cover area and run them through 8th street they can do both cover area and more frequent buses.
- I think that you should focus on making other bus routes better as well
- I will connect areas like Briarwood. other than that I agree with the proposed plan
- I would add Broadway (route 6) to the frequency model. If the bus is more accessible more people will use transit.
- I would add more seats and a double bus that's eco-friendly and CHEAPER
- I would ask that current routes still retain the 450 meter proximity to homes
- I would ask the citizens questions like 'how would you use the transit system?', 'Where do you live and where do you work?', 'Do you have access to necessities like food and clothing stores, or do you have to travel?'. People used to live and work within a small radius in the early days of Saskatoon (hence the small business sections scattered throughout the older neighbourhoods). We have grown a city where people are encouraged to move farther and farther out from the core, creating traffic issues.
- I would caution too many changes affecting movement from downtown to Market Mall because of the seniors use of both locations.
- I would ensure that the frequency of routes feeding the 8th Street corridor is appropriate for demand.
- I would find the optimum speed for the largest amount of surface area, because like I said before, it needs to be quick and efficient for EVERY resident.

- I would focus on mini-hubs instead. Creating shorter routes, using locations i.e. shopping malls and downtown, as the terminals, would help buses stay on time, probably run a little more frequently, and reduce overcrowding along specific routes. It would mean more connections, but could improve coverage (and shorter, on time routes would help customers make their connections anyhow).
- I would go with an LRT or SkyTrain system as I have lived in large cities where this works so beautifully. The trains go from the furthest east to the furthest west and also north and south with the buses bleeding out from there to be the life blood of a city. This would also allow for transit fares to be bought at the stations along the route without the need for "exact change". If there were transit boxes like the parking ones already in the city, then people could put their \$5 bill in and not fight for change--punch the ticket they want-- ticket and change out the bottom and on their way. Passengers could also buy day passes at these machines which would also encourage ridership--This is the first city I have lived in that has not offered day passes, and that also limits my time on the busses. \$3.10 two ways for me, then \$2.10 four times for my children equals \$14.60 for a return trip--The last time I used Calgary transit I paid \$5 for a day pass and that granted me unlimited
- I would increase frequency during peak work times as well as change to a 30 min model till 8 or 9pm vs. on the hour, as customers getting off work past 6pm are stuck taking the bus for 1.5 to get home after work vs. the 30 min it took to get to work.
- I would just add putting free Wi-Fi on the buses :)
- I would just hope that those involved in route planning would begin (and continue) to be focused on. My fear is that a focus on frequency will come at the expense of improving coverage. Coverage is, in my opinion, the more frustrating aspect of the bus system.
- I would like to see better service to the North Industrial area, as it is a major employment area, current bus service is abysmal and there are significant traffic congestion problems. Cycling and walking in that area are unpleasant and dangerous due to the bad condition of roads, dirty roads and lack of sidewalks -- people who work there are virtually forced to drive as a result -- and if you can't drive or don't have a car you can't really work in that area.
- I would make it so all routes would be increased in frequency. I think having to wait 30 min for any bus is rather crazy. I have a disability, and I shouldn't have to sit in the cold or in a bad neighborhood because buses won't arrive on time or the bus happens to be full. If the bus doesn't stop it becomes an hour wait. That is not fair.
- I would make routes on Idylwyld, 22nd and college drive have a higher frequency. Also all routes that go to terminals and suburbs would have higher frequency.
- I would make route 13 permanent as it's a really quick service to Preston and University from north side
- I would not do these changes AT ALL, I would go back to the transit you had in 2013, it was easier to use and made more sense
- I would provide a schedule of these stops. It is difficult to imagine what will happen if I don't understand the times for all of the routes. Also, it would help if this plan specifically noted the places that would be at a disadvantage - at the moment, this change will not affect my riding ability. However, I would like to know how it could affect others, in order to truly understand the ramifications of these changes.
- I wouldn't change anything but in the winter time then yes

- If the busses are running more often use a 20 nor 30 seat bus. Out at the coast in the area my parents live a smaller bus runs the same rout all day, arriving about every 15 to 20 mins at the same stop, it connects to the large busses for people traveling to further destinations, so maybe try a smaller bus running 8th Street at the off peak times.
- Improve transit 33rd Street because there is none.
- Improving the street conditions will help. Removing intersections along the roadway. Physical separation between cars and buses.
- Include other high frequency areas including u of s, downtown and Broadway.
- Increase frequency (esp. evenings and weekends) EVERYWHERE.
- Increase frequency along major corridors, but don't let other areas suffer. You need other routes keeping up with the 8th street service, so that users have short wait times for transfers. The rest of the city transit shouldn't suffer for the sake of 8th street.
- Increase frequency for all routes! Not necessarily to the extent of 8th St but at least every 30 min at all times on all days. Sunday's and evenings especially! Not everyone works or goes to school Monday to Friday, 9-5. Example, retail workers, shift workers and night classes etc.
- Increase the frequency and times that the Route 28 goes to the University. It sucks having to walk 2 miles to get home when my classes beyond 2:30 (which is the last time it comes to the University.)
- Increase weekend and holiday frequency to q20min, at least between 07:00-19:00. The public service and hospitality industry doesn't close on weekends, so people working weekends need reliable transit 7 days a week. Weekend service models don't reflect our current working lives.
- Introduce the route with cheaper fares to attract new users or offer rides for free for one day a month for x period of time. It takes time for new riders to see the benefits but they'll get there if you make it easy for them to choose transit. Perhaps a new spin on how and who to target with promotion, e.g. young professionals, shoppers, workers, those going out in the evening on 8th street?
- It would be beneficial. At least it's a start and we could move forward from there. Let me look at the ground coverage between 8th and Taylor, and 8th and university and then I can give a better answer. After all, I feel that ground coverage is more important than frequency.
- Just do it right the first time. Learn what works, has worked, continues to work in other cities, and don't waste time and money. People lose patience, then trust in our so-called leaders. You're supposed to have the expertise and the resources, so no fumbles, just get it right from the get-go.
- Keep the buses on 8th street exactly how they are. Adding buses and changing times is a bonus and convenient for other but at the same time, its making us spend more money that we don't have with how the economy is. We spend 84 on a bus pass a month, to ride 80 buses where half of them don't meet up, always late or behind, never have extra buses on routes that struggle. Get out of your head on how to make transit better for the customer, try seeing it from a customer POV.
- Keeping the frequency of other routes.
- Less transfers because that would increase efficiency
- Like I have said no one uses 8th street and by throwing your money all in to one spot will never be the salutation.

- Looking closely at what incentive there are to change to this frequency model.
- Make it universal, and make it for both sides of the city. The west residents get nothing but crappy service and east get awesome frequent service - yeah for the east! If you live in the edge of the west you have a long way to go to get to the university in the morning, if you are anywhere on the east it will be awesome. If you're trying to make a bigger division of east-west residences, you have succeeded!
- Make sure it connects well with other crossing routes perpendicular to 8th so that it reduces wait times
- Make the line in the center. Yes, it's more expensive, but it will be beneficial in the long run (as lanes can be converted into LRT when the need comes), and less disruptive to the traffic. I suggest look at how Jakarta's Bus system is set up. Please don't look at cheap short term fix. just like the roads we have here in Saskatoon, always cheap short term fix and the city ended up having to fix it every year because of all the potholes. think of long term vision, and think of quality. Why not put the money planned for more bridges and tolls, towards efficient, good public transport that people much rather take than having their own car? For example, in Singapore and Tokyo people much rather take the train to commute than owning a car because it is much easier and more efficient. my vision is for small communities such as Martinsville, Dundurn, Warman and small towns around Saskatoon to be able to commute via bus or train.... there will be so much less traffic accidents in the
- Make the plan to half a million more dense in these areas and not build so much housing to make Saskatoon bigger
- Making more bus routes in the industrial area and increasing frequency, because lot of the employees that would drive to industrial area in the North End of the city such as 51 Street, Miller would take the bus if the frequency and connectivity was better. currently it takes about one hour to get to industrial area.
- Market to downtown businesses the eco-pass idea for their employees, particularly those would come down 8th to get to work.
- Merge both! Frequent and coverage!
- Merge shorter routes that overlap into longer ones where possible rather than cutting service to any areas. Stagger the schedules on newly introduced routes so that all routes don't arrive at terminal stations at basically the same time, as they do now. Increase service on Circle Drive North. Add a Circle Drive Express upon the opening of the North Circle Bridge for the convenience of people who may be traveling to destinations just one or two exits away along Circle who might otherwise have to go downtown and back to get there. This route could terminate at Market Mall and Confederation.
- More bus routes that service the outer neighborhoods of Saskatoon (Hampton Village, Stonebridge), that come about more frequently, have more frequent service to some areas of town that are only serviced at peak times (like North Industrial). If I had to take a bus from home to work, I would have to leave my house 2 hours before I start work just to make it on time, because there isn't enough service to HV and North Industrial, not to mention all the transfers!! Have a direct route from one neighborhood to another. I would like to shop in Stonebridge, have a direct route from HV to Stonebridge so that I could do so.
- More buses as well as a change in route plans
- More frequency everywhere.
- More renewably-powered buses

- More routes should be given this type of priority. Particularly around University and Downtown Terminals during peak hours.
- More west side routes because that is where the service is needed and where people that take the bus are.
- Need a denser population to make the frequency model work. quit sprawling the city
- Need density in key areas to impact change; if the city keeps spreading out, transit becomes less appealing and more expensive for taxpayers to pay for; need to decide what kind of city we want to be.
- No changes - give it at least two or three years before you think you might ditch it. (People are slow to change but you must advertise the benefits like crazy.)
- North/south routes on the west side of the city. More routes on college.
- Not a lot of people uses the bus so you could use the old models because no one really uses the buses.
- Not even do it...it's a waste of time and money to even consider this
- Not sure yet. Still looking over the new route maps. It would have been nice (for those of us who couldn't make the open house if there was a little more info available online. The new route maps only tell you so much, they don't indicate frequency for example. Maybe a short blurb for each new route explaining a bit about the rationale, how it differs, advantages/disadvantages etc.
- Nothing comes to mind at this point. I would suggest some improvements along 8th street to stop infrastructure, perhaps with real-time electronic signs at key intersections like what exists in Winnipeg along major routes: this resource would provide information to riders and also signal to everyone that 8th is a major corridor that can be relied on.
- Piecemeal implementation means connectivity is difficult city-wide, but understand the need
- Plan to make a proper downtown bus terminal
- Price. Our buses are expensive to ride which is why some people don't use them. If you lowered prices maybe there would be more people who would ride.
- Provide more info regarding transit usage now
- Rather than dumping a bunch of money into 5 minute 8th Street service, why not spread it out amongst more routes and have several routes that have every 15 minutes. This would benefit way more people than the few that travel 8th.
- Really I think that there are many other things that should be looked at before making a bus every 5 minutes on 8th Street a priority. Like Sunday's are a joke, I can't tell you how many times I've missed a transfer because the bus I was on was running late then I have to wait a whole hour to catch another one. There should be a system in place that if you miss a transfer because your bus is late that there's an alternative to having to wait an hour weather it's a shuttle bus or someone driving a van. It's really unacceptable
- Service every ten minutes in the evening. If people know they can take transit to meet a friend for coffee or go to a book store, and that a bus will pick them up again, whenever they are done, in about 10 minutes, is very important. If this is not done, the same people will keep using the bus - people who have no other option.
- Shorter and faster roots.
- Smaller, efficient and more frequent routes.

- Some of the new routes and route changes seem confusing.
- Start by keeping the drivers happy
- Take traffic patterns into consideration, more time for buses to get through major intersections (traffic lights), have dedicated bus lanes along major corridors
- That we do it for more buses.
- The description of the affected routes is unclear.
- The entire system needs to be overhauled. Getting the whole city back to 15 minute frequency would help ridership more than just concentrating on the main corridors. Saskatoon is not a park and ride city.
- The map provided is confusing since it only seems to show random routes and not the system as a whole. It makes it difficult for me to imagine how I would make some trips. I also wonder why this plan doesn't follow the growth plan and use the roads that were identified there. It seems like this means we will just have to go back and change it again in a year or two. Makes no sense to me why we wouldn't follow that plan.
- The price of bus fare first of all...
- There needs to be the same coverage available on weekends. That's when people go shopping, and kids go to the mall/visit friends and this transit could be used frequently during that time! Not to mention that this service on Weekend nights could alleviate drunk driving and contribute to a safe, social experience for so many who will have drinks in restaurants or bars on 8th street. Also should be more affordable. The only way I am able to afford the bus now is because I have a U-Pass but when I graduate this spring I will not be able to afford the transit system.
- This is not necessarily a change and it may be already accounted for in the plan - It is paramount that even if you weren't going to greater frequency along 8th Street that you provide safe street crossings at frequent intervals for those who have to cross 8th Street to catch a bus on the other side of the Street.
- Try every 10 or 15 minutes instead of 5.
- Try not to add new routes to the mix. we already have some routes for weekdays only and some directs, really do not need to create more routes to confuse bus drivers and riders.
- We had a good service with the Express buses years ago and they helped get people to major areas where they could access other routes and services. Going back to that model would be a good idea.
- We need to start looking at LRT systems NOW! Don't wait till land is too much \$\$\$\$ like Calgary did and make it an afterthought.
- West to east/north times. It's a long run from Blairmore or Parkridge to the north, east or south.
- When routes names are created, it would be nice to have clear names added with a descriptor of the 'via' street. (i.e. 8th Street via Idylwyld or Downtown via Idylwyld). When displaying the new routes, it would be great to have visual displays of frequency and separate displays of times (e.g. which buses stop running in the evenings.)

Online Survey

Introduction

Public transit is one of the key components of the City's strategic goal of Moving Around, and one of six main themes of Growing Forward! Shaping Saskatoon – the City's growth plan to 500,000.

This survey provides an opportunity for you to provide feedback on the new frequency model for 8th street transit service and to educate us on how you would like to move around Saskatoon.

Explanation

Saskatoon Transit currently offers pickups within 450 meters of any residence in Saskatoon, routing most service through the Downtown Terminal and providing service to stops roughly every 35 minutes. Increased service is offered in the morning and afternoon peak hours and in areas of higher demand. This is a coverage transit model.

In an effort to better serve citizens and grow ridership, Saskatoon Transit is considering a concept that reallocates resources in order to increase frequency along popular routes. This is a frequency model. An initiative is being developed for the summer of 2016 to provide 5 minute frequencies along 8th Street during peak periods and 10 minute frequencies during the remainder of the weekday, with 30 minute frequencies during evenings, weekends, and statutory holidays. Other bus routes that serve the 8th Street Corridor and other impacted routes would also be redesigned to increase service frequency along 8th Street and increase ridership to downtown. A frequency transit model also means having some pickups located further away than 450 meters in outlying neighbourhoods and/or reducing how often the bus comes in these outlying neighbourhoods.

This survey is your opportunity to provide us feedback on the 8th street initiative and will help Saskatoon Transit with planning in the future. To see all of the new and revised routes for this area please visit saskatoontransit.ca

Q1. Being able to access bus service along 8th Street more frequently, for example every 5 minutes on certain portions of 8th Street, is positive? Please tell us on a scale of 1 to 5, where 1 means you strongly disagree up to 5 for strongly agree.

- 1) Strongly disagree
- 2)
- 3)
- 4)
- 5) Strongly agree
- 6) Unsure/Don't know

Q2. Why do you say that? (OPEN END)

Q3. Saskatoon should move public transit away from a coverage model and more to a frequency model?

- 1) Strongly disagree
- 2)
- 3)
- 4)
- 5) Strongly agree
- 6) Unsure/Don't know

Q4. People in Saskatoon would use transit more often if service frequency were increased along major corridors like 8th Street?

- 1) Strongly disagree
- 2)
- 3)
- 4)
- 5) Strongly agree
- 6) Unsure/Don't know

Q5. What do you like about moving transit to a frequency model or what concerns you about this?

(OPEN END)

Q6. I believe moving to a frequency model along 8th Street will benefit Saskatoon residents.

- 1) Strongly disagree
- 2)
- 3)
- 4)
- 5) Strongly agree
- 6) Unsure/Don't know

Q7. If you have the ability to change anything in this plan, what would you change and why?

(OPEN END)

Finally, we have a few questions for classification purposes.

Q8. In which age range do you fall?

- 1) Under 18
- 2) 18-34
- 3) 35-54
- 4) 55-64
- 5) 65 and over
- 6) Refused

Q9. How often do you use Saskatoon Transit?

- 1) Daily (5 days per week)
- 2) 3-4 days per week
- 3) 1-2 days per week
- 4) 1-3 days per month
- 5) Less than 1 day per month
- 6) Never

Q9. How often do you drive or cycle on 8th Street?

- 1) Daily (5 days per week)
- 2) 3-4 days per week
- 3) 1-2 days per week
- 4) 1-3 days per month
- 5) Less than 1 day per month
- 6) Never

- Q9. How often do you travel to downtown?
- 1) Daily (5 days per week)
 - 2) 3-4 days per week
 - 3) 1-2 days per week
 - 4) 1-3 days per month
 - 5) Less than 1 day per month
 - 6) Never
- Q10. Do you currently use transit primarily to get . . . ?
- 1) Downtown
 - 2) University campus
 - 3) to other parts of the city (Please describe)
- Q11. What part of Saskatoon do you live in?
- 1) Postal Code or text box
- Q12. Are you a student?
- 1) Yes
 - 2) No
- Q13. Do you work downtown?
- 1) Yes
 - 2) No
- Q14. Gender
- 1) Male
 - 2) Female

Thank you very much for taking time to share your opinions. Your input is appreciated and will help guide the future of Transit Services in Saskatoon. Do you have any additional comments or suggestions you would like to share?

(OPEN END)

Thank you very much!

Brighton Neighbourhood Proposed Access Change

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:
That the transportation access strategy for the Brighton neighbourhood be revised based on implementation of Alternative 2 as outlined in this report.

Topic and Purpose

The purpose of this report is to outline alternative transportation access strategies for the Brighton neighbourhood.

Report Highlights

1. The initial transportation access strategy for the Brighton neighbourhood included an additional at-grade intersection along College Drive.
2. Alternative transportation access strategies are outlined, including their impacts to planned development in the Brighton neighbourhood and ongoing procurement of the McOrmond Drive/College Drive interchange.
3. The requirement for a left-out from Brighton onto College Drive can be eliminated if changes are made to the Sector Concept Plan that reduce the left-turn westbound traffic demand on the McOrmond interchange.

Strategic Goals

This report supports the Strategic Goal of Moving Around by creating “complete communities” in new neighbourhoods that feature greater connectivity, both internally and externally. It also supports the long-term goal to develop an integrated transportation network that is practical and useful for vehicles, transit, bikes and pedestrians.

Background

City Council, at its meeting held on March 21, 2016, defeated the bylaw for the Brighton Neighbourhood Concept Plan amendment, which included the additional at-grade access point into Brighton from College Drive.

Report

Alternative Solutions for Brighton Access

In order to support the planned development without an additional at-grade access point along College Drive, a revised transportation access strategy will be required. A number of alternatives were considered to support the higher level of density proposed in the Brighton neighbourhood and adjacent Holmwood Suburban Centre including:

1. Previously approved strategy with at-grade intersection into Brighton and Parclo B interchange at McOrmond Drive.
2. Right-in access only into Brighton, Parclo B interchange at McOrmond Drive and increase capacity of access to the Suburban Centre.

Brighton Neighbourhood Proposed Access Change

3. Grade separation at Brighton access point and Parclo B interchange at McOrmond Drive.
4. No access at Brighton, increase capacity of interchange at McOrmond Drive to include an additional free-flow ramp.
5. No access at Brighton, Parclo B interchange at McOrmond Drive and reduce density in Holmwood sector.

Attachment 1 outlines these five alternatives, including comments on the impact to the planned development in the Holmwood Sector and the ongoing procurement of the interchange at McOrmond Drive/College Drive. Both Alternative 1 and Alternative 2 are feasible and provide adequate capacity to support the Holmwood Sector development in the long-term. The Administration recommends Alternative 2 if an additional at-grade intersection along College Drive into the Brighton neighbourhood is not supported.

Alternative 2 is based on making adjustments to the Sector Plan which would allow Brighton to proceed without the requirement for a left-out at the neighbourhood mid-point. All Sector Plan changes will need to be ultimately supported by the developers and the City.

The primary solution being considered under Alternative 2 is a Holmwood Sector Plan Amendment to include an additional access point east of McOrmond Drive to the Suburban Centre. This access point will be enhanced and possibly grade-separated to provide additional northbound left turning capacity from the Holmwood Sector. This additional capacity would replace the northbound left turn capacity that would have been achieved by the left-out at the Brighton mid-point onto College Drive.

Options to the Recommendation

A list is outlined in the attachment, Transportation Access Strategy Alternatives.

Public and/or Stakeholder Involvement

In 2013, the functional plan for the McOrmond Drive/College Drive interchange was presented at a public open house. The feedback at that time focused on the desire to expedite the construction of the interchange and to retain a free-flow movement for southbound traffic. Additional stakeholder and public involvement would occur as a result of the Holmwood Sector Plan amendment process.

Communication Plan

Information regarding the McOrmond Drive/College Drive interchange will be made available on the City website. As that project progresses, specific information, including any construction or traffic flow impacts, will be shared via the City Daily Road Report, the City Service Alerts (saskatoon.ca/service-alerts), the online construction map (saskatoon.ca/constructionmap) and through advertisements and public service announcements as appropriate.

Financial Implications

The financial impact will depend on the decision of City Council as to the transportation access strategy.

Other Considerations/Implications

There are no policy, environmental, privacy, or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

The amendment to the Holmwood Sector Plan is planned for mid-2016.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Alternative Transportation Access Strategies

Report Approval

Written by: Jay Magus, Engineering Manager, Transportation
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS AG JM – Brighton Neighbourhood Proposed Access Change.docx

Transportation Access Strategy Alternatives

<p>Alternative 1:</p>	<ul style="list-style-type: none"> • Right-in at Brighton Access near-term • Add northbound left-turn out at Brighton Access long-term • Interchange plans at McOrmond/College remains as-is <p>(Maintain previously approved plan)</p>
<p><i>Brighton Access</i></p>	<p><i>McOrmond/College Interchange</i></p>
<ul style="list-style-type: none"> • Staging: <ul style="list-style-type: none"> ○ Initial: <ul style="list-style-type: none"> ✓ Eastbound right in only ✓ No northbound left-turn ✓ No westbound left-turn ✓ No signals ✓ Will be left in this condition for many years ○ Long term (10+ years): <ul style="list-style-type: none"> ✓ Eastbound right-in ✓ Northbound left-turn ✓ Westbound left-turn ✓ Traffic signals installed ✓ Westbound through is free-flow ✓ Eastbound through will face traffic signals to allow safe northbound left-turn movement 	<ul style="list-style-type: none"> • Parclo B style interchange <ul style="list-style-type: none"> ○ Eastbound to northbound left-turn is free-flow via a loop ○ Northbound to westbound left-turn is controlled via a traffic signal ○ East-west traffic is free-flow ○ Long-term it is expected that the northbound to westbound left-turn reaches capacity, thus triggering the northbound left at Brighton Access
<p><i>Comments</i></p>	
<ul style="list-style-type: none"> • The Holmwood Sector Plan assumes additional access points east of McOrmond Drive. • Unless other changes are made to the Sector Plan, interchange traffic demand will ultimately exceed capacity, specifically the northbound to westbound left-turn. • The left-out of Brighton was proposed to relieve westbound left-turn traffic from the McOrmond/College interchange, and avoid future service level failure of the interchange. • The proposed at-grade intersection would be configured to ensure safety, with appropriate speed limits and traffic signals. • Additional intersections promote connectivity and provide relief both during normal operating conditions and in the event other Arterial roadways are affected by anomalies such as construction or other blockages. 	
<p>Conclusion: Viable Option</p>	

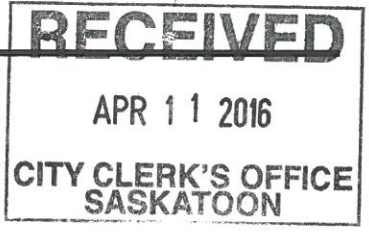
Alternative 2:	<ul style="list-style-type: none"> • Right-in at Brighton Access • Interchange plans at McOrmond/College remains as-is • Adjust Sector Plan, including access to the Suburban Centre to draw traffic from the McOrmond/College Interchange, thus making the Brighton concept plan viable without the requirement for the mid-point left-turn onto College Drive. 	
<i>Brighton Access</i>		<i>McOrmond / College Interchange</i>
<ul style="list-style-type: none"> • Staging: <ul style="list-style-type: none"> ✓ Eastbound right-in only ✓ No northbound left-turn ✓ No westbound left-turn ✓ No signals ✓ Future flexibility to add left-out, but not a requirement 	<ul style="list-style-type: none"> • Parclo B style interchange <ul style="list-style-type: none"> ○ Eastbound to northbound left-turn is free-flow via a loop ○ Northbound to westbound left-turn is controlled via a traffic signal ○ East-west traffic is free-flow ○ Long-term it is expected that the northbound to westbound left-turn reaches capacity 	
<i>Comments</i>		
<ul style="list-style-type: none"> • The Holmwood Sector Plan assumes additional access points east of McOrmond Drive. • Other Sector Plan changes could be made, including a combination of density and connectivity adjustments, which would allow Brighton to proceed without the requirement for a left-out at the neighbourhood mid-point. The developer and the City will work collaboratively to find a mutually agreeable resolution. • The primary solution being considered is a Holmwood Sector Plan Amendment to include an additional access point east of McOrmond Drive into the Suburban Centre. This access point will be enhanced and possibly grade-separated to provide additional northbound left turning capacity from the Holmwood Sector, to alleviate the requirement for the access point directly out of Brighton. 		
Conclusion: Viable Option		

Alternative 3:	<ul style="list-style-type: none"> • Grade separation at Brighton Access • Interchange plans at McOrmond/College remains as-is 	
<i>Brighton Access</i>		<i>McOrmond / College Interchange</i>
<ul style="list-style-type: none"> • Partial interchange <ul style="list-style-type: none"> ○ Eastbound to southbound right- turn ○ Northbound to westbound ramp over College Drive ○ East-west traffic is free-flow 		<ul style="list-style-type: none"> • Parclo B style interchange <ul style="list-style-type: none"> ○ Eastbound to northbound left-turn is free-flow via a loop ○ Northbound to westbound left-turn is controlled via a traffic signal ○ East-west traffic is free-flow ○ Long-term it is expected that the northbound to westbound left-turn reaches capacity, thus triggering the northbound left at Brighton Access
<i>Comments</i>		
<ul style="list-style-type: none"> • The impacts of pursuing this option are as follows: <ul style="list-style-type: none"> ○ The grade required for the structure would extend further into the Brighton neighbourhood than the first intersection triggering the re-design of at least two crescents inside the neighbourhood; ○ The development of ramps and side-slopes would have private property impacts in the Arbor Creek neighbourhood; ○ The grade of the interchange would be approximately 8 metres above the existing berms and walls increasing the traffic noise in the Arbor Creek neighbourhood; ○ The westbound ramp from an interchange at this location would terminate on the upslope of the CPR rail overpass triggering significant upgrades to that overpass and embankment. • Constructing an interchange would have significant financial implications with limited benefits to traffic flow. • A partial interchange may cost upwards of \$30 Million given the physical constraints at this location, in addition to significant negative impact to developable area and therefore density. • Consideration for an underpass instead of an overpass would require significant retaining walls (substantially increasing the cost) and may be constrained by storm water management in the area. 		
Conclusion: Not Viable Considering Geometry of the Site		

Alternative 4:	<ul style="list-style-type: none"> • No access at Brighton Mid-Point • Larger interchange at McOrmond/College 	
<i>Brighton Access</i>	<i>McOrmond/College Interchange</i>	
<ul style="list-style-type: none"> • No Access 	<ul style="list-style-type: none"> • Parclo B style interchange + directional ramp <ul style="list-style-type: none"> ○ Eastbound to northbound left-turn is free-flow via a loop ○ Northbound to westbound left-turn is upgraded to a directional ramp (a directional ramp is a third level structure that is aligned completely over the Parclo interchange) ○ East-west traffic is free-flow 	
<i>Comments</i>		
<ul style="list-style-type: none"> • The impacts of pursuing this option are as follows: <ul style="list-style-type: none"> ○ Additional lands would be required from the developer south of College Drive; ○ The developer would be required to redesign the Brighton neighbourhood; ○ The grade of the directional ramp would be significantly above the Arbor Creek and Willowgrove neighbourhoods increasing the traffic noise in these neighbourhoods; and ○ A significant impact to the schedule would occur and the delivery of the interchange would be delayed. • The interchange costs would most likely exceed \$75 Million. • Limited access points along College Drive do not provide the redundancy required in emergency situations, nor does it create the connectivity desired. 		
Conclusion: Viable but Not Preferred		

Alternative 5:	<ul style="list-style-type: none"> • No access at Brighton Mid-Point • Interchange plans at McOrmond/College remains as-is • Reduce density in Holmwood Sector 	
<i>Brighton Access</i>		<i>McOrmond/College Interchange</i>
<ul style="list-style-type: none"> • No Access or right-in only 		<ul style="list-style-type: none"> • Parclo B style interchange <ul style="list-style-type: none"> ○ Eastbound to northbound left-turn is free-flow via a loop ○ Northbound to westbound left-turn is controlled via a traffic signal ○ East-west traffic is free-flow ○ Long-term it is expected that the northbound to westbound left-turn reaches capacity
<i>Comments</i>		
<ul style="list-style-type: none"> • Reduction in the density in the Holmwood Sector would not be consistent with the density targets. 		
Conclusion: Viable but Not Preferred		

4110-46



From: Neil Stranden <nstranden@hotmail.com>
Sent: April 10, 2016 6:55 PM
To: Web E-mail - City Clerks
Subject: BRIGHTON NEIGHBORHOOD PROPOSED ACCESS CHANGE

Attention: Shellie Bryant, Deputy City Clerk

Re: File No. CK.4110-46

This email is to inform you that I wish to speak to the Committee providing comments regarding this matter, The Brighton Neighbourhood Proposed Access Change.

Page B8, Wednesday, March 23, 2016 of the StarPhoenix submitted an article pertaining to how big cities are working to keep motorists moving well. One on the ways Saskatoon can retaining this is to NOT add a new access to college drive. This additional access would slow down traffic, frustrating some drivers which may cause serious collisions. Many Saskatoon drivers fee they have to slow down up to a kilometre away from traffic lights or cause a back log of a kilometre at the traffic lights since these drivers also require several car lengths ahead of them when they are stopped. With or without lights, T-boned accidents could happen, like the one at Attridge and Central. causing serious injuries or worse. To keep traffic moving well, the overpass at College and McOrmand could accommodate this traffic, especially if the street in Brighton, parallel with College Drive is widened farther south-west to the intersection that was proposed to be the new access.

I also hope that the new McOrmand Drive between College Drive and 8th Street East is as wide as McOrmand Drive from College Drive to Attridge Drive and that the street light poles are set farther away from the roadway to cut costs when this roadway becomes three lanes in each way. Also, the McOrmand Drive from College Drive to 8th Street East is already needed.

I look forward to presenting these proposals Monday, April 11, 2016 at 9:00 am. in the Council Chamber, Main Floor, City Hall.

Neil Stranden
1906 Kenderdine Road
SASKATOON, SK S7N 4K3

TEL: 306-244-2283

Yours truly,

Neil

2016 Overpass Testing and Inspection Program - Award of Engineering Services

Recommendation

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

1. That the engineering services proposal submitted by CH2M HILL Canada Limited for completion of the 2016 Overpass Testing and Inspection Program, at a total estimated cost, on a lump sum basis, to an upset limit of \$103,829 (including P.S.T. and G.S.T.); and
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

Topic and Purpose

This report is to obtain City Council's approval to award an engineering services agreement for necessary testing and inspection activities on the overpass structures located throughout the City of Saskatoon, to CH2M HILL Canada Limited.

Report Highlights

1. Testing and structural inspection of the City's bridge and overpass inventory is conducted on a regular cycle.
2. This information is used to determine the economically optimum timing of major and minor rehabilitation work.
3. The Administration is recommending that the engineering services agreement for the 2016 Testing and Inspection Program be awarded to CH2M HILL Canada Limited.

Strategic Goal

The recommendations in this report support the Strategic Goal of Asset and Financial Sustainability as the project is a key component in the Administration's efforts to develop and optimize short and long-term preservation programs.

Background

Major Projects, Asset Management Section conducts testing on each of the City's concrete bridge and overpass structures on a six-year cycle. This information is used to predict the future trend of condition versus time. In addition to annual safety and maintenance inspections by City personnel, each of the City's bridge and overpass structures are subject to a thorough structural inspection by a structural engineer on a three-year cycle. This information is used to determine the economically optimum timing of major and minor rehabilitation work.

In 2016, 6 structures are to be tested and 18 structures are to be inspected.

Report

A Request for Proposal for engineering services for the 2016 Overpass Testing and Inspection Program closed on March 10, 2016. 6 proposals were received.

After a comprehensive review, the proposal from CH2M HILL Canada Limited was determined to be the highest scoring proposal, at a total estimated cost, on a lump sum basis, to an upset limit of \$103,829 (including G.S.T. and P.S.T.).

Options to the Recommendation

This commission is required in order to support the City's asset management system for bridges and structures.

Communication Plan

Project information and traffic restrictions impacting drivers and residents may be communicated through multiple channels including the news media, social media, construction letters, service alerts and the City's website. If necessary, advertising in the City Pages may be used.

Financial Implications

The estimated net cost to the City for the engineering services as submitted by CH2M HILL Canada Limited is as follows:

Base Fees	\$ 98,885
G.S.T.	<u>4,944</u>
Sub-Total	\$103,829
G.S.T. Rebate	<u>(4,944)</u>
Net Cost to the City	<u>\$ 98,885</u>

There is sufficient funding available within the 2016 Bridges Operating Budget to complete this work.

Environmental Implications

The activities relating to the overpass testing and inspection program are associated with consumption of resources (fuel use) and greenhouse gas emissions. The overall impact on greenhouse gas emissions is not known at this time.

Other Considerations/Implications

There are no public and/or stakeholder involvement, policy, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

A follow-up report is not required.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by: Todd Grabowski, Manager, Asset Preservation for Bridges
Reviewed by: Rob Frank, Manager, Asset Management Section
Reviewed by: Dan Willems, Director of Major Projects
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS TG – 2016 Overpass Testing and Inspection Program.docx

2016 Transit Bus Refurbishment – Request for Proposal Award

Recommendation

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

1. That the proposal submitted by MTB Transit Solutions for the refurbishment of 10 New Flyer buses, with the option to extend for five additional years, for a total of \$917,694.00 plus taxes be accepted; and
2. That Purchasing Services be authorized to issue the necessary Purchase Order.

Topic and Purpose

The purpose of this report is to request City Council's approval for the proposal submitted by MTB Transit Solutions to proceed with the refurbishment of ten, New Flyer buses.

Report Highlights

1. Saskatoon Transit has a fleet of 158 buses. This is made up of 57 40-foot buses which are older than 1998, 84 buses that are 2002 or newer, 10 articulating buses and 6 Arboc buses.
2. This work is for refurbishment of buses in the existing Transit fleet. Refurbishment of buses is a common industry practice and is required in order to maintain Saskatoon Transit's fleet.
3. A Request for Proposal (RFP) for refurbishment was issued on February 18, 2016. Three proposals were received. The highest scoring proposal was submitted by MTB Transit Solutions.

Strategic Goals

The recommendations in this report support the long-term strategy to provide a coordinated approach to customer service under the Strategic Goal of Continuous Improvement.

This report also supports the strategy to maximize the useful life of our assets and maintain our infrastructure, as well as work toward an asset management and rehabilitation philosophy under the Strategic Goal of Asset and Financial Sustainability.

The recommendations support the long-term strategy to increase Transit ridership by establishing transit as a viable option for transportation.

Background

Throughout the life span of a transit bus, there is a requirement for a refurbishment, be it structural and/or mechanical. The typical structural refurbishment occurs at approximately year 8 of the life of the bus.

With the approval of the Transit Bus Replacement Strategy, funding for timely refurbishments is now possible and sustainable.

Report

Saskatoon Transit's Fleet

Saskatoon Transit has a conventional fleet consisting of 107 40-foot low-floor buses, manufactured by New Flyer and Nova Bus. The New Flyer fleet consists entirely of models manufactured from 1995 through to 2011. The 1995 and 1997 buses were purchased used and will not be considered for refurbishment as they have now outlived their economic lifespan.

Refurbishment is an accepted industry practise to extend the useful life of a transit bus. The process is an invasive one where the outer body is removed, the interior is removed for access to flooring and structure, all rusted steel is cut out and replaced, and any major mechanical overhaul required is completed at this time.

RFP for Refurbishment

An RFP for the structural refurbishment of nine 2002 and one 2006 New Flyer buses was issued on February 18, 2016, with a closing date of March 1, 2016.

The Administration received three responses to the RFP from the following companies:

- BRC Group (Calgary AB)
- MTB Transit Solutions (Milton ON)
- New Flyer Industries Canada ULC (Arnprior ON)

As part of the RFP, engine and transmission complete rebuilds were added as an option if the mileage of the bus showed the requirement to do so. These rebuilds will be assessed on a bus by bus need.

Proposals were evaluated individually by a team of three maintenance management personnel, two mechanical supervisors and the maintenance manager. Evaluations were based on the matrix outlined below:

Transit Bus Repair Experience	25
Project Comprehension	15
Project Methodology and Technical Approach	20
Schedule	15
Proposal Pricing	20
Proposal Presentation	<u>5</u>
Total	100

Options to the Recommendation

An option would be to not refurbish these buses, and instead, replace all ten with new units at a total cost of approximately \$5M. Bus refurbishment is in addition to the City's replacement strategy, which will see the purchase of approximately 10 new buses annually.

Communication Plan

All proponents will be contacted to inform them of the decision that has been made. A communications plan will be developed outlining the benefits of the refurbishment project.

Policy Implications

The recommendation being presented is in accordance with City Council Policy C02-030 – Purchase of Goods, Services and Work and specifically under 5.4 “in the case of requests for proposals, the City shall accept the proposal which, in the opinion of the City, best meets the requirements of the City, unless the proposal documents set out additional and/or other acceptance criteria”.

Financial Implications

The net cost to the City for the proposal submitted by MTB Transit Solutions for the refurbishment of 10 New Flyer buses, with the option to extend for five additional years would be as follows:

Base	\$ 917,694.00
GST (5 %)	45,884.70
PST (5 %)	45,884.70
Sub-total	<u>\$1,009,463.40</u>
GST Rebate	(45,884.70)
Net Cost to the City	<u>\$ 963,578.70</u>

The above price includes the rebuild of four engines and transmissions. 2016 Capital Project #0583, TR – Replace/Refurb Buses, has sufficient funding for this project.

Other Considerations/Implications

There are no public and/or stakeholder involvement, environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

The expected completion of the project is August 2016.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by: Paul Bracken, Maintenance Manager, Saskatoon Transit

2016 Transit Bus Refurbishment – Request for Proposal Award

Reviewed by: James McDonald, Director of Saskatoon Transit
Approved by: Jeff Jorgenson, General Manager, Transportation and Utilities

TRANS PB – 2016 Transit Bus Refurbishment – Request for Proposal Award.docx

Polycarbonate Traffic Signal Housings – Award of Contract – Blanket Purchase Order

Recommendation

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

1. That the City enter into an agreement with Interprovincial Traffic Services Ltd. to supply Siemens Eagle polycarbonate traffic signal housings over a three year period at an upset limit of \$44,000 (including taxes) in the first year; and
2. That Purchasing Services issue the appropriate purchase order.

Topic and Purpose

The purpose of this report is to obtain approval to enter into a contract with Interprovincial Traffic Services Ltd. for the provision of Siemens Eagle polycarbonate traffic signal housings. The provision of services will be in the form of a Blanket Purchase Order over a three year period, with an upset limit of \$44,000 (including taxes) in the first year. Years two and three are estimated at \$48,000 and \$52,000 per year respectively (including taxes), and extending the Blanket Purchase Order is subject to inventory requirements.

Report Highlights

1. The City's inventory of polycarbonate traffic signal housings consists almost entirely of Siemens Eagle traffic signal housings and the Administration is seeking housings to be supplied by Interprovincial Traffic Services Ltd., the only distributor of Siemens Eagle signal housings in Western Canada.
2. A three year contract with Interprovincial Traffic Services Ltd. is being recommended with an upset limit of \$44,000 (including taxes) in the first year.

Strategic Goals

This report supports the Strategic Goals of Continuous Improvement and Asset & Financial Sustainability by permitting traffic signal housings to be continually sourced from Interprovincial Traffic Services Ltd. to avoid maintenance and compatibility issues arising from use of other traffic signal housings.

Background

The City of Saskatoon has 275 signalized intersections with greater than two thousand signal housings deployed. Approximately 98% are Siemens Eagle traffic signal housings supplied by Interprovincial Traffic Services Ltd.

Report

The continued growth of the city has increased the number of signal housings used for new construction and ongoing maintenance and repairs.

A three year contract with Interprovincial Traffic Services Ltd. is recommended for the following reasons:

- Only distributor of Siemens Eagle signal housings in Western Canada;
- Interchangeability of signal housings is not an issue and, maintenance is greatly simplified;
- Electronics Shop stores has a large quantity of parts and materials compatible only with Siemens Eagle signal housings making these a sound financial choice; and
- Siemens Eagle signals housings are high quality polycarbonate housings that are well-suited for service in Saskatchewan weather.

The Administration recommends that Interprovincial Traffic Services Ltd. be awarded a contract for the provision of Siemens Eagle traffic signal housings for a period of up to three years. At that time, the Administration will review the current inventory of signal housings and other available products in the industry.

Policy Implications

Awarding a contract to Interprovincial Traffic Services Ltd. is consistent with Section 4.3(b) of Policy C02-030 – Purchase of Goods, Services and Work as they are the sole distributor of Siemens Eagle signal housings in Western Canada.

Financial Implications

The supply of traffic signal housings is funded in the 2016 Operating Budget from the Electronic Stores Inventory. These units will be charged out to various projects. The estimated costs to the City for years two and three are \$48,000 and \$52,000 per year respectively and are dependent on budget approval.

Contract Amount	\$40,000
PST (5%)	2,000
GST (5%)	<u>2,000</u>
Total Cost	\$44,000
GST Rebate (5%)	<u>(2,000)</u>
Net Cost to the City	<u>\$42,000</u>

Other Considerations/Implications

There are no options, public and/or stakeholder involvement, communications, environmental, privacy, or CPTED considerations or implications.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Due Date for Follow-up and/or Project Completion

There will be no follow-up report. Traffic signal housings are required for day-to-day operation, the construction of capital projects, maintenance and repairs.

Report Approval

Written by: Greg Borisko, Operations Superintendent-Electronics Shop
Reviewed by: Cory Funk, Traffic Operations & Control Manager
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS GB – Polycarbonate Signal Housings – Award of Contract - BPO.docx

Inquiry – Councillor Z. Jeffries (January 25, 2016) – Use of Snow Melters

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated March 11, 2015, be forwarded to City Council for information.

Topic and Purpose

The purpose of this report is to provide information on the study completed for the feasibility, technically and financially, of using snow melters in the City of Saskatoon.

Report Highlights

1. Snow melters can be effective and efficient in reducing hauling and snow site storage costs where there are long hauling distances.
2. There are many variables that can affect the cost of removing or melting snow; however, the current cost per cubic meter of snow hauled and stored when loaded by blower and by loader is \$2.95 and \$3.17 respectively. The cost of melting a cubic meter of snow using diesel or liquid propane gas is \$4.98 and \$8.41 respectively.
3. The current process of hauling and storing of snow has lower CO₂ emissions and lower costs as the City is already equipped for this type of operation.

Strategic Goals

This report supports the Strategic Goal of Moving Around by ensuring snow removal operations are as efficient as possible. This report also supports the Strategic Goal of Continuous Improvement by studying alternative methods to current operations.

Background

The following inquiry was made by Councillor Z. Jerries at the meeting of City Council held on January 25, 2016:

“Could Administration please report on the feasibility, technically and financially, of using snow melters in Saskatoon. In some cases, to replace the hauling of snow to snow dumps.”

Report

A feasibility study was completed and is included as Attachment 1. This study found that the current cost of operating snow melters was higher than the current snow management methods employed by the City as indicated below:

- \$2.95 to \$3.17 per m³ for current methods
- \$4.98 to \$8.17 per m³ for commercial available melters

The study also found that the use of snow melters would have a larger environmental impact through greenhouse gas emissions and presented logistical challenges. For example, carbon dioxide emissions were estimated to be over ten times higher from melting than current methods. Melting also increases the risk of freezing in storm sewers, possibly resulting in flooding.

Since the parameters that drive the costs of snow melting and snow removal are highly variable, the range of probable costs and CO₂ emissions were compared for Saskatoon market conditions. The results showed that the City should undertake snow hauling and removal with a blower whenever possible and substitute loaders when it is not possible to use the blower.

Options to the Recommendation

City Council could direct the Administration to use snow melters instead of hauling and storage of snow. This option would require additional funding for capital, training, and operations

Environmental Implications

The recommendation does not change the current environmental impact of snow removal operations. Changing to snow melting operations would significantly increase the greenhouse gas emissions from snow operations, in particular CO₂.

Other Considerations/Implications

There are no policy, public and/or stakeholder involvement, communication, financial, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

Administration will continue to monitor market conditions and hauling distances. Should these parameters change for a prolonged period, another feasibility study will be conducted.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Feasibility Study of Melting Snow in Saskatoon for Public Works

Report Approval

Written by: Russ Munro, Engineering Manager Logistics and Procurement
Reviewed by: Trent Schmidt, Acting Director of Public Works
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities Department

Feasibility Study of Melting Snow in Saskatoon for Public Works

Russ Munro, P.Eng., MMP

March 8, 2016

Abstract

The Logistics and Procurement section (L&P) was asked to complete a feasibility study on the use of snow melters to replace hauling and storage of snow for the City of Saskatoon (City) based on a Council inquiry from the 25th of January 2016. To complete the feasibility assessment (L&P) looked at the economics, environmental impact, and logistics (operations) of snow melting compared to current methods of loading and hauling. The assessment found that hauling and storage of snow provide lower costs and CO_2 emissions for the City under current and likely future conditions. The assessment recommended that because of the lower emissions and costs, and since the City is currently trained and operating on the hauling and storage that this practise be continued. The study also recommends that L&P continue to watch the parameters that effected this study and complete another assessment should the parameters change and make snow melting look more favourable.

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1 Introduction

1.1 Back Ground

At the January 25,th 2016 City Council meeting Councillor Jeffries requested *Could Administration please report on the feasibility, technically and financially, of using snow melters in Saskatoon. In some cases, to replace the hauling of snow to snow dumps.*” The formal memorandum from the City Clerk is attached to this document as Annex A.

The feasibility study was assigned to the Logistics & Procurement group within Construction and Design. The scope of this study was to be a high level review of the economic, logistical, and environmental feasibility of melting snow. Since the parameters of melting snow involve many variables, techniques from decision science were employed to help select the best options between two current methods and two methods of melting. The current methods assessed were snow hauling using snow blowers and snow hauling with loading using front end loaders to load trucks. Two methods of melting snow were considered, liquid propane gas (LPG) heating and diesel heating. Industrial equipment is available in Western Canada for both of these methods. Other methods including large solar arrays and melting at current snow facilities were not in the scope of this study.

1.2 Current Practice

Public Works (PW) Roadways Section (Roadways) currently uses a combination of storing snow in windrows, hauling snow by truck loaded with a blower, and hauling snow with trucks loaded with a front end loader. Snow is hauled to one of four Snow Dumps around Saskatoon and starting in the winter of 2016 and 2017 will be able to be hauled to the new snow management facility at the Civic Operations Centre.

1.3 Methodology and Assumptions

Costs were calculated based on a per cubic meter of snow so that all methods could be compared equally. Known costs for grading, trucking, snow storage and pushing were taken from current City of Saskatoon rates as well as contract rates available to the City of Saskatoon. Estimates had to be made for the capital costs of the melting equipment due to the reluctance of vendors to disclose pricing without a formal process. Estimates were also taken from experienced operators on haul times, truck speeds, and loading times. The specific values assumed for the many parameters for each type of snow removal are described in Section 2.

The energy required to melt snow was based on thermodynamic principles. The total energy required to melt the snow, Q_T , is described in Equation 1.

$$Q_T = Q_f + Q, \tag{1}$$

where Q_f , is the heat of fusion—the heat required to melt the snow— and Q is the change in energy required to bring the snow to the melting temperature. Q_f and Q are described in Equations 2 and 3.

$$Q_f = h_f * \rho, \tag{2}$$

where h_f is the heat of fusion—the energy required to change phase from solid to liquid, and where ρ is the density of the snow. Equation 2 is only applicable in this analysis because it is completed per cubic meter of snow.

$$Q = m * c * \delta(T), \quad (3)$$

where m is the mass of snow, c is the thermal capacity of snow, and $\delta(T)$ is the required temperature change in degrees Kelvin.

The maximum efficiency of heat transfer for the snow melters is not known, as this information is not readily published. To address this gap in information the maximum possible efficiency based on the Carnot Cycle is used. This estimate of efficiency will be higher than is physically possible of any snow melter in practical applications. The maximum efficiency is described in Equation 4.

$$\eta_{max} = 1 - \frac{T_c}{T_h}, \quad (4)$$

where η_{max} is the maximum possible efficiency converting fuel energy to heating the snow, T_c is the temperature of the cold reservoir (in this case the snow), and T_h is the temperature of the hot reservoir (in this case the combustion chamber for the fuel). Equations 1 to 4 are used to determine the amount of fuel used to melt the snow.

2 Analysis

2.1 Hauling Snow

Hauling snow is conducted by two methods. Tri-axle trucks are loaded by a front end loader or by a large snow blower pushed into previously windrowed snow. For these processes to take place snow is graded into windrows during and after a snow event, once the event is over and the priority road network is graded, snow is then pushed into a single row—called windrowing—and blown into tri-axle trucks which haul to one of the cities snow dumps or snow management facilities. If it is not possible to fit the blower down the street receiving removal, a front end loader is used to load the tri-axle trucks. Once the snow is deposited at a snow dump or snow management facility City PW staff, or their contractor’s, manage the pushing of the snow.

In order to complete this feasibility study several parameters were used to calculate the total cubic meter cost to manage snow. These parameters are shown in Table 1.

Table 1: Summary of City hauling costs.

Parameter	Value	Units
Grader cost	200	$\frac{\$}{hr}$
Grader speed	5000	$\frac{m}{hr}$
Grader width	2	m
Grader swath	0.15	m
Blower cost	480	$\frac{\$}{hr}$
Blower rate	975	$\frac{\$}{hr}$
Hauling rate	100	$\frac{\$}{hr}$
Hauling volume	30	m^3
Hauling speed	25	$\frac{km}{hr}$
Hauling distance	12	km
Loader cost	280	$\frac{\$}{hr}$
Loader volume	5	m^3
Loader rate	45	$\frac{loads}{hr}$
Pushing unit rate	0.27	$\frac{\$}{hr}$

Source: City of Saskatoon

The parameters listed in Table 1 are based on averages. These parameters can be used to calculate an average cost per cubic meter of snow hauled and stored when loaded by a loader—\$3.17— and when loaded with a blower—\$2.95. However, all of the parameters used to make these calculations are often variable. The variability of these parameters can significantly impact the per unit cost of the snow removal. In order to take these variances into account, the range of likely values for each of the parameters is used calculate the range of likely unit costs for each method. The rage of costs for hauling snow after it has been blown and loaded with a loader are shown in Figure 1 and 2 respectively.

Note: When reading a box plot the Ts indicate the maximum range of values, the box contains the 25th to 75th percentiles, and the black line indicates the mean value. Figures were created using R version 3.2.3.

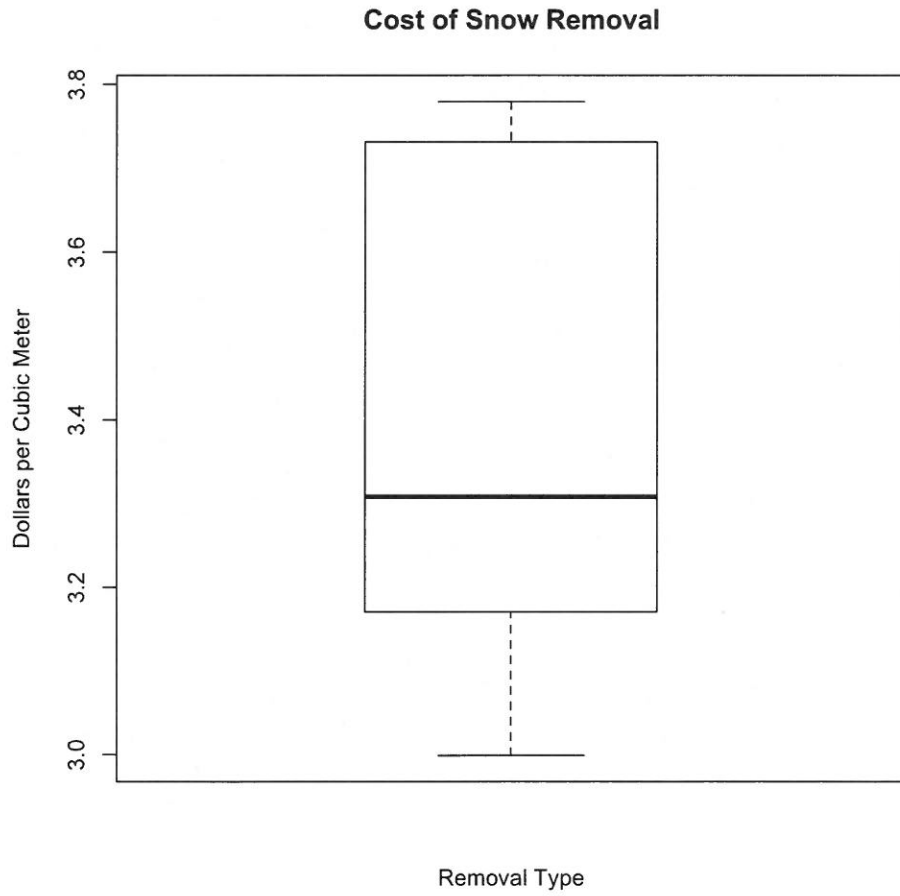


Figure 1: Range of unit cost for blower removal.



Figure 2: Range of unit cost for loader removal.

2.2 Melting Snow

Melting snow for removal requires similar processes as to hauling snow with the exception that snow is loaded into trailer that burns Liquid Propane Gas (LPG) or Diesel fuel in order to create sufficient heat to melt the snow. The melted snow is then discharged into the storm sewer instead of being hauled to site and stored. Most of the snow melting equipment has some kind of filtering equipment to provide protection for the storm sewer from large debris but may not protect against soluble contaminants. Due to the stationary operation of the snow melters the loader is the only option for filling them. The parameters used to calculate the unit cost per cubic meter of snow melting as shown in Table 2

Table 2: Summary of City melting costs.

Parameter	Value	Units
Grader cost	200	$\frac{\$}{hr}$
Grader speed	5000	$\frac{m}{hr}$
Grader width	2	m
Grader swath	0.15	m
Snow thermal capacity	2.11	$\frac{kJ}{kg}$
Snow heat of fusion	333	$\frac{kJ}{kg}$
Diesel energy density	48,000	$\frac{kJ}{kg}$
LPG energy density	46,000	$\frac{kJ}{kg}$
Diesel cost	0.85	$\frac{\$}{J}$
LPG cost	0.87	$\frac{\$}{J}$
Loader cost	280	$\frac{\$}{hr}$
Loader volume	5	m^3
Loader rate	45	$\frac{loads}{hr}$
Unit capital rate	0.05	$\frac{\$}{m^3}$
Starting temp	263	Kelvin

Source: City of Saskatoon, Natural Resources Canada, and University of Saskatchewan

With the parameter listed in Table 2 it is possible to calculate that the per cubic meter of snow cost of melting snow for Diesel and LPG are \$4.98 and \$8.41 respectively. Since the parameters that influence the unit cost of melting snow are highly variable Figures 3 and 4 show the range of possible costs for diesel and LPG respectively. These ranges are based on current ranges in costs, temperatures and speeds of equipment.



Figure 3: Range of unit cost for diesel melting.

Cost of Snow Removal

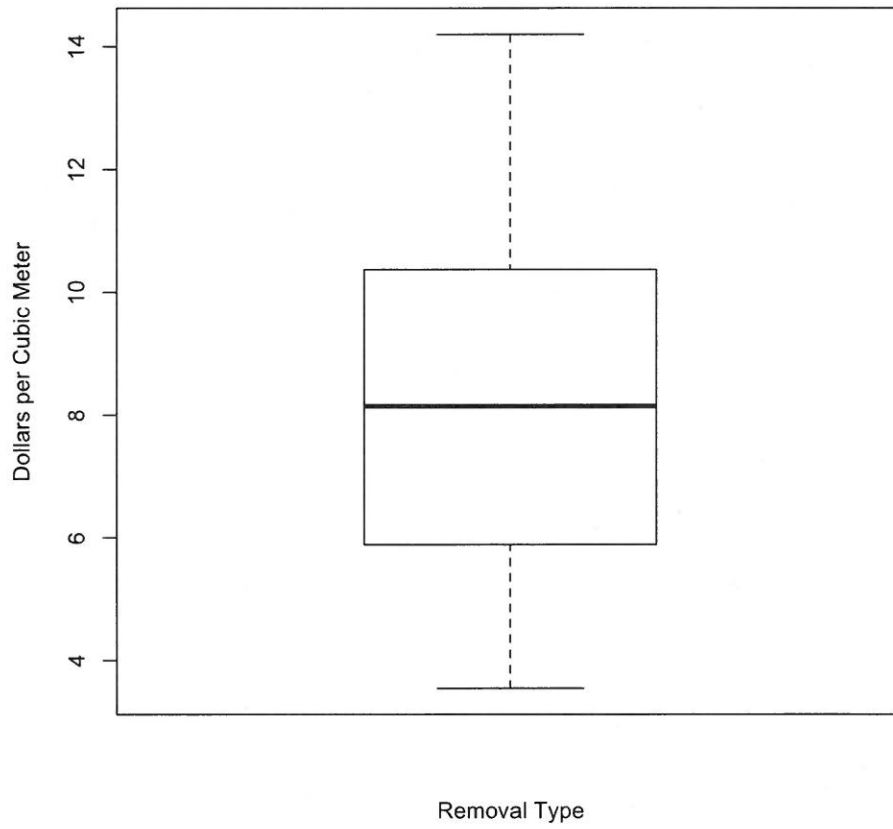


Figure 4: Range of unit cost for LPG melting.

2.3 Economic Analysis

Evaluating the economics of the options for snow removal and snow melting was conducted by observing the possible ranges of costs for the options as shown in Figure 5. As is demonstrated in Figure 5 while the costs of melting snow could be less than hauling it is far more likely that the cost of hauling snow will be more economic for the City. To complete the economic analysis out-lying parameters were also considered. These scenarios, where melting becomes more economic, include the price of trucking going over \$250 per hour and the hauling distance being greater than 30km, at present (\$0.85 per litre) diesel prices. These parameters are unlikely to occur, but the City can re-evaluate the economics of the different options should the City grow such that snow hauling is greater than 30km or if the price of contract trucking becomes cost prohibitive.

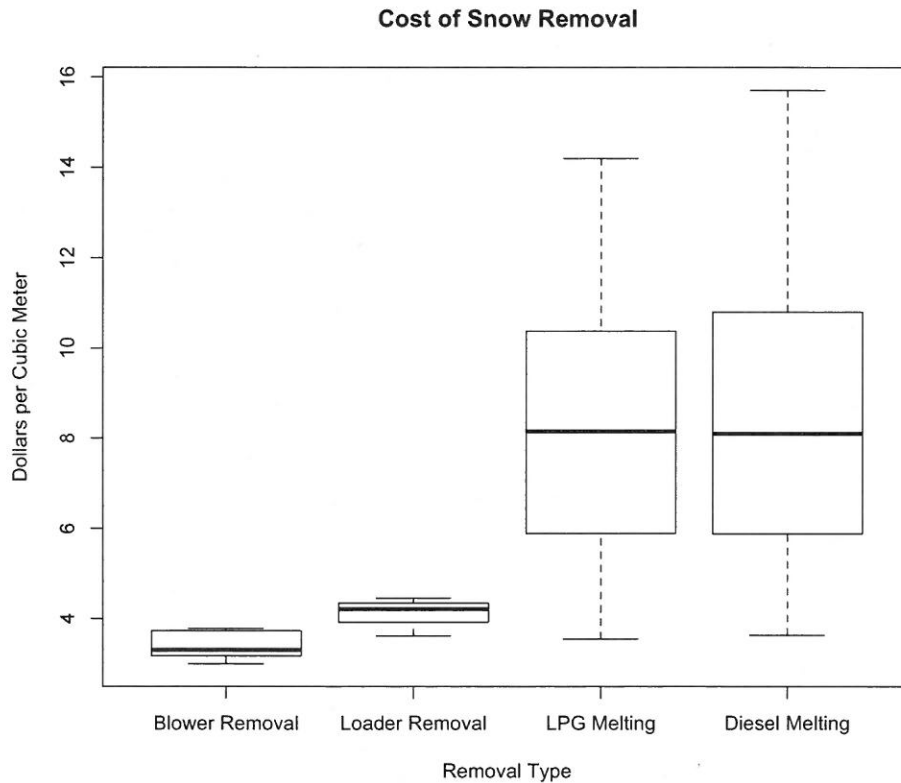


Figure 5: Range of unit cost for melting and removal.

2.4 Environmental Analysis

A detailed environmental analysis was not conducted as part of this feasibility study, however two primary concerns were considered. The first area of environmental impact considered was melt water. Whether the snow is hauled to a site or melted immediately, the City can be liable for the management of the melt water. The City will begin operation of its first fully designed

snow management facility in the winter of 2016 - 2017. As of the writing of this report, the City is unsure if the Civic Operations Centre Snow Management Facility will require a permit from Saskatchewan Environment. If a permit is required for this facility the discharge of melt water from snow melters into the storm sewer, which would reach the South Saskatchewan River, may also require a permit. Materials such as garbage, oils, and salts are easier to prevent entering the river if the snow is hauled to dedicated sites, especially in the case of fully designed facility such as the Civic Operations Centre.

The second area of concern when comparing the options for snow removal is green house gas emissions (GHG) emissions. While a complete life cycle GHG emissions study was not in the scope of this study, Carbon Dioxide (CO_2) for operations was used as an approximation. The different types of removal comparing the CO_2 emissions between hauling and melting, Figure 6, shows that that hauling is likely an order of magnitude lower in CO_2 emissions than melting. While CO_2 is not the only GHG released from either option it is the primary GHG from combustion.

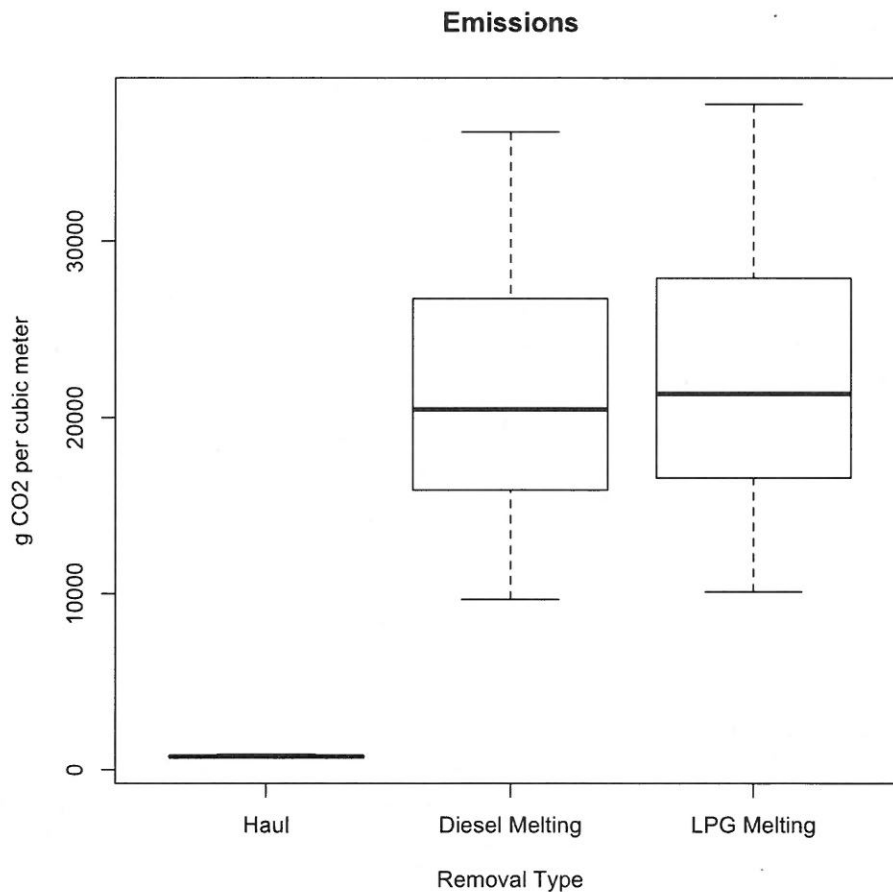


Figure 6: Range of CO_2 emissions.

2.5 Logistical Analysis

Logistically both melting and hauling snow are possible for the City. Some of the benefits of melting including reducing the required amount of trucking assistance required, and eliminating the need to store some, if not all, of the snow removed from Saskatoon streets. One draw back of the use of snow melters is it is slower to melt snow than haul the equivalent amount with trucks. Since the melters are stationary (located next to storm sewer) it also removes the option for operations to use the snow blowers. Snow melters also create some risk of the melt water refreezing in storm sewers during cold periods resulting in backups and possible flooding.

The benefits of hauling and storing snow include operations are quick, allow the use of snow blowers, and City operations staff are also already trained on this type of operation. The primary drawbacks of hauling and storing snow are the heavy reliance on contracted trucking resources and the need to build, and operate facilities to manage the snow.

3 Recommendation

The hauling and storage of snow currently have lower CO_2 emissions and lower costs for the City of Saskatoon, which is also already equipped for this type of operation. It is recommended that the City continue to haul and store snow and use the blowers where ever possible to load snow. It is also recommended that the Logistics and Procurement section continue to monitor fuel, contractor, and capital prices of equipment and repeat this analysis should prolonged conditions arise that may make a change in operations economical.

ANNEX A: Memo From the City Clerk

Adelaide-Churchill Neighbourhood Traffic Review

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:
That the Neighbourhood Traffic Review for the Adelaide-Churchill neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process.

Topic and Purpose

The purpose of this report is to provide information on the Neighbourhood Traffic Review (NTR) for the Adelaide-Churchill neighbourhood.

Report Highlights

A Neighbourhood Traffic Plan for the Adelaide-Churchill neighbourhood was developed in consultation with the community in response to concerns such as speeding, traffic shortcutting, and pedestrian safety. The plan will be implemented over time as funding for the improvements is available.

Strategic Goal

This report supports the Strategic Goal of Moving Around by providing a plan to guide the installation of traffic calming devices and pedestrian safety enhancements to improve the safety of pedestrians, motorists, and cyclists.

Background

A public meeting was held in June 2015 to identify traffic concerns and potential solutions within the Adelaide-Churchill neighbourhood. Representatives from the Saskatoon Police Service were in attendance to address traffic enforcement issues. Based on the residents' input provided at the initial public meeting and the analysis of the traffic data collected, a Neighbourhood Traffic Plan was developed and presented to the community at a second public meeting held in December 2015.

During its 2016 Preliminary Business Plan and Budget meeting held on November 30 and December 1, 2015, City Council resolved that the information from Lindsay Patola, St. Philip Catholic School Community Council, dated October 21, 2015 – Request for Sidewalk Addition be received and referred to the Administration for a report to the Standing Policy Committee on Transportation.

The request was included in the Adelaide-Churchill Neighbourhood Traffic Review.

Report

The development and implementation of the Traffic Management Plan includes four stages:

1. Identify existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon.ca website;
2. Develop a draft traffic plan based on residents' input and traffic assessments;
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 City Council for adoption; and
4. Implement the proposed measures in a specific time frame, short-term (1 to 2 years), medium-term (3 to 5 years), or long-term (more than 5 years).

The majority of concerns identified during the consultation included shortcutting, speeding, pedestrian safety, and parking.

The Administration is recommending the following modifications to improve safety in the Adelaide-Churchill neighbourhood:

- Move bus stop
- Speed display board
- Speed limit reduction (reduce 60 kph to 50 kph speed limit on Clarence Avenue between Glasgow Street and south side of Circle Drive overpass)
- 20 kph speed signs
- Standard crosswalks
- Zebra crosswalks
- Parking restrictions
- Stop signs
- Curb extensions
- Sidewalk
- Speed enforcement
- Additional traffic counts (spring 2016)

In addition, a corridor study on Clarence Avenue between the Circle Drive South overpass and Wilson Crescent was completed. Based on the analysis, an additional lane northbound is recommended for the section between Glasgow Street and Wilson Crescent to increase capacity of the roadway, improve traffic flow, and reduce shortcutting on Glasgow Street. This will be added to the priority list of city-wide improvements for arterial streets and submitted in a separate report for funding as it would not be possible to implement in a temporary condition. The estimated cost of this improvement is \$200,000.

The installation of each proposed improvement will be implemented in three specific time frames as follows:

Short-term (1 to 2 years)	Temporary traffic calming measures, signage, pavement markings, enforcement, speed display boards
Medium-term (3 to 5 years)	Permanent traffic calming devices, accessible pedestrian ramps, roadway realignment, sidewalks (in some cases), major intersection reviews
Long-term (5 years plus)	Permanent traffic calming devices, roadway realignment, sidewalks

The Adelaide-Churchill Neighbourhood Traffic Review is included in Attachment 1.

Public and/or Stakeholder Involvement

In June 2015, a public meeting was held to discuss traffic concerns and identify potential solutions. The feedback was used to develop the Neighbourhood Traffic Plan which was presented at a follow-up public meeting in December 2015. Additional feedback received at the follow-up public meeting was also incorporated into the NTR.

Feedback was provided by internal civic stakeholders of various divisions and departments: Public Works, Saskatoon Transit, Planning & Development, Saskatoon Light & Power, Saskatoon Police Service, and the Saskatoon Fire Department on the proposed improvements, which was incorporated into the recommended Neighbourhood Traffic Plan.

Communication Plan

The final Neighbourhood Traffic Plan will be shared with the residents of the impacted neighbourhood using several methods: City website, the Community Association, communication forums (i.e. website, newsletter), and by a direct mail-out.

Environmental Implications

The overall impact of the recommendations on traffic characteristics, including the impacts on greenhouse gas emissions, has not been quantified at this time.

Policy Implications

Bylaw No. 7200, The Traffic Bylaw will need to be modified to reduce the speed limit on Clarence Avenue. The formal recommendation for the bylaw change has been included in the NTR report for the adjacent Avalon neighbourhood.

Financial Implications

The implementation of the Neighbourhood Traffic Plan will have significant financial implications. It should be noted that all recommendations on Clarence Avenue (i.e. signs, speed display board, sidewalk) aside from the geometric changes (i.e. adding northbound through lane) are also included in the Avalon Neighbourhood Traffic Plan; therefore, each neighbourhood will be allotted half of the overall costs for the Clarence Avenue recommendations. The costs are summarized in the following table:

Category	Signing, Temporary Traffic Calming & Traffic Counts (2016)	Permanent Beyond 2016
Speeding / Shortcutting	\$ 4,000	\$225,000
Pedestrian Safety	4,100	-
Intersection Safety	500	-
Parking Signs	1,500	-
Sidewalk	-	48,400
Clarence Avenue	850	6,900
TOTALS	\$10,950	\$280,300

There is sufficient funding within Capital Project #1512 – Neighbourhood Traffic Management to undertake the work in 2016, which includes implementation of all signage and temporary traffic calming measures.

The remainder of the work beyond 2016 includes construction of permanent traffic calming measures and sidewalks, which will be considered alongside all other improvements identified through the NTR Program. The Administration’s annual budget submission package will include the list of projects recommended to be funded, and the rationale used to prioritize the projects.

Geometric improvements, including the widening of Clarence Avenue northbound, will be added to the priority list with major intersections and corridors for city-wide projects.

Other Considerations/Implications

There are no options, privacy or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

If adopted by City Council, temporary traffic calming devices and signage will be implemented during the 2016 construction season.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Adelaide-Churchill Neighbourhood Traffic Review, March 16, 2016

Report Approval

Written by: Justine Nyen, Transportation Engineer, Transportation
Reviewed by: Jay Magus, Engineering Manager, Transportation
Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS JN – Adelaide-Churchill Neighbourhood Traffic Review

CITY OF SASKATOON
2015 NEIGHBOURHOOD TRAFFIC REVIEWS

Adelaide-Churchill

March 16, 2016

Adelaide-Churchill Neighbourhood Traffic Review

March 16, 2016

Authorization

Prepared By:



Justine Nyen, P.Eng.

Transportation Engineer

Checked By:



Shirley Matt, P.Eng.

Senior Transportation Engineer

Acknowledgements

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

- Adelaide-Churchill residents
- Adelaide-Churchill Community Association
- Saskatoon Police Service
- Saskatoon Light & Power
- Saskatoon Fire Department
- City of Saskatoon Environmental Services
- City of Saskatoon Transit
- City of Saskatoon Planning & Development
- City of Saskatoon Public Works
- City of Saskatoon Community Standards
- City of Saskatoon Transportation
- Great Works Consulting
- Councillor Mairin Loewen

Cover Photograph Kara Toews

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 revised program involves additional community and stakeholder consultation that provides the environment for neighbourhood residents and City staff to work together in developing solutions that address traffic concerns. The process is outlined in the *Traffic Calming Guidelines and Tools*, City of Saskatoon, 2013.

A public meeting was held in June of 2015 to identify traffic concerns and potential solutions within the Adelaide-Churchill neighbourhood. 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 Management Plan was developed and presented to the community at a follow-up meeting held in December 2015.

A summary of recommended improvements for the Adelaide-Churchill neighbourhood are included in **Table ES-1**. The summary identifies the locations, the recommended improvement, and a schedule for implementation. The schedule to implement the Traffic Management Plan can vary depending on the complexity of the proposed improvement. According to the *Traffic Calming Guidelines and Tools* document, the time frame may range from short-term (1 to 2 year); medium-term (3 to 5 years) and long-term (5 years plus). Accordingly, the specific time frame to implement the improvements for these neighbourhoods ranges from 1 to 5 years.

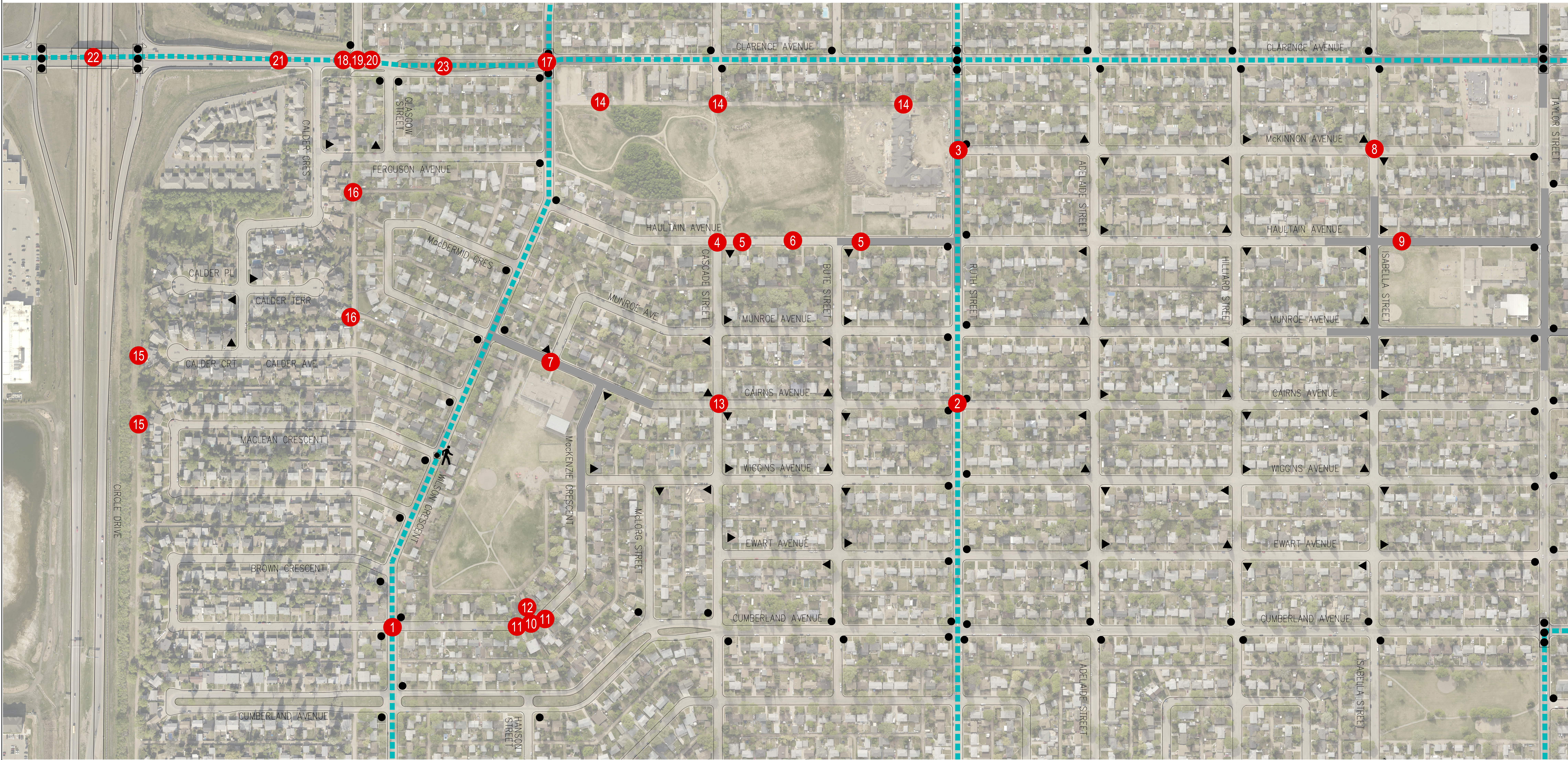
The resulting proposed Adelaide-Churchill Traffic Management Plan is illustrated in **Exhibit ES-1**.

Table ES-1: Adelaide-Churchill Neighbourhood Recommended Improvements

Item	Location	Recommendation	Reason
1	Wilson Crescent & MacKenzie Crescent / Brown Crescent	Zebra crosswalk & curb extensions on west side	Improve pedestrian safety (school route) & reduce speed
2	Ruth Street & Cairns Avenue	Standard crosswalk	Improve pedestrian safety (school route)
3	Ruth Street & McKinnon Avenue	"No Parking" signs at 10m on all corners	Enhance visibility
4	Haultain Avenue & Cascade Street	Standard crosswalk & curb extensions (north side)	Improve pedestrian safety (connects to park pathway) & reduce speed
5	Haultain Avenue - either side of Churchill Park	"Playground Ahead" signs	Improve pedestrian safety (near park)
6	Haultain Avenue between Cascade Street & Ruth Street	Forward peak hour speed data to Saskatoon Police Service to consider enforcement	Reduce speed
7	Cairns Avenue & Munroe Avenue	Zebra crosswalk (north side)	Improve pedestrian safety in front of school (currently standard crosswalk)
8	McKinnon Avenue & Isabella Street	Upgrade yield signs & stop signs	Improve intersection safety & driver compliance
9	Haultain Avenue between Isabella Street & St. Phillips School	Sidewalk on east side (110m)	Improve pedestrian safety & connectivity
10	MacKenzie Crescent at walkway	Parking restrictions on both sides of walkway (approximately 5m on either side)	Improve pedestrian safety & enhance visibility
11	MacKenzie Crescent before curve (northbound & southbound) near walkway	Pedestrian crosswalk ahead signs	Improve pedestrian safety (school route)
12	Walkway between MacKenzie Crescent & Hugh Cairns School	CPTED review to determine if walkway lighting is warranted	Pedestrian safety
13	Cairns Avenue & Cascade Street	Collect traffic data in spring 2016	Determine pedestrian safety improvements (school route)
14	Back lane east of Clarence Avenue - Wilson Crescent to Ruth Street	20kph speed signs	Reduce speed
15	Back lane north of Circle Drive east of Calder Court	20kph speed signs	Reduce speed
16	Back lane between Ferguson Avenue & Calder Avenue	20kph speed signs	Reduce speed

Table ES-1 Continued

Item	Location	Recommendation	Reason
Clarence Avenue & Glasgow Street (also included in Avalon Neighbourhood Traffic Management Plan)			
17	Wilson Crescent	Additional school zone signs on overhead posts	Reduce speed & ensure driver awareness of school zone
18	Southeast corner (on Clarence Avenue)	Move bus stop a few metres south	Improve traffic flow (allows vehicle to pass in inside lane while bus is stopped) & improve pedestrian safety (enhances crosswalk visibility)
19	Southwest corner (on Clarence Avenue)	Install sidewalk up to bus stop	Improve pedestrian safety & connectivity
20	Entire intersection and surrounding area	Review signage at or near intersection	Reduce visual clutter, eliminate confusion, & determine if "Do Not Block Intersection" sign is necessary.
21	Between Circle Drive overpass & Glasgow Street	Speed display board (facing northbound traffic)	Reduce speed
22	Between Glasgow Street & the south side of Circle Drive overpass	Reduce 60kph speed limit to 50kph	Reduce speed
23	Between Glasgow Street & Wilson Crescent	Geometric Improvements - Additional through lane northbound	Increase capacity on Clarence Avenue in northbound direction (i.e. increasing from one lane to two through lanes)



LEGEND

- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- BUS ROUTE
- SCHOOL ZONE
- 🚦 CORRIDOR SIGNAL
- 🚶 ACTIVE PEDESTRIAN EXISTING TRAFFIC SIGNAL LOCATION

Exhibit ES-1

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1 INTRODUCTION

As the City of Saskatoon continues to grow many neighbourhoods face growing issues such as pedestrian safety, cut-through traffic, and increased speeds on local roads within neighbourhoods. In August 2013, City Council adopted the *City of Saskatoon Traffic Guidelines and Tools* that outlined 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 that were developed by the Administration and residents in collaborative fashion. Accordingly, this report provides the traffic management plan for Adelaide-Churchill.

The Adelaide-Churchill neighbourhood is located on the east side of the South Saskatchewan River and is bound by Circle Drive to the south, Cumberland Avenue to the east, Taylor Street to the north, and Clarence Avenue to the west. The area use is mostly residential, with elementary schools on Cairns Avenue (Hugh Cairns School) and Taylor Street (St. Philip School); and the Alerces Spanish Immersion Preschool on Clarence Avenue.

The development and implementation of the traffic management plan includes four stages:

- **Stage 1** - Identify existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon Website.
- **Stage 2** - Develop a draft traffic plan based on resident's 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 City Council for approval.
- **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 present the study findings and recommendations.

2 IDENTIFYING ISSUES, CONCERNS, AND POSSIBLE SOLUTIONS

A public meeting was held in June of 2015 to identify traffic concerns within the neighbourhood. At the meeting, residents were given the opportunity to express their concerns and suggest possible solutions. The meeting minutes are provided in **Appendix A**.

The following pages summarize the concerns and suggested solutions identified during the initial consultation with the neighbourhood residents.

2.1 Concern 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). In the case of Adelaide-Churchill, the bordering arterial streets (Taylor Street, Clarence Avenue) are designated to accommodate larger traffic volumes.

As speeding often accompanies shortcutting, these concerns have been grouped into one category.

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

- Clarence Avenue:
 - Speeding (especially northbound)
 - Increased traffic (especially at 4pm)
 - Increased traffic due to church, Stonebridge developments, overpass, condos, etc.
- Clarence Avenue & Taylor Street:
 - Speeding to get through intersection before light turns yellow/red

- Clarence Avenue & Calder Crescent:
 - long waits to get onto Clarence Ave
 - difficult to make left-turn southbound from Calder Crescent
 - turning from Clarence Avenue northbound onto Calder Crescent is also a concern because the lane ends and drivers get into shared Right Turn/Thru lane not paying attention to drivers turning right nearly rear ending them
 - speeding downhill from overpass
 - concerns for southbound left-turn from Clarence Avenue onto Calder Crescent because through drivers must weave around
 - drivers accelerating and need to change lane to get around left-turn and then right-turn from Glasgow Street
 - race to get into through lane
 - bus stop on north side of Calder Crescent, when bus is stopped, forces all through traffic going north to stop until bus leaves stop

- Wilson Crescent:
 - higher traffic volumes since Circle Drive South and Preston Avenue overpass opened, especially during peak hours
 - speeding, especially 6-9pm

- School zones on Wilson Crescent and Haultain Avenue cause traffic to use back streets
- Ruth Street – traffic has increased since Clarence Avenue/Circle Drive overpass
- Cumberland Avenue between Ruth Street & Wilson Crescent – speeding around curve
- McKinnon Avenue – speeding and high traffic during peak hours to avoid Clarence Avenue
- Ferguson Avenue – shortcutting (and speeding) to avoid signals at Wilson Crescent & Clarence Avenue
- MacKenzie Crescent – speeding around curve
- Taylor Street – speeding, tailgating, passing on right
- Haultain Avenue:
 - shortcut to avoid Clarence Avenue
 - speeding
 - between Wilson Crescent to Ruth Street – addition of yield signs at uncontrolled intersections and traffic signals at Wilson Crescent & Clarence Avenue resulted in thoroughfare & speeding for those wanting to avoid Clarence Avenue

- Back lane east of Clarence Avenue between Wilson Crescent & Ruth Street - traffic has been steadily increasing in the back lane due to St. Martin Church traffic, users of Churchill Park, and the new condominium development at McKinnon Avenue and Ruth Street
- Back lane between Brown Crescent & MacLean Crescent – residents using back lanes to get to Calder Avenue from Clarence Ave & speeding
- Back lane behind Ferguson Avenue - speeding

Proposed solutions identified by residents:

- Clarence Avenue:
 - widen road one block north of Circle Drive to add lanes
 - there's a wide center boulevard from Wilson Crescent south to Calder so use it to add more lanes
 - install speed bumps
 - police stationed between Wilson Crescent to Calder Crescent to ticket particularly 1am and 2am
 - Students jaywalking midblock at Aden Bowman Collegiate (Clarence Avenue south of Taylor Street)
- Clarence Avenue & Glasgow Street:
 - close off left-turn (onto Glasgow Street)
 - make Glasgow Street a one-way street
 - make it a zipper merge at Glasgow Street
 - extend barrier
 - drop speed from 60kph to 50kph limit south of Glasgow Street
 - merge sign is needed near Glasgow Street
 - median obstructing vehicles left/right from Clarence Ave into Glasgow Street
 - shorten median a bit to create a right-turn bay
- Wilson Crescent:
 - start the school zone at the curve
 - enforcement needed
 - traffic calming
 - speed display board
 - restrict access to Preston Avenue so driver's don't shortcut
 - police stationed to ticket between Brown and Clarence Ave particularly 1am and 2am

- Cumberland Avenue – install speed bumps
- Ferguson Avenue – install speed bumps
- Haultain Avenue:
 - alternate direction of yield signs
 - install speed bumps
 - install speed display board
 - bulb out curb to reduce speeding
 - forced right turn at Ruth Street or Wilson Crescent
- Back lane east of Clarence Avenue between Wilson Crescent and Ruth Street:
 - pavement or speed humps to reduce speed
 - install 20kph speed signs
- Back lane between Calder Avenue & Clarence Avenue – install barrier to prevent shortcutting
- Implement 40kph limit in residential areas

2.2 Concern 2 – Pedestrian Safety

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

Pedestrian crosswalks need to adhere to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004 which states the following:

“The installation of appropriate traffic controls at pedestrian crossings shall be based on warrants listed in the document entitled *Traffic Control at Pedestrian Crossings – 2004* approved by City Council in 2004.”

Neighbourhood concerns regarding pedestrian safety were at the following locations:

- Clarence Avenue:
 - near Wilson Crescent - there are no children around to indicate it's a school zone
 - drivers passing on right when vehicles are turning left, can't see pedestrian crossing
 - students jaywalking in front of Aden Bowman Collegiate to Churchill Shopping Centre:
 - parents parking in lot across the street to pick up so kids cross midblock
 - some drivers refuse to slow down for kids crossing at midblock
 - issues with proximity of traffic signals at Clarence Avenue & Taylor Street
- Wilson Crescent & MacLean Crescent - crosswalk on west side comes up quick
- Wilson Crescent & Cairns Avenue – rubber curbing not working; active pedestrian corridor needed
- Ruth Street at Haultain Avenue & Cairns Avenue - children crossing to get to Hugh Cairns School and St. Phillip School; there are no safely marked crosswalks
- MacKenzie Crescent – pedestrian safety concerns near walkway that connects to park
- Cairns Avenue & Munroe Avenue - many pedestrians in front of school – install standard or zebra crosswalk
- Cairns Avenue & MacKenzie Crescent - many pedestrians (school route)
- Haultain Avenue at St. Philips School (north of Isabella Street) need sidewalk

Proposed solutions identified by residents:

- Schools should be involved in Silhouette for Safety program (school zone signs in middle of street) for better signage
- Clarence Avenue at Aden Bowman Collegiate (students jaywalking):
 - install chain-link fence to restrict mid-block crossing to Mac's store
 - install midblock crossing, pedestrian device, or zebra crosswalk
 - principal to be on watch for jaywalking
- Clarence Avenue & Cascade Street – install active pedestrian corridor
- Wilson Crescent & MacLean Crescent:
 - pedestrian activated device at MacLean (west leg) with existing zebra
 - crosswalk is half block away from back alley that lots of children use to get to school, this should be moved to the back alley or one added at Mackenzie Crescent/Brown Crescent

- Wilson Crescent & Cairns Avenue –active pedestrian corridor needed
- Ruth Street at Haultain Avenue & Cairns Avenue - install overhead lighting, marked crosswalks and lane restricting concrete markers similar to Wilson Crescent
- Cairns Avenue & Munroe Avenue - install standard or zebra crosswalk
- Cairns Avenue & MacKenzie Crescent - standard crosswalk of zebra crosswalk
- Haultain Avenue – lit crosswalks to get to the park

2.3 Concern 3 – Traffic Control

Traffic control signs are used in order to assign the right-of-way. City of Saskatoon Council Policy C07-007 *Traffic Control – Use of Stop and Yield Signs*, April 26, 2009 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 volume, collision history, and must have a balanced volume from each leg to operate sufficiently.

Neighbourhood concerns regarding traffic controls were at the following locations:

- Haultain Avenue & Adelaide Street – dangerous intersection

Proposed solutions identified by residents:

- Install stop signs instead of yield signs on Clarence Avenue

2.4 Concern 4 – Parking

Parking is allowed on all city streets unless signage is posted. According to City of Saskatoon Bylaw 7200, *The Traffic Bylaw*, December 16, 2013, vehicles are restricted from parking within 10 metres of an intersection and one metre of a driveway crossing.

Neighbourhood concerns regarding parking were at the following locations:

- Clarence Avenue - can't see backing out of driveway due to parked cars
- Ruth Street between Clarence Avenue & Haultain Avenue - parking on north side makes it difficult to see
- Back lane east of Clarence Ave between Wilson Crescent & Ruth Street – parking within lane

Proposed solutions identified by residents:

- MacKenzie Crescent – remove parking on curves and at MacKenzie Crescent & Cairns Avenue to improve visibility
- Clarence Avenue - add angle parking and bus parking at back of Aden Bowman Collegiate

2.5 Concern 5 – Maintenance

Condition of the streets in Adelaide-Churchill was identified as a concern (i.e. snow clearing, potholes, tree trimming, and temporary traffic calming devices).

In addition, street signs requiring maintenance (i.e. knocked over, obstructed by trees, damaged) were also identified as a concern.

Neighbourhood concerns regarding maintenance were:

- Clarence Avenue:
 - designated snow route - where are residents supposed to park when there's snow clearing?
 - trees block school zone signs/difficult to see
 - snowbanks piled up in winter
 - snow clearing is less than Ruth Street; Clarence Avenue should be higher priority
- Trees obstructing drivers view:
 - Haultain Avenue & Wilson Crescent
 - Ruth Street & Haultain Avenue
 - Ruth Street & McKinnon Avenue

2.6 Concern 6 – Major Intersections

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

Neighbourhood concerns regarding major intersections:

- Clarence Avenue & Taylor Street - southbound queue due to left-turn into mall
- Clarence Avenue & Wilson Crescent:
 - southbound through geometry is confusing
 - not stopping for right turn on red
 - vehicle detection for east/west signal timing (too fast)
 - new lane design is better than one shared through/left-turn and one right turn, but not good enough
 - takes long time to get green phase northbound
- Clarence Avenue & Circle Drive overpass – drivers don't yield coming from Clarence Avenue to Circle Drive on ramp (top of overpass)

Proposed solutions identified by residents:

- Clarence Avenue & Taylor Street - solution may be to restrict left-turn into mall
- Clarence Avenue & Wilson Crescent:
 - pedestrian signal may help
 - synchronize signals with Ruth Street at 3pm
- Clarence Avenue & Ruth Street – restrict right turn on red (northbound) so there are gaps in traffic to allow residents to back out of driveways

3 ASSESSMENT

3.1 Methodology

Stage 2 of the plan development included developing a draft traffic management 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:
 - Intersection turning moving counts
 - Pedestrian counts
 - Daily and weekly traffic counts
 - Average speed measurements
- 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 volumes (peak hours, daily, and weekly), travel speed, and pedestrian movements. A map of the traffic data collection is shown in **Appendix B**.

3.2 Travel Volumes and Travel Speeds

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**.

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

Characteristics	Classifications					
	Back Lanes		Locals		Collectors	
	Residential	Commercial	Residential	Commercial	Residential	Commercial
Traffic function	Access function only (traffic movement not a consideration)		Access primary function (traffic movement secondary consideration)		Traffic movement and land access of equal importance	
Average Daily Traffic (vehicles per day)	<500	<1,000	<1,000	<5,000	<5,000	8,000-10,000
Typical Speed Limits (kph)	20		50		50	
Transit Service	Not permitted		Generally avoided		Permitted	
Cyclist	No restrictions or special facilities		No restrictions or special facilities		No restrictions or special facilities	
Pedestrians	Permitted, no special facilities		Sidewalks on one or both sides	Sidewalks provided where required	Typically sidewalks provided both sides	Sidewalks provided where required
Parking	Some restrictions		No restrictions or restriction on one side only		Few restrictions other than peak hour	

Travel 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 Adelaide-Churchill neighbourhood is 50kph, except for school zones where the speed limit is 30kph from September and June, 8:00am to 5:00pm, excluding weekends.

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

Table 3-2: Speed Studies and Average Daily Traffic Counts (2015)

Street	Between	Class	Average Daily Traffic (vpd)	Speed (kph)
Back Lane	Ruth Street & Wilson Crescent	lane	<50	NA
Back Lane	Ferguson Avenue & Calder Crescent		<50	NA
Haultain Avenue	Cascade Street & Bute Street	local	598	49.4
Haultain Avenue	Hilliard Street & Adelaide Street		315	45.4
McKinnon Avenue	Taylor Street & Isabella Street		858	46.8
Mackenzie Crescent	curve and Wilson Crescent		225	39.9
Ferguson Avenue	Wilson Crescent & Glasgow Street		329	47.2
Cumberland Avenue	McLorg Street & Hanson Street	collector	1,780	51.9
Wilson Crescent	Haultain Avenue & Cairns Avenue		4,391	51.4
Wilson Crescent	Brown Crescent & Cumberland Avenue		3,915	52.5
Clarence Avenue	Adelaide Street & Hilliard Street	arterial	10,549	54.9
Clarence Avenue	Bute Street & Cascade Street		11,713	53.5

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*, January 26, 2009.

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

Results of the studies are shown in **Table 3-3**.

Table 3-3: All-Way Stop Assessments

Location	Peak Hour Count	Average Daily Traffic (vpd)	# of Collisions within most recent 12 months	% of Traffic from minor street	Traffic Signals or all-way-stop within 200m	All-Way Stop Warranted
Clarence Avenue & Calder Crescent	2,097	21,220	1	2%	290	All-Way Stop Not Warranted
Wilson Crescent & Cairns Avenue	498	5,200	0	9%	360	
Wilson Crescent & Mackenzie Crescent/Brown Crescent	476	4,930	0	9%	NA	
Cairns Avenue & Munroe Avenue	115	1,150	0	9%	NA	
Cairns Avenue & Mackenzie Crescent	117	1,180	0	19%	NA	

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

3.4 Pedestrian Assessments

Pedestrian assessments are conducted to determine the need for pedestrian actuated signalized crosswalks which, in adherence to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004, are typically active pedestrian corridor (flashing yellow lights) or pedestrian-actuated signals. A warrant system assigns points for a variety of conditions that exist at the crossing location, including:

- Number of traffic lanes to be crossed;
- presence of a physical median;
- posted speed limit of the street;
- distance the crossing point is to the nearest protected crosswalk point; and
- number of pedestrian and vehicles at the location.

Pedestrian and traffic data is collected during the five peak hours of: 8:00am to 9:00am, 11:30am to 1:30pm, and 3:00pm to 5:00pm.

In addition, if a pedestrian actuated crosswalk is not warranted, a standard marked pedestrian crosswalk, or a zebra crosswalk (i.e. striped) may be considered. A summary of the pedestrian studies are provided in **Table 3-4**.

Table 3-4: Pedestrian Assessment

Location	Number of Pedestrians Crossing During Peak Hours	Results
Clarence Avenue & Calder Crescent	0	Pedestrian Device Not Warranted
Wilson Crescent & Cairns Avenue	47	
Wilson Crescent & Maclean Crescent (west leg)	3	
Wilson Crescent & Mackenzie Crescent / Brown Crescent	22	
Wilson Crescent & back lane between Maclean Crescent (east) & Maclean Crescent (west)	3	
Mackenzie Crescent & walkway connecting to Hugh Cairns School (north of Wilson Crescent)	9	
Cairns Avenue & Munroe Avenue	177	
Cairns Avenue & Mackenzie Crescent	27	
Clarence Avenue & Cascade Street	13	
Ruth Street & Cairns Avenue	17	
Ruth Street & Haultain Avenue	18	
Clarence Avenue & Glasgow Street	21	

Details of the pedestrian actuated signal and active pedestrian corridor assessments are provided in **Appendix D**.

3.5 Collision Analysis

The most recently available five year collision statistics (2009 to 2013) were provided by 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. These include:

- Clarence Avenue & Glasgow Street
- Clarence Avenue & Isabella Street
- Cumberland Avenue & Ruth Street
- McKinnon Avenue & Isabella Street

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

4 PLAN DEVELOPMENT

4.1 Methodology

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

- Based on the assessments, prepare a plan that illustrates the appropriate recommended improvement
- 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 management plan, including the location, recommended improvement, and the 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*, January 26, 2009, “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 Speeding and Shortcutting Improvements

Location	Recommended Improvement	Justification
Clarence Avenue & Wilson Crescent	Additional school zone signs on overhead posts	Reduce speed & ensure driver awareness of school zone (based on approval of the Avalon Neighbourhood Traffic Plan)
Clarence Avenue between Circle Drive overpass & Glasgow Street	Speed display board (facing northbound traffic)	Reduce speed (based on approval of the Avalon Neighbourhood Traffic Plan)
Clarence Avenue between Glasgow Street & the south side of Circle Drive overpass	Reduce 60kph speed limit to 50kph	Reduce speed (based on approval of the Avalon Neighbourhood Traffic Plan)
Wilson Crescent & MacKenzie Crescent / Brown Crescent	Curb extensions on west side	Reduce speed (pedestrian crossing & school route)
Haultain Avenue & Cascade Street	Curb extensions (north side)	Reduce speed (pedestrian crossing & park)
Haultain Avenue between Cascade Street & Ruth Street	Forward peak hour speed data to Saskatoon Police Service to consider enforcement	Reduce speed
Back lane east of Clarence Avenue - Wilson Crescent to Ruth Street	20kph speed signs	Reduce speed
Back lane north of Circle Drive east of Calder Court	20kph speed signs	Reduce speed
Back lane between Ferguson Avenue & Calder Avenue	20kph speed signs	Reduce speed

4.3 Pedestrian Safety

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

Table 4-2: Recommended Pedestrian Safety Improvements

Location	Recommended Improvement	Justification
Wilson Crescent & MacKenzie Crescent / Brown Crescent	Zebra crosswalk	Improve pedestrian safety (school route)
Ruth Street & Cairns Avenue	Standard crosswalk	Improve pedestrian safety (school route)
Haultain Avenue & Cascade Street	Standard crosswalk (north side)	Improve pedestrian safety (connects to park pathway)
Haultain Avenue - either side of Churchill Park	"Playground Ahead" signs	Improve pedestrian safety (near park)
Cairns Avenue & Munroe Avenue	Zebra crosswalk (north side)	Improve pedestrian safety in front of school (currently standard crosswalk)
Haultain Avenue between Isabella Street & St. Phillips School	Sidewalk on east side (110m)	Improve pedestrian safety & connectivity
Cairns Avenue & Cascade Street	Collect traffic data in spring 2016	Determine pedestrian safety improvements (school route)
MacKenzie Crescent before curve (northbound & southbound) near walkway	Pedestrian crosswalk ahead signs	Improve pedestrian safety (school route)
Walkway between MacKenzie Crescent & Hugh Cairns School	CPTED review to determine if lighting is warranted	Pedestrian safety
Clarence Avenue & Glasgow Street	Move bus stop on southeast corner a few metres south	Improve pedestrian safety by enhancing crosswalk visibility (based on approval of the Avalon Neighbourhood Traffic Plan)
Clarence Avenue & Glasgow Street	Install sidewalk on southwest corner up to bus stop	Improve pedestrian safety & connectivity (based on approval of the Avalon Neighbourhood Traffic Plan)

It should be noted that jaywalking across Clarence Avenue between Aden Bowman Collegiate and the commercial area to the east is still being reviewed by the Administration.

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: Intersection Safety Improvements

Location	Recommended Improvement	Justification
McKinnon Avenue & Isabella Street	Upgrade yield signs & stop signs	Improve intersection safety & driver compliance
Clarence Avenue & Glasgow Street	Review signage at or near intersection	Reduce visual clutter, eliminate confusion, & determine if "Do Not Block Intersection" sign is necessary (based on approval of the Avalon Neighbourhood Traffic Plan)

4.5 Parking Improvements

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

Table 4-4: Recommended Parking Improvements

Location	Recommended Improvement	Justification
Ruth Street & McKinnon Avenue	"No Parking" signs at 10m on all corners	Enhance visibility
MacKenzie Crescent at walkway	Parking restrictions on both sides of walkway (approximately 5m on either side)	Improve pedestrian safety & enhance visibility

4.6 Clarence Avenue Improvements

Typically the mandate for the Neighbourhood Traffic Management Reviews is to focus on neighbourhood streets such as local roads and collector roads. As almost all neighbourhoods are bound by arterial streets, such as Clarence Avenue, it is not uncommon to have residents raise issues regarding these streets. However, arterial streets are much more complex than local or collector streets due to larger traffic volumes, different types of drivers (commuters), coordinated traffic signals, transit accommodation, and potentially many commercial accesses. Also arterial streets are typically on the border between neighbourhoods; therefore the concerns and opinions of the residents on all sides should be taken into consideration.

The section of Clarence Avenue between the Circle Drive South overpass and Ruth Street borders two neighbourhoods that took part on the 2015 neighbourhood traffic reviews, Avalon (west of Clarence Avenue) and Adelaide-Churchill (east of Clarence Avenue). During the consultation for these reviews, a re-occurring theme emerged among residents of both neighbourhoods: traffic conditions on Clarence Avenue between the Circle Drive South overpass and Wilson Crescent, particularly the intersection of Clarence Avenue and Glasgow Street.

A common request from residents was to provide two northbound lanes on Clarence Avenue. Transportation reviewed the feasibility of providing two lanes northbound on Clarence Avenue between the Circle Drive South interchange and Wilson Crescent. Currently there are two northbound lanes between the Circle Drive South interchange and Glasgow Street, with the west northbound lane being a forced drop via a 'must turn left' lane. The inclusion of this dedicated left-turn lane only promotes the left onto Glasgow Street as it may be difficult to merge right and continue north on Clarence Avenue. By providing two lanes northbound it is expected that the impetus to turn left will be reduced. Also, it should be noted that if two lanes are provided northbound, it will still be possible to turn left onto Glasgow Street, however this turn will not be from a left-turn only lane. This would have potentially increased the possibility of rear-end collisions, however, this risk is mitigated by the lowering of the speed limit from 60kph to 50kph, as well as the inclusion of a speed display board. The proposed change to Clarence Avenue is illustrated in **Exhibit 4-2**.



Exhibit 4-1: Clarence Avenue proposed Changes

The implementation plan for the proposed changes to Clarence Avenue is as follows:

1. May, 2016 – Staff begin 2017 budget planning
2. August, 2016 – Install speed reader board
3. September, 2016 – Move 50kph zone further south
4. December, 2016 – 2017 Budget Council Meeting
5. Winter / Spring, 2017 – Detailed design & retain contractor (subject to funding approval)
6. Summer, 2017) – Complete geometric changes (subject to funding approval)

The above implementation plan is contingent on Council approval in April of 2016 of the NTR, and subsequent Council approvals for funding.

Also, it is important to note that the above changes cannot be made on a temporary basis.

The Clarence Avenue improvements are summarized in **Table 4-5**.

Table 4-5: Clarence Avenue Improvements

Location	Recommended Improvement	Justification
Clarence Avenue between Glasgow Street & Wilson Crescent	Add through lane northbound	Improve traffic flow (based on approval of the Adelaide-Churchill Neighbourhood Traffic Plan)

The above recommendation was presented to the Avalon neighbourhood (on the east side of Clarence Avenue) in January 2016. Complete details of the design were not completed in time to reveal at the time of the follow up consultation; however general support for the added lane on Clarence Avenue was received.

These recommendations will be added to the priority list of city wide improvements on arterial streets until funding becomes available.

4.7 Follow Up Consultation – Presentation of Traffic Management Plan

The initial recommended improvements were presented at a follow-up public meeting in December 2015. Meeting minutes are provided in **Appendix A**. Recommended improvements that were not supported by the residents were eliminated or altered accordingly. A decision matrix detailing the list of recommended improvements presented at the follow-up meeting are included in **Appendix F**. A decision matrix for additional comments received after the draft traffic plan is also included in **Appendix F**.

The recommendations were circulated to the Civic Divisions (including Saskatoon Police Service, Saskatoon Light & Power, Saskatoon Fire Department, Environmental Services, and Transit) to gather comments and concerns. General support was received.

5 RECOMMENDED PLAN & COST ESTIMATES

Stage 4, the last stage of the process, is to install the recommended improvements for the Adelaide-Churchill neighbourhood within the specified timeframe. The timeframe 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 signage will be completed short-term (1 to 2 years).

Major intersection reviews are based on the number of other locations to be reviewed city-wide and the availability of funding. The timeline for review will be medium-term (3 to 5 years).

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

- **Table 5-1:** Speeding & Shortcutting Improvements Cost Estimate
- **Table 5-2:** Pedestrian Safety Improvements Cost Estimate
- **Table 5-3:** Intersection Safety Cost Estimate
- **Table 5-4:** Parking Signs Cost Estimate
- **Table 5-5:** Sidewalk Installation Cost Estimate
- **Table 5-6:** Clarence Avenue Improvements Cost Estimate
- **Table 5-7:** Clarence Avenue Geometric Improvements Cost Estimate
- **Table 5-8:** Total Cost Estimate

Table 5-1: Speeding & Shortcutting Improvements Cost Estimate

Location	Device (# of Devices)	Cost Estimate		Time Frame
		Temporary ¹	Permanent	
Haultain Avenue between Cascade Street to Ruth Street	Forward peak hour speed data to Saskatoon Police Service to consider enforcement (NA)	\$0	NA	1 to 5 years (traffic calming devices will be installed temporarily until proven effective)
Wilson Crescent & MacKenzie Crescent / Brown Crescent	Curb extensions (2)	\$1,000	\$135,000	
Haultain Avenue & Cascade Street	Curb extensions (2)	\$1,000	\$90,000	
Back lane east of Clarence Avenue - Wilson Crescent to Ruth Street	20kph speed signs (4)	\$1,000	NA	
Back lane north of Circle Drive east of Calder Court	20kph speed signs (2)	\$500	NA	
Back lane between Ferguson Avenue & Calder Avenue	20kph speed signs (2)	\$500	NA	
Totals		\$4,000	\$225,000	

Note 1: Includes all signs and pavement markings

Table 5-2: Pedestrian Safety Improvements Cost Estimate

Location	Device	Cost Estimate	Time Frame
Wilson Crescent & MacKenzie Crescent / Brown Crescent	Zebra crosswalk	\$750	1 to 2 years
Ruth Street & Cairns Avenue	Standard crosswalk	\$600	
Haultain Avenue & Cascade Street	Standard crosswalk	\$600	
Haultain Avenue - either side of Churchill Park	"Playground Ahead" signs	\$500	
Cairns Avenue & Munroe Avenue	Zebra crosswalk	\$250	
Cairns Avenue & Cascade Street	3-day traffic volume & speed count & pedestrian count	\$650	
MacKenzie Crescent before curve (northbound & southbound) near walkway	"Crosswalk Ahead" signs	\$500	
Walkway between MacKenzie Crescent & Hugh Cairns School	CPTED review	\$250	
Total		\$4,100	

Table 5-3: Intersection Safety Cost Estimate

Location	Device	Number of Signs	Cost Estimate	Time Frame
McKinnon Avenue & Isabella Street	Stop signs	2	\$500	1 to 2 years
Totals		2	\$500	

Table 5-4: Parking Signs Cost Estimate

Location	Device	Number of Signs	Cost Estimate	Time Frame
Ruth Street & McKinnon Avenue	"No Parking" signs	4	\$1,000	1 to 2 years
MacKenzie Crescent at walkway	"No Parking" signs	2	\$500	
Totals		6	\$1,500	

Table 5-5: Sidewalk Installation Cost Estimate

Location	Length (m)	Cost Estimate	Time Frame
Haultain Avenue - Isabella Street to St. Phillips School	110	\$48,400	1 to 5 years (depending on available funding)
Totals	110	\$48,400	

Table 5-6: Clarence Avenue Improvements Cost Estimate

Location	Device	Cost Estimate		Time Frame
		Signs & pavement markings	Permanent devices	
Clarence Avenue & Glasgow Street	Move bus stop signs	\$200	NA	1 to 2 years (permanent speed display board will depend on locations selected citywide)
Clarence Avenue & Glasgow Street	Sidewalk	NA	\$8,800	
Clarence Avenue & Glasgow Street	Signage review	\$500	NA	
Clarence Avenue & Wilson Crescent	School zone signs	\$500	NA	
Between Circle Drive overpass & Glasgow Street	Speed display board	\$0	\$5,000	
Between Glasgow Street & south side of Circle Drive overpass	50kph speed signs	\$500	NA	
Totals		\$1,700	\$13,800	

Costs for the Clarence Avenue improvements will be shared with the Avalon neighbourhood, as these recommendations are also included in the Avalon neighbourhood traffic management plan. Therefore half of the cost estimate for the Clarence Avenue improvements, to be added to the total cost estimate shown in **Table 5-7**, is **\$850** for signs & pavement markings and **\$6,900** for permanent devices (i.e. speed display board, sidewalk).

Table 5-7: Clarence Avenue Geometric Improvements Cost Estimate

Location	Device	Permanent (traffic calming devices & sidewalk)	Time Frame
Between Glasgow Street & Wilson Crescent	Geometric improvements	\$190,000	1 to 5 years (depending on available funding)
Total		\$190,000	

The geometric improvements (i.e. widening the roadway to add a through lane northbound) on Clarence Avenue will be funded through the major intersection and corridor improvements and will therefore, not be added to the total cost estimate in **Table 5-8**.

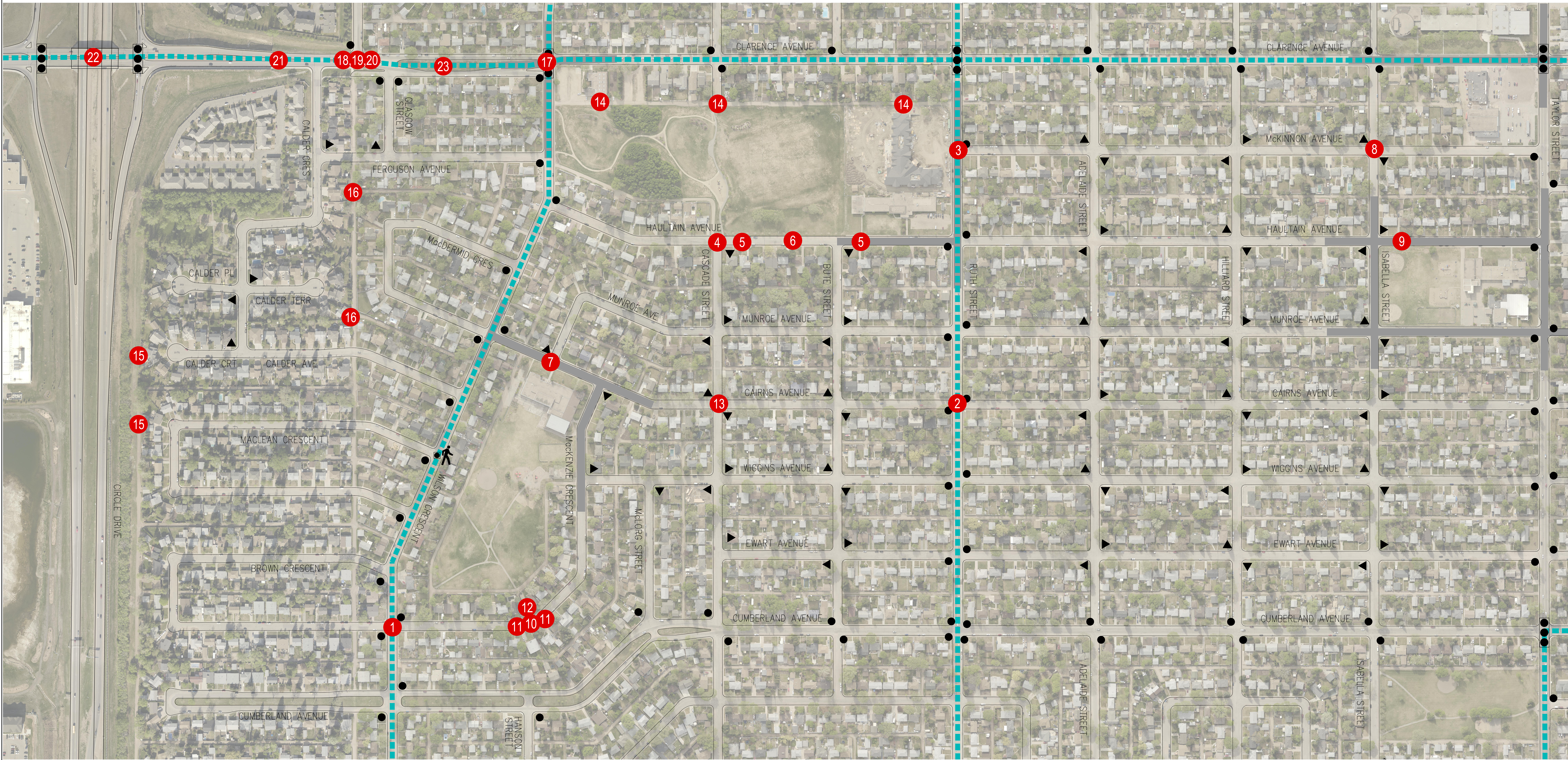
Table 5-8: Total Cost Estimate

Category	Signing, Temporary Traffic Calming & Traffic Counts	Permanent
Speeding/Shortcutting	\$4,000	\$225,000
Pedestrian Safety	\$4,100	NA
Intersection Safety	\$500	NA
Parking Signs	\$1,500	NA
Sidewalk	NA	\$48,400
Clarence Avenue	\$850	\$6,900
Totals	\$10,950	\$280,300

The total cost estimate for the signage and temporary traffic calming to be installed in 2016 is **\$10,950**. The total cost estimate for the installation of future permanent devices, including sidewalks (which does not include the geometric improvements on Clarence Avenue), is **\$280,300**. It should be noted, the Clarence Avenue Improvements shown in **Table 5-6** are based on the approval of the Avalon Neighbourhood Traffic Management Plan, and will be funded through major intersection and corridor improvements projects.

Resulting from the plan development process, the recommended improvements, including the location, type of improvement, and schedule for implementation are summarized in **Table 5-9**.

The resulting recommended Adelaide-Churchill Neighbourhood Traffic Management Plan is illustrated in **Exhibit 5-1**.



LEGEND





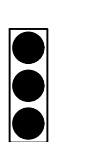

-  EXISTING STOP SIGN
-  EXISTING YIELD SIGN
-  BUS ROUTE
-  SCHOOL ZONE
-  CORRIDOR SIGNAL
-  ACTIVE PEDESTRIAN EXISTING TRAFFIC SIGNAL LOCATION

Exhibit 5-1

Table 5-9: Adelaide-Churchill Neighbourhood Recommended Improvements

Item	Location	Recommendation	Reason
1	Wilson Crescent & MacKenzie Crescent / Brown Crescent	Zebra crosswalk & curb extensions on west side	Improve pedestrian safety (school route) & reduce speed
2	Ruth Street & Cairns Avenue	Standard crosswalk	Improve pedestrian safety (school route)
3	Ruth Street & McKinnon Avenue	"No Parking" signs at 10m on all corners	Enhance visibility
4	Haultain Avenue & Cascade Street	Standard crosswalk & curb extensions (north side)	Improve pedestrian safety (connects to park pathway) & reduce speed
5	Haultain Avenue - either side of Churchill Park	"Playground Ahead" signs	Improve pedestrian safety (near park)
6	Haultain Avenue between Cascade Street & Ruth Street	Forward peak hour speed data to Saskatoon Police Service to consider enforcement	Reduce speed
7	Cairns Avenue & Munroe Avenue	Zebra crosswalk (north side)	Improve pedestrian safety in front of school (currently standard crosswalk)
8	McKinnon Avenue & Isabella Street	Upgrade yield signs & stop signs	Improve intersection safety & driver compliance
9	Haultain Avenue between Isabella Street & St. Phillips School	Sidewalk on east side (110m)	Improve pedestrian safety & connectivity
10	MacKenzie Crescent at walkway	Parking restrictions on both sides of walkway (approximately 5m on either side)	Improve pedestrian safety & enhance visibility
11	MacKenzie Crescent before curve (northbound & southbound) near walkway	Pedestrian crosswalk ahead signs	Improve pedestrian safety (school route)
12	Walkway between MacKenzie Crescent & Hugh Cairns School	CPTED review to determine if walkway lighting is warranted	Pedestrian safety
13	Cairns Avenue & Cascade Street	Collect traffic data in spring 2016	Determine pedestrian safety improvements (school route)
14	Back lane east of Clarence Avenue - Wilson Crescent to Ruth Street	20kph speed signs	Reduce speed
15	Back lane north of Circle Drive east of Calder Court	20kph speed signs	Reduce speed
16	Back lane between Ferguson Avenue & Calder Avenue	20kph speed signs	Reduce speed

Table 5-9 Continued

Item	Location	Recommendation	Reason
Clarence Avenue & Glasgow Street (also included in Avalon Neighbourhood Traffic Management Plan)			
17	Wilson Crescent	Additional school zone signs on overhead posts	Reduce speed & ensure driver awareness of school zone
18	Southeast corner (on Clarence Avenue)	Move bus stop a few metres south	Improve traffic flow (allows vehicle to pass in inside lane while bus is stopped) & improve pedestrian safety (enhances crosswalk visibility)
19	Southwest corner (on Clarence Avenue)	Install sidewalk up to bus stop	Improve pedestrian safety & connectivity
20	Entire intersection and surrounding area	Review signage at or near intersection	Reduce visual clutter, eliminate confusion, & determine if "Do Not Block Intersection" sign is necessary.
21	Between Circle Drive overpass & Glasgow Street	Speed display board (facing northbound traffic)	Reduce speed
22	Between Glasgow Street & the south side of Circle Drive overpass	Reduce 60kph speed limit to 50kph	Reduce speed
23	Between Glasgow Street & Wilson Crescent	Geometric Improvements - Additional through lane northbound	Increase capacity on Clarence Avenue in northbound direction (i.e. increasing from one lane to two through lanes)

APPENDIX A: MEETING MINUTES

**Adelaide-Churchill Neighbourhood
Traffic Review
Thursday, June 11, 2015, 7:00 – 9:00 P.M.
Hugh Cairns School**

Facilitators:

- Mitch Riabko & Kathy Dahl (Great Works Consulting)

Agenda

- Welcome & introductions
- Presentation from the Transportation Division
- Small group discussions
- Small group discussion – report back to large group
- Next Steps
- Question / Answers

Councillor Loewen attended.

Presentation from Transportation Division – Adelaide-Churchill Neighbourhood Traffic Review

(Presented by Justine Nyen – Transportation Engineer)

Presentation Outline:

- Neighbourhood Review Process
- Timeline for Adelaide-Churchill Review
- Sources of Information
- Concerns Received/Past Studies
- Description of Traffic Calming & Pedestrian Safety Devices

Neighbourhood Review Process:

- **August 2013** – New process; neighbourhood review vs issue by issue; eight neighbourhoods reviewed per year
- **Mandate** – Reduce & calm traffic, improve safety within neighbourhoods
- **2014** – Varsity View, Nutana, Brevoort Park, Haultain, Holliston, City Park, Westmount, Hudson Bay Park, Caswell Hill
- **2015** – Adelaide-Churchill, Meadowgreen, Mount Royal, Montgomery Place, Confederation Park, Avalon, Greystone Heights, Lakeview

Timeline for Adelaide-Churchill Review:

- **Stage 1** – Identify issues & possible solutions through community consultation (June to fall 2015)
- **Stage 2** – Develop a draft traffic plan (fall 2015)
- **Stage 3** – Present draft traffic plan to community for feedback (fall 2015)
- **Stage 4** – Implement the changes over time

Sources of Information:

Adelaide-Churchill Neighbourhood Traffic Review Minutes – June 11, 2015

1

- Past Studies (speed studies, traffic volumes counts, intersection reviews, pedestrian crossings)
- Collision Analysis
- Feedback from Public Consultation
- Traffic Counts & Assessments

Concerns Received/Past Studies:

- Stop & Yield Retrofit Program – yield signs installed fall 2013
- Preston Ave Corridor Study – traffic signals proposed at Adelaide St; geometric improvements proposed at Taylor St; improvements made when funding becomes available
- Wilson Cres – higher traffic volumes since Circle Drive South and overpass at Clarence; speeding; crosswalk on west side of MacLean Cres comes up quick; start the school zone at the curve; pedestrian activated device at MacLean (west leg) with existing zebra; crosswalk at MacLean is half block away from back alley that lots of children use to get to school, this should be moved to the back alley or one added at Mackenzie/Brown Cres
- Ruth St at Cairns Ave & Haultain Ave – children crossing to get to Hugh Cairns School and St. Phillip School; there are no safely marked crosswalks; install overhead lighting, marked crosswalks and lane restricting concrete markers similar to Wilson Cres; traffic has increased since Clarence/Circle Dr overpass; parking on north side of Ruth St between Clarence & Haultain makes it difficult to see
- Haultain Ave btw Wilson & Ruth – speeding; addition of yield signs at uncontrolled intersections and traffic signals at Wilson & Clarence resulted in thoroughfare for those wanting to avoid Clarence Ave; install speed bumps; speed display boards; or lit crosswalks to get to the park
- Clarence Ave & Calder Cres – long waits to get onto Clarence Ave; traffic has increased on Clarence since overpass, Stonebridge & CDS; turning from Clarence Ave northbound onto Calder is also a concern because the lane ends and drivers get into shared RT/thru lane not paying attention to drivers turning right nearly rear ending them; speeding downhill from overpass; bus stop on north side of Calder, when bus stopped, forces all through traffic going north to stop until bus leaves stop; concerns for southbound left turn from Clarence onto Calder because through drivers must weave around; there's a wide center boulevard from Wilson Cres south to Calder so use it to add more lanes; install speed display board
- Clarence Ave – midblock crossing at Aden Bowman; traffic increase since Stonebridge; snow clearing is less than Ruth St, Clarence should be higher priority
- McKinnon Ave – speeding and high traffic during peak hours to avoid Clarence Ave
- Cumberland Ave btw Ruth & Wilson – speeding around curve; install speed bumps; speeding & shortcut btw 1st St & 7th St to Preston Ave & Market Mall because drivers don't like to use Louise Ave due to the curve and school zone
- MacKenzie Cres – pedestrian safety concerns near walkway that connects to park; speeding; remove parking on curves and at MacKenzie & Cairns to improve visibility
- Back lane east of Clarence Ave (between Wilson & Ruth) - Traffic has been steadily increasing in the back lane due to St. Martin Church traffic, users of Churchill Park, and the new condominium development at McKinnon and Ruth Street.

- Sharrows added to Cumberland & Preston Ave, or dedicated bike lane or boulevard
- Taylor St – speeding, tailgating, passing on right

Traffic Calming Devices (Examples of devices used in Saskatoon):

1. Speed Display Boards
2. Raised Median Island – narrows road; provides center refuge for pedestrians
3. Curb Extensions – narrows road
4. Roundabouts
5. Diverter – used to address high traffic volumes
6. Right-in/right-out island - used to address high traffic volumes
7. Directional Closure – restrict movements onto the street from one direction
8. Raised median through intersection – restrict movements
9. Full closure

Pedestrian Devices:

1. Standard crosswalk
2. Zebra crosswalk (striped pavement markings)
3. Active pedestrian corridor (flashing yellow lights)
4. Pedestrian-activated signals

Questions for Saskatoon Police Services

Resident: Pedestrian crossing signals – do you have to wait for light to go green to proceed? Or is it after pedestrian has crossed?

Police: Cannot proceed until light is green.

Resident: flashing red? Can't you go ahead?

Police: Yes after coming to a complete stop.

Resident: Do you have to stop anywhere for pedestrians?

Police: At any intersection.

Resident: When will police start enforcing cyclists?

Police: We do enforce the downtown area, the areas where there are more cyclists.

Resident: I've been stopped by police on my bike. I know they enforce.

Resident: What are the rules for Broadway Bridge?

Police: Cyclist is allowed to be on the sidewalk of bridges. Have to dismount once they're off the bridge if they want to stay on the sidewalk.

Resident: Is the enforcement for slow driving?

Police: Our focus is driver's going too fast.

Resident: Kids on side streets ride their bikes on sidewalks all the time. Use judgement there. Should provide enforcement for right on a red light.

- **Saskatoon Police Services: 306-975-8300 OR 306-975-8068 to report a traffic complaint or a concern.**

Small Group Discussions

- Breakout into small groups to discuss traffic concerns in Adelaide-Churchill and potential solutions

Group 1: Olanre Akindipe (City facilitator)

1. Clarence Ave & Wilson Cres – southbound through geometry is confusing; speeding on Clarence Ave; should be 50kph to Circle Drive for consistency; pedestrian signal may help
2. Alley east of Clarence Ave – lots of traffic; pavement? Or speed humps to reduce speed
3. Clarence Ave & Cascade St – install active pedestrian corridor
4. Speeding on Haultain Ave between Wilson & Ruth St
5. Sidewalk at St Philips School on Haultain Ave needs work
6. Haultain Ave & Wilson Cres; Ruth St & Haultain Ave; Ruth St & McKinnon Ave – visibility issues
7. Northbound on Clarence Ave at Circle Dr – merge sign is needed
8. Haultain Ave – bulb out to reduce speeding

Group 2: Justine Nyen (City facilitator)

1. Haultain Ave between Taylor St & Ruth St (also south of Ruth St) – increase traffic (going to store on Taylor); road is in rough shape; dangerous at Adelaide St; traffic signal at Clarence Ave & Wilson Cres has made traffic increase; traffic calming (maybe forced turn) at Ruth Street or Wilson Cres would help
2. McKinnon Ave – shortcut to avoid Clarence Ave; dangerous at Adelaide St
3. Throughout neighbourhood - turning off Clarence to Cumberland Ave or Taylor Street– going through neighbourhood side streets; install stop signs instead of yields; speed bumps; increased traffic due to church, Stonebridge developments, overpass, condos etc
4. Clarence Ave – increased traffic, especially at 4pm; can't see backing out of driveway; widen road 1 block north of Circle Drive to add lanes; designated snow route - where are residents supposed to park when there's snow clearing? Schools should be involved in Silhouette for Safety program (school zone signs in middle of street) for better signage; trees block school zone signs/difficult to see and there are no children around to indicate it's a school zone
5. Wilson Cres – increased traffic, especially during peak hours; vehicle noise; many new families with children live nearby; Preston Avenue overpass has added to shortcutting; 6-9pm is a raceway; enforcement needed; traffic calming

or speed display board may help; restrict access to Preston Ave so driver's don't shortcut

6. Aden Bowman Collegiate (midblock on Clarence Ave south of Taylor St) –add angle parking and bus parking at back; install chain-link fence to restrict midblock crossing to Mac's store; some of group was in support of midblock crossing; install pedestrian device or zebra crosswalk; there's compliance when principal is watching; parents parking in lot across the street; some drivers refuse to slow down for kids crossing at midblock; issues with proximity of traffic signals at Clarence Ave & Taylor St; southbound queue for left turn into mall; solution may be to restrict left turn into mall; speeding northbound to get through intersection before light turns yellow/red
7. Clarence Ave & Calder Cres – rear ends turning left southbound; drivers accelerating and need to change lane to get around left turn and then right turn from Glasgow St; race to get into through lane; close off left turn or make it a one-way street; difficult to make left turn southbound from Calder Cres; snowbanks piled up in winter; make it a zipper merge
8. Clarence Ave & Wilson Cres – not stopping for right turn on red
9. Bike education for teenagers
10. City expanding on other side of railways
11. Ruth St & Clarence Ave – restrict right turn on red so there are gaps in traffic to allow residents to back out of driveways
12. Brown & MacLean Cres – residents using back lanes to get to Calder Cres -> Clarence Ave – speeding through back lanes

Group 3: Mariniel Flores (City facilitator)

1. Doesn't agree with minimum cycling speeds
2. Not in favour of potential fire hall and cell tower at Clarence Ave & Wilson (no more loss of public space)
3. Median obstructing vehicles left/right from Clarence Ave into Glasgow St; shorten median a bit a create a right turning bay
4. School zones on Wilson Cres and Haultain Ave cause traffic to use back streets; implement 40kph limit
5. High traffic volumes on Clarence Ave, make it hard to get out of driveway due to queuing vehicles at Clarence & Ruth St; improve signal timing coordination (particularly at Wilson & Clarence – takes long time to get green phase northbound)
6. Many pedestrians using Clarence Ave & Cascade St – need active pedestrian corridor
7. Speeding on Ferguson Ave to Glasgow St and alley because vehicles avoid Wilson Cres & Clarence Ave; install speed bumps
8. Wilson Cres & Cairns Ave – rubber curbing not working; active pedestrian corridor needed
9. When designing curb extensions, consider blind user groups
10. Want cycling route; multi-use pathway north of Circle Dr (in back alley way)

11. High traffic volumes at Wilson Cres & Preston Ave and hard to make turning movement- improvements needed (ie. maybe traffic signals with appropriate timing)
12. Speeding – police stationed at Clarence Ave (Wilson Cres to Calder Cres) to ticket and Wilson Cres (Brown to Clarence Ave) particularly 1am and 2am
13. Speeding – Circle Dr S, south of Calder Cres drop speed from 60kph to 50kph limit (odd because northbound is 60kph to 50kph to 30kph)
14. Lane assignment problem at Wilson Cres & Clarence Ave – better than one shared through/left turn and one right turn, but not good enough
15. 20kph speed sign on Ferguson Ave alley too high to see; lower the sign (change to one-way south the north)
16. Many pedestrians at Munroe Ave in front of school and MacKenzie Cres & Cairns Ave – standard crosswalk of zebra crosswalk
17. Stop/yield retrofit is good
18. Want to widen Preston Ave to alleviate congestion on Clarence Ave for Stonebridge vehicles going northbound; take out Preston Ave boulevard

Group 4: Angela Gardiner (City facilitator)

1. Clarence Avenue & Calder Cres/Glasgow St – dropped lane northbound causes last minute lane change; extend barrier
2. Clarence Ave & Wilson Cres – vehicle detection for east/west signal timing (too fast)
3. Clarence Ave & Cascade St – pedestrian crossing; passing on right
4. Clarence Ave – synchronize signals (Ruth and Wilson) at 3pm; issues backing out of driveways; speeding northbound; passing on right when vehicles turning right
5. Circle Dr & Clarence Ave overpass – drivers don't yield coming from Clarence Ave to Circle Dr on ramp (top of overpass)
6. Haultain Ave – speeding; alternate direction of yield signs
7. Ferguson Ave – shortcutting to avoid signals at Wilson & Clarence
8. Back lane east of Clarence Ave between Wilson Cres & Ruth St – speeding; increased traffic; parking in lane; maybe consider paving the lane behind condos

Next Steps

1. Continue monitoring traffic issues in your neighbourhood
2. Mail-in or email comments no later than July 11/15
3. Additional public input via City on-line Community Engagement webpage no later than July 11/15

<http://shapingsaskatoon.ca/discussions/adelaide-churchill-neighbourhood-traffic-review-meeting>

4. Traffic count data collection – spring/summer 2015
5. City review of public input and data collected from traffic studies and prepare draft Traffic Plan

6. Follow-up public input meeting to provide input on draft
7. Determine revisions and finalize Traffic Plan
8. Present Traffic Plan to City Council for approval

Question & Answer

Councillor Loewen: proposal made by fire department to move fire hall on Taylor Street. No plan in place yet. Minimum standard for response times. City-wide review to eliminate need for new facilities by relocating existing. If you're anticipating to see what's proposed we can add it to the Shaping Saskatoon page.

Resident: Collect traffic data in the fall. Less traffic when's school are out, people are on holidays etc.

Resident: If speeding is a concern, why not just use speed bumps?

City: We've received negative feedback in the past when we installed these. Shakes houses, creates noise, increase emergency response times. Can't incorporate everything. Traffic calming will be temporary at first so we can assess.

Resident: Lives on Clarence Ave. The back lane between Ferguson Ave. There's 20kph speed sign. What if dog, kid, someone get hit.

City: We'll look into quick fixes, such as tree trimming to improve visibility. Also enforcement if you contact police.

Resident: Parking on back lane, difficult to back out of driveway.

City: Police will provide enforcement. You can provide detailed information, license plate number etc. They'll pay a visit to the driver's home.

Resident: Cell phone tower proposed in the area. There are so many children, schools, may be at risk. Health concerns. Fire trucks going by. These should be in commercial areas.

Councillor: Cell tower – in the process of finding locations. It's regulated by federal government. Ability to use public right-of-way. City offers opinion but has no authority. City has never been successful in compliance with federal government. Consultation with community. Decision with Transport Canada. There's one just south in Stonebridge. No way to protect city by putting fire halls in commercial areas due to time requirements for response times. No definitive answer on location yet.

Resident: What the budget? Besides collecting data and making proposals.

City: Quick items, typically included in annual budget (ie. signs, temporary traffic calming). We're in the process of getting funding for permanent stuff. Putting budgets together right now.

Resident: All solutions are band-aids to the major issue. Since the Wal-Mart overpass was built it has increased traffic. These meetings are to fix problems caused by the overpass.

City: Clarence Ave is, and always was, an arterial, designed to carry 18,000 to 25,000 vehicles per day. Volumes measured are within the typical range. When we're planning the road network, we start with freeways, to arterials, to collectors, to locals and so on. Clarence Ave is intended to move traffic through. There have been impacts due to Stonebridge. Hopefully the additional access from Stonebridge being built to access the freeway will alleviate the issues. Expected to be built at the end of next year.

Resident: Way to open/widen Clarence Ave to alleviate bottleneck? Or on Preston?

City: we can take a look but speeds may go up.

Resident: Haultain Ave. I bought there to be on a quiet street. New church, condos, caused increase in traffic. It's a shortcut between Wilson and Taylor St.

City: Yes. And we've heard about this area tonight.

List of Representatives

Mitch Riabko, Kathy Dahl – Great Works Consulting, Facilitators

Angela Gardiner – City of Saskatoon, Transportation & Utilities, Director of Transportation Division

Justine Nyen – City of Saskatoon, Transportation & Utilities, Transportation Engineer

Mariniel Flores – City of Saskatoon, Transportation & Utilities, Transportation Engineer

Olanre Akindipe – City of Saskatoon, Transportation & Utilities, Transportation Engineer

**Adelaide-Churchill Neighbourhood
Traffic Review
Tuesday, December 15, 2015, 7:00 – 9:00 P.M.
Hugh Cairns School**

Facilitators:

- Mitch Riabko & Kathy Dahl (Great Works Consulting)

Agenda

- Welcome & introductions
- Presentation from the Transportation Division
- Small group discussions
- Small group discussion – report back to large group
- Next Steps
- Question / Answers

Presentation from Transportation Division – Adelaide-Churchill Neighbourhood Traffic Review

(Presented by Justine Nyen – Transportation Engineer)

Presentation Outline:

- Neighbourhood Traffic Management – Program Rationale
- How We Got Here
- What We Heard
- What We Did
- What We Propose

Neighbourhood Traffic Management Program:

- Address neighbourhood traffic issues:
 - Speeding concerns
 - Short-cutting concerns
 - Pedestrian safety
 - Intersection safety
- August 2013 – changes to program
 - Neighbourhood-wide review
 - More community / stakeholder feedback
 - Efficient use of staff resources

How We Got Here:

- June 2015 – Initial Traffic Meeting
- June to December 2015 – gather feedback, conduct traffic studies, collect data, develop traffic plan
- December 2015 – Follow Up Traffic Meeting - display proposed traffic plan and gather feedback

What We Heard:

- A. Speeding/Traffic Volumes:
- Clarence Ave
 - Wilson Cres

- Haultain Ave
- McKinnon Ave
- Cumberland Ave
- MacKenzie Cres
- Ferguson Cres
- Back lanes:
 - east of Clarence Ave between Wilson & Ruth St (St. Martin's Church)
 - between Brown & MacLean Cres to get to Calder Cres & then onto Clarence Ave
 - near Ferguson Ave

B. Pedestrian Safety:

- Clarence Ave – students crossing midblock at Aden Bowman to Mac's store
- Clarence & Cascade
- Wilson Cres- MacLean Cres, back lane between MacLean Cres & MacLean Cres, MacKenzie/Brown, Cairns
- Ruth St at Cairns Ave & Haultain Ave – children crossing/school route
- MacKenzie Cres – walkway that connects to park
- Cairns Ave – in front of school; crossings at Munroe & MacKenzie

C. Intersection Safety:

- Clarence & Calder – long waits to get onto Clarence; concerns due to left lane ending drivers getting over into thru lane when vehicle in front may be turning right onto Calder; speeding downhill from overpass; bus stop
- Clarence Ave & Taylor – southbound queue due to left turn into mall
- Clarence Ave & Wilson Cres – southbound through geometry is confusing; drivers not stopping for right on red, vehicle detection needed for east/west signal timing (phase is too fast); takes long time to get green phase northbound
- Clarence & Circle Dr off ramp – drivers don't yield

D. Parking:

- Ruth St – parking on north side makes it difficult to see
- MacKenzie Cres near walkway

What We Did:

- Collected Data:
 - Past studies
 - Comments from initial meeting
 - Resident responses (phone calls, emails, letters)
 - Recorded comments from Shaping Saskatoon discussions
 - 11 Intersection / Pedestrian counts
 - 10 – 7 day traffic count (24 hour) & Average Speed measurements
 - 2 Back lane counts
 - Collision history
- Field Reviews
- Assessed the Issues
- Generated proposed recommendations

What We Propose:

- Speed limit signs
- Parking restrictions
- Back lane restriction
- Sidewalk installation
- Stop signs
- Speed display board
- Standard crosswalk
- Zebra crosswalk

- **Saskatoon Police Services: 306-975-8300 OR 306-975-8068 to report a traffic complaint or a concern.**

Small Group Discussions

- Breakout into small groups to discuss traffic concerns in Adelaide-Churchill and potential solutions

Group 1: David LeBoutillier (City facilitator)

Location	Recommendation	Reason	Comments
Clarence Ave & Glasgow St	Move bus stop a few metres south to allow vehicle clearance in left lane	Improve traffic flow	Ok. Maybe both sides.
Clarence Ave & Taylor	Add location to major intersection review priority list	Address southbound queue due to driveway (into mall) 45m south of intersection	access to the mall issues; restrict westbound left turns; Aden Bowman Collegiate needs a midblock crosswalk; bus stop should be moved north of Taylor St; educating students has already been tried
Clarence Ave between Circle Dr overpass & Glasgow St	Speed display board (facing northbound traffic)	Reduce speed	Install for southbound as well.
Clarence Ave - Glasgow St to 2805 Clarence Ave	Add through lane northbound (additional 100m)	Improve traffic flow	No. Need other solutions.
Ruth St & McKinnon Ave	Parking restrictions 10m on northwest corner	Enhance visibility	Not sure why northwest corner. Add restrictions on south side by condo.
McKinnon Ave & Isabella St	Upgrade yield signs & stop signs	Improve intersection safety	Re-think orientation of signs.
Back lane between 2813 & 2903 Calder Ave	Install bollards	Reduce shortcutting in back lane	Ok, but what about lane east of this to Clarence Ave? Install 20kph signs.

Additional Concerns:

Location	Comments
Cairns Ave & Cascade St	Install standard crosswalk & curb extensions

Group 2: Shirley Matt (City facilitator)

Location	Recommendation	Reason	Comments
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Clarence Ave & Glasgow St	Move bus stop a few metres south to allow vehicle clearance in left lane	Improve traffic flow	Confusion with drivers if it's moved up. Confusion with pedestrian crossing and waiting for bus.
Clarence Ave between Circle Dr overpass & Glasgow St	Speed display board (facing northbound traffic)	Reduce speed	Install for southbound traffic as well.
Clarence Ave - Glasgow St to 2805 Clarence Ave	Add through lane northbound (additional 100m)	Improve traffic flow	Ok but needs more analysis.
Ruth St & McKinnon Ave	Parking restrictions 10m on northwest corner	Enhance visibility	Add parking restrictions on every corner
Back lane between 2813 & 2903 Calder Ave	Install bollards	Reduce shortcutting in back lane	Difficult to comment. Should be decided on by the residents on Calder Cres.

Additional concerns:

Location	Comments
Ruth St & Haultain Ave	Hedges & parking on northwest corner
Clarence Ave - in front of Aden Bowman Collegiate	Students jaywalking to Mac's store; doors do not align with crosswalk
Lane between Wilson Cres & Glasgow St	Install "Local Traffic Only" sign or 20kph speed signs
School sites	Idling in front of schools; should have a City Policy to address this
Clarence Ave & Wilson Cres	mailbox south of Wilson Cres causes visibility issues; not enough green time for Wilson Cres, especially for westbound; school signs missing for northbound/southbound

Group 3: Justine Nyen (City facilitator)

Location	Recommendation	Reason	Comments
Clarence Ave & Glasgow St	Move bus stop a few metres south to allow vehicle clearance in left lane	Improve traffic flow	Likely not going to help.
Clarence Ave & Taylor	Add location to major intersection review priority list	Address southbound queue due to driveway (into mall) 45m south of intersection	Left turn arrows for northbound & southbound needed; southbound left turn into mall is causing queues
Clarence Ave - Glasgow St to City Limits (south of Cartwright St)	Reduce 60kph speed limit to 50kph (section south of Circle Dr overpass will be based on approval from Stonebridge)	Reduce speed	Wait until Stonebridge neighbourhood traffic review to implement speed reduction all at once.
Ruth St & McKinnon Ave	Parking restrictions 10m on northwest corner	Enhance visibility	Look at northeast corner as well. Perhaps parking enforcement instead.

Haultain Ave & Cascade St	Standard crosswalk & curb extensions (north side)	Improve pedestrian safety (connects to park pathway) & reduce speed	Install playground signs (for northbound - install south of Cascade St; for southbound - install north of Bute St). Police to enforce speeding during peak hours
MacKenzie Cres at walkway	Parking restrictions on both sides of walkway (approximately 5m on either side)	Improve pedestrian safety & enhance visibility	Street light needed and along walkway.

Additional concerns:

Location	Comments
MacKenzie Cres	Snow is being pushed onto sidewalk
Back lane north of Circle Dr east of Calder Crt	Speeding; install 20kph signs
Cairns Ave (southbound before MacKenzie Cres)	Trees blocking 30kph sign
Clarence Ave & Wilson Cres	Review parking restrictions on Clarence Ave to improve traffic flow
Parking program near schools	Implement cost-sharing program to allow public to park in residential driveways during major events at schools
Clarence Ave & Calder Cres	pedestrian safety concerns; drivers passing on right when a pedestrian is crossing; drivers not stopping for pedestrians
Back lane north of Circle Dr at east end	Install posts so drivers can't shortcut through park

Next Steps

1. Mail-in or email comments no later than Jan 15/16
2. Additional public input via City on-line Community Engagement webpage no later than Jan 15/16

<http://shapingsaskatoon.ca/discussions/adelaide-churchill-neighbourhood-traffic-review-meeting>

3. Additional consultation if required
4. Present traffic plan to City Council for approval
5. What if I don't agree? Request time to speak at City Council meeting
6. What if City Council approves? Implementation begins. Signs and temporary traffic calming will be installed as early as next spring (2016)

Q&A

Resident: Why were there no recommendations to address the Aden Bowman Collegiate pedestrian crossing on Clarence Ave?

City: A study was completed and a letter was sent to the Principal. At this point in time the City does not support implementation of a midblock crossing. Working with the school to address the issues. Next steps, if required, may be to install a fence or median to encourage students to cross at Taylor St. A rough design of this is in the works.

Resident: Will this be part of the Taylor St/Clarence Ave major intersection review?

City: If a median is proposed this may affect traffic patterns so there's potential to include it as part of the major intersection review process.

Resident: With the additional 100 students enrolling this past year and excess traffic on Clarence Ave this issue needs to be addressed.

Councillor Loewen: Let's discuss the Aden Bowman crossing at the end of the meeting for those that are interested. This will likely need to be addressed outside of the neighbourhood review.

Resident: Circle Dr off ramp – issues with the left turn and not knowing when drivers are turning or continuing through. Also issues with the northbound exit from the mall on Clarence Ave.

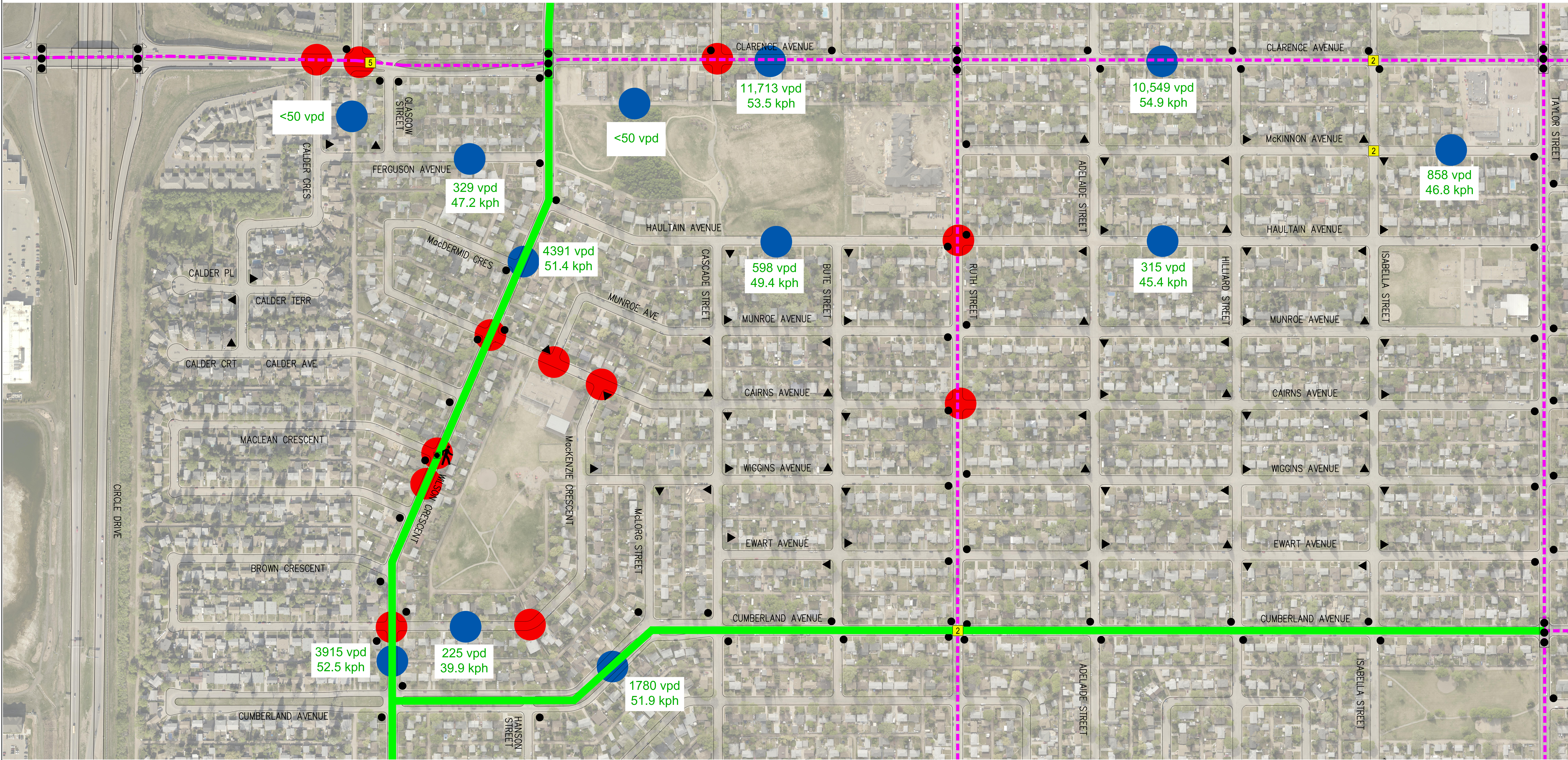
Councillor Loewen: Received a few questions about the location of the new fire hall. There was a proposal to build at Clarence Ave & Wilson Cres. No decision has been made at this point. To be determined. As information comes in it will be shared with public. Locations are typically selected according to travel distances. The new fire hall will service Stonebridge as well. It was initially proposed along Melville St but is no longer an option.

List of Representatives

Mitch Riabko, Kathy Dahl – Great Works Consulting, Facilitators

Justine Nyen, Shirley Matt, David LeBoutillier – City of Saskatoon, Transportation & Utilities

APPENDIX B: TRAFFIC DATA COLLECTION



LEGEND

- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- ⬆ CORRIDOR SIGNAL
- 🚶 ACTIVE PEDESTRIAN EXISTING TRAFFIC SIGNAL LOCATION
- MAJOR ARTERIAL
- - - MINOR ARTERIAL
- MAJOR COLLECTOR
- - - MINOR COLLECTOR
- 3 AVERAGE NUMBER OF COLLISIONS PER YEAR [2009-2013]
- TRAFFIC MOVEMENT COUNT
- SPEED STUDY
- 786 vpd — NUMBER OF VEHICLES PER DAY
- 47.2 kph — 85th PERCENTILE SPEED

APPENDIX C: ALL-WAY STOP ASSESSMENTS

All-way Stop Assessment (Policy C07-007 – Traffic Control – Use of Stop & Yield Signs)

Step 1:

The following conditions must be met for all-way stop control to be considered:

i) The combined volume of traffic entering the intersection over the five peak hour periods from the minor street must be at least 25% of the total volume for a three-way stop control, and at least 35% of the total volume for a four-way stop control.

ii) There can be no all-way stop control and traffic signal within 200 metres of the proposed intersection being considered for all-way stop control on either of the intersecting streets.

Location	Condition 1: % of Traffic from minor street	Condition 2: Traffic Signals or all-way stop within 200m	All-Way Stop Warrant
Clarence Avenue & Calder Crescent	2% (no)	No	Conditions NOT met.
Wilson Crescent & Cairns Avenue	9% (no)	No	Conditions NOT met.
Wilson Crescent & MacKenzie Crescent / Brown Crescent	9% (n)	No	Conditions NOT met.
Cairns Avenue & Munroe Avenue	9% (no)	No	Conditions NOT met.
Cairns Avenue & MacKenzie Crescent	19% (no)	No	Conditions NOT met.

Conditions not met. No need to proceed to Step 2.

APPENDIX D: PEDESTRIAN DEVICE ASSESSMENTS

Appendix D: Pedestrian Actuated Signal Warrant

Clarence Avenue & Calder Crescent:

Prepared By: Justine Date: Jul 13/15

Location & Roadway Classification: Clarence Ave & Calder Cres
 Date of Count: Day of wk: Tues Mth, Day, Yr: Jun 23/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: none
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 5 lanes

Is there a physical median in this crosswalk(s)? y (y or n)

Speed limit (for 85th percentile speed) 60 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 300 m
 Location: Wilson Cre
 Type: TS

Is the orientation of this crosswalk(s) N-S? n (y or n)

Duration of pedestrian count 5 hrs

Elementary:	Total Warranted PC Points:	or	/ period
High School:	Highest PC point value:	at	
Adult:	Active Ped Corridor Points:		
Senior:	Pedestrian Actuated Signal Points: 31		
Vehicles passing through crosswalk(s): 7,968			

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the South Crosswalk****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	201	14	146										
8:15	196	8	184										
8:30	199	9	202										
8:45	225	8	193										
9:00													
9:15													
9:30													
9:45													
AM Totals	821	39	725										
11:30	149	8	174										
11:45	158	5	164										
12:00	173	2	176										
12:15	167	5	186										
12:30	156	9	173										
12:45	184	5	171										
13:00	152	8	172										
13:15	178	3	159										
Noon Totals	1,317	45	1,375										
14:00													
14:15													
14:30													
14:45													
15:00	169	7	213										
15:15	200	5	228										
15:30	210	5	226										
15:45	213	7	260										
16:00	197	4	264										
16:15	182	3	249										
16:30	204	4	302										
16:45	215	4	275										
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	1,590	39	2,017										
Totals	3,728	123	4,117										
					North Crosswalk =				South Crosswalk =				

Wilson Crescent & Cairns Avenue:

Location & Roadway Classification: Wilson Cres & Cairns Ave
 Date of Count: Day of wk: Wed Mth, Day, Yr: Jun 24/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: zebra
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 360 m
 Location: Clarence Ave
 Type: TS
 Is the orientation of this crosswalk(s) N-S? y (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	47	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	3,915	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	36		
Vehicles passing through crosswalk(s):	2,031				

ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

****Install device at the East Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	12	48	1	25	1								
8:15	9	33	1	32									
8:30	7	58	1	42	2								2
8:45	11	53	2	60	1								5
9:00													
9:15													
9:30													
9:45													
AM Totals	39	192	5	159	4								7
11:30	7	40	1	39									2
11:45	11	34	2	54									7
12:00	14	34		55									2
12:15	7	30		41									3
12:30	4	38		49									1
12:45	8	42		36									
13:00	2	31		24									1
13:15		28		33									1
Noon Totals	53	277	3	331									17
14:00													
14:15													
14:30													
14:45													
15:00	5	53	1	57									
15:15	4	46	4	85									
15:30	17	59		58	2								9
15:45	27	38	1	61									4
16:00	13	43	1	69	1								
16:15	3	33		64	1								
16:30	11	35		68									2
16:45	9	38	2	67									
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	89	345	9	529	4								15
Totals	181	814	17	1,019	8								39
					West Crosswalk = 8				East Crosswalk = 39				

Wilson Crescent & MacLean Crescent (west leg):

Location & Roadway Classification: Wilson Cres & MacLean Cres (west) - collector & local
 Date of Count: Day of wk: Wed-Thurs Mth, Day, Yr: Sep2-3/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: ped corridor & zebra
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes

Is there a physical median in this crosswalk(s)? n (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 550 m
 Location: Clarence Ave
 Type: TS

Is the orientation of this crosswalk(s) N-S? y (y or n)

Duration of pedestrian count 5 hrs

Elementary:	3	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	432	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	28		
Vehicles passing through crosswalk(s):	1,670				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the East Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00		47	2	33									
8:15		46	3	29									
8:30		50	2	32									
8:45		60	3	33									1
9:00													
9:15													
9:30													
9:45													
AM Totals		203	10	127									1
11:30		31	5	29									
11:45		39	3	37									
12:00		37	1	30									
12:15		25	1	33									
12:30		26	2	39									
12:45		30	1	31									
13:00		38	2	21									
13:15		27	1	36									
Noon Totals		253	16	256									
14:00													
14:15													
14:30													
14:45													
15:00		37	1	42									
15:15		56		53									
15:30		57	4	54									
15:45		49	2	56									
16:00		29	3	55									
16:15		36	5	50									
16:30		36	1	69									1
16:45		47	4	59									1
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals		347	20	438									2
Totals		803	46	821									3
					West Crosswalk =				East Crosswalk =				3

Wilson Crescent & MacKenzie Crescent / Brown Crescent:

Location & Roadway Classification: Wilson Cres & Mackenzie/Brown
 Date of Count: Day of wk: Wed Mth, Day, Yr: June 24/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: none
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 1,000 m
 Location: NA
 Type: _____
 Is the orientation of this crosswalk(s) N-S? y (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	22	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	1,848	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	32		
Vehicles passing through crosswalk(s):	1,818				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the West Crosswalk ****
 (Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	2	39	8	32									
8:15	1	31	3	30									
8:30	6	46	4	28	1								
8:45	14	47	2	39	2								
9:00													
9:15													
9:30													
9:45													
AM Totals	23	163	17	129	3								
11:30	5	41	1	42	2								1
11:45	3	32	3	40									
12:00	5	39	4	48									
12:15	6	25	2	31									
12:30	3	36	2	37									
12:45	4	40	2	34									
13:00	2	30	3	25									2
13:15	2	39	2	32									
Noon Totals	30	282	19	289	2								3
14:00													
14:15													
14:30													
14:45													
15:00	1	40	2	36									
15:15	5	51	3	61	1								2
15:30	14	54	6	46	1								
15:45	14	38	2	57	7								
16:00	1	42	3	61	1								
16:15	5	42	2	62	1								1
16:30	1	51	3	57									
16:45	4	39	2	61									
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	45	357	23	441	11								3
Totals	98	802	59	859	16								6
West Crosswalk =								16	East Crosswalk =				6

Wilson Crescent & back lane between MacLean Crescent (east) & MacLean Crescent (west):

Location & Roadway Classification: Wilson Cres & lane (between MacLean & MacLean) - collector & lane
 Date of Count: Day of wk: Wed-Thurs Mth, Day, Yr: Sep 2-3/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: none
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes

Is there a physical median in this crosswalk(s)? n (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 590 m
 Location: Clarence Ave
 Type: TS

Is the orientation of this crosswalk(s) N-S? y (y or n)

Duration of pedestrian count 5 hrs

Elementary:	3	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	222	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	28		
Vehicles passing through crosswalk(s):	1,611				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the East Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00		45	1	34									1
8:15		48		31									
8:30		47		30									
8:45		58		32									
9:00													
9:15													
9:30													
9:45													
AM Totals		198	1	127									1
11:30		31		30									
11:45		39		36									
12:00		37		28									
12:15		25	1	30									
12:30		28		36									
12:45		27	1	31									1
13:00		38		24									
13:15		28		34									
Noon Totals		253	2	249									1
14:00													
14:15													
14:30													
14:45													
15:00		38		43									
15:15		58		52									
15:30		56		56	1								
15:45	1	47	1	57									
16:00		31		51									
16:15		35		50									
16:30		36		68									
16:45		47		54									
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	1	348	1	431	1								
Totals	1	799	4	807	1								2
West Crosswalk =								1	East Crosswalk =				2

MacKenzie Crescent & walkway connection to Hugh Cairns School (north of Wilson Crescent):

Location & Roadway Classification: MacKenzie & curve (midblock)
 Date of Count: Day of wk: Wed-Thurs Mth, Day, Yr: Oct 28-29/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: zebra
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 1,000 m
 Location: NA
 Type: _____
 Is the orientation of this crosswalk(s) N-S? n (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	9	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	40	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	28		
Vehicles passing through crosswalk(s):	144				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the North Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	1		1										
8:15	3		8										
8:30	8		3										
8:45	4		4		2								
9:00													
9:15													
9:30													
9:45													
AM Totals	16		16		2								
11:30	3		3										
11:45	2		2										
12:00	2		2										1
12:15	4		4										
12:30	5		5		2								
12:45	3		3										
13:00	1		1										
13:15													
Noon Totals	20		20		2								1
14:00													
14:15													
14:30													
14:45													
15:00	2		2										1
15:15	3		3										
15:30	11		11										
15:45	7		7		1								
16:00	3		3		1								
16:15	3		3										
16:30	3		3										
16:45	4		4										1
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	36		36		2								2
Totals	72		72		6								3
North Crosswalk =									6	South Crosswalk =			3

Cairns Avenue & Munroe Avenue:

Location & Roadway Classification: Cairns Ave & Munroe Ave - local-local
 Date of Count: Day of wk: Wed Mth, Day, Yr: Sep 9/15
 Weather: fair
 Traffic Control Devices: yield sign
 Current Pedestrian Control: standard
 Other Notes:

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 30 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 80 m
 Location: Wilson Cres
 Type: stop sign
 Is the orientation of this crosswalk(s) N-S? n (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	177	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	5,100	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	15		
Vehicles passing through crosswalk(s):	416				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the North Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	14		9	5	9								
8:15	6		6	1	4								
8:30	6		17	3	10								
8:45	11		31	2	28								
9:00													
9:15													
9:30													
9:45													
AM Totals	37		63	11	51								
11:30	11		5	1	3								
11:45	5		14	1	14								
12:00	3		4		2								
12:15	3		3	2	3								
12:30	7		9	2	9								
12:45	6		6	1	7								
13:00	6		5										2
13:15	1		3		2								
Noon Totals	42		49	7	40								2
14:00													
14:15													
14:30													
14:45													
15:00	2		13		4								
15:15	5		28	2	3								3
15:30	21		25	6	44								1
15:45	16		15	2	15								
16:00	3		12	1	5								
16:15	7		7	4	4								
16:30	7		7		3								
16:45	9		14	1	2								
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	70		121	16	80								4
Totals	149		233	34	171								6
North Crosswalk =									171	South Crosswalk =			6

Cairns Avenue & MacKenzie Crescent:

Location & Roadway Classification: Cairns & MacKenzie - local-local
 Date of Count: Day of wk: Wed Mth, Day, Yr: Sep 9/15
 Weather: fair
 Traffic Control Devices: yield sign
 Current Pedestrian Control: none
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 30 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 150 m
 Location: Wilson Cres
 Type: Stop sign
 Is the orientation of this crosswalk(s) N-S? n (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	27	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	1,118	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	7		
Vehicles passing through crosswalk(s):	423				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the South Crosswalk ****
 (Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	14	1	10		1								
8:15	3	8	5										
8:30	10	3	14										3
8:45	21	4	23		1								
9:00													
9:15													
9:30													
9:45													
AM Totals	48	16	52		2								3
11:30	4	8	3										
11:45	4	3	10		2								
12:00	4	2	3										
12:15	1	2	5										
12:30	6	4	9										2
12:45	6	5	7										
13:00	3	3	5										
13:15	1	1	2										
Noon Totals	29	28	44		2								2
14:00													
14:15													
14:30													
14:45													
15:00	4	2	9										2
15:15	6	3	19										10
15:30	25	11	22										3
15:45	9	7	13										1
16:00	2	3	12										
16:15	11	3	8		2								
16:30	4	3	6										
16:45	6	4	14										
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	67	36	103		2								16
Totals	144	80	199		6								21
North Crosswalk =								6	South Crosswalk =				21

Clarence Avenue & Cascade Street:

Location & Roadway Classification: Clarence Ave & Cascade St - arterial & local
 Date of Count: Day of wk: Wed-Thurs Mth, Day, Yr: Oct 28-29/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: zebra
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 210 m
 Location: Wilson Cres
 Type: TS
 Is the orientation of this crosswalk(s) N-S? n (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	13	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	3,560	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	21		
Vehicles passing through crosswalk(s):	5,136				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the South Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	100	1	102	10									
8:15	123	1	113	11									2
8:30	118		144	9									1
8:45	123		116	14									
9:00													
9:15													
9:30													
9:45													
AM Totals	464	2	475	44									3
11:30	82	1	132	7									1
11:45	98		102	5									
12:00	119	1	121	12									
12:15	107	1	103	9									
12:30	111	1	112	13									
12:45	94		111	16									1
13:00	99		95	13									
13:15	105		93	7									
Noon Totals	815	4	869	82									2
14:00													
14:15													
14:30													
14:45													
15:00	99		128	14									
15:15	112	1	156	8									
15:30	169		134	4									1
15:45	132	1	137	19									1
16:00	145		145	7									1
16:15	128		124	6									
16:30	167	1	154	17									
16:45	178	2	182	11									5
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	1,130	5	1,160	86									8
Totals	2,409	11	2,504	212									13
					North Crosswalk =				South Crosswalk =				13

Ruth Street & Cairns Avenue:

Location & Roadway Classification: Ruth & Cairns - collector & local
 Date of Count: Day of wk: Tues Mth, Day, Yr: Dec 1/15
 Weather: fair
 Traffic Control Devices: stop signs
 Current Pedestrian Control: none
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 290 m
 Location: Cumberland Ave
 Type: 4-way stop
 Is the orientation of this crosswalk(s) N-S? y (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	13	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	906	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	23		
Vehicles passing through crosswalk(s):	2,469				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the East Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	3	45	8	62									
8:15		57	9	69	2								
8:30	5	85	11	66									1
8:45	4	60	11	56									1
9:00													
9:15													
9:30													
9:45													
AM Totals	12	247	39	253	2								2
11:30	3	42	6	43									
11:45	2	39	4	61									
12:00	2	33		55									1
12:15	2	42	3	60	1								1
12:30	5	45	4	58									
12:45		47	3	43									
13:00	2	42	5	55									
13:15	1	36	1	57									1
Noon Totals	17	326	26	432	1								3
14:00													
14:15													
14:30													
14:45													
15:00	4	42	7	51									
15:15	2	66	3	67									2
15:30	6	80	6	78									
15:45	5	65	6	71									
16:00	1	57	5	70									1
16:15		51	6	69	1								
16:30		43	11	80									1
16:45	2	73	7	83									
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	20	477	51	569	1								4
Totals	49	1,050	116	1,254	4								9
West Crosswalk =								4	East Crosswalk =				9

Ruth Street & Haultain Avenue:

Location & Roadway Classification: Ruth St E (Arterial) & Haultain Ave (Local)
 Date of Count: Day of wk: Monday & Tuesday Mth, Day, Yr: Monday, March 17, 2014 & Tuesday, March 18, 2014
 Weather: Cool, clear and a bit of snow/ice on the ground
 Traffic Control Devices: Two-way Stop on Haultain Ave giving right of way to Ruth St E
 Current Pedestrian Control: Standard Crosswalk
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 115 m
 Location: Ruth St E & McKinnon Ave S
 Type: Standard crosswalk with one-way stop
 Is the orientation of this crosswalk(s) N-S? y (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	9	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	792	at	
Adult:	9	Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	16		
Vehicles passing through crosswalk(s):	1,929				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the West Crosswalk ****
 (Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	3	40	1	56									1
8:15		39	3	51									
8:30		61	1	54	1								1
8:45	3	48	3	64	1								
9:00													
9:15													
9:30													
9:45													
AM Totals	6	188	8	225	2								2
11:30		25	1	36				2					
11:45	2	35		52									
12:00		47	3	48				2					
12:15		26	1	45									
12:30	2	39	2	39				2			1		
12:45		41	1	54									
13:00	1	38		50									
13:15		21	2	45							1		
Noon Totals	5	272	10	369						2			
14:00													
14:15													
14:30													
14:45													
15:00	1	32	1	49									1
15:15	3	42		61				1					
15:30	1	38	2	62									
15:45	1	47		46	4								
16:00	2	41	3	58									
16:15	4	39	6	63									
16:30	4	46	3	71									
16:45		44	5	71									
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	16	329	20	481	4			7					1
Totals	27	789	38	1,075	6			7		2			3
West Crosswalk =								13	East Crosswalk =				5

Clarence Avenue & Glasgow Street:

Location & Roadway Classification: Clarence & Glasgow
 Date of Count: Day of wk: Tues Mth, Day, Yr: June 2/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: zebra
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 3 lanes
 Is there a physical median in this crosswalk(s)? y (y or n)
 Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 250 m
 Location: Wilson Cres
 Type: TS
 Is the orientation of this crosswalk(s) N-S? n (y or n)
 Duration of pedestrian count 5 hrs

Elementary:		Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	3,878	at	
Adult:	21	Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	31		
Vehicles passing through crosswalk(s):	8,254				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the South Crosswalk ****
 (Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	167		157	41									
8:15	190		173	41									
8:30	164		225	34									
8:45	164		186	39									
9:00													
9:15													
9:30													
9:45													
AM Totals	685		741	155									
11:30	116		182	31						1			
11:45	119		171	28									
12:00	159		179	32									
12:15	131		178	29									
12:30	130		167	35						1			
12:45	151		172	34						1			
13:00	142		157	23									
13:15	151		149	26			1						
Noon Totals	1,099		1,355	238						3			
14:00													
14:15													
14:30													
14:45													
15:00	159		207	33						1			
15:15	176		261	38						2			
15:30	211		212	32						1			
15:45	167		283	47						3			
16:00	161		317	44						3			
16:15	175		312	38									
16:30	163		361	33						2			
16:45	173		342	36						5			
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	1,385		2,295	301						17			
Totals	3,169		4,391	694			1			20			
North Crosswalk =								1	South Crosswalk =				20

Appendix D: Pedestrian Corridor Warrant

Clarence Avenue & Calder Crescent:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts						P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods
			Total Both Sides					Factored Counts			
	15 min.	30 min.	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.		
7:00											
7:15											
7:30											
7:45											
8:00	361	361									
8:15	388	749									
8:30	410	798									
8:45	426	836									
9:00		426									
9:15											
9:30											
9:45											
AM Totals	1,585										
11:30	331										
11:45	327	658									
12:00	351	678									
12:15	358	709									
12:30	338	696									
12:45	360	698									
13:00	332	692									
13:15	340	672									
Noon Totals	2,737										
14:00											
14:15											
14:30											
14:45											
15:00	389	389									
15:15	433	822									
15:30	441	874									
15:45	480	921									
16:00	465	945									
16:15	434	899									
16:30	510	944									
16:45	494	1,004									
17:00		494									
17:15											
17:30											
17:45											
18:00											
18:15											
18:30											
18:45											
19:00											
19:15											
19:30											
19:45											
20:00											
20:15											
20:30											
20:45											
PM Totals	3,646										
Totals	7,968										
			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
			North Crosswalk =								
			South Crosswalk =								

SUMMARY

Total Warranted PC Points: or / period
 Highest PC point value: at
 Average PC point value:
 No. of periods warranted:

Cairns Avenue & Munroe Avenue:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts						P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods	
			Total Both Sides				Factored Counts					
	15 min.	30 min.	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.			
7:00												
7:15												
7:30												
7:45												
8:00	28	28	9				9	9	9	252		
8:15	13	41	4				4	4	13	533		
8:30	26	39	10				10	10	14	546		
8:45	44	70	28				28	28	38	2,660		
9:00		44							28	1,232		
9:15												
9:30												
9:45												
AM Totals	111		51				51					
11:30	17		3				3	3				
11:45	20	37	14				14	14	17	629		
12:00	7	27	2				2	2	16	432		
12:15	8	15	3				3	3	5	75		
12:30	18	26	9				9	9	12	312		
12:45	13	31	7				7	7	16	496		
13:00	11	24	2				2	2	9	216		
13:15	4	15	2				2	2	4	60		
Noon Totals	98		42				42					
14:00												
14:15												
14:30												
14:45												
15:00	15	15	4				4	4	4	60		
15:15	35	50	6				6	6	10	500		
15:30	52	87	45				45	45	51	4,437		
15:45	33	85	15				15	15	60	5,100		
16:00	16	49	5				5	5	20	980		
16:15	18	34	4				4	4	9	306		
16:30	14	32	3				3	3	7	224		
16:45	24	38	2				2	2	5	190		
17:00		24							2	48		
17:15												
17:30												
17:45												
18:00												
18:15												
18:30												
18:45												
19:00												
19:15												
19:30												
19:45												
20:00												
20:15												
20:30												
20:45												
PM Totals	207		84				84					
Totals	416		177				177					
			100%				100%					
			North Crosswalk =				171	<<< install crosswalk on this side of the int.				
			South Crosswalk =				6					

SUMMARY

Total Warranted PC Points: or / period
 Highest PC point value: 5,100 at
 Average PC point value: 1,286
 No. of periods warranted:

Cairns Avenue & MacKenzie Crescent:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts						P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods	
			Total Both Sides				Factored Counts					
	15 min.	30 min.	Child	Teen	Adult	Senior/ Impaired	Total	15 min.	30 min.			
7:00												
7:15												
7:30												
7:45												
8:00	25	25	1				1	1	1	25		
8:15	16	41							1	41		
8:30	27	43	3				3	3	3	129		
8:45	48	75	1				1	1	4	300		
9:00		48							1	48		
9:15												
9:30												
9:45												
AM Totals	116		5				5					
11:30	15											
11:45	17	32	2				2	2	2	64		
12:00	9	26							2	52		
12:15	8	17										
12:30	19	27	2				2	2	2	54		
12:45	18	37							2	74		
13:00	11	29										
13:15	4	15										
Noon Totals	101		4				4					
14:00												
14:15												
14:30												
14:45												
15:00	15	15	2				2	2	2	30		
15:15	28	43	10				10	10	12	516		
15:30	58	86	3				3	3	13	1,118		
15:45	29	87	1				1	1	4	348		
16:00	17	46							1	46		
16:15	22	39	2				2	2	2	78		
16:30	13	35							2	70		
16:45	24	37										
17:00		24										
17:15												
17:30												
17:45												
18:00												
18:15												
18:30												
18:45												
19:00												
19:15												
19:30												
19:45												
20:00												
20:15												
20:30												
20:45												
PM Totals	206		18				18					
Totals	423		27				27					
			100%				100%					
			North Crosswalk =				6					
			South Crosswalk =				21	<<< install crosswalk on this side of the int.				

SUMMARY

Total Warranted PC Points: or / period
Highest PC point value: 1,118 at
Average PC point value: 200
No. of periods warranted:

Ruth Street & Haultain Avenue:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts					P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods
			Total Both Sides				Factored Counts			
	15 min.	30 min.	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.	
7:00										
7:15										
7:30										
7:45										
8:00	100	100	1				1	1	1	100
8:15	93	193							1	193
8:30	116	209	2				2	2	2	418
8:45	118	234	1				1	1	3	702
9:00		118							1	118
9:15										
9:30										
9:45										
AM Totals	427		4				4			
11:30	62				2		2	1		
11:45	89	151							1	151
12:00	98	187			2		2	1	1	187
12:15	72	170							1	170
12:30	82	154			3		3	1.5	1.5	231
12:45	96	178							1.5	267
13:00	89	185								
13:15	68	157			1		1	0.5	0.5	79
Noon Totals	656				8		8			
14:00										
14:15										
14:30										
14:45										
15:00	83	83	1				1	1	1	83
15:15	106	189			1		1	0.5	1.5	284
15:30	103	209							0.5	105
15:45	94	197	4				4	4	4	788
16:00	104	198							4	792
16:15	112	216								
16:30	124	236								
16:45	120	244								
17:00		120								
17:15										
17:30										
17:45										
18:00										
18:15										
18:30										
18:45										
19:00										
19:15										
19:30										
19:45										
20:00										
20:15										
20:30										
20:45										
PM Totals	846		5		1		6			
Totals	1,929		9		9		18			
			50%		50%		100%			
			West Crosswalk =			13	<<< install crosswalk on this side of the int.			
			East Crosswalk =			5				

SUMMARY

Total Warranted PC Points: or / period
Highest PC point value: 792 at
Average PC point value: 311
No. of periods warranted:

APPENDIX E: COLLISION ANALYSIS

Street 1	Street 2	Ugrid	All Collisions (2009-2013)	All collisions - 2013	Right Angle, LT Turn, RT Turn only (2009-2013)	Right Angle, LT Turn, RT Turn only (2013)	Collector or Arterial	Average (2009-2013)
Clarence Avenue	Glasgow Street	J12-19	23	5	9	3	yes	5
Clarence Avenue	Isabella Street	J11-35	12	4	4	0	yes	2
Cumberland Avenue	Ruth Street	J11-1	9	5	7	3	yes	2
McKinnon Avenue	Isabella Street	J11-29	8	3	4	2	no	2
Taylor Street	Munroe Avenue	J10-23	7	0	1	0	yes	1
Munroe Avenue	Adelaide Street	J11-23	6	0	6	0	no	1
Clarence Avenue	Adelaide Street	J11-31	6	2	3	2	yes	1
Clarence Avenue	Cascade Street	J12-23	6	1	1	0	yes	1
Cairns Avenue	Hilliard Street	J11-18	5	1	4	1	no	1
Taylor Street	Cairns Avenue	J10-84	5	1	1	1	yes	1
Taylor Street	Wiggins Avenue	J10-14	5	1	2	0	yes	1
Cumberland Avenue	Isabella Street	J11-46	5	2	3	1	yes	1
Ruth Street	Haultain Avenue	J11-55	5	1	2	0	yes	1
McKinnon Avenue	Adelaide Street	J11-68	4	0	3	0	no	1
Haultain Avenue	Isabella Street	J11-26	4	0	4	0	no	1
Cairns Avenue	Adelaide Street	J11-15	4	1	3	1	no	1
Cumberland Avenue	Adelaide Street	J11-56	4	0	2	0	yes	1
McKinnon Avenue	Hilliard Street	J11-28	3	0	0	0	no	1
Munroe Avenue	Isabella Street	J11-24	3	0	2	0	no	1
Cairns Avenue	Isabella Street	J11-20	3	1	3	1	no	1
Taylor Street	Ewart Avenue	J10-70	3	1	1	0	yes	1
Clarence Avenue	Calder Crescent	J13-20	3	0	1	0	yes	1
Cumberland Avenue	Wilson Crescent	K12-5	3	1	1	1	yes	1
Cumberland Avenue	Hanson Street	K12-6	3	0	1	0	yes	1
Ruth Street	Cairns Avenue	J11-57	3	0	2	0	yes	1
Wilson Crescent	Ferguson Avenue	J12-40	3	0	0	0	yes	1
Haultain Avenue	Adelaide Street	J11-47	2	0	1	0	no	0
Munroe Avenue	Bute Street	J12-15	2	0	1	0	no	0
Wiggins Avenue	Mclorg Street	J12-4	2	0	0	0	no	0
Ewart Avenue	Adelaide Street	J11-47	2	0	1	0	no	0
Cumberland Avenue	Hilliard Street	J11-53	2	1	0	0	yes	0
Cairns Avenue	Cascade Street	J12-10	2	2	2	2	no	0
Wilson Crescent	Calder Avenue	J12-48	2	1	0	0	yes	0
Haultain Avenue	Bute Street	J12-78	1	0	0	0	no	0
Wiggins Avenue	Isabella Street	J11-12	1	0	0	0	no	0
Wiggins Avenue	Hilliard Street	J11-10	1	1	1	1	no	0
Wiggins Avenue	MacKenzie Crescent	J12-97	1	0	0	0	no	0
Ferguson Avenue	Glasgow Street	J12-88	1	0	0	0	no	0
Ferguson Avenue	Calder Crescent	J13-25	1	0	0	0	no	0
Calder Avenue	Calder Crescent	J13-23	1	0	0	0	no	0
Taylor Street	McKinnon Avenue	J10-33	1	0	0	0	yes	0
Clarence Avenue	Hilliard Street	J11-33	1	0	0	0	yes	0
Clarence Avenue	Bute Street	J12-24	1	0	0	0	yes	0
Cumberland Avenue	Cascade Street	J12-1	1	0	0	0	yes	0
Ruth Street	Munroe Avenue	J11-22	1	1	1	1	yes	0
Ruth Street	Wiggins Avenue	J11-8	1	0	0	0	yes	0
Munroe Avenue	Cairns Avenue	J12-63	1	0	0	0	no	0
MacKenzie Crescent	Cairns Avenue	J12-85	1	1	0	0	no	0
Wilson Crescent	Haultain Avenue	J12-44	1	0	1	0	yes	0
Wilson Crescent	MacDermid Crescent(w)	J12-43	1	0	0	0	yes	0
Wilson Crescent	MacDermid Crescent (e)	J12-7	1	0	1	0	yes	0
Wilson Crescent	MacLean Crescent (w)	J12-50	1	0	0	0	yes	0
Wilson Crescent	MacKenzie Crescent	J12-39	1	0	0	0	yes	0

APPENDIX F: DECISION MATRIX

Decision Matrix – Recommendations proposed at December 15, 2015 meeting

Item	Location	Recommendation	Reason	Group 1	Group 2	Group 3	Decision
1	Clarence Avenue & Glasgow Street	Move bus stop a few metres south to allow vehicle clearance in left lane	Improve traffic flow	Ok. Maybe both sides.	Confusion with drivers if it's moved up. Confusion with pedestrian crossing and waiting for bus.	Likely not going to help.	Carried. Also included in Avalon plan.
2	Clarence Avenue & Taylor Street	Add location to major intersection review priority list	Address southbound queue due to driveway (into mall) 45m south of intersection	access to the mall issues; restrict westbound left turns; Aden Bowman Collegiate needs a midblock crosswalk; bus stop should be moved north of Taylor Street; educating students has already been tried		Left-turn arrows for northbound & southbound needed; southbound left-turn into mall is causing queues	Documented for further consideration as part of Intersection Improvements.
3	Clarence Avenue between Circle Drive overpass & Glasgow Street	Speed display board (facing northbound traffic)	Reduce speed	Install for southbound as well.	Install for southbound traffic as well.		Carried. Also included in Avalon plan.
4	Clarence Avenue - Glasgow Street to 2805 Clarence Avenue	Add through lane northbound (additional 100m)	Improve traffic flow	No. Need other solutions.	Ok but needs more analysis; Glasgow Street & Ferguson Avenue left-turn		Revised. Added through lane will extend all the way to Wilson Crescent. Recommendations were shown at Avalon neighbourhood traffic meeting and general support was received. Also included in Avalon plan.
5	Back lane east of Clarence Avenue - Wilson Crescent to Ruth Street	20kph signs	Reduce speed				Carried.
6	Clarence Avenue - Glasgow Street to City Limits (south of Cartwright Street)	Reduce 60kph speed limit to 50kph (section south of Circle Drive overpass will be based on approval from Stonebridge)	Reduce speed	Not sure.		Wait until Stonebridge neighbourhood traffic review to implement speed reduction all at once.	Changed to extend only to south side of Circle Drive overpass. Remainder of Clarence Avenue speed limit (between overpass and south city limits) will be reviewed during Stonebridge Neighbourhood Traffic Review in 2016. Also included in Avalon plan.
7	Wilson Crescent & MacKenzie Crescent/Brown Crescent	Zebra crosswalk & curb extensions on west side	Improve pedestrian safety (school route)				Carried.
8	Ruth Street & Cairns Avenue	Standard crosswalk	Improve pedestrian safety (school route)				Carried.
9	Ruth Street & McKinnon Avenue	Parking restrictions 10m on northwest corner	Enhance visibility	Not sure why northwest corner. Add restrictions on south side by condo.	Add parking restrictions on every corner	Look at northeast corner as well. Perhaps parking enforcement instead.	Carried. Add "No Parking" signs at 10m on all corners.
10	Haultain Avenue & Cascade Street	Standard crosswalk & curb extensions (north side)	Improve pedestrian safety (connects to park pathway) & reduce speed			Install playground signs (for northbound - install south of Cascade Street; for southbound - install north of Bute Street). Police to enforce speeding during peak hours	Carried. Install playground signs. Speed study indicated the 85th percentile speed was 49.4kph. This is typically not high enough for further recommendations. However, peak hours for speeding will be reviewed and information will be forwarded to Saskatoon Police Service for further consideration.
11	Cairns Avenue & Munroe Avenue	Zebra crosswalk (north side)	Improve pedestrian safety in front of school (currently standard crosswalk)				Carried.
12	McKinnon Avenue & Isabella Street	Upgrade yield signs & stop signs	Improve intersection safety	Re-think orientation of signs.			Carried.
13	Haultain Avenue - Isabella Street to St. Phillips School	Sidewalk on east side (110m)	Improve pedestrian safety & connectivity				Carried.
14	MacKenzie Crescent at walkway	Parking restrictions on both sides of walkway (approximately 5m on either side)	Improve pedestrian safety & enhance visibility			Street light needed and along walkway.	Carried. Location will undergo a CPTED review to determine if lighting in walkway is needed.
15	MacKenzie Crescent before curve (northbound & southbound) near walkway	Pedestrian crosswalk ahead signs	Improve pedestrian safety (school route)				Carried. Consideration for added lighting in along walkway because it connects to a park/school. This may need to come from a separate Division as it is not traffic safety-related.
16	Back lane between 2813 & 2903 Calder Avenue	Install bollards	Reduce shortcutting in back lane	Ok, but what about lane east of this to Clarence Avenue? Install 20kph signs.	Difficult to comment. Should be decided on by the residents on Calder Crescent.		Removed. Issues will be addressed through a separate study. Survey will be sent to residents to determine next steps. If support is shown from residents then lane restrictions will be installed temporarily in spring 2016.

Decision Matrix – Additional Issues raised at December 15, 2015 meeting

Item	Location	Comment	Decision
1	Circle Drive off ramp & Clarence Avenue	Issues with left-turn; drivers don't know when southbound driver is about to turn or continue through	Documented for further consideration as part of Intersection Improvements.
2	Clarence Avenue mall exit	Issues when trying to exit northbound	Private property
3	MacKenzie Crescent	Snow is being pushed onto sidewalk	Forward comments to Public Works for consideration.
4	Back lane north of Circle Drive east of Calder Court	Speeding; install 20kph signs	Carried.
5	Cairns Avenue (southbound before MacKenzie Crescent)	Trees blocking 30kph sign	No issues noted during site check. Signs were visible.
6	Clarence Avenue & Wilson Crescent	Review parking restrictions on Clarence Avenue to improve traffic flow; Mailbox south of Wilson Crescent causes visibility issues; not enough green time for Wilson Crescent, especially for westbound; school signs missing for northbound/southbound	Documented for further consideration as part of Intersection Improvements.
7	Parking program near schools	Implement cost-sharing program to allow public to park in residential driveways during major events at schools	Comments documented for further consideration under city-wide initiatives.
8	Clarence Avenue & Calder Crescent	Pedestrian safety concerns; drivers passing on right when a pedestrian is crossing; drivers not stopping for pedestrians	Pedestrian study indicated zero pedestrians crossed during peak hours. Therefore no improvements recommended.
9	Back lane north of Circle Drive at east end	Install posts so drivers can't shortcut through park	This is outside of the Adelaide-Churchill neighbourhood boundary. It will be documented with the Nutana Park concerns and addressed as part of their neighbourhood traffic review.
10	Ruth Street & Haultain Avenue	Hedges & parking on northwest corner	Site check determined trees had already been trimmed (privately-owned).
11	Clarence Avenue - in front of Aden Bowman Collegiate	Students jaywalking to Mac's store; doors do not align with crosswalk	Being addressed through separate study in accordance with the School Division.
12	Lane between Wilson Crescent & Glasgow Street	Install "Local Traffic Only" sign or 20kph speed signs	This is a public lane. 20kph signs are already installed.
13	School sites	Idling in front of schools; should have a City Policy to address this	Comments documented for further consideration under city-wide initiatives.
14	Cairns Avenue & Cascade Street	Install standard crosswalk & curb extensions	Collect traffic data in spring 2016 to determine if crosswalk & curb extensions are needed
15	Back lane between Ferguson Avenue & Calder Avenue	Install 20kph speed signs	Carried.
16	Glasgow Street & Clarence Avenue (southwest corner on Clarence Avenue)	Install sidewalk up to bus stop	Carried. Included in Avalon review neighbourhood traffic review.
17	Glasgow Street & Clarence Avenue	Review signage at or near intersection	Carried. Included in Avalon review neighbourhood traffic review.
18	Clarence Avenue near Wilson Crescent	Install additional school zone signs on signal overheads	Carried. Included in Avalon review neighbourhood traffic review.

Avalon Neighbourhood Traffic Review

Recommendation

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

1. That the Neighbourhood Traffic Review for the Avalon neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process;
2. That the speed limit on Clarence Avenue between Glasgow Street and a point 130 metres south of Circle Drive be reduced from 60 kph to 50 kph; and
3. That the City Solicitor be requested to prepare the appropriate bylaw amendment to Bylaw No. 7200, The Traffic Bylaw.

Topic and Purpose

The purpose of this report is to provide information on the Neighbourhood Traffic Review (NTR) for the Avalon neighbourhood.

Report Highlights

A Neighbourhood Traffic Plan for the Avalon neighbourhood was developed in consultation with the community in response to concerns such as speeding, traffic shortcutting, and pedestrian safety. The plan will be implemented over time as funding for the improvements is available.

Strategic Goal

This report supports the Strategic Goal of Moving Around by providing a plan to guide the installation of traffic calming devices and pedestrian safety enhancements to improve the safety of pedestrians, motorists, and cyclists.

Background

A public meeting was held in April 2015 to identify traffic concerns and potential solutions within the Avalon neighbourhood. Representatives from the Saskatoon Police Service were in attendance to address traffic enforcement issues. Based on the residents' input provided at the initial public meeting and the analysis of the traffic data collected, a Neighbourhood Traffic Plan was developed and presented to the community at a second public meeting held in October 2015. Outstanding issues remained which led to a third public meeting in January 2016.

Report

The development and implementation of the Neighbourhood Traffic Plan includes four stages:

1. Identify existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon.ca website;
2. Develop a draft traffic plan based on residents' input and traffic assessments;

Avalon Neighbourhood Traffic Review

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 City Council for adoption; and
4. Implement the proposed measures in a specific time frame, short-term (1 to 2 years), medium-term (3 to 5 years), or long-term (more than 5 years).

The majority of concerns identified during the consultation included shortcutting, speeding, pedestrian safety, and parking.

The Administration is recommending the following modifications to improve safety in the Avalon neighbourhood:

- Yield signs
- 20 kph speed signs
- Speed enforcement
- Sidewalk
- “Traffic-Calmed Neighbourhood” signs
- Pinch points
- Zebra crosswalks
- Curb Extensions
- Additional school zone signs
- Signage review
- Move bus stop
- Speed display board
- Speed limit reduction (reduce 60 kph to 50 kph speed limit on Clarence Avenue between Glasgow Street and south side of Circle Drive overpass)

In addition, a partial corridor study on Clarence Avenue between the Circle Drive South overpass and Wilson Crescent was completed. Based on the analysis, an additional lane northbound is recommended for the section between Glasgow Street and Wilson Crescent to increase capacity of the roadway, improve traffic flow, and reduce cut-through traffic on Glasgow Street. This will be added to the priority list of city-wide improvements for arterial streets and submitted in a separate report for funding as it would not be possible to implement in a temporary condition. The estimated cost of this improvement is \$200,000.

The installation of each proposed improvement will be implemented in three specific time frames as follows:

Short-term (1 to 2 years)	Temporary traffic calming measures, signage, pavement markings, enforcement, speed display boards
Medium-term (3 to 5 years)	Permanent traffic calming devices, accessible pedestrian ramps, roadway realignment, sidewalks (in some cases), major intersection reviews
Long-term (5 years plus)	Permanent traffic calming devices, roadway realignment, sidewalks

The Avalon Neighbourhood Traffic Review is included in Attachment 1.

If approved by City Council, all of the temporary traffic calming measures will be installed in 2016. The annual report on the NTRs will provide an update on the status of converting the temporary measures to a permanent condition.

Public and/or Stakeholder Involvement

In April 2015, a public meeting was held to discuss traffic concerns and identify potential solutions. The feedback was used to develop the Neighbourhood Traffic Plan which was presented at a follow-up public meeting in October 2015. Feedback received during the October meeting led to an additional meeting in January 2016 to address the outstanding concerns. Additional feedback received at the follow-up public meetings were also incorporated into the NTR.

Feedback was provided by internal civic stakeholders of various divisions and departments: Public Works, Saskatoon Transit, Planning & Development, Saskatoon Light & Power, Saskatoon Police Service, and the Saskatoon Fire Department on the proposed improvements, which was incorporated into the recommended NTR.

Communication Plan

The final Neighbourhood Traffic Plan will be shared with the residents of the impacted neighbourhood using several methods: City website, the Community Association, communication forums (i.e. website, newsletter), and by a direct mail-out.

Environmental Implications

The overall impact of the recommendations on traffic characteristics, including the impacts on greenhouse gas emissions, has not been quantified at this time.

Policy Implications

Upon approval by City Council, amendments to Bylaw No. 7200, The Traffic Bylaw will be required.

Financial Implications

The implementation of the Neighbourhood Traffic Plan will have significant financial implications. It should be noted that all recommendations on Clarence Avenue (i.e. signs, speed display board, sidewalk) aside from the geometric changes (i.e. adding northbound through lane) are also included in the Adelaide-Churchill Neighbourhood Traffic Plan; therefore, each neighbourhood will be allotted half of the overall costs for the Clarence Avenue recommendations. The costs are summarized in the following table:

Category	Signing, Temporary Traffic Calming & Traffic Counts (2016)	Permanent Beyond 2016
Speeding /Shortcutting	\$ 3,750	\$230,000
Pedestrian Safety	500	-
Intersection Safety	8,750	-
Sidewalk	-	110,000
Clarence Avenue	850	6,900
TOTALS	\$13,850	\$346,900

There is sufficient funding within Capital Project #1512 – Neighbourhood Traffic Management to undertake the work in 2016, which includes implementation of all signage and temporary traffic calming measures.

The remainder of the work beyond 2016 includes construction of permanent traffic calming measures and sidewalks, and will be considered alongside all other improvements identified through the NTR Program. The Administration's annual budget submission package will include the list of projects recommended to be funded, and the rationale used to prioritize the projects.

Geometric improvements, including the widening of Clarence Avenue northbound, will be added to the priority list with major intersections and corridors for city-wide projects.

Other Considerations/Implications

There are no options, privacy or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

If adopted by City Council, temporary traffic calming devices and signage will be implemented during the 2016 construction season.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Avalon Neighbourhood Traffic Review, March 14, 2016

Report Approval

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Department

TRANS JN – Avalon Neighbourhood Traffic Review

CITY OF SASKATOON
2015 NEIGHBOURHOOD TRAFFIC REVIEWS

Avalon

March 14, 2016

Avalon Neighbourhood Traffic Review

March 14, 2016

Authorization

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Acknowledgements

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

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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 revised program involves additional community and stakeholder consultation that provides the environment for neighbourhood residents and City staff to work together in developing solutions that address traffic concerns. The process is outlined in the *Traffic Calming Guidelines and Tools*, City of Saskatoon, 2013.

A public meeting was held in April of 2015 to identify traffic concerns and potential solutions within the Avalon neighbourhood. 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 Management Plan was developed and presented to the community at a follow-up meeting held in October 2015. An additional follow-up meeting was held in January 2016 to go through the outstanding issues.

A summary of recommended improvements for the Avalon neighbourhood are included in **Table ES-1**. The summary identifies the locations, the recommended improvement, and a schedule for implementation. The schedule to implement the Traffic Management Plan can vary depending on the complexity of the proposed improvement. According to the *Traffic Calming Guidelines and Tools* document, the time frame may range from short-term (1 to 2 year); medium-term (3 to 5 years) and long-term (5 years plus). Accordingly, the specific time frame to implement the improvements for these neighbourhoods ranges from 1 to 5 years.

The resulting proposed Avalon Traffic Management Plan is illustrated in **Exhibit ES-1**.

Table ES-1: Avalon Neighbourhood Recommended Improvements

Item	Location	Recommendation	Reason
1	Various locations	Yield signs at all uncontrolled intersections	Improve safety and enhance driver compliance at uncontrolled intersections
2	Back lane between Clarence Avenue & McAskill Crescent	20kph speed signs	Reduce speed
3	Wilson Crescent (school zone)	Forward peak hour speed data to Saskatoon Police Service to consider enforcement during school hours	Reduce speed during school hours
4	Wilson Crescent (west of Broadway Avenue)	Install sidewalk on north side beside John Lake Park	Improve pedestrian safety & connectivity
5	Cascade Street	Forward peak hour speed data to Saskatoon Police Service to consider enforcement	Reduce speed
Glasgow Street			
6	West of Clarence Avenue	"Traffic-Calmed Neighbourhood" sign (facing westbound)	Discourage shortcutting traffic
7	Between Clarence Avenue & Mendel Crescent (in front of 917 & 919 Glasgow Street)	Pinch point (westbound yields)	Reduce speed & discourage shortcutting traffic
8	Turner Avenue	Median island (east side), curb extension (northeast corner) & remove standard crosswalk (west side)	Reduce speed & improve pedestrian safety, proximity to nearby driveway
9	Mendel Crescent (west)	Zebra crosswalk (west side)	Improve pedestrian safety near park
10	Between MacEachern Avenue & Mendel Crescent (across from 711 Glasgow Street)	Pinch point (eastbound yields)	Reduce speed & discourage shortcutting traffic
11	MacEachern Avenue	Curb extensions (northeast & southeast corners) & zebra crosswalk (east side)	Reduce speed & improve pedestrian safety near park

Table ES-1 Continued

Item	Location	Recommendation	Reason
Clarence Avenue & Glasgow Street (also included in Adelaide-Churchill Neighbourhood Traffic Management Plan)			
12	Wilson Crescent	Additional school zone signs on overhead posts	Reduce speed & ensure driver awareness of school zone
13	Southeast corner (on Clarence Avenue)	Move bus stop a few metres south	Improve traffic flow (allows vehicle to pass in inside lane while bus is stopped) & improve pedestrian safety (enhances crosswalk visibility)
14	Southwest corner (on Clarence Avenue)	Sidewalk (up to bus stop)	Improve pedestrian safety & connectivity
15	Entire intersection and surrounding area	Review signage at or near intersection	Reduce visual clutter, eliminate confusion, & determine if "Do Not Block Intersection" sign is necessary.
16	Between Circle Drive overpass & Glasgow Street	Speed display board (facing northbound traffic)	Reduce speed
17	Between Glasgow Street & the south side of Circle Drive overpass	Reduce 60kph speed limit to 50kph	Reduce speed
18	Between Glasgow Street & Wilson Crescent	Geometric Improvements - Additional through lane northbound	Increase capacity on Clarence Avenue in northbound direction (i.e. increasing from one lane to two through lanes)

LEGEND

- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- ▬ BUS ROUTE
- ⬢ EXISTING TRAFFIC SIGNAL
- ▶ PROPOSED YIELD SIGN

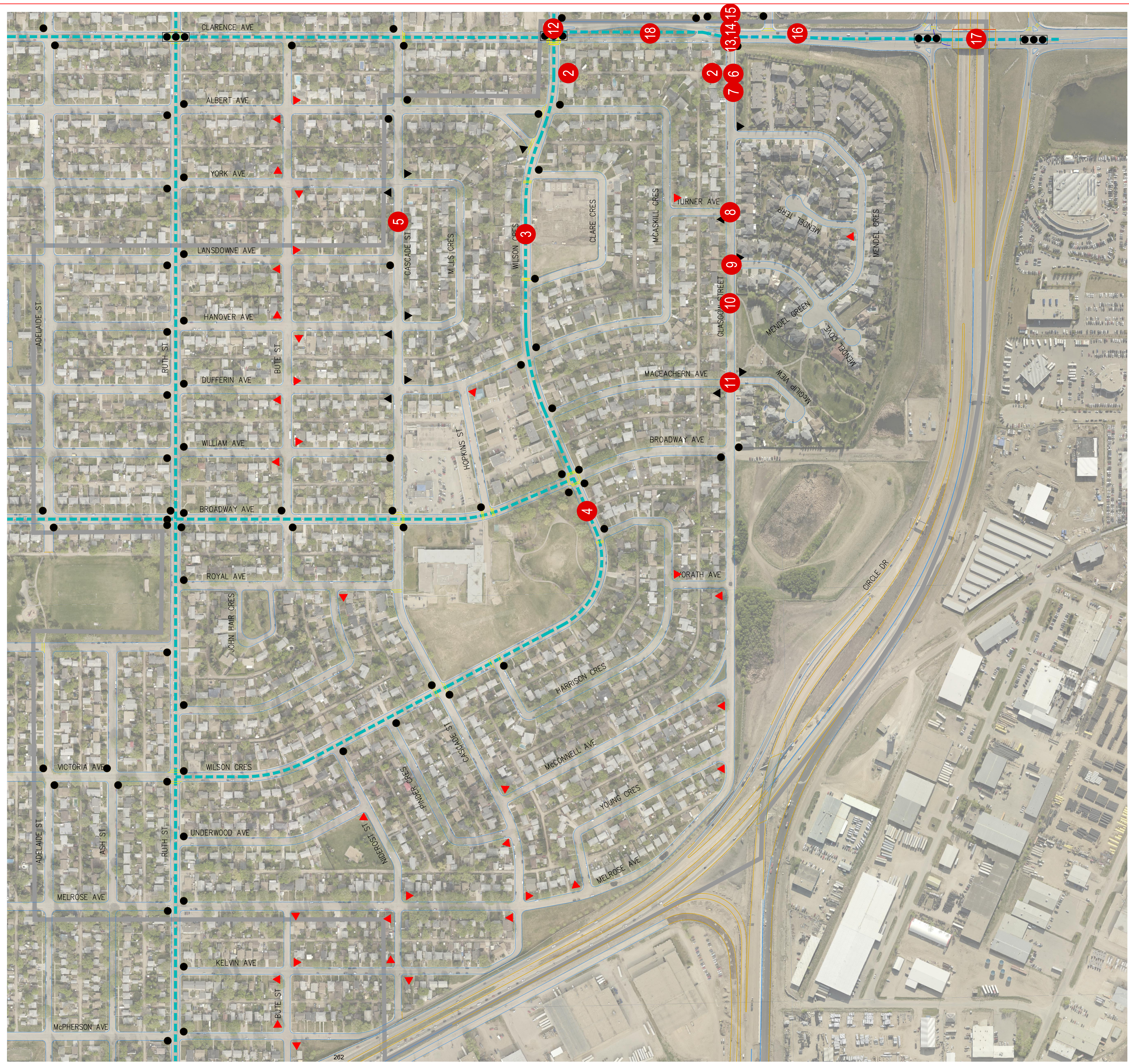


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1 INTRODUCTION

As the City of Saskatoon continues to grow many neighbourhoods face growing issues such as pedestrian safety, cut-through traffic, and increased speeds on local roads within neighbourhoods. In August 2013, City Council adopted the *City of Saskatoon Traffic Guidelines and Tools* that outlined 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 that were developed by the Administration and residents in collaborative fashion. Accordingly, this report provides the traffic management plan for Avalon.

The Avalon neighbourhood is located on the east side of the South Saskatchewan River and is bound by Circle Drive to the south and west, Clarence Avenue to the east, and Ruth Street to the north. The area use is mostly residential, with elementary schools on Broadway Avenue (John Lake School) and Wilson Crescent (Georges Vanier School).

The development and implementation of the traffic management plan includes four stages:

- **Stage 1** - Identify existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon Website.
- **Stage 2** - Develop a draft traffic plan based on resident's 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 City Council for approval.
- **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 present the study findings and recommendations.

2 IDENTIFYING ISSUES, CONCERNS, AND POSSIBLE SOLUTIONS

A public meeting was held in April of 2015 to identify traffic concerns within the neighbourhood. At the meeting, residents were given the opportunity to express their concerns and suggest possible solutions. The meeting minutes are provided in **Appendix A**.

The following pages summarize the concerns and suggested solutions identified during the initial consultation with the neighbourhood residents.

2.1 Concern 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). In the case of Avalon, the bordering arterial streets (Taylor Street, Clarence Avenue) are designated to accommodate larger traffic volumes.

As speeding often accompanies shortcutting, these concerns have been grouped into one category.

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

- Glasgow Street – speeding, shortcutting and increased traffic due to traffic signals at Wilson Crescent & Clarence Avenue, school zones on Wilson Crescent and Clarence Avenue, congestion on Clarence Avenue, overpass on Circle Drive south, dog park, and big box stores in Stonebridge.
- Melrose Avenue
- Back lane by Turner Avenue – shortcutting
- Glasgow Street & Broadway Avenue – entrance to dog park is very busy at all times. Spinning tires and speeding. Late night driving back and forth along the side road.
- Clarence Avenue – speeding, drivers are accelerating southbound towards Circle Drive
- McAskill Crescent – congestion on Clarence Avenue causes shortcutting
- Broadway Avenue between Wilson Crescent & Glasgow Street – speeding and high traffic since Stonebridge opened

- Wilson Crescent:
 - Speeding (especially after school hours)
 - Speeding between Clarence Avenue & Broadway Avenue (especially since traffic signals were installed)
 - Driving through median island and curb extensions in front of school
 - Drivers are now using Wilson Crescent as a means of ‘beating’ the traffic on Clarence Avenue
 - Heavy traffic especially during peak commute times
- Ruth Street - heavy traffic especially during peak commute times
- Albert Avenue – speeding; cars ending up on front lawn near Bute Street
- Back lanes:
 - 900 Glasgow Street – speeding
 - West of Clarence Avenue between Glasgow Street & Wilson Crescent (2700 block) – shortcutting, speeding
- General:
 - Buses speeding

Proposed solutions identified by residents:

- Glasgow Street:
 - Police enforcement
 - Install speed bumps or indents
 - Implement reduced speed limit (i.e. 30 or 40kph)
 - Install traffic calming near Avalon Park
 - Narrow road for entire length of park
 - Narrow corner at 400 block
 - Close Glasgow Street at McConnell Avenue
 - Shut down Turner Avenue to prevent shortcuts
 - Install speed display boards in both directions
 - Glasgow Street & Broadway Avenue – install gate that closes entrance to the road by the dog park at certain times, like 11pm or midnight.
 - Implement dog park in Stonebridge to reduce traffic volumes

- Clarence Avenue:
 - Reduce speed limit to 50kph between Glasgow Street and the Circle Drive overpass, or all the way to south City Limits
 - School Zone needs to be marked better
- Clarence Avenue & Glasgow Street – install traffic signals to lessen shortcutting on McAskill Crescent
- Broadway Avenue between Wilson Crescent & Glasgow Street – implement 30kph speed zone
- Wilson Crescent:
 - Implement 30kph speed zone near Broadway Avenue
 - Install speed humps in front of school, close to Clarence Avenue, or at the “triangle” portion of Albert Avenue
- Back lanes – install 20kph speed signs
- Cascade Street – speeding & increased traffic volumes
- General:
 - Implement a reduced speed zone near parks
 - Tell bus drivers to slow down
 - Install zig zag berms to slow traffic, especially on local street to maintain speed

2.2 Concern 2 – Pedestrian Safety

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

Pedestrian crosswalks need to adhere to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004 which states the following:

“The installation of appropriate traffic controls at pedestrian crossings shall be based on warrants listed in the document entitled *Traffic Control at Pedestrian Crossings – 2004* approved by City Council in 2004.”

Neighbourhood concerns regarding pedestrian safety were at the following locations:

- Glasgow Street:
 - Improve crossing at MacEachern Avenue
 - Improve crossing at Glasgow Street & Turner Avenue; can't see kids crossing
 - Kids are crossing at midblock
 - Existing crosswalks go into driveways
 - Broadway Avenue – crosswalk is marked but not observed
- Clarence Avenue & Glasgow Street:
 - Drivers stopping over crosswalk
 - Difficult to cross, especially at 8am and 5pm
 - Drivers don't stop for pedestrians
 - Lots of pedestrians due to bus stop
 - Install traffic signals to improve pedestrian crossing safety (pedestrians cross to get to Stonebridge shopping area)
- Clarence Avenue & Cascade Street – pedestrian crossing to park
- Wilson Crescent:
 - Crosswalk installed with sign on concrete median island in front of 823/825 Wilson Crescent is difficult to see in summer when sun in setting. Vehicles hit the sign throughout the summer.
 - Lack of sidewalk around John Lake Park
- General:
 - Missing sidewalks, especially in winter (i.e. Ruth Street / Broadway Avenue and stretches to Victoria Avenue)

Proposed solutions identified by residents:

- Glasgow Street & Broadway Avenue – pedestrian flags are attached to pedestrian signs to signal to drivers presence of a crosswalk
- Glasgow Street & Turner Avenue - move crosswalk to see pedestrians better (maybe to other side of the intersection); remove crosswalk because no cars stop and it's very dangerous for kids as they get a false sense of security
- Signs needed around parks/playgrounds such as “Watch for Children at Play”
- Clarence Avenue & Glasgow Street:
 - Install “Do Not Block Crosswalk” sign
 - Install pedestrian signals, pedestrian device, or flashing yellow lights
- Wilson Crescent:
 - In front of 823/825 Wilson Crescent – install a sign that is more resilient than steel (or less costly) and an alternative to the square curbing (i.e. median island) to address sun glare and vehicles hitting sign on median.

2.3 Concern 3 – Traffic Control

Traffic control signs are used in order to assign the right-of-way. City of Saskatoon Council Policy C07-007 *Traffic Control – Use of Stop and Yield Signs*, April 26, 2009 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 volume, collision history, and must have a balanced volume from each leg to operate sufficiently.

Neighbourhood concerns regarding traffic controls were at the following locations:

- Glasgow Street – no traffic controls facing traffic on Glasgow Street causes speeding
- Glasgow Street & Broadway Avenue – very busy into dog park at all times, not just evenings and weekends (south side of intersection)
- Clarence Avenue & Glasgow Street – near impossible to turn left
- Broadway Avenue & Glasgow Street – rolling through stop sign
- Broadway Avenue & Ruth Street – not stopping at four-way stop; drivers not stopping when turning right onto Broadway Avenue; rolling through stop signs has already been enforced but as soon as police are gone it continues

- McConnell Avenue – drivers entering “triangle” portion near Glasgow Street from wrong direction.
- All uncontrolled intersections - confusion

Proposed solutions identified by residents:

- Glasgow Street & Turner Avenue – install three-way stop
- Glasgow Street & Broadway Avenue – install four-way stop
- Clarence Avenue & Glasgow Street – install traffic signals because there is enough traffic that require a left-turn to head towards 8th Street (this would be a short light so as not to restrict traffic for very long for people travelling on Clarence Avenue)
- Broadway Avenue & Ruth Street – install traffic signals
- Cascade Street & Dufferin Avenue – change yield signs to stop signs
- Stop & Yield Retrofit Program:
 - Install yield signs that alternate at all uncontrolled intersections like in other neighborhoods
 - Yield signs for north/south traffic at William Avenue & Bute Street
 - Yield signs at McAskill Crescent and McConnell Avenue as they enter Glasgow Street

2.4 Concern 4 – Parking

Parking is allowed on all city streets unless signage is posted. According to City of Saskatoon Bylaw 7200, *The Traffic Bylaw*, December 16, 2013, vehicles are restricted from parking within 10 metres of an intersection and one metre of a driveway crossing.

Neighbourhood concerns regarding parking were at the following locations:

- Wilson Crescent – parents parking in front of school is a concern
- Ruth Street – large vehicles parked on the north side are too close to the intersection; if a bus parks there for any length of time it’s impossible to see past it.
- McAskill Crescent – van parked near alley
- General – parking on the wrong side of the street

2.5 Concern 5 – Maintenance

Condition of the streets in Avalon was identified as a concern (i.e. snow clearing, potholes, tree trimming, and temporary traffic calming devices).

In addition, street signs requiring maintenance (i.e. knocked over, obstructed by trees, damaged) were also identified as a concern.

Neighbourhood concerns regarding maintenance were:

- Heavy trucks are impacting the quality of the streets
- Lanes are muddy and can't be used
- Hedges throughout the neighbourhood at intersections obstructs drivers view
- Terrible amount of dust raised as buses drive along the curb when they are leaving their stop, covers the front of houses and cars quite heavily.

Neighbourhood solutions regarding maintenance were:

- Grade and maintain back lanes
- Clean and water down curb lanes along bus routes on a regular basis

2.6 Concern 6 – Major Intersections & 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:

- Clarence Avenue:
 - Congested between the Circle Drive overpass and Wilson Crescent (heading northbound).
- Clarence Avenue at Glasgow Street:
 - Traffic is using two lanes before they pass the intersection
 - Intersection lacks signage and pavement markings
 - Bus stop on east side causes traffic to back up coming over overpass northbound
 - Drivers race each other to get into lane
 - Not uncommon to have six to seven vehicles lined up to turn left onto Glasgow Street

- Clarence Avenue & Circle Drive overpass (north side):
 - Jersey barrier obstructs drivers view when turning right onto Clarence Avenue from Circle Drive ramp looking southbound
 - Collisions coming from ramp (westbound to southbound); need better light timing
- Clarence Avenue & Wilson Crescent – southbound buses block through (curb lane) causing drivers to pass in left-turn lane

Proposed solutions identified by residents:

- Clarence Avenue & Glasgow Street:
 - Install pavement markings on Glasgow Street to delineate left-turn and right-turn lane.
 - Install barrier on Clarence Avenue for southbound direction to delineate the right-turn lane and to protect right turns from Glasgow Street onto Clarence Avenue.
- Clarence Avenue & Wilson Crescent – add more green time
- Clarence Avenue:
 - Change to two lanes northbound between Circle Drive and Wilson Crescent
 - Remove the school zone near Wilson Crescent. Children are never seen near Clarence Avenue here.

3 ASSESSMENT

3.1 Methodology

Stage 2 of the plan development included developing a draft traffic management 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:
 - Intersection turning moving counts
 - Pedestrian counts
 - Daily and weekly traffic counts
 - Average speed measurements
- 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 volumes (peak hours, daily, and weekly), travel speed, and pedestrian movements. A map of the traffic data collection is shown in **Appendix B**.

3.2 Travel Volumes and Travel Speeds

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**.

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

Characteristics	Classifications					
	Back Lanes		Locals		Collectors	
	Residential	Commercial	Residential	Commercial	Residential	Commercial
Traffic function	Access function only (traffic movement not a consideration)		Access primary function (traffic movement secondary consideration)		Traffic movement and land access of equal importance	
Average Daily Traffic (vehicles per day)	<500	<1,000	<1,000	<5,000	<5,000	8,000-10,000
Typical Speed Limits (kph)	20		50		50	
Transit Service	Not permitted		Generally avoided		Permitted	
Cyclist	No restrictions or special facilities		No restrictions or special facilities		No restrictions or special facilities	
Pedestrians	Permitted, no special facilities		Sidewalks on one or both sides	Sidewalks provided where required	Typically sidewalks provided both sides	Sidewalks provided where required
Parking	Some restrictions		No restrictions or restriction on one side only		Few restrictions other than peak hour	

Travel 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 Avalon neighbourhood is 50kph, except for school zones where the speed limit is 30kph from September and June, 8:00am to 5:00pm, excluding weekends.

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

Table 3-2: Speed Studies and Average Daily Traffic Counts (2015)

Street	Between	Class	Average Daily Traffic (vpd)	Speed (kph)
Back Lane west of Clarence Avenue	Glasgow Street & Wilson Crescent	lane	30	NA
Back lane east of Clarence Avenue (at T-intersection)	Glasgow Street & Wilson Crescent		<100	NA
Glasgow Street	Mendel Crescent (west) & Maceachern Avenue	local	3,421	47.4
Glasgow Street	Turner Avenue & Mendel Crescent (east)		3,669	54.2
Melrose Avenue	Glasgow Street & Young Crescent (north)		415	49.5
McAskill Crescent	Turner Avenue & Wilson Crescent (east)		206	37.3
Cascade Street	Mills Crescent & Mills Crescent		842	53.5
Wilson Crescent	Albert Avenue & Albert Avenue	collector	2,307	49.4
Wilson Crescent	Clare Crescent & Clare Crescent (school zone)		2,003	school= 38.1, regular= 44.8
Clarence Avenue	Circle Drive overpass & Glasgow Street	major arterial	14,140	60.4

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*, January 26, 2009.

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

Results of the studies are shown in **Table 3-3**.

Table 3-3: All-Way Stop Assessments

Location	Peak Hour Count (greater than 600)	Average Daily Traffic (greater than 6,000vpd)	# of Collisions within most recent 12 months (5 or more)	All-Way Stop Warranted
Glasgow Street & Broadway Avenue	327 (no)	3,360 vpd (no)	0 (no)	All-Way Stop Not Warranted
Glasgow Street & Turner Avenue	391 (no)	3,990 vpd (no)	0 (no)	

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

3.4 Pedestrian Assessments

Pedestrian assessments are conducted to determine the need for pedestrian actuated signalized crosswalks which, in adherence to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004, are typically active pedestrian corridor (flashing yellow lights) or pedestrian-actuated signals. A warrant system assigns points for a variety of conditions that exist at the crossing location, including:

- Number of traffic lanes to be crossed;
- presence of a physical median;
- posted speed limit of the street;
- distance the crossing point is to the nearest protected crosswalk point; and
- number of pedestrian and vehicles at the location.

Pedestrian and traffic data is collected during the five peak hours of: 8:00am to 9:00am, 11:30am to 1:30pm, and 3:00pm to 5:00pm.

In addition, if a pedestrian actuated crosswalk is not warranted, a standard marked pedestrian crosswalk, or a zebra crosswalk (i.e. striped) may be considered. A summary of the pedestrian studies are provided in **Table 3-4**.

Table 3-4: Pedestrian Assessment

Location	Number of Pedestrians Crossing During Peak Hours	Results
Glasgow Street & Broadway Avenue	14	Pedestrian Device Not Warranted
Glasgow Street & Turner Avenue	11	
Clarence Avenue & Glasgow Street	21	
Clarence Avenue & Cascade Street	15	

Details of the pedestrian actuated signal and active pedestrian corridor assessments are provided in **Appendix D**.

3.5 Collision Analysis

The most recently available five year collision statistics (2009 to 2013) were provided by 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. These include:

- Clarence Avenue & Glasgow Street
- Ruth Street & Isabella Street
- Ruth Street & Wilson Crescent
- Ruth Street & Melrose Avenue
- Wilson Crescent & Broadway Avenue

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

4 PLAN DEVELOPMENT

4.1 Methodology

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

- Based on the assessments, prepare a plan that illustrates the appropriate recommended improvement
- 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 management plan, including the location, recommended improvement, and the 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*, January 26, 2009, “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 Speeding and Shortcutting Improvements

Location	Recommended Improvement	Justification
Back lane between Clarence Avenue & McAskill Crescent	20kph speed signs	Reduce speed
Wilson Crescent (school zone)	Speed enforcement during school hours	Reduce speed during school hours; improve pedestrian safety
Cascade Street	Forward peak hour speed data to Saskatoon Police Service to consider enforcement	Reduce speed
Glasgow Street & MacEachern Avenue	Curb extensions (northeast & southeast corners)	Reduce speed at pedestrian crossing near park
Glasgow Street between MacEachern Avenue & Mendel Crescent (across from 711 Glasgow Street)	Pinch point (eastbound yields)	Reduce speed & discourage shortcutting traffic
Glasgow Street & Turner Avenue	Median island (east side) & curb extension (northeast corner)	Reduce speed at pedestrian crossing
Glasgow Street between Clarence Avenue & Mendel Crescent (in front of 917 & 919 Glasgow Street)	Pinch point (westbound yields)	Reduce speed & discourage shortcutting traffic
Glasgow Street west of Clarence Avenue	"Traffic-Calmed Neighbourhood" sign (facing westbound)	Discourage shortcutting traffic
Clarence Avenue & Wilson Crescent	Additional school zone signs on signal overheads	Reduce speed & ensure driver awareness of school zone (based on approval of the Adelaide-Churchill Neighbourhood Traffic Plan)
Clarence Avenue between Circle Drive overpass & Glasgow Street	Speed display board (facing northbound traffic)	Reduce speed (based on approval of the Adelaide-Churchill Neighbourhood Traffic Plan)
Clarence Avenue between Glasgow Street & the south side of Circle Drive overpass	Reduce 60kph speed limit to 50kph	Reduce speed (based on approval of the Adelaide-Churchill Neighbourhood Traffic Plan)

Of note in the above table is the inclusion of pinch points. A pinch point is a physical restriction, typically curbing, that forces drivers in one direction to yield to oncoming traffic prior to passing around the physical restriction. The intent is to slow traffic and to also make the route less attractive to shortcutting traffic. This traffic calming measure is included in the Saskatoon

Neighbourhood Traffic Calming Guidelines, and is also physically installed at one location on Saskatchewan Crescent beneath the Senator Sid Buckwold Bridge as depicted in **Exhibit 4-1**.



Exhibit 4-1: Existing Pinch Point beneath Senator Sid Buckwold Bridge (looking west)

The implementation plan for the pinch points is as follows:

1. May, 2016 – Data collection on Glasgow & Wilson, speed and daily traffic
2. June, 2016 – Install curb extensions, pinch points, and signage (temporary condition)
3. September, 2016 and Spring, 2017 – Data collection on Glasgow & Wilson, speed and daily traffic
4. Spring, 2017 – Effectiveness review
5. Summer, 2017 – Consult with neighbourhood
6. Summer, 2018 – Request funding for permanent construction if found to be effective

The above implementation plan is contingent on Council approval in April of 2016 to proceed with the temporary installation, and subsequent Council approval to make restrictions permanent if deemed effective.

4.3 Pedestrian Safety

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

Table 4-2: Recommended Pedestrian Safety Improvements

Location	Recommended Improvement	Justification
Wilson Crescent (west of Broadway Avenue)	Sidewalk on north side beside John Lake Park	Improve pedestrian safety & connectivity
Glasgow Street & MacEachern Avenue	Zebra crosswalk (east side)	Improve pedestrian safety near park
Glasgow Street & Mendel Crescent	Zebra crosswalk (west side)	Improve pedestrian safety near park
Glasgow Street & Turner Avenue	Remove standard crosswalk (west side)	Improve pedestrian safety (crosswalk at Mendel Crescent is 65m west)
Clarence Avenue & Glasgow Street	Move bus stop on southeast corner a few metres south	Improve pedestrian safety by enhancing crosswalk visibility (based on approval of the Adelaide-Churchill Neighbourhood Traffic Plan)
Clarence Avenue & Glasgow Street	Sidewalk on southwest corner (up to bus stop)	Improve pedestrian safety & connectivity (based on approval of the Adelaide-Churchill Neighbourhood Traffic Plan)

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 Traffic Control Improvements

Location	Recommended Improvement	Justification
Various locations	Yield signs at all uncontrolled intersections	Improve safety and enhance driver compliance at uncontrolled intersections
Clarence Avenue & Glasgow Street	Review signage at or near intersection	Reduce visual clutter, eliminate confusion, & determine if "Do Not Block Intersection" sign is necessary (based on approval of the Adelaide-Churchill Neighbourhood Traffic Plan)

4.5 Clarence Avenue Improvements

Typically the mandate for the Neighbourhood Traffic Management Reviews is to focus on neighbourhood streets such as local roads and collector roads. As almost all neighbourhoods are bound by arterial streets, such as Clarence Avenue, it is not uncommon to have residents raise issues regarding these streets. However, arterial streets are much more complex than local or collector streets due to larger traffic volumes, different types of drivers (commuters), coordinated traffic signals, transit accommodation, and potentially many commercial accesses. Also arterial streets are typically on the border between neighbourhoods; therefore the concerns and opinions of the residents on all sides should be taken into consideration.

The section of Clarence Avenue between the Circle Drive South overpass and Ruth Street borders two neighbourhoods that took part on the 2015 neighbourhood traffic reviews, Avalon (west of Clarence Avenue) and Adelaide-Churchill (east of Clarence Avenue). During the consultation for these reviews, a common issue emerged among residents of both neighbourhoods: traffic conditions on Clarence Avenue between the Circle Drive South overpass and Wilson Crescent, particularly the intersection of Clarence Avenue and Glasgow Street.

A common request from residents was to provide two northbound lanes on Clarence Avenue. Transportation reviewed the feasibility of providing two lanes northbound on Clarence Avenue between the Circle Drive South interchange and Wilson Crescent. Currently there are two northbound lanes between the Circle Drive South interchange and Glasgow Street, with the west northbound lane being a forced drop via a 'must turn left' lane. The inclusion of this dedicated left-turn lane only promotes the left onto Glasgow Street as it may be difficult to merge right and continue north on Clarence Avenue. By providing two lanes northbound it is expected that the impetus to turn left will be reduced. Also, it should be noted that if two lanes are provided northbound, it will still be possible to turn left onto Glasgow Street, however this turn will not be from a left-turn only lane. This would have potentially increased the possibility of rear-end collisions, however, this risk is mitigated by the lowering of the speed limit from 60kph to 50kph, as well as the inclusion of a speed display board. The proposed change to Clarence Avenue is illustrated in **Exhibit 4-2**.



Exhibit 4-2: Clarence Avenue proposed Changes

The implementation plan for the proposed changes to Clarence Avenue is as follows:

1. May, 2016 – Staff begin 2017 budget planning
2. August, 2016 – Install speed reader board
3. September, 2016 – Move 50kph zone further south
4. December, 2016 – 2017 Budget Council Meeting to approve funding for changes
5. Winter / Spring, 2017 – Detailed design & retain contractor (subject to funding approval)
6. Summer, 2017 – Complete geometric changes (subject to funding approval)

The above implementation plan is contingent on Council approval in April of 2016 of the NTR, and subsequent Council approvals for funding.

Also, it is important to note that the above changes cannot be made on a temporary basis.

The Clarence Avenue improvements are summarized in **Table 4-4**.

Table 4-4: Clarence Avenue Improvements

Location	Recommended Improvement	Justification
Clarence Avenue between Glasgow Street & Wilson Crescent	Add through lane northbound	Improve traffic flow (based on approval of the Adelaide-Churchill Neighbourhood Traffic Plan)

The above recommendation was also presented to the Adelaide-Churchill neighbourhood (on the east side of Clarence Avenue) in December 2015. Complete details of the design were not completed in time to reveal at the time of the follow up consultation; however general support for the added lane on Clarence Avenue was received.

These recommendations will be added to the priority list of city wide improvements on arterial streets until funding becomes available.

4.6 Follow Up Consultation – Presentation of Traffic Management Plan

The initial recommended improvements were presented at a follow-up public meeting in December 2015. Meeting minutes are provided in **Appendix A**. Recommended improvements that were not supported by the residents were eliminated or altered accordingly.

On January 14, 2016 the City of Saskatoon Transportation division (Transportation) met with the residents of Avalon in a third public meeting of the Neighbourhood Traffic Review (NTR) process. Meeting notes are provided in **Appendix A**. Typically the NTR process includes two public meetings, but occasionally a third public meeting is required to revisit and discuss outstanding traffic and pedestrian safety issues remaining from the second public meeting. In this case, there were two outstanding issues left unresolved, including:

1. Traffic calming on Glasgow Street, and
2. Geometric changes to Clarence Avenue.

Recommendations to address these issues were discussed previously, and a copy of the memorandum provided to the residents in March of 2016 is included in **Appendix F**.

A decision matrix detailing the list of recommended improvements presented at the follow-up meetings are included in **Appendix G**. A decision matrix for additional comments received after the draft traffic plan is also included in **Appendix G**.

The recommendations were circulated to the Civic Divisions (including Saskatoon Police Service, Saskatoon Light & Power, Saskatoon Fire Department, Environmental Services, and Transit) to gather comments and concerns. General support was received.

5 RECOMMENDED PLAN & COST ESTIMATES

Stage 4, the last stage of the process, is to install the recommended improvements for the Avalon neighbourhood within the specified timeframe. The timeframe 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 signage will be completed short-term (1 to 2 years).

Major intersection reviews are based on the number of other locations to be reviewed city wide and the availability of funding. The timeline for review will be medium-term (3 to 5 years).

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

- **Table 5-1:** Speeding & Shortcutting Improvements Cost Estimate
- **Table 5-2:** Pedestrian Safety Improvements Cost Estimate
- **Table 5-3:** Intersection Safety Improvements Cost Estimate
- **Table 5-4:** Sidewalk Cost Estimate
- **Table 5-5:** Clarence Avenue Improvements Cost Estimate
- **Table 5-6:** Clarence Avenue Improvements Cost Estimate
- **Table 5-7:** Total Cost Estimate

Table 5-1: Speeding & Shortcutting Improvements Cost Estimate

Location	Device (# of Devices)	Cost Estimate		Time Frame
		Temporary ¹	Permanent	
Back lane between Clarence Avenue & McAskill Crescent	20kph speed signs (2)	\$500	NA	1 to 5 years (traffic calming devices will be installed temporarily until proven effective)
Wilson Crescent (school zone)	Speed enforcement during school hours (NA)	\$0	NA	
Cascade Street	Forward peak hour speed data to Saskatoon Police Service to consider enforcement (NA)	\$0	NA	
Glasgow Street & MacEachern Avenue	Curb extension (2)	\$1,000	\$90,000	
Glasgow Street between MacEachern Avenue & Mendel Crescent (across from 711 Glasgow Street)	Pinch point (1)	\$500	\$45,000	
Glasgow Street & Turner Avenue	Median island (1)	\$500	\$5,000	
Glasgow Street & Turner Avenue	Curb extension (1)	\$500	\$45,000	
Glasgow Street between Clarence Avenue & Mendel Crescent (in front of 917 & 919 Glasgow Street)	Pinch point (1)	\$500	\$45,000	
Glasgow Street west of Clarence Avenue	"Traffic-Calmed Neighbourhood" sign (1)	\$250	NA	
Totals		\$3,750	\$230,000	

Table 5-2: Pedestrian Safety Improvements Cost Estimate

Location	Device	Cost Estimate	Time Frame
Glasgow Street & MacEachern Avenue	Zebra crosswalk	\$250	1 to 2 years
Glasgow Street & Mendel Crescent	Zebra crosswalk	\$250	
Total		\$500	

Table 5-3: Intersection Safety Improvements Cost Estimate

Location	Device	Number of Signs	Cost Estimate	Time Frame
Various locations	Yield sign	35	\$8,750	1 to 2 years
Totals		2	\$8,750	

Table 5-4: Sidewalk Cost Estimate

Location	Length (m)	Cost Estimate	Time Frame
Wilson Crescent (beside John Lake Park)	250	\$110,000	1 to 5 years (depending on available funding)
Total=	250	\$110,000	

Table 5-5: Clarence Avenue Improvements Cost Estimate

Location	Device	Cost Estimate		Time Frame
		Signs & pavement markings	Permanent devices	
Clarence Avenue & Glasgow Street	Move bus stop signs	\$200	NA	1 to 5 years (permanent speed display board will depend on locations selected city-wide)
Clarence Avenue & Glasgow Street	Sidewalk	NA	\$8,800	
Clarence Avenue & Glasgow Street	Signage review	\$500	NA	
Clarence Avenue & Wilson Crescent	School zone signs	\$500	NA	
Clarence Avenue between Circle Drive overpass & Glasgow Street	Speed display board	\$0	\$5,000	
Clarence Avenue between Glasgow Street & south side of Circle Drive overpass	50kph speed signs	\$500	NA	
Totals		\$1,700	\$13,800	

Costs for the Clarence Avenue improvements will be shared with the Avalon neighbourhood, as these recommendations are also included in the Avalon neighbourhood traffic management plan. Therefore half of the cost estimate for the Clarence Avenue improvements, to be added to the total cost estimate shown in **Table 5-7**, is **\$850** for signs & pavement markings and **\$6,900** for permanent devices (i.e. speed display board).

Table 5-6: Clarence Avenue Improvements Cost Estimate

Location	Device	Permanent (traffic calming devices & sidewalk)	Time Frame
Between Glasgow Street & Wilson Crescent	Geometric improvements	\$190,000	1 to 5 years (depending on available funding)
Total		\$190,000	

The geometric improvements (i.e. widening the roadway to add a through lane northbound) on Clarence Avenue will be funded through the major intersection and corridor improvements and will therefore, not be added to the total cost estimate in **Table 5-7**.

Table 5-7: Total Cost Estimate

Category	Signing, Temporary Traffic Calming & Traffic Counts	Permanent
Speeding/Shortcutting	\$3,750	\$230,000
Pedestrian Safety	\$500	NA
Intersection Safety	\$8,750	NA
Sidewalk	NA	\$110,000
Clarence Avenue	\$850	\$6,900
Totals	\$13,850	\$346,900

The total cost estimate for the signage and temporary traffic calming to be installed in 2016 is **\$13,850**. The total cost estimate for the installation of future permanent devices, including sidewalks (which does not include the geometric improvements on Clarence Avenue), is **\$346,900**. It should be noted, the Clarence Avenue Improvements shown in **Table 5-6** are based on the approval of the Adelaide-Churchill Neighbourhood Traffic Management Plan, and will be funded through major intersection and corridor improvements projects.

Resulting from the plan development process, the recommended improvements, including the location, type of improvement, and schedule for implementation are summarized in **Table 5-8**.

The resulting recommended Avalon Neighbourhood Traffic Management Plan is illustrated in **Exhibit 5-1**.

Table 5-8: Avalon Neighbourhood Recommended Improvements

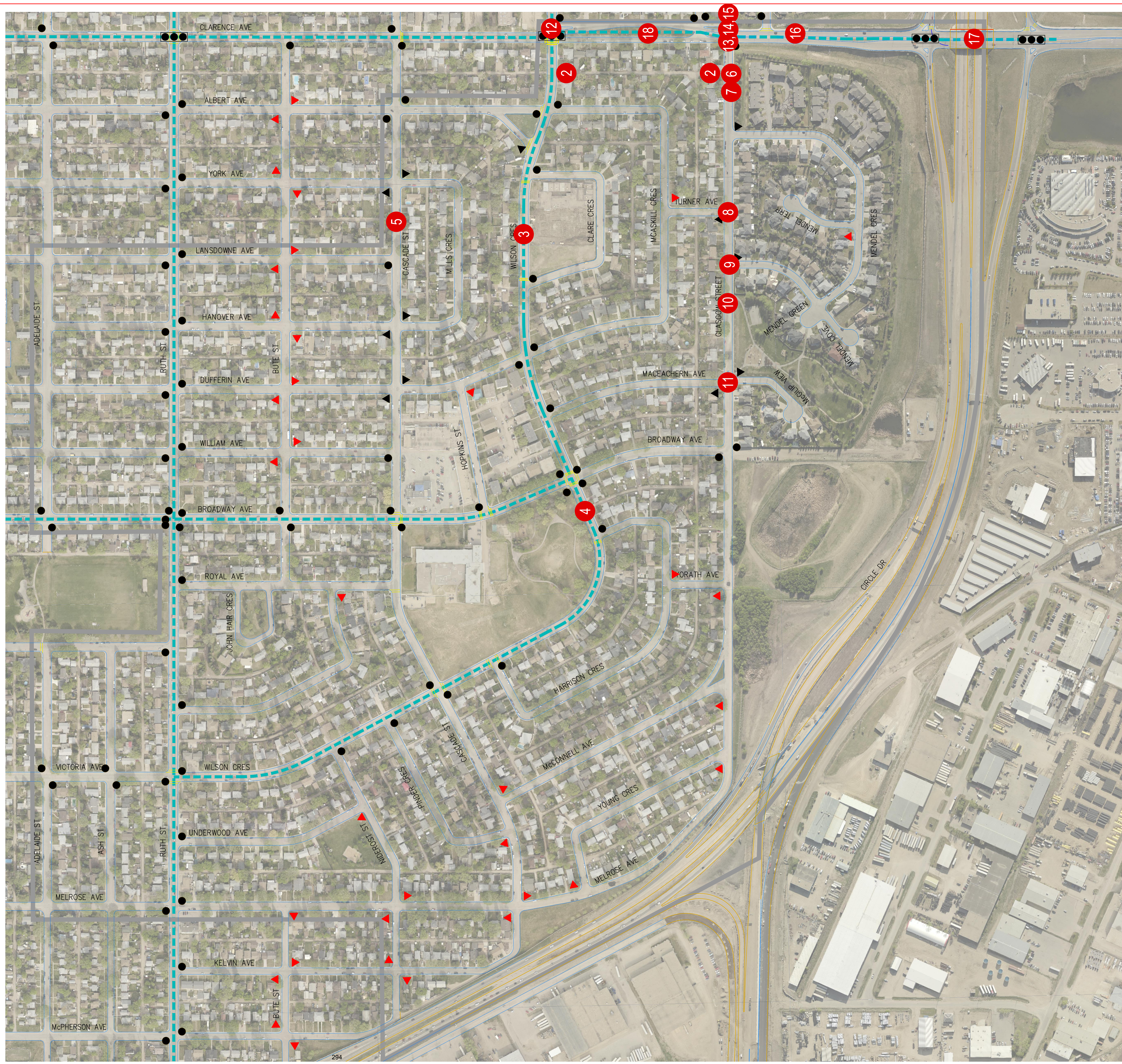
Item	Location	Recommendation	Reason
1	Various locations	Yield signs at all uncontrolled intersections	Improve safety and enhance driver compliance at uncontrolled intersections
2	Back lane between Clarence Avenue & McAskill Crescent	20kph speed signs	Reduce speed
3	Wilson Crescent (school zone)	Forward peak hour speed data to Saskatoon Police Service to consider enforcement during school hours	Reduce speed during school hours
4	Wilson Crescent (west of Broadway Avenue)	Install sidewalk on north side beside John Lake Park	Improve pedestrian safety & connectivity
5	Cascade Street	Forward peak hour speed data to Saskatoon Police Service to consider enforcement	Reduce speed
Glasgow Street			
6	West of Clarence Avenue	"Traffic-Calmed Neighbourhood" sign (facing westbound)	Discourage shortcutting traffic
7	Between Clarence Avenue & Mendel Crescent (in front of 917 & 919 Glasgow Street)	Pinch point (westbound yields)	Reduce speed & discourage shortcutting traffic
8	Turner Avenue	Median island (east side), curb extension (northeast corner) & remove standard crosswalk (west side)	Reduce speed & improve pedestrian safety, proximity to nearby driveway
9	Mendel Crescent (west)	Zebra crosswalk (west side)	Improve pedestrian safety near park
10	Between MacEachern Avenue & Mendel Crescent (across from 711 Glasgow Street)	Pinch point (eastbound yields)	Reduce speed & discourage shortcutting traffic
11	MacEachern Avenue	Curb extensions (northeast & southeast corners) & zebra crosswalk (east side)	Reduce speed & improve pedestrian safety near park

Table 5-8 Continued

Item	Location	Recommendation	Reason
Clarence Avenue & Glasgow Street (also included in Adelaide-Churchill Neighbourhood Traffic Management Plan)			
12	Wilson Crescent	Additional school zone signs on overhead posts	Reduce speed & ensure driver awareness of school zone
13	Southeast corner (on Clarence Avenue)	Move bus stop a few metres south	Improve traffic flow (allows vehicle to pass in inside lane while bus is stopped) & improve pedestrian safety (enhances crosswalk visibility)
14	Southwest corner (on Clarence Avenue)	Sidewalk (up to bus stop)	Improve pedestrian safety & connectivity
15	Entire intersection and surrounding area	Review signage at or near intersection	Reduce visual clutter, eliminate confusion, & determine if "Do Not Block Intersection" sign is necessary.
16	Between Circle Drive overpass & Glasgow Street	Speed display board (facing northbound traffic)	Reduce speed
17	Between Glasgow Street & the south side of Circle Drive overpass	Reduce 60kph speed limit to 50kph	Reduce speed
18	Between Glasgow Street & Wilson Crescent	Geometric Improvements - Additional through lane northbound	Increase capacity on Clarence Avenue in northbound direction (i.e. increasing from one lane to two through lanes)

LEGEND

- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- ▬ BUS ROUTE
- ⬢ EXISTING TRAFFIC SIGNAL
- ▶ PROPOSED YIELD SIGN



APPENDIX A: MEETING MINUTES

**Avalon Neighbourhood
Traffic Review
Thursday, April 2016, 7:00 – 9:00 P.M.
John Lake School**

Facilitators:

- Mitch Riabko & Kathy Dahl (Great Works Consulting)

Agenda

- Welcome & introductions
- Presentation from the Transportation Division
- Small group discussions
- Small group discussion – report back to large group
- Next Steps
- Question / Answers

Presentation from Transportation Division – Avalon Neighbourhood Traffic Review
(Presented by Justine Nyen – Traffic Engineer & Jay Magus - Traffic Engineering Manager)

Presentation Outline:

- Neighbourhood Review Process
- Timeline for Avalon Review
- Sources of Information
- Past Studies
- Concerns Received
- Description of Traffic Calming & Pedestrian Safety Devices

Neighbourhood Review Process:

- **August 2013** – New process; neighbourhood review vs issue by issue; eight neighbourhoods reviewed per year
- **Mandate** – Reduce & calm traffic, improve safety within neighbourhoods
- **2014** – Varsity View, Nutana, Brevoort Park, Haultain, Holliston, City Park, Westmount, Hudson Bay Park, Caswell Hill
- **2015** – Avalon, Meadowgreen, Adelaide-Churchill, Montgomery Place, Lakeview, Confederation Park, Greystone Heights, Mount Royal

Timeline for Avalon Review:

- **Stage 1** – Identify issues & possible solutions through community consultation (April to fall 2015)
- **Stage 2** – Develop a draft traffic plan (fall 2015)
- **Stage 3** – Present draft traffic plan to community for feedback (fall 2015)
- **Stage 4** – Implement the changes over time

Sources of Information:

- Present:
 - Past Studies
 - Collision Analysis
 - Concerns received since August 2013:
 - Community Engagement Online Tool
 - Phone calls and emails received by the Transportation Division
- Future:
 - Feedback from public consultation (meetings, correspondence, Shaping Saskatoon discussion)
 - Traffic Counts & Assessments

Past Studies:

- Glasgow Street – speeding, pedestrian safety, high traffic volumes; installed crosswalks at Turner Ave, Mendel Cres, & Maceachern Ave; traffic calming installed at Maceachern Ave; temporary speed display board installed in fall 2014
- Broadway Avenue & Wilson Crescent – installed 4-way stop
- Clarence Avenue & Cascade Street – removed temporary curb extensions

Concerns Received:

- Wilson Crescent - speeding
- Back lane 2700 block of Clarence Avenue – speeding; high traffic volumes
- Glasgow St – speeding; high traffic volumes

Glasgow St discussions:

- Options will be presented at follow up meeting to reduce traffic volumes on Glasgow St
- Example shown to remove northbound left turn at Clarence Ave & Glasgow St

Traffic Calming Devices:

1. Speed Display Boards
2. Raised Median Island – narrows focus of the driver to slow down
3. Curb Extensions – visual scope for the driver to see pedestrians
4. Roundabouts
5. Speed humps
6. Raised crosswalks
7. Diverter
8. Right-in/right-out island
9. Directional Closure – restrict movements onto the street from one direction
10. Raised median through intersection
11. Full closure

Pedestrian Devices:

1. Standard crosswalk
2. Zebra crosswalk (striped pavement markings)
3. Active pedestrian corridor (flashing yellow lights)
4. Pedestrian-activated signals

Saskatoon Police Services – Unable to attend

- **Saskatoon Police Services: 306-975-8300 OR 306-975-8068 to report a traffic complaint or a concern.**

Small Group Discussions

- Breakout into small groups to discuss traffic concerns in Avalon and potential solutions

Group 1: Justine Nyen (City Facilitator)

- Glasgow St – speeding; implement 40kph speed limit; more enforcement; install traffic calming near park; high collisions in spring due to sun glare
- Glasgow St & Turner Ave – can't see kids crossing; kids are crossing at midblock; shortcutting in lane by Turner Ave; move crosswalk to see pedestrians better (maybe to other side of intersections); existing crosswalk goes into driveway; install 3-way stop
- Glasgow St & Broadway Ave – install 4-way stop; very busy traffic into dog park at all times, not just evenings and weekends
- Clarence Ave & Glasgow St – blocking left turn doesn't solve speeding issues; right turn is difficult to get onto Clarence Ave because drivers split into 2 lanes before intersection (southbound) and also accelerating to 60kph speed limit; move 50kph speed limit all the way to Circle Dr; left turns are near impossible; pedestrian safety concerns (especially at 8am and 5pm); left turning drivers on Clarence Ave onto Glasgow St are blocking crosswalk; install "No stopping on/blocking crosswalk" sign; congestion getting onto Clarence Ave causes shortcutting onto McAskill Cres
- Back lane 900 Glasgow St – speeding; install 20kph speed signs
- Hedges throughout neighbourhood at intersections obstruct drivers view
- Clarence Ave & Wilson Cres – southbound buses block through (curb) lane causing drivers to pass in left turn lane

Group 2: Goran Lazic (City Facilitator)

- Glasgow St has right-of-way (no traffic controls facing traffic on Glasgow St) causing speeding; driving on wrong side at 400 block; narrow corner at 400 block; traffic volumes increased substantially since big box stores opened south of Circle Dr; dog park drives traffic from Stonebridge; Stonebridge should have their own dog park/school; close Glasgow St at McConell Ave
- Glasgow St & Clarence Ave – eastbound left turn onto Clarence Ave northbound; pedestrian issues / low compliance; bus stop at corner; pedestrian signals; sidewalk on west side to signal for safer pedestrian crossing
- Signs needed around parks/playgrounds; "Watch for children at play"
- Reduced speed around parks (30kph)
- Glasgow St & Broadway Ave – install 4-way stop
- Clarence Ave & Wilson Cres – southbound queue past Cascade St; causes traffic to shortcut through neighbourhood; add more green time

- Clarence Ave & Cascade St – pedestrian safety concern to access park; improvements needed
- Lorne Ave & Ruth St – difficult to tell who has right-of-way at 4-way stop; install traffic signals

Group 3: Shirley Matt (City Facilitator)

- Broadway Ave between Wilson Cres & Glasgow St – speeding; rolling through stop sign and speeding up after school zone
- Glasgow St between Clarence Ave & Broadway Ave – speeding; shortcutting due to school zones on Wilson Cres
- Wilson Cres – speeding (especially after school hours)
- Cascade St – speeding; increased traffic volumes
- Uncontrolled intersections – confusion
- Broadway Ave & Ruth St – traffic lights needed
- Lorne Ave & Ruth St – traffic coming / going to downtown causes congestion into neighbourhood
- Clarence Ave & Circle Dr – collisions coming from ramp (westbound to southbound); need better timing for lights
- Clarence Ave – northbound towards Wilson Cres drivers race each other to get into lane
- Clarence Ave & Glasgow St – dangerous for pedestrians; busy street; drivers going fast and will not stop; bus stop in area; install pedestrian device; southbound – right turn only to Glasgow St – problem is traffic is using two lanes before they pass the intersections; install barrier to delineate right lane and to protect right turns from Glasgow St onto Clarence
- Missing sidewalks and ramps throughout neighbourhood (ie. Broadway Ave & Wilson Cres northeast corner)
- Parents parking on Wilson Cres in front of school is concern

Group 4: Ellen Pearson (City Facilitator)

- Bute St & Albert Ave – speeding; cars ending up in front yard (blowing stop sign at Cascade St & Albert Ave)
- Wilson Cres & Broadway Ave - not stopping at 4-way stop; cars not coming to complete stop turning right onto Broadway Ave
- Lorne Ave & Ruth St – need traffic signals, not just 4-way stop; high traffic volumes from Prairieland
- Wilson Cres between Clarence Ave & Broadway Ave – speeding, especially traffic signals installed at Wilson & Clarence; lots of collisions; driving through median island curb extensions in front of school; speeding occurring all times of day, even in school zone; implement 30kph speed zone on Wilson Cres by Broadway Ave; install speed humps
- Clarence Ave & Glasgow St – crosswalk is dangerous; install flashing yellow pedestrian lights; lots of pedestrians due to bus stop; lacks signage and pavement markings; traffic turning left onto Glasgow St is often to dog park; implement dog park in Stonebridge to lessen traffic coming into Avalon

- Clarence Ave – poorly marked school zone (Spanish school where kids take the bus, they don't walk) – St Martins
- Photo radar needed at Clarence Ave & 3rd St and Taylor St; police presence needed
- Speed humps work!!
- Zig zag berms are effective at slowing traffic, especially on local streets to maintain speed
- Garbage collection should all be in back lanes; heavy trucks are impacting the quality of the streets; grade and maintain back lanes/grading but not backfilling; lanes are muddy and can't be used
- Students jaywalking near Aden Bowman
- Glasgow St – shortcutting to avoid Clarence Ave and 3 school zones; crosswalk to Avalon Park is marked but not observed; solution: in Seattle pedestrian flags area attached to pedestrian signs to signal to drivers
- Speeding is utmost concern and not paying attention to traffic signage
- Install alternating yield signs at uncontrolled intersections
- Dufferin Ave & Cascade St – change yield sign to stop sign

Group 5: Jay Magus (City Facilitator)

- Wilson Cres & Clarence Ave – traffic signal has moved traffic to Glasgow St (6-9am, 3-6pm, 7-9pm, after 11pm)
- Glasgow St & Melrose Ave - speeding
- Glasgow St – no left onto Glasgow St (from Clarence Ave); too easy to access neighbourhood; install traffic calming; install 4-way stop at Broadway Ave; improve crosswalk at Turner Ave (issue in median island); install speed display board in both directions; resident living on Mendel Cres was concerned about proposed left turn restriction at Glasgow St & Clarence Ave because they'd need to drive to Wilson Cres->Broadway Ave->the to Mendel Cres; improve pedestrian crossing at Maceachern Ave; install speed bumps or indents; reduced speed zone near park
- Speed display boards – how does it log pedestrians and cyclists; issues with accuracy
- Shortcutting to access traffic signals at Wilson Cres & Clarence Ave (eastbound on Glasgow St ->Turner Ave->McAskill Cres->Wilson Cres)
- Collisions in winter
- Clarence Ave –change to 2 lanes northbound between Circle Drive and Wilson Cres; remove school zone to maintain traffic flow; jersey barrier obstructs drivers view when turning right onto Clarence Ave from Circle Dr ramp looking southbound
- Stop & Yield Retrofit Program – install alternating yield signs
- Back lane west of Clarence Ave between Glasgow St & Wilson Cres – shortcutting; speeding
- Concerned about time of study and completion
- Cascade St – quieter street

Next Steps – Jay Magus

(Presented by Jay Magus - Traffic Engineering Manager)

1. Continue monitoring traffic issues in your neighbourhood
2. Mail-in or email comments no later than May 16/15
3. Additional public input via City on-line Community Engagement webpage no later than May 16/15

<http://shapingsaskatoon.ca/discussions/avalon-neighbourhood-traffic-review-meeting>

4. Traffic count data collection – spring/summer 2015
5. City review of public input and data collected from traffic studies and prepare draft Traffic Plan
6. Follow-up public input meeting to provide input on draft
7. Determine revisions and finalize Traffic Plan
8. Present Traffic Plan to City Council for approval

Large Group Discussion – Resident Questions/Comments

Resident: When will the recommendations in the traffic plan be installed?

City: There are short term and long term measures. Short term include signs and temporary traffic calming. These are usually installed within a year of the plan being approved (ie. spring / summer 2016). Long term measures, such as permanent traffic calming may take longer, approximately 5 years, after the temporary measures have been assessed.

Resident: A lot of the traffic on Glasgow St are residents from Stonebridge going to the dog park. Will there be a dog park in Stonebridge?

Councillor Loewen: A dog park wasn't included in the planning stage for Stonebridge, so we'll need to find space. Best case scenario, yes, there will be a dog park eventually, but it won't be as big as the park in Avalon.

Resident: What are the traffic volumes required to install traffic signals?

City: There is no easy answer for this. Traffic signal warrants are based on a number of factors, not just traffic volumes. Number of lanes, distance to nearest traffic signals, structures etc.

Resident: Has Lorne Avenue & Ruth St been assessed to determine if traffic signals can be installed?

City: Yes, Lorne Ave & Ruth St it's on the threshold for traffic signals. However there are a number of challenges at this location due to overhead structures. At this time, traffic signals aren't recommended.

Resident: There seems to be a consensus of speeding on Glasgow St (also Clarence Ave). Send police cars out to enforce, the non-visible kind.

City: We can send this as information.

Contact Police Services to request enforcement: **306-975-8300 OR 306-975-8068**

Resident: Lorne Ave & Ruth St – Prairieland events cause high traffic and snow blocks one full lane. Snow should be pushed onto sidewalk.

City: Comments will be forwarded to the Public Works Division to follow-up.

Resident: In other neighbourhoods they've installed yield signs that alternate at all uncontrolled intersections. Can we get this in Avalon?

City: The yield signs are part of the Stop & Yield Retrofit Program. We'll follow-up to determine if Avalon was included in the program.

City followed up: **Avalon is included on the list for the Stop & Yield Program.** As such, yield signs will be installed at all uncontrolled intersections in Avalon. Letters will be sent to residents prior to the installation. We intend to complete the sign installations prior to the next Avalon traffic meeting (ie. fall 2015).

Resident: Glasgow St & Broadway Ave (dog park access) – put up stop signs

City: We need to follow up with a study and abide by our stop and yield Policy (Policy C07-007) to implement signs. Stop signs are not to be used as a speed deterrent / traffic calming.

Resident: When are the counts conducted?

City: Traffic counts will be in the next couple months (spring / summer)

Resident: No one likes speed humps, but they work.

City: We've installed them in the past (Wilson Cres near the park) but received complaints after. Fire Services requested we don't install speed humps because they damage their vehicles. They're noisy for residents living near them.

Resident: When will a speed display board be installed on Glasgow St?

City: A speed display board will be installed on Glasgow St in May. (may need to collect speed and traffic volume data prior to installation. This may affect timeline.)

Resident: Can the board be installed in both directions?

City: We will try to install the board in both directions, however there are a number of challenges – can't be shaded, need something to attach board to (ie. power pole). Notifications will be sent to residents on Glasgow St prior to installation.

Resident: Was the speed display board on Glasgow St effective last fall?

City: Yes. Speed studies measured before and after showed a reduction.

Resident: How does the City prioritize traffic improvements?

City: Comes down to funding. We have a list of corridor improvements (major roadways –arterials, collectors), major intersection improvements, and recommendations from neighbourhood traffic reviews. Generally recommendations from the neighbourhood reviews are low cost.

Resident: Buses speed. Please tell transit drivers to slow down.

City: We'll pass on the information to Transit Services.

<http://shapingsaskatoon.ca/discussions/varsity-view-neighbourhood-traffic-review>

List of Representatives

Mitch Riabko, Kathy Dahl – Great Works Consulting, Facilitators

Angela Gardiner – City of Saskatoon, Transportation & Utilities, Transportation Director

Jay Magus – City of Saskatoon, Transportation & Utilities, Engineering Manager

Shirley Matt – City of Saskatoon, Transportation & Utilities, Traffic Management Supervisor

Justine Nyen – City of Saskatoon, Transportation & Utilities, Traffic Management

Mariniel Flores – City of Saskatoon, Transportation & Utilities, Traffic Management

Lanre Akindipe – City of Saskatoon, Transportation & Utilities, Infrastructure Engineer

Goran Lazic – City of Saskatoon, Transportation & Utilities, Traffic Operations Engineer

Marina Melchiorre – City of Saskatoon, Transportation & Utilities, Traffic Engineer

David LeBoutillier – City of Saskatoon, Transportation & Utilities, Traffic Engineer

Mark Emmons – City of Saskatoon, Planning & Development, Planner – Neighbourhood Planning

Konrad Andre – City of Saskatoon Planning & Development, Senior Planner

Ellen Pearson – City of Saskatoon Planning & Development, Planner

**Avalon Neighbourhood
Traffic Review
Thursday, October 29, 2015, 7:00 – 9:00 P.M.
George Vanier School**

Facilitators:

- Mitch Riabko & Kathy Dahl (Great Works Consulting)

Agenda

- Welcome & introductions
- Presentation from the Transportation Division
- Small group discussions
- Small group discussion – report back to large group
- Next Steps
- Question / Answers

Presentation from Transportation Division – Avalon Neighbourhood Traffic Review
(Presented by Justine Nyen – Transportation Engineer)

Presentation Outline:

- Neighbourhood Traffic Management Program
- How We Got Here
- What We Heard
- What We Did
- What We Propose

Neighbourhood Traffic Management Program:

- Address neighbourhood traffic issues:
 - Speeding concerns
 - Short-cutting concerns
 - Pedestrian safety
 - Intersection safety
- August 2013 – changes to program
 - Neighbourhood-wide review
 - More community / stakeholder feedback
 - Efficient use of staff resources

How We Got Here:

- April 2015 – Initial Traffic Meeting
- April to October 2015 – gather feedback, conduct traffic studies, collect data, develop traffic plan
- October 2015 – Follow Up Traffic Meeting - display proposed traffic plan and gather feedback

What We Heard:

- A. Speeding/Traffic Volumes:
- Glasgow St
 - Melrose Ave
 - Clarence Ave

- Broadway Ave
- Wilson Cres
- Cascade St
- Albert Ave
- Back lanes (adjacent to Clarence Ave, Wilson Cres, & Glasgow St)

B. Pedestrian Safety:

- Glasgow St:
 - MacEachern Ave
 - Turner Ave
 - Broadway Ave
- Clarence Ave:
 - Glasgow St
 - Cascade St
- Missing sidewalks near John Lake Park

C. Intersection Safety:

- Glasgow St & Clarence Ave
- Glasgow St & Broadway Ave
- Ruth St & Broadway Ave
- Broadway Ave & Wilson Cres
- Ruth St & Wilson Cres
- Uncontrolled intersections

What We Did:

- Collected Data:
 - Past studies
 - Comments from initial meeting
 - Resident responses (phone calls, emails, letters)
 - Recorded comments from Shaping Saskatoon discussions
 - 5 Intersection / Pedestrian counts
 - 9 – 7 day traffic count (24 hour) & Average Speed measurements
 - 1 back lane traffic volume count
 - Collision history
- Field Reviews
- Assessed the Issues
- Generated proposed recommendations

What We Propose:

- Yield signs at all uncontrolled intersections
- Zebra crosswalks
- 20kph speed signs
- Additional school zone signs
- Speed display board
- Speed enforcement
- Speed limit reduction
- Hazard boards
- Traffic calming (curb extensions and median islands)

- Sidewalk
- Glasgow St & Clarence Ave modifications (median closure to restrict left turns; curb extension to increase pedestrian safety)

Clarence Ave & Glasgow St modifications:

- Recommendation in traffic plan show a median closure to restrict left turns
- Issue is high traffic volumes (shortcutting on Glasgow St)
- Closure is estimated to reduce approximately 1,600 vehicles per day on Glasgow St
- Traffic is expected to continue north on Clarence Ave, but there is a chance of re-routing through neighbourhood on other streets such as Wilson Cres.
- Closure would be installed temporarily to assess impact on adjacent streets

Q&A

Resident: What are you doing to move traffic from the south (via Circle Dr etc)? Traffic on Clarence Ave started because of Stonebridge and all of the development on the south end.

City: Clarence Ave, Preston Ave and so on are arterial roadway, made to move traffic. There are no plans for additional routes and bigger roads at this time.

- **Saskatoon Police Services: 306-975-8300 OR 306-975-8068 to report a traffic complaint or a concern.**

Small Group Discussions

- Breakout into small groups to discuss traffic concerns in Avalon and potential solutions

Group 1: Justine Nyen (City facilitator)

- Item #6 – Clarence Ave & Glasgow St median closure – group was not in support; closure will re-route traffic onto Wilson Cres; don't want to traffic re-route by school
 - Consider what's causing the shortcutting onto Glasgow St:
 - Lack of guide signs, northbound traffic gets "caught" in left turn lane because it's too congested to change lanes
 - Drivers avoiding school zones on Clarence Ave
 - Funneling into one lane from 2 lanes coming over the overpass is backed up
 - Icy conditions downhill coming over overpass
 - Consider alternating stop signs on Glasgow St
 - Perhaps temporary roundabouts on Glasgow St to make route "less attractive" and slow speeds
 - Remove school zone on Clarence Ave to ease congestion
 - Continue 2 lanes on Clarence Ave to resolve congestion
- Item #7 – Clarence Ave & Glasgow St curb extension – concerns for turning right from Glasgow St because drivers will need to turn into driving lane. Already congested so it will be difficult to find gaps in traffic. Maybe try the curb extension on the north side.
- Broadway Ave & Wilson Cres – add hazard boards

- Wilson Cres – additional school zone sign needed; no sign so drivers don't know it's a school zone (west of Broadway Ave)

Group 2: Mariniel Flores (City facilitator)

- Item #1 – Yield signs at uncontrolled intersections – 6 no, 4 neutral
- Item #2 – Glasgow St & MacEachern Ave zebra crosswalk – there's already one there; speed bumps or little rumble strips instead
- Clarence Ave & Glasgow St:
 - Maybe a bus bay
 - Not in favour of median closure
 - Consider double lane on Clarence Ave
 - Move crosswalk to north side
 - Install traffic signals
- Clarence Ave & Glasgow St speed display board – install permanent
- Ruth St & Wilson Cres – maybe 4-way stop after bridge is built
- Clarence Ave speed limit reduction to 50kph at overpass – 5 were in favour to Circle Dr overpass, 5 wanted it reduced all the way to Cartwright St.
- Broadway Ave & Glasgow St – all-way stop or different orientation of stop signs
- Broadway Ave & Wilson Cres – adjust timing to make all directions equal priority
- Glasgow St west of Broadway Ave – install directional closure (maybe McConnell Ave)
- Victoria Ave – dedicated bike/pedestrian lane route all the way to River Landing
- Clarence Ave - dedicated bike/pedestrian lane route all the way to River Landing
- Clarence Ave & Cascade St – better signage to improve pedestrian safety or curb extension

Group 3: Shirley Matt (City facilitator)

- Item #1 yield signs at uncontrolled intersections – reasonable as long as to the east side of the neighbourhood
- Item #2 Glasgow St & MacEachern Ave zebra crosswalk – should have traffic calming also
- Item #3 Glasgow St & Turner Ave – zebra crosswalk, curb extension, & median island – dependent on Clarence / Glasgow; maybe remove median island
- Item #6 – Glasgow St & Clarence Ave median closure – 9 against, 2 for.
- Item #7 – Glasgow St & Clarence Ave curb extension on southwest corner – 5 against, 4 for, 2 undecided; median island on northeast corner
- Item #10 Additional school zone signs on Clarence Ave near Wilson Cres – in support of sign on median
- Item #12 Speed enforcement on Wilson Cres in school zone – in support but extend zone to Clarence Ave
- Item #14 add hazard boards at Ruth St & Wilson Cres – Maybe add flashing light
- Other:
 - Cascade St – needs maintenance
 - Clarence Ave / Glasgow St – more needs to be done Glasgow St; 4-way stop at Broadway Ave / Glasgow St

Group 4: David LeBoutillier (City facilitator)

- Glasgow St:
 - Broadway Ave - 4-way stop needed
 - Flip yield signs along Glasgow St
 - More enforcement needed
 - Re-think Glasgow St as collector with bulbing etc (half table was in support)
 - Truck traffic is a concern
- Item #2 Glasgow St & MacEachern Ave zebra crosswalk – probably not enough; consider curb extensions; it’s a pathway to a park
- Item #3 Glasgow St & Turner Ave – concern that Turner Ave becomes more important if Clarence Ave northbound left turn is closed; maybe close Turner Ave
- Item #6 – Glasgow St & Clarence Ave median closure – not so quick; need to understand issues; install 2 through lanes on Clarence Ave all the way to Wilson Cres; crosswalk improvements needed, perhaps try bulbing & steps along Glasgow St first; watch Turner Ave and maybe close; keep left turns
- Item #7 – Glasgow St & Clarence Ave curb extension on southwest corner – not sure this will work. No clear option
- Item #10 Additional school zone signs on Clarence Ave near Wilson Cres – yes northbound sign needs to go back
- Item #11 speed display board on Clarence Ave (northbound after overpass) – boards may encourage speed
- Item #12 Speed enforcement on Wilson Cres in school zone – photo radar/portable – purchase devices and move them around
- Consider creating a park speed zone to extend the hours of day

Group 5: Jay Magus (City facilitator)

- Item #1 – Supported; can you also implement on Cascade Street?
- Item #2 Glasgow St & MacEachern Ave zebra crosswalk – Supported
- Item #3 Glasgow St & Turner Ave – Supported; however there are issues properly locating the crosswalk as it currently guides pedestrians to a driveway; finding space for curb extensions might be difficult.
- Item #4 – Supported
- Item #5 – Supported
- Item #6 – Glasgow St & Clarence Ave median closure – not supported; will force more traffic to Turner Avenue and Mcaskill Crescent; traffic should not have been counted in the summer as school is out; one issue is that 2 lanes of northbound traffic on Clarence Avenue is needed so drivers do not feel like they have to turn left; look at other ways to deter traffic on Glasgow Street including bulbing, stop signs, and speed bumps.
- Item #7 – Glasgow St & Clarence Ave curb extension on southwest corner – move to northwest corner
- Items #8 and 9 – supported
- Item #10 Additional school zone signs on Clarence Ave near Wilson Cres – supported, but also asked if school zone can be removed
- Item #11 to #15 - supported
- Why was no calming on Wilson Crescent identified?

Next Steps

1. Mail-in or email comments no later than Nov 29/15
2. Additional public input via City on-line Community Engagement webpage no later than Nov 29/15

<http://shapingsaskatoon.ca/discussions/avalon-neighbourhood-traffic-review-meeting>

3. Additional consultation if required
4. Present traffic plan to City Council for approval
5. What happens after City Council approval? Implementation begins. Signs and temporary traffic calming will be installed as early as next spring (2016)
6. What if I don't agree? Request time to speak at City Council meeting

Q&A

Resident: Clarence Ave should be 2 lanes to Wilson Cres (either direction).

Resident: Do you think it's beneficial to have resident's address?

City: Like the idea of community-based decisions not one street vs. another.

Resident: The representation of the community at this meeting is very small (approximately 65 attendees).

Resident: People in my group were in favour of the median closure (Clarence Ave & Glasgow St). We don't think much traffic will turn down Wilson Cres.

Resident: Disagree. Need more study on who is taking Glasgow St (residential, shortcutting, where are they going – downtown, Avalon shopping centre, dog park etc)

City – In my opinion, traffic is going downtown, from Broadway Ave.

Resident: Has the City changed the design of streets to carry the volumes? Perhaps change Glasgow St from local to feeder street.

City: Coming from the City of Calgary, they have changed roadways from residential as development infills. It has been done. Changes over time.

Resident: Would you consider re-classifying the road to a collector?

City: No. At this point it is all residential.

Resident: Cars are stopping on the crosswalk at Clarence Ave & Glasgow St. Install "Do Not Block Crosswalk" sign.

Resident: Cascade St is a racetrack. Lots of young kids in the area.

City: According to the speed study, traffic calming is not warranted. We would consider alternating yield signs as part of the Traffic Control Retrofit because it's a local street with intersecting local streets. This wasn't previously recommended because there are already signs.

Resident: But if enough residents identify it as a concern, then would you implement something?

City: Yes. Not exact science. Community feedback is definitely a factor.

Councillor Loewen: There's been a lot of attention in the media this past week on the neighbourhood traffic reviews. I'm looking forward to a Council discussion on revisions to the procedure.

Facilitator: Sounds like there wasn't consensus on the recommendations for Glasgow St. We may require an additional meeting to discuss the outstanding issues. This will likely take place in the next 2-3 months.

List of Representatives

Mitch Riabko, Kathy Dahl – Great Works Consulting, Facilitators
Jay Magus, Shirley Matt, Justine Nyen, Mariniel Flores, David LeBoutillier – City of Saskatoon,
Transportation & Utilities

Avalon Neighbourhood Traffic Review Meeting #3 – January 14, 2016

Attendees: Jay Magus

Time: 7:00 – 9:00 PM

Location: John Lake School

Meeting began at 7:00pm.

1. Can we get a transit stop lay-by for northbound bus traffic on Clarence Avenue across from Glasgow Avenue?
2. There is a 'used car lot' on that side of Clarence Avenue.
3. At the park on Glasgow Street, the issue remains how to cross road the safely.
4. At any new traffic calming measures the speed will be maintained up to the measures.
5. May be better to move the traffic calming measures closer to the beginning of the park.
6. Can we get a curb extension at McGilp View, Mendel Cres, and MacEachern Avenue as well?
7. At Clarence Avenue / Glasgow Street can we get a pedestrian light? – Jay responded that a device was not warranted in accordance with the City Policy and Guidelines on Pedestrian Crossings.
8. How wide will the pinch points be? Will a large truck and trailer be able to pass by? – Jay responded the pinch points will impede half the road, so yes a large truck will be able to pass.
9. Can we get a 30kph speed limit by the park all year round? – Jay responded that Calgary has a 30kph speed limit at parks and schools , 24 x 7 x 365. Jay noted that another neighbourhood may be bringing a petition to City Council requesting a 40kph speed limit, neighbourhood wide.
10. Wilson Crescent has 2 pedestrian devices between Preston Avenue and Clarence Avenue, why can't we have pedestrian devices on Glasgow Avenue?
11. A comment made that a 40kph speed limit is ridiculous, 30kph would work in a residential area.
12. Jay noted that he will revisit the intersection of Glasgow Street / Clarence Avenue for pedestrian safety.
13. Why can we not get a 4-way stop at Broadway Avenue / Glasgow Street? – Jay responded that installing a 4-way stop when it is not warranted may create a more unsafe condition, as drivers may be used to no opposing traffic and eventually disregard the 4-way stop.
14. Why can we not get a 3-way stop at Turner Avenue or Mendel Crescent? – Jay responded for the same reasons as he just stated.
15. Jay noted that the overall plan recommendations include moving the 50kph speed limit further south on Clarence Avenue and installing a speed reader board on Clarence Avenue.
16. It was noted that despite there not being enough pedestrian activity at Glasgow Street / Clarence Avenue someone is going to get hit first, so put a light in.
17. Jay noted that he will review the pedestrian crossing at Glasgow Street / Clarence Avenue intersection again and communicate with the Community Association and Council.
18. An individual noted they were against the pinch points but liked push button pedestrian lights such as 37th Street.
19. Why not speed bumps? – Jay noted that we do have two locations in the City where these have been installed, and the issues are noise complaints from area residents, and emergency and transit departments are not in favour.
20. At Glasgow Street / Clarence Avenue more visibility is required for pedestrians.

21. At pinch point #4, is there enough room if you are turning right (coming from Mendel)? – Jay noted that there will be enough room and as a driver entering the road it is your responsibility to enter only if it safe to do so.
22. It was suggested to move crosswalk #3, it solves one issue, but a neighbour will lose parking. (814 Glasgow Street). – Jay responded that he will review.
23. Can the City install traffic signals at the intersection of Glasgow Street / Clarence Avenue? – Jay responded that this would just increase traffic on Glasgow Street.
24. Jay noted that this presentation will be on-line, and the implementation plan will be included. Jay reiterated that data collection will be completed in May & September of 2016, and again in Spring of 2017.
25. It was suggested that the pinch points will impede traffic. Jay commented that it is a trade off between a longer travel time for local residents versus making the travel time long enough so short-cutting traffic is not attractive.
26. Why do we have to wait until September to move the speed limit signs? – Jay responded that it does take time to make changes as there is plan preparation, utility clearances, and then the 'Sign Shop' has to schedule it. – Jay responded that he will try complete this sooner.
27. It was suggested that Glasgow Street was not well represented at the October 29, 2015 meeting, and there was no other way to vote to close the left turns at Glasgow Street / Clarence Avenue. Would it be possible to vote again using Survey Monkey to survey the entire neighbourhood? – Jay responded that it would be difficult as there is no data base with everyone's e-mail address.
28. It would be better to have a pedestrian activated light at Glasgow Street / Clarence Avenue, at what point does safety take priority? – Jay reiterated again that he will revisit the issue.
29. The two lanes heading north on Clarence Avenue is acceptable, have you considered two lanes for the southbound traffic as well?
30. The proposed changes to Clarence Avenue will help a lot. If Glasgow Street at Clarence Avenue is closed traffic will simply divert to another route.
31. There is zero enforcement of speeding along Glasgow Street.
32. At Clarence Avenue / Glasgow Street, at 8am and 5pm vehicles sit waiting to turn left, and block the crosswalk. It was suggested that a sign 'Do Not Block Crosswalk' be installed further south as you approach the intersection.
33. At Clarence Avenue / Glasgow Street it was suggested to perhaps move the crosswalk north of the intersection. Or perhaps put in two crosswalks. – Jay noted that if a pedestrian crossing device is installed then it would only be installed on one side.
34. At Turner Avenue / Glasgow Street the crosswalk ends at a residential driveway. If the crosswalk is at Mendel Crescent only one parking stall is affected. It used to be there, and why did it move? – Jay responded that he will review why it was moved.
35. In the morning one resident uses Glasgow Street and Clarence Avenue to get to work in the morning, and in the evening uses Lorne and Ruth to get home.
36. The pinch points need to be visible, as the sun will blind some drivers. Strobe lights are needed at crosswalks.
37. The police are requested to do more enforcement.

38. A vote via show of hands was held: Proposal is 2 lanes for Clarence Avenue northbound.
 - a. 2 against
 - b. 43 for
39. A vote via show of hands was held: Proposal is installing the pinch points for a trial period.
 - a. 11 against
 - b. 31 for
40. Jay clarified the following:
 - a. He will revisit the intersection of Glasgow Street / Clarence Avenue for pedestrian accommodation
 - b. He will revisit the alignment of the intersection of Glasgow Street / Clarence Avenue (consider including a curb extension on the south side of the intersection)
 - c. There is support for 2 lanes southbound on Clarence Avenue
 - d. He will revisit additional bulbding at MacEachern Avenue.
 - e. There is support for the pinch points in a temporary condition as a trial project.
41. A resident noted the police informed him that there are only two police cars available for patrol on the east side of the river.
42. An issue at Glasgow Street / Clarence Avenue for pedestrians is that vehicles driving southbound intending to turn right onto Circle Drive change lanes in the middle of the intersection.
43. It was noted that there are 3-4 crosswalks along Glasgow Street. Will the data collection include pedestrian counts? – Jay responded that only the vehicle traffic would be counted.
44. Can the bus stop on Clarence Avenue be reshaped and a specific spot for the bus made?
45. A resident presented an option for Clarence Avenue that included removing the entire boulevard, developing a protected lane in front of the houses on Clarence Avenue between Glasgow Street and Wilson Crescent, developing 3 lanes southbound and 2 northbound. He noted he gave this design to the City 10 years ago, and also presented to City Council on the design. – Jay responded that he had received a copy of the proposal and had prepared review comments that he would provide with the resident post meeting. Jay also noted that the focus of the neighbourhood traffic reviews are local streets in neighbourhoods not arterials.
46. Jay noted that there is a process in place to assess major intersections as well as corridors that is different than the neighbourhood traffic reviews. Jay noted that currently this segment of Clarence Avenue is not on the radar for assessment and review.
47. There is difficulty entering Clarence Avenue from Glasgow Street as the southbound traffic on Clarence Avenue changes lanes in the middle of the intersection in their preparation to turn right and enter Circle Drive.
48. Over the past five years traffic has been increasing on Clarence Avenue. Do you have recent counts for Clarence Avenue? – Jay noted that he will provide this information.
49. I was not able to attend the October 29th meeting. How was the voting done regarding the Glasgow Street / Clarence Avenue intersection at the October 29th meeting? I have small children, I live on Glasgow Street, and I want to slow traffic down. Why didn't we close it off? – Jay noted that at the October 29th meeting everyone broke up into small groups to discuss the proposed

recommendations. After the small group sessions are complete the City Staff quickly meet to discuss any major topics. Of course at this meeting the potential partial closure of Glasgow Street at Clarence Avenue was a major topic. Each City Staff noted that there was lack of support for the proposed closure at the table. Each City Staff then 'reported back' to the larger group on what their table had said. There was no show of hands taken with the larger group as it was clear to City Staff that the proposed partial closure was not supported.

50. A vote via show of hands was held: Proposal is no left turns at the Glasgow Street / Clarence Avenue intersection (restricting the turns and reducing traffic on Glasgow Street):
 - a. 24 against
 - b. 18 for
51. Councillor Loewen noted that the pinch points on Glasgow Street would be temporary in nature and an evaluation would occur. She considers the traffic calming a live issue
52. Used to use Wilson Crescent to access Clarence Avenue but the traffic signal cycle is too long, so I now use Broadway Avenue and Ruth Street.
53. Convenience should be balanced against safety.
54. I was against the partial closure of Glasgow Street at Clarence Avenue because there was no second lane extension of Clarence Avenue.
55. What is Glasgow classified as? – Jay responded that it is classified as a local road.
56. Jay was asked for comments on the proposed redesign of Clarence Avenue that would remove the boulevard, etc. – Jay responded that the justification would need to be proven through traffic analysis and collision analysis. The City now has a process to do this outside of the neighbourhood traffic reviews through the major intersection reviews.
57. If Glasgow Street is a local road why can't we have alternating Stop and Yield signs? – Jay responded that he would review this.
58. Has the High Collision sign, or Red Light Camera at 51st Street / Warman Road improved the safety? – Jay responded that he did not have the stats in front of him, but typically you would see a reduction in right-angle collisions and maybe an increase in rear-end collisions. As right-angle collisions cause more injuries and more serious injuries to drivers, there is benefit gained by lowering these types of accidents.
59. Is it possible to install a photo radar camera along Glasgow Street? – Jay responded that this is a 2 year pilot project sponsored by SGI. At the end of the 2 year pilot project the City can decide how to proceed.

Meeting adjourned at 9:00pm.

APPENDIX B: TRAFFIC DATA COLLECTION

AVALON TRAFFIC DATA



LEGEND

3 AVERAGE NUMBER OF COLLISIONS PER YEAR (2009-2013)

TRAFFIC MOVEMENT COUNT

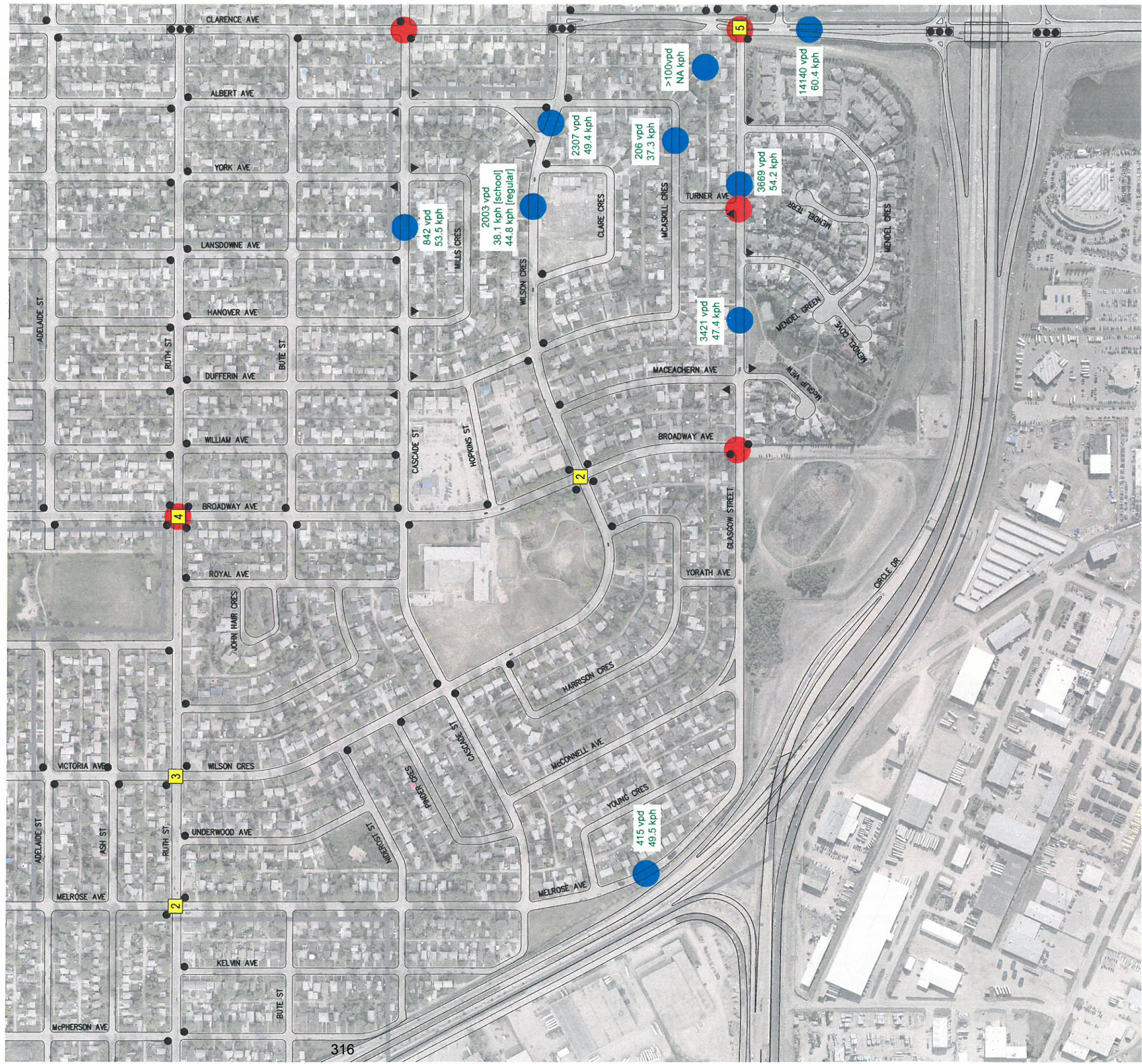
SPEED STUDY

786 vpd — NUMBER OF VEHICLES PER DAY
47.2 kph — 85th PERCENTILE SPEED

EXISTING STOP SIGN

EXISTING YIELD SIGN

EXISTING TRAFFIC SIGNAL



APPENDIX C: ALL-WAY STOP ASSESSMENTS

All-way Stop Assessment (Policy C07-007 – Traffic Control – Use of Stop & Yield Signs)

Step 1:

The following conditions must be met for all-way stop control to be considered:

i) The combined volume of traffic entering the intersection over the five peak hour periods from the minor street must be at least 25% of the total volume for a three-way stop control, and at least 35% of the total volume for a four-way stop control.

ii) There can be no all-way stop control and traffic signal within 200 metres of the proposed intersection being considered for all-way stop control on either of the intersecting streets.

Location	Condition 1: % of Traffic from minor street	Condition 2: Traffic Signals or all-way stop within 200m	All-Way Stop Warrant
Glasgow Street & Broadway Avenue	40% - Condition met	No – Condition met	Conditions met. Continue to Step 2
Glasgow Street & Turner Avenue	5% - Condition NOT met	No – Condition met	Conditions NOT met.

Provided the above criteria are met, the following conditions, singly or in combination, may warrant the installation of all-way stop signs:

i) 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.

ii) When the total number of vehicles entering the intersection from all approaches averages at least 600 per hour for the peak hour or the total intersection entering volume exceeds 6,000 vehicles per day.

iii) The average delay per vehicle to the minor street traffic must be 30 seconds or greater during the peak hour.

iv) As an interim measure to control traffic while arrangements are being made for the installation of traffic signals.

Location	Criteria 1: 5 or more collisions in most recent 12 months	Criteria 2: total number of vehicles entering the intersection from all approaches averages at least 600 per hour for the peak hour	Criteria 3: total intersection entering volume exceeds 6,000 vehicles per day	Results
Glasgow Street & Broadway Avenue	0 – Condition NOT met	327 – Condition NOT met	3,360 – Condition NOT met	Four-way stop NOT warranted.

APPENDIX D: PEDESTRIAN DEVICE ASSESSMENTS

Appendix D: Pedestrian Actuated Signal Warrant

Glasgow Street & Broadway Avenue:

Location & Roadway Classification: Broadway & Glasgow
 Date of Count: Day of wk: Tues Mth, Day, Yr: Jun 2/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: none
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 1,000 m
 Location: none
 Type: _____
 Is the orientation of this crosswalk(s) N-S? y (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	14	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	704	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	30		
Vehicles passing through crosswalk(s):	1,178				

ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

****Install device at the East Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	8	14	19	1	3								
8:15	12	12	16	2									
8:30	8	22	32	1									
8:45	6	22	31										
9:00													
9:15													
9:30													
9:45													
AM Totals	34	70	98	4	3								
11:30	5	15	26	5	2								
11:45	5	13	27	4									
12:00	2	23	23	4									
12:15	8	20	18										1
12:30	8	17	23	9									1
12:45	4	19	27										
13:00	5	11	20	1									1
13:15	2	21	18	2									
Noon Totals	39	139	182	25	2								3
14:00													
14:15													
14:30													
14:45													
15:00	3	22	18	5	1								
15:15	5	17	43	2									
15:30	7	26	30	3									
15:45	4	36	37	2									1
16:00	15	26	27	5									
16:15	10	24	41	3	1								1
16:30	8	29	54	7									2
16:45	3	30	42	3									
17:00													
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20:15													
20:30													
20:45													
PM Totals	55	210	292	30	2								4
Totals	128	419	572	59	7								7
West Crosswalk =									7	East Crosswalk =			7

Glasgow Street & Turner Avenue:

Location & Roadway Classification: Glasgow & Turner
 Date of Count: Day of wk: Wed Mth, Day, Yr: June 3/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: standard
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 1,000 m
 Location: none
 Type: _____
 Is the orientation of this crosswalk(s) N-S? y (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	11	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	696	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	30		
Vehicles passing through crosswalk(s):	1,487				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the East Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	5	13		24									
8:15	4	32		34									
8:30	4	37		30	1								
8:45	2	34		29									
9:00													
9:15													
9:30													
9:45													
AM Totals	15	116		117	1								
11:30	2	35		26									
11:45	5	33		21									
12:00	1	45		32									
12:15	1	37		26									
12:30	3	34		30	1								
12:45	4	29		34									1
13:00	1	31		20									
13:15	2	24		20									
Noon Totals	19	268		209	1								1
14:00													
14:15													
14:30													
14:45													
15:00	3	50		34	2								2
15:15	11	43		33									
15:30	5	44		36									2
15:45	7	55		49									
16:00	1	41		32									1
16:15	7	58		32									
16:30	4	67		41									
16:45	3	54		33	1								
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	41	412		290	3								5
Totals	75	796		616	5								6
West Crosswalk =									5	East Crosswalk =			6

Clarence Avenue & Glasgow Street:

Location & Roadway Classification: Clarence & Glasgow
 Date of Count: Day of wk: Tues Mth, Day, Yr: June 2/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: zebra
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 3 lanes

Is there a physical median in this crosswalk(s)? y (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 250 m
 Location: Wilson Cres
 Type: TS

Is the orientation of this crosswalk(s) N-S? n (y or n)

Duration of pedestrian count 5 hrs

Elementary:		Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	3,878	at	
Adult:	21	Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	31		
Vehicles passing through crosswalk(s):	8,254				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the South Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	167		157	41									
8:15	190		173	41									
8:30	164		225	34									
8:45	164		186	39									
9:00													
9:15													
9:30													
9:45													
AM Totals	685		741	155									
11:30	116		182	31						1			
11:45	119		171	28									
12:00	159		179	32									
12:15	131		178	29									
12:30	130		167	35						1			
12:45	151		172	34						1			
13:00	142		157	23									
13:15	151		149	26			1						
Noon Totals	1,099		1,355	238						3			
14:00													
14:15													
14:30													
14:45													
15:00	159		207	33						1			
15:15	176		261	38						2			
15:30	211		212	32						1			
15:45	167		283	47						3			
16:00	161		317	44						3			
16:15	175		312	38									
16:30	163		361	33						2			
16:45	173		342	36						5			
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	1,385		2,295	301						17			
Totals	3,169		4,391	694			1			20			
North Crosswalk =								1	South Crosswalk =				20

Clarence Avenue & Cascade Street:

Location & Roadway Classification: Clarence Ave & Cascade St - arterial & local
 Date of Count: Day of wk: Wed-Thurs Mth, Day, Yr: Oct 28-29/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: zebra
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes

Is there a physical median in this crosswalk(s)? n (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 210 m
 Location: Wilson Cres
 Type: TS

Is the orientation of this crosswalk(s) N-S? n (y or n)

Duration of pedestrian count 5 hrs

Elementary:	13	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	3,560	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	21		
Vehicles passing through crosswalk(s):	5,136				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the South Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	100	1	102	10									
8:15	123	1	113	11									2
8:30	118		144	9									1
8:45	123		116	14									
9:00													
9:15													
9:30													
9:45													
AM Totals	464	2	475	44									3
11:30	82	1	132	7									1
11:45	98		102	5									
12:00	119	1	121	12									
12:15	107	1	103	9									
12:30	111	1	112	13									
12:45	94		111	16									1
13:00	99		95	13									
13:15	105		93	7									
Noon Totals	815	4	869	82									2
14:00													
14:15													
14:30													
14:45													
15:00	99		128	14									
15:15	112	1	156	8									
15:30	169		134	4									1
15:45	132	1	137	19									1
16:00	145		145	7									1
16:15	128		124	6									
16:30	167	1	154	17									
16:45	178	2	182	11									5
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	1,130	5	1,160	86									8
Totals	2,409	11	2,504	212									13
					North Crosswalk =				South Crosswalk =				13

Appendix D: Pedestrian Corridor Warrant

Glasgow Street & Broadway Avenue:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts						P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods	
			Total Both Sides				Factored Counts					
	15 min.	30 min.	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.			
7:00												
7:15												
7:30												
7:45												
8:00	42	42	3				3	3	3	126		
8:15	42	84							3	252		
8:30	63	105										
8:45	59	122										
9:00		59										
9:15												
9:30												
9:45												
AM Totals	206		3				3					
11:30	51		2				2	2				
11:45	49	100							2	200		
12:00	52	101										
12:15	46	98	1				1	1	1	98		
12:30	57	103	1				1	1	2	206		
12:45	50	107							1	107		
13:00	37	87	1				1	1	1	87		
13:15	43	80							1	80		
Noon Totals	385		5				5					
14:00												
14:15												
14:30												
14:45												
15:00	48	48	1				1	1	1	48		
15:15	67	115							1	115		
15:30	66	133										
15:45	79	145	1				1	1	1	145		
16:00	73	152							1	152		
16:15	78	151	2				2	2	2	302		
16:30	98	176	2				2	2	4	704		
16:45	78	176							2	352		
17:00		78										
17:15												
17:30												
17:45												
18:00												
18:15												
18:30												
18:45												
19:00												
19:15												
19:30												
19:45												
20:00												
20:15												
20:30												
20:45												
PM Totals	587		6				6					
Totals	1,178		14				14					
			100%				100%					
			West Crosswalk =				7					
			East Crosswalk =				7					

SUMMARY

Total Warranted PC Points: or / period
 Highest PC point value: 704 at
 Average PC point value: 198
 No. of periods warranted:

Glasgow Street & Turner Avenue

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts					Factored Counts		P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods
			Total Both Sides									
	15 min.	30 min.	Child	Teen	Adult	Senior/ Impaired	Total	15 min.	30 min.			
7:00												
7:15												
7:30												
7:45												
8:00	42	42										
8:15	70	112										
8:30	71	141	1				1	1	1	141		
8:45	65	136							1	136		
9:00		65										
9:15												
9:30												
9:45												
AM Totals	248		1				1					
11:30	63											
11:45	59	122										
12:00	78	137										
12:15	64	142										
12:30	67	131	1				1	1	1	131		
12:45	67	134	1				1	1	2	268		
13:00	52	119							1	119		
13:15	46	98										
Noon Totals	496		2				2					
14:00												
14:15												
14:30												
14:45												
15:00	87	87	4				4	4	4	348		
15:15	87	174							4	696		
15:30	85	172	2				2	2	2	344		
15:45	111	196							2	392		
16:00	74	185	1				1	1	1	185		
16:15	97	171							1	171		
16:30	112	209										
16:45	90	202	1				1	1	1	202		
17:00		90							1	90		
17:15												
17:30												
17:45												
18:00												
18:15												
18:30												
18:45												
19:00												
19:15												
19:30												
19:45												
20:00												
20:15												
20:30												
20:45												
PM Totals	743		8				8					
Totals	1,487		11				11					
			100%				100%					
			West Crosswalk =				5					
			East Crosswalk =				6					

<<< install crosswalk on this side of the int.

SUMMARY

Total Warranted PC Points: or / period
 Highest PC point value: 696 at
 Average PC point value: 215
 No. of periods warranted:

Clarence Avenue & Glasgow Street:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts						P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods
			Total Both Sides				Factored Counts				
	15 min.	30 min.	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.		
7:00											
7:15											
7:30											
7:45											
8:00	365	365									
8:15	404	769									
8:30	423	827									
8:45	389	812									
9:00		389									
9:15											
9:30											
9:45											
AM Totals	1,581										
11:30	329				1	1	0.5				
11:45	318	647						0.5	324		
12:00	370	688									
12:15	338	708									
12:30	332	670			1	1	0.5	0.5	335		
12:45	357	689			1	1	0.5	1	689		
13:00	322	679						0.5	340		
13:15	326	648			1	1	0.5	0.5	324		
Noon Totals	2,692				4	4					
14:00											
14:15											
14:30											
14:45											
15:00	399	399			1	1	0.5	0.5	200		
15:15	475	874			2	2	1	1.5	1,311		
15:30	455	930			1	1	0.5	1.5	1,395		
15:45	497	952			3	3	1.5	2	1,904		
16:00	522	1,019			3	3	1.5	3	3,057		
16:15	525	1,047						1.5	1,571		
16:30	557	1,082			2	2	1	1	1,082		
16:45	551	1,108			5	5	2.5	3.5	3,878		
17:00		551						2.5	1,378		
17:15											
17:30											
17:45											
18:00											
18:15											
18:30											
18:45											
19:00											
19:15											
19:30											
19:45											
20:00											
20:15											
20:30											
20:45											
PM Totals	3,981				17	17					
Totals	8,254				21	21					
					100%	100%					
					North Crosswalk =	1					
					South Crosswalk =	20					

<<< install crosswalk on this side of the int.

SUMMARY

Total Warranted PC Points: or / period
 Highest PC point value: 3,878 at
 Average PC point value: 1,186
 No. of periods warranted:

APPENDIX E: COLLISION ANALYSIS

Street 1	Street 2	Ugrid	All collisions (2009-2013)	All collisions - 2013	Right Angle, Left Turn & Right Turn only	Right Angle, Left Turn & Right Turn only - 2013	Average (2009-2013)
Clarence Avenue	Glasgow Street (north&south)	J12-19/100	23	5	9	3	5
Ruth Street	Broadway Avenue	H11-24	22	7	11	4	4
Ruth Street	Wilson Crescent	G11-4	14	3	12	3	3
Ruth Street	Melrose Avenue	G11-12	11	2	5	0	2
Wilson Crescent	Broadway Avenue	H12-7	10	2	9	2	2
Ruth Street	Lansdowne Avenue	H11-8	6	1	3	0	1
Clarence Avenue	Cascade Street	J12-23	6	1	1	0	1
Cascade Street	Dufferin Avenue	H12-18	5	1	5	1	1
Ruth Street	Dufferin Avenue	H11-16	4	1	2	1	1
Cascade Street	Broadway Avenue	H12-9	4	0	2	0	1
Broadway Avenue	Glasgow Street	H12-29	4	1	1	0	1
Cascade Street	Albert Avenue	H12-1	3	0	2	0	1
Melrose Avenue	Young Crescent (north)	G12-6	3	0	0	0	1
Wilson Crescent	Harrison Crescent (west)	G12-1	3	0	0	0	1
Broadway Avenue	Hopkins Street	H12-59	3	0	0	0	1
Lansdowne Avenue	Bute Street	H12-41	2	0	2	0	0
York Avenue	Bute Street	H12-4	2	0	2	0	0
Ruth Street	William Avenue	H11-19	2	0	2	0	0
Ruth Street	Albert Avenue	H11-1	2	1	2	1	0
Melrose Avenue	Niderost Street	G12-8	2	0	1	0	0
Glasgow Street	Turner Avenue	H12-83	2	0	1	0	0
Albert Avenue	Bute Street	H12-2	2	0	1	0	0
Ruth Street	McPherson Avenue	G11-18	2	1	1	0	0
Wilson Crescent	Cascade Street	G12-2	2	0	1	0	0
Glasgow Street	MacEachern Avenue	H12-81	2	1	0	0	0
Glasgow Street	Mendel Crescent (east)	H12-84	2	1	0	0	0
Ruth Street	Kelvin Avenue	G11-79	2	0	0	0	0
Ruth Street	Norman Crescent	G11-83	2	1	0	0	0
Ruth Street	York Avenue	H11-4	2	0	0	0	0
Wilson Crescent	MacEachern Avenue	H12-33	2	0	0	0	0
Dufferin Avenue	Bute Street	H12-27	1	0	1	0	0
Kelvin Avenue	Bute Street	G12-28	1	0	0	0	0
Kelvin Avenue	Niderost Street	G12-26	1	0	0	0	0
Melrose Avenue	Bute Street	G12-40	1	0	0	0	0
Melrose Avenue	Young Crescent (south)	G12-67	1	1	0	0	0
Glasgow Street	Mendel Crescent (west)	H12-82	1	0	0	0	0
Turner Avenue	McAskill Crescent	H12-74	1	0	0	0	0
Albert Avenue	Albert Avenue	H12-66	1	0	0	0	0
Ruth Street	Royal Avenue	H11-33	1	1	0	0	0
Wilson Crescent	Albert Avenue	H12-38	1	0	0	0	0
Wilson Crescent	Clare Crescent (east)	H12-51	1	1	0	0	0
Wilson Crescent	Niderost Street	G12-3	1	0	0	0	0
Cascade Street	William Avenue	H12-5	1	0	0	0	0
Cascade Street	Hanover Avenue	H12-63	1	0	0	0	0
Clarence Avenue	Bute Street	J12-24	1	0	0	0	0

APPENDIX F: MARCH 2016 MEMORANDUM – 3RD PUBLIC MEETING OUTCOME

Date: March 13, 2016
File: n/a

To: Avalon Community Association
Councillor M. Loewen

From: Jay Magus, P.Eng., Engineering Manager, Transportation
Justine Nyen, P.Eng., Transportation Engineer

Re: Avalon Neighbourhood Traffic Review Follow Up

Background

On January 14, 2016 the City of Saskatoon Transportation division (Transportation) met with the residents of Avalon in a third public meeting of the Neighbourhood Traffic Review (NTR) process. Typically the NTR process includes two public meetings, but occasionally a third public meeting is required to revisit and discuss outstanding traffic and pedestrian safety issues remaining from the second public meeting. In this case, there were two outstanding issues left unresolved, including:

1. Traffic calming on Glasgow Street, and
2. Geometric changes to Clarence Avenue.

Transportation is in the process of finalizing the Avalon NTR technical report and the required accompanying formal council report. The intent is for the Standing Policy of Transportation Committee (SPCT) of Council to receive these reports at their meeting on April 11, 2016 at 9am. It is expected that the report will then proceed to City Council at their meeting on April 25th for discussion and approval. For clarity, final approval of the NTR lies with City Council. If this process is delayed for whatever reason, at a minimum the approval process will be extended one month as the SPCT and Council meetings occur once a month.

The purpose of this memorandum is provide the residents and area councillor the outcome of the third public meeting by indicating the proposed recommendations that will be provided by Transportation for the two specific issues described above. Also, information will be provided in response to other issues raised at the January 14, 2016 public meeting.

Recommendations – Speeding and Shortcutting

In general terms the residents of Avalon were unsatisfied at the proposed traffic calming measures to address speeding and short-cutting along Glasgow Street at the second NTR public meeting held on October 29, 2015. A recommendation by Transportation at this meeting was to not allow northbound left turns from Clarence Avenue to Glasgow Street, nor allow eastbound left turns from Glasgow Street to Clarence Avenue. This would significantly reduce short-cutting, however this proposal did not receive support, and accordingly Transportation agreed to revisit this issue. As a result of the discussion at the third public meeting, the following recommendations to address speeding and shortcutting will be included in the Avalon NTR provided to Council for their consideration.

Table 1: Speeding and Shortcutting Proposed Recommendations

Location	Recommended Improvement	Justification
Glasgow Street & MacEachern Avenue	Curb extensions (northeast & southeast corners)	Reduce speed at pedestrian crossing near park
Glasgow Street between MacEachern Avenue & Mendel Crescent (across from 711 Glasgow Street)	Pinch point (eastbound yields)	Reduce speed & discourage shortcutting traffic
Glasgow Street & Turner Avenue	Median island (east side) & curb extension (northeast corner)	Reduce speed at pedestrian crossing
Glasgow Street between Clarence Avenue & Mendel Crescent (in front of 917 & 919 Glasgow Street)	Pinch point (westbound yields)	Reduce speed & discourage shortcutting traffic
Glasgow Street west of Clarence Avenue	"Traffic-Calmed Neighbourhood" sign (facing westbound)	Discourage shortcutting traffic
Clarence Avenue between Circle Drive overpass & Glasgow Street	Speed display board (facing northbound traffic)	Reduce speed (based on approval of the Adelaide-Churchill Neighbourhood Traffic Plan)
Clarence Avenue between Glasgow Street & the south side of Circle Drive overpass	Reduce 60kph speed limit to 50kph	Reduce speed (based on approval of the Adelaide-Churchill Neighbourhood Traffic Plan)

Of note in the above table is the inclusion of pinch points. A pinch point is a physical restriction, typically curbing, that forces drivers in one direction to yield to oncoming traffic prior to passing around the physical restriction. The intent is to slow traffic and to also make the route less attractive to short-cutting traffic. This traffic calming measure is

included in the Saskatoon Neighbourhood Traffic Calming Guidelines, and is also physically installed at one location on Saskatchewan Crescent beneath the Senator Sid Buckwold Bridge as depicted in **Exhibit 1** below.



Exhibit 1: Looking West beneath the Senator Sid Buckwold Bridge

The implementation plan for the pinch points is as follows:

1. May – Data collection on Glasgow & Wilson, speed and daily traffic
2. June – Install curb extensions, pinch points, and signage (temporary condition)
3. September and Spring 2017 – Data collection on Glasgow & Wilson, speed and daily traffic
4. Spring 2017 – Effectiveness review
5. Summer 2017 – Consult with neighbourhood
6. Summer 2018 – Request funding for permanent construction if found to be effective

The above implementation plan is contingent on Council approval in April of 2016 to proceed with the temporary installation, and subsequent Council approval to make restrictions permanent if deemed effective.

Recommendations – Pedestrian Safety

At the second NTR public meeting on October 29, 2016 the residents also requested that Transportation revisit some of the pedestrian safety recommendations. As a result of the discussion at the third public meeting, the following recommendations to address pedestrian safety will be included in the Avalon NTR provided to Council for their consideration.

Table 2: Pedestrian Safety Proposed Recommendations

Location	Recommended Improvement	Justification
Glasgow Street & MacEachern Avenue	Zebra crosswalk (east side)	Improve pedestrian safety near park
Glasgow Street & Mendel Crescent	Zebra crosswalk (west side)	Improve pedestrian safety near park
Glasgow Street & Turner Avenue	Zebra crosswalk (west side)	Improve pedestrian safety
Clarence Avenue & Glasgow Street	Move bus stop on southeast corner a few metres south	Improve pedestrian safety by enhancing crosswalk visibility (based on approval of the Adelaide-Churchill Neighbourhood Traffic Plan)
Clarence Avenue & Glasgow Street	Sidewalk on southwest corner (up to bus stop)	Improve pedestrian safety & connectivity (based on approval of the Adelaide-Churchill Neighbourhood Traffic Plan)

Recommendations – Clarence Avenue

As a result of not proceeding with restricting left-turns at the intersection of Clarence Avenue and Glasgow Street the residents asked Transportation to review the feasibility of providing two lanes northbound on Clarence Avenue between the Circle Drive South interchange and Wilson Crescent. Currently there are two northbound lanes between the Circle Drive South interchange and Glasgow Street, with the west northbound lane being a forced drop via a ‘must turn left’ lane. The inclusion of this dedicated left-turn lane only promotes the left onto Glasgow Street as it may be difficult to merge right and continue north on Clarence Avenue. By providing two lanes northbound it is expected that the impetus to turn left will be reduced. Also, it should be noted that if two lanes are provided northbound, it will still be possible to turn left onto Glasgow Street, however this turn will not be from a left-turn only lane. This would have potentially increased the possibility of rear-end collisions, however, this risk is mitigated by the lowering of the speed limit from 60kph to 50kph, as well as the inclusion of a speed display board. The proposed change to Clarence Avenue is illustrated in **Exhibit 2**.



Exhibit 2: Proposed change to Clarence Avenue

The implementation plan for the proposed changes to Clarence Avenue is as follows:

1. May – Staff begin 2017 budget planning
2. August – Install speed reader board
3. September – Move 50kph zone further south
4. December – 2017 Budget Council Meeting to approve funding for changes
5. Winter / Spring (2017) – Detailed design & retain contractor (subject to funding approval)
6. Summer (2017) – Complete geometric changes (subject to funding approval)

The above implementation plan is contingent on Council approval in April of 2016 of the NTR, and subsequent Council approvals for funding.

Not Recommended

At the third public meeting on January 14, 2016 there were several issues raised by residents that Transportation is not providing a recommendation to address. These issues and justification to leave as is are provided in **Table 3**.

Table 3: Issue Discussion

Location	Concern	Recommendation
Clarence Avenue & Glasgow Street	Can we get a Transit stop lay-by for northbound across from Glasgow Street? Or can the bus stop be reshaped and a specific spot be made?	Widening to two lanes will allow passing lane. No further recommendations.
Clarence Avenue & Glasgow Street	Pedestrian safety remains a concern. Request pedestrian activated device despite it not meeting warrant criteria. Or what other safety improvements can be made? Visibility improvements required. Re-visit alignment (consideration for curb extension on south side). Issues with drivers coming southbound intending to turn right onto Circle Drive and changing lanes in the middle of the intersection. Visibility improvements required.	Traffic calming devices such as curb extensions are not recommended on arterial roadways, as these roadways are designed to carry large traffic volumes. The pedestrian warrant was re-visited and pedestrian volumes do not support the installation of a pedestrian activated device. However, the intersection will be re-evaluated after the changes on Clarence Avenue (i.e. added through lane northbound) are implemented.
Clarence Avenue & Glasgow Street	At 8am & 5pm vehicles sit waiting to turn left, and block the crosswalk. Install a "Do Not Block Crosswalk" sign further south as you approach to intersection.	Visual clutter caused by too many signs at or near the intersection was identified as a concern. The sign will be included in the overall intersection signage review and installed if deemed necessary. Furthermore, the added northbound through lane should improve congestion at the intersection. Recommendation will be changed accordingly.
Along Glasgow Street	There is zero enforcement on Glasgow Street	Peak hour data will be shared with Saskatoon Police Service to consider enforcement when spring speed studies are completed.
Along Glasgow Street	Why can't we have alternating stop & yield signs?	As per Council Policy C07-007, stop or yield signs are not to be used as a speed control device & not to face to the higher volume roadway. Doing so may cause increased safety risks (i.e. drivers rolling through unwarranted stop/yields)
Broadway Avenue & Glasgow Street	Install a four-way stop	Four-way stop study was reviewed and warrant criteria was not met. However, the traffic volumes were higher on Broadway Avenue. As per Council Policy C07-007, Use of Traffic Controls, stop signs are not to be used to stop priority traffic over minor traffic. Therefore the two-way stop facing Broadway Avenue will be reoriented to face Glasgow Street. This will be added to the final recommendations.

Closing

Please do not hesitate to contact Jay Magus at 306-975-3171 or jay.magus@saskatoon.ca for any feedback or questions you may have.

APPENDIX G: DECISION MATRIX

Decision Matrix – Recommendations proposed at October 29, 2015 meeting

Item	Location	Recommendation	Reason	Justine's Group	Mariniel's Group	Shirley's Group	Dave's Group	Jay's Group	Decision
1	Various locations	Yield signs at all uncontrolled intersections	Improve safety and enhance driver compliance at uncontrolled intersections	Yields signs should face traffic at William Avenue & Bute Street. Also issues with speeding on Albert Avenue as is, so yield signs should face north-south in that section (ie. Albert Avenue & Bute Street)	6 No, 4 Neutral			In support. Also consider alternating on Cascade Street	Carried. Cascade Street already has signs, therefore will remain as is. Majority of groups showed support. Ensure yield signs are facing north-south at William Avenue/Bute Street & Albert Avenue/Bute Street
2	Glasgow Street & MacEachern Avenue	Zebra crosswalk	Improve pedestrian safety		Already a zebra crosswalk there; speed bumps or little rumble strips instead on Glasgow Street	Should also have traffic calming.	Needs more. Curb extensions to slow speeds. It's a path to a park.		Carried.
3	Glasgow Street & Turner Avenue	Zebra crosswalk, curb extension and median island	Improve pedestrian safety & reduce speed		Yes. Also install speed bumps/rumble strips	Depends on Glasgow Street/Clarence Avenue. Perhaps remove median island.		There may not be room due to driveways; check crosswalk going into driveway	Carried. Crosswalk will remain in same location (90 degrees, going into driveway) as per City of Saskatoon standard.
4	Glasgow Street & Clarence Avenue	Move bus stop a few metres south to allow vehicle clearance in left lane	Improve traffic flow		Yes. Maybe a bus bay			Consider relocating crosswalk as it is in the middle of the left turning storage lane.	Carried. Should be noted that existing location is very close to pedestrian crosswalk and therefore should be moved to improve visibility of pedestrians using the crosswalk also.
5	Glasgow Street & Clarence Avenue (southwest corner on Clarence Avenue)	Install sidewalk up to bus stop	Improve pedestrian safety & connectivity						Carried.
6	Glasgow Street & Clarence Avenue	Median closure (restrict left-turns)	Reduce traffic volumes (ie. shortcutting) on Glasgow Street	Will re-route traffic onto Wilson Crescent by school; understand the cause of the shortcutting onto Glasgow Street - drivers get "stuck" in left lane, avoiding school zones on Clarence Avenue, congestion caused by funnelling into one lane, bus stop also causes backlog; icy conditions coming down hill on Clarence Avenue from overpass; Solutions - continue 2 through lanes northbound on Clarence Avenue to Wilson Crescent, remove school zone on Clarence to improve traffic flow	Not in support. 7 in support of 2 lanes on Clarence Avenue, 3 not.	9 not in support. 2 in support.	not in support right now; need to take time to understand; concerned that Turner Avenue becomes more important if Clarence Avenue northbound left-turn closes. Maybe close Turner Avenue; re-think Glasgow Street as collector with bulbing and so on (half of group was in support); continue 2 lanes on Clarence Avenue to Wilson Crescent; try bulbing and steps along Glasgow Street first, watch Turner Avenue & then maybe consider closure.	Not in support. 8 against, 3 for. Suggestions include providing 2 lanes on Clarence Avenue until Wilson Crescent, looking at other ways to make Glasgow Street less attractive to drivers.	Removed. Revisions needed.

7	Glasgow Street & Clarence Avenue	Curb extension on southwest corner (Clarence Avenue)	Improve pedestrian safety	Turning right will be difficult; perhaps move the curb extension to the north side	Not in support. Move crosswalk to north leg instead.	5 not in support. 4 in support. Median island on northeast corner due to right turns from Glasgow Street	Not sure if this will work.	Not in support. Suggest moving to northwest corner instead.	Removed. Revisions needed.
8	Glasgow Street & Clarence Avenue	Remove or eliminate unnecessary signs	Reduce visual clutter					In support. Consider removing school zone.	Carried.
9	Back lane between Clarence Avenue & McAskill Crescent	20kph speed signs	Reduce speed in back lane						Carried.
10	Clarence Avenue near Wilson Crescent	Install additional school zone signs	Ensure driver awareness of school zone	Not doing 30kph speed limit		In support. Add sign on median.			Carried. School zone signs will be added on signal overheads at Wilson Crescent.
11	Clarence Avenue between Circle Drive overpass & Glasgow Street	Speed display board (facing northbound traffic)	Reduce speed		Install permanent		Some observations that speed display boards encourage speeding.		Carried.
12	Wilson Crescent (school zone)	Speed enforcement during school hours	Reduce speed during school hours; improve pedestrian safety			In support. Extend zone to Clarence Avenue	Portable photo radar. Move one around.		Carried.
13	Wilson Crescent (west of Broadway Avenue)	Install sidewalk on north side beside John Lake Park	Improve pedestrian safety & connectivity						Carried.
14	Ruth Street & Wilson Crescent	Add hazard boards to stop signs	Enhance visibility of stop signs & driver compliance		Four-way stop after bridge is built	Maybe add flashing light			Removed. Hazard boards already installed.
15	Clarence Avenue - Glasgow Street to City Limits (south of Cartwright Street)	Reduce 60kph speed limit to 50kph (section south of Circle Drive overpass will be based on approval from Stonebridge)	Reduce speed			In support. 5 in support of 50kph to Circle Drive overpass, 5 in support of 50kph all the way to Cartwright Street			Changed to extend only to south side of Circle Drive overpass. Remainder of Clarence Avenue speed limit (between overpass and south city limits) will be reviewed during Stonebridge Neighbourhood Traffic Review in 2016. Also included in Avalon plan.

Decision Matrix – Additional Issues raised at October 29, 2015 meeting

Item	Location	Concern	Recommendation
1	Clarence Avenue & Cascade Street	Pedestrian Safety; better signage to improve pedestrian safety or curb extension	Pedestrian study indicated devices not warranted. Traffic calming devices are not recommended on arterial roadways. No further recommendations.
2	Cascade Street	Speeding; needs maintenance	Speed study indicated 54.0kph therefore peak hour data will be sent to Saskatoon Police Service to consider enforcement; forward comments to Roadway Preservation coordinator for further consideration
3	Near parks	Implement 30kph speed limit	Comments will be documented as part of city wide review
4	Broadway Avenue & Wilson Crescent	Add hazard boards	There are already hazard boards installed
5	Wilson Crescent & Clarence Avenue	adjust signals timing to make all directions equal priority	Comments will be documented as part of major intersection reviews.
6	Victoria Avenue	Dedicated bike/pedestrian route all the way to River Landing	Comments will be documented as part of the Active Transportation Plan.
7	Clarence Avenue	Dedicated bike/pedestrian route all the way to River Landing	Comments will be documented as part of the Active Transportation Plan.
8	Cascade Street & Dufferin Avenue	look at yield signs	Site check determined trees were trimmed.

Issues to be addressed at Follow-Up Meeting

Item	Location	Concern
1	Clarence Avenue	Remove school zone because it's causing congestion & shortcutting onto Glasgow St
2	Glasgow Street & Clarence Avenue	Drivers turning left onto Clarence are blocking curb lane so drivers can't turn right. Install pavement markings to mark the lanes allowing driver's to pass on the right.
3	Glasgow Street & Clarence Avenue	Drivers stopping on crosswalk. Install "Do Not Block Crosswalk" sign.
4	Glasgow Street & Clarence Avenue	Install traffic signals
5	Broadway Avenue & Glasgow Street	Alter direction of stop signs or four-way stop
6	Glasgow Street west of Broadway Avenue	Directional closure (McConnell Ave maybe)
7	Glasgow Street	install yield signs (facing east-west) along Glasgow St; police enforcement

Decision Matrix – January 14, 2016 meeting

Items Proposed:

Clarence Avenue				
Item	Location	Recommendation	Comments	Decision
1	Between Glasgow Street & Wilson Crescent	Increase capacity of Clarence Avenue by adding through lane northbound (ie. changing from one lane to two lanes)	Was an additional through lane for southbound also considered?	Carried. The additional lane northbound is, in part, to address shortcutting on Glasgow Street. Shortcutting on Glasgow Street is not caused by drivers coming in the southbound direction on Clarence Avenue. Furthermore, pedestrian safety was identified as a concern so adding more lanes for southbound will increase the risk for pedestrians crossing.

Glasgow Street				
Item	Location	Recommendation	Comments	Decision
1	Maceachern Avenue	Zebra crosswalk	Crossing safely near the park remains an issue. Can a curb extension be added as well?	Zebra crosswalk recommended at Maceachern Avenue (west side of park) & existing median island. Add curb extension on northeast & southeast corners to further narrow roadway. Existing standard crosswalk at Mendel Crescent (east side of park). Upgrade standard crosswalk at Mendel Crescent to zebra. Crosswalk will remain in existing location (at 90 degree angle into driveway. It is not an accepted practice within the City of Saskatoon to install crosswalks on angles). Curb extension is not necessary with proposed pinch point west of the intersection.
2	North of Avalon Park (between Maceachern Avenue & Mendel Crescent)	Pinch point (eastbound yields)	May be better to move the traffic calming measures closer to the beginning of the park (ie. eastward)	Pinch point will be shifted east; however driveways on the north side will be the deciding factor for exact location.
3	Turner Avenue	Median island with curb extension	Move the crosswalk due to driveways.	Crosswalk will remain in existing location (at 90 degree angle into driveway. It is not an accepted practice within the City of Saskatoon to install crosswalks on angles).
4	Between Clarence Avenue & Mendel Crescent	Pinch point (westbound yields)		Carried. Device will be shortened to allow more parking in front of 917 Glasgow Street.
5	West of Clarence Avenue	"Traffic-Calmed Neighbourhood" sign (facing westbound)		Carried.

Additional Items Raised:

Clarence Avenue			
Item	Location	Concern	Recommendation
1	Clarence Avenue & Glasgow Street	Can we get a Transit stop lay-by for northbound across from Glasgow Street? Or can the bus stop be reshaped and a specific spot be made?	Widening to two lanes will allow passing lane. No further recommendations.
2	Clarence Avenue & Glasgow Street	Pedestrian safety remains a concern. Request pedestrian activated device despite it not meeting warrant criteria. Or what other safety improvements can be made? Visibility improvements required. Re-visit alignment (consideration for curb extension on south side). Issues with drivers coming southbound intending to turn right onto Circle Drive and changing lanes in the middle of the intersection. Visibility improvements required. Re-visit alignment (consideration for curb extension on south side).	Traffic calming devices such as curb extensions are not recommended on arterial roadways, as these roadways are designed to carry large traffic volumes. The pedestrian warrant was re-visited and pedestrian volumes do not support the installation of a pedestrian activated device. However, the intersection will be re-evaluated after the changes on Clarence Avenue (ie. added through lane northbound) are implemented.
3	Clarence Avenue & Glasgow Street	At 8am & 5pm vehicles sit waiting to turn left, and block the crosswalk. Install a "Do Not Block Crosswalk" sign further south as you approach to intersection.	Visual clutter caused by too many signs at or near the intersection was identified as a concern. The sign will be included in the overall intersection signage review and installed if deemed necessary. Furthermore, the added northbound through lane should improve congestion at the intersection. Recommendation will be changed accordingly.

Glasgow Street			
Item	Location	Comments	Recommendation
1	Various	There is zero enforcement on Glasgow Street	Peak hour data will be shared with Saskatoon Police Service to consider enforcement when spring speed studies are completed.
2	Various	If Glasgow Street is a local road why can't we have alternating stop & yield signs?	As per Policy C07-007, stop or yield signs are not to be used as a speed control device & not to face to the higher volume roadway. Doing so may cause increased safety risks (ie. drivers rolling through unwarranted stop/yields etc)
6	Broadway Avenue	Install a four-way stop	Four-way stop study was reviewed and warrant criteria was not met. However, the traffic volumes were higher on Broadway Avenue. As per Policy C07-007, Use of Traffic Controls, stop signs are not to be used to stop priority traffic over minor traffic. Therefore the two-way stop facing Broadway Avenue may be reoriented to face Glasgow Street. This will be added to the final recommendations.

Confederation Park Neighbourhood Traffic Review

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:
That the Neighbourhood Traffic Review for the Confederation Park neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process.

Topic and Purpose

The purpose of this report is to provide information on the Neighbourhood Traffic Review (NTR) for the Confederation Park neighbourhood.

Report Highlights

A Neighbourhood Traffic Plan for the Confederation Park neighbourhood was developed in consultation with the community in response to concerns such as speeding, traffic shortcutting, and pedestrian safety. The plan will be implemented over time as funding for the improvements is available.

Strategic Goal

This report supports the Strategic Goal of Moving Around by providing a plan to guide the installation of traffic calming devices and pedestrian safety enhancements to improve the safety of pedestrians, motorists, and cyclists.

Background

A public meeting was held in May 2015 to identify traffic concerns and potential solutions within the Confederation Park neighbourhood. Representatives from the Saskatoon Police Service were in attendance to address traffic enforcement issues. Based on the residents' input provided at the initial public meeting and the analysis of the traffic data collected, a Neighbourhood Traffic Plan was developed and presented to the community at a second public meeting held in October 2015.

Report

The development and implementation of the Neighbourhood Traffic Plan includes four stages:

1. Identify existing problems and concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon.ca website;
2. Develop a draft traffic plan based on residents' input and traffic assessments;
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 City Council for adoption; and
4. Implement the proposed measures in a specific time frame, short-term (1 to 2 years), medium-term (3 to 5 years), or long-term (more than 5 years).

The majority of concerns identified during the consultation included: shortcutting, speeding, pedestrian safety, and parking.

The Administration is recommending the following modifications to improve safety in the Confederation Park neighbourhood:

- Pedestrian crosswalks
- Stop signs
- Parking restrictions
- Speed display boards
- Parking enforcement
- Speeding enforcement (based on Saskatoon Police Service's discretion)

The installation of each proposed improvement will be implemented in three phases:

Short-term (1 to 2 years)	Temporary traffic calming measures, signage, pavement markings, accessible pedestrian ramps
Medium-term (3 to 5 years)	Permanent traffic calming devices, roadway realignment, sidewalks (in some cases), major intersection reviews
Long-term (5 years plus)	Roadway realignment, sidewalks

The Confederation Park Neighbourhood Traffic Review is included in Attachment 1.

Public and/or Stakeholder Involvement

In May 2015, a public meeting was held to discuss traffic concerns and identify potential solutions. The feedback was used to develop the Neighbourhood Traffic Plan which was presented at a follow-up public meeting in October 2015. Additional feedback received at the follow-up public meeting was also incorporated into the NTR.

Feedback was provided by internal civic stakeholders of various divisions and departments: Saskatoon Light & Power, Saskatoon Transit, Saskatoon Police Service, Environmental Services, Planning & Development, and the Saskatoon Fire Department provided feedback on the proposed improvements, which was incorporated into the recommended Neighbourhood Traffic Plan.

Communication Plan

The final Neighbourhood Traffic Plan will be shared with the residents of the impacted neighbourhood using several methods: City website, the Community Association, communication forums (i.e. website, newsletter), and by a direct mail-out.

Environmental Implications

The overall impact of the recommendations on traffic characteristics, including the impacts on greenhouse gas emissions, has not been quantified at this time.

Financial Implications

The implementation of the Neighbourhood Traffic Plan will have financial implications. The costs are summarized in the following table:

Confederation Park Neighbourhood Traffic Review

Item	2016	Beyond 2016
Traffic Calming & Speed Display Board	\$1,500	\$5,000
Traffic Control Signs	500	-
Pedestrian Crosswalks	2,000	-
Miscellaneous Signs	500	-
TOTALS	\$4,500	\$5,000

There is sufficient funding within Capital Project #1512 – Neighbourhood Traffic Management to undertake the work in 2016, which includes implementation of all signage and temporary traffic calming measures.

The remainder of the work beyond 2016 includes construction of permanent traffic calming measures, and will be considered alongside all other improvements identified through the NTR Program. The Administration will include in their annual budget submission package the list of projects recommended to be funded, and the rationale used to prioritize the projects.

Other Considerations/Implications

There are no options, policy, privacy or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

If adopted by City Council, temporary traffic calming devices and signage will be implemented during the 2016 construction season.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Confederation Park Neighbourhood Traffic Review, February 12, 2016

Report Approval

Written by: Justine Nyen, Transportation Engineer, Transportation
Reviewed by: Jay Magus, Engineering Manager, Transportation
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS JN – Confederation Park Neighbourhood Traffic Review

CITY OF SASKATOON
2015 NEIGHBOURHOOD TRAFFIC REVIEWS

Confederation Park

February 12, 2016

Confederation Park Neighbourhood Traffic Review

February 12, 2016

Authorization

Prepared By:



Justine Nyen, P.Eng.,
Transportation Engineer

Checked By:



Shirley Matt, P.Eng.,
Senior Transportation Engineer

Acknowledgements

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

- Confederation Park residents
- Confederation Park Community Association
- Saskatoon Police Service
- Saskatoon Light & Power
- Saskatoon Fire Department
- City of Saskatoon Environmental Services
- City of Saskatoon Transit
- City of Saskatoon Planning & Development
- City of Saskatoon Public Works
- City of Saskatoon Community Standards
- City of Saskatoon Transportation
- Great Works Consulting
- Councillor Anne Iwanchuk

Cover Photograph Kara Toews

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 revised program involves additional community and stakeholder consultation that provides the environment for neighbourhood residents and City staff to work together in developing solutions that address traffic concerns. The process is outlined in the *Traffic Calming Guidelines and Tools*, City of Saskatoon, 2013.

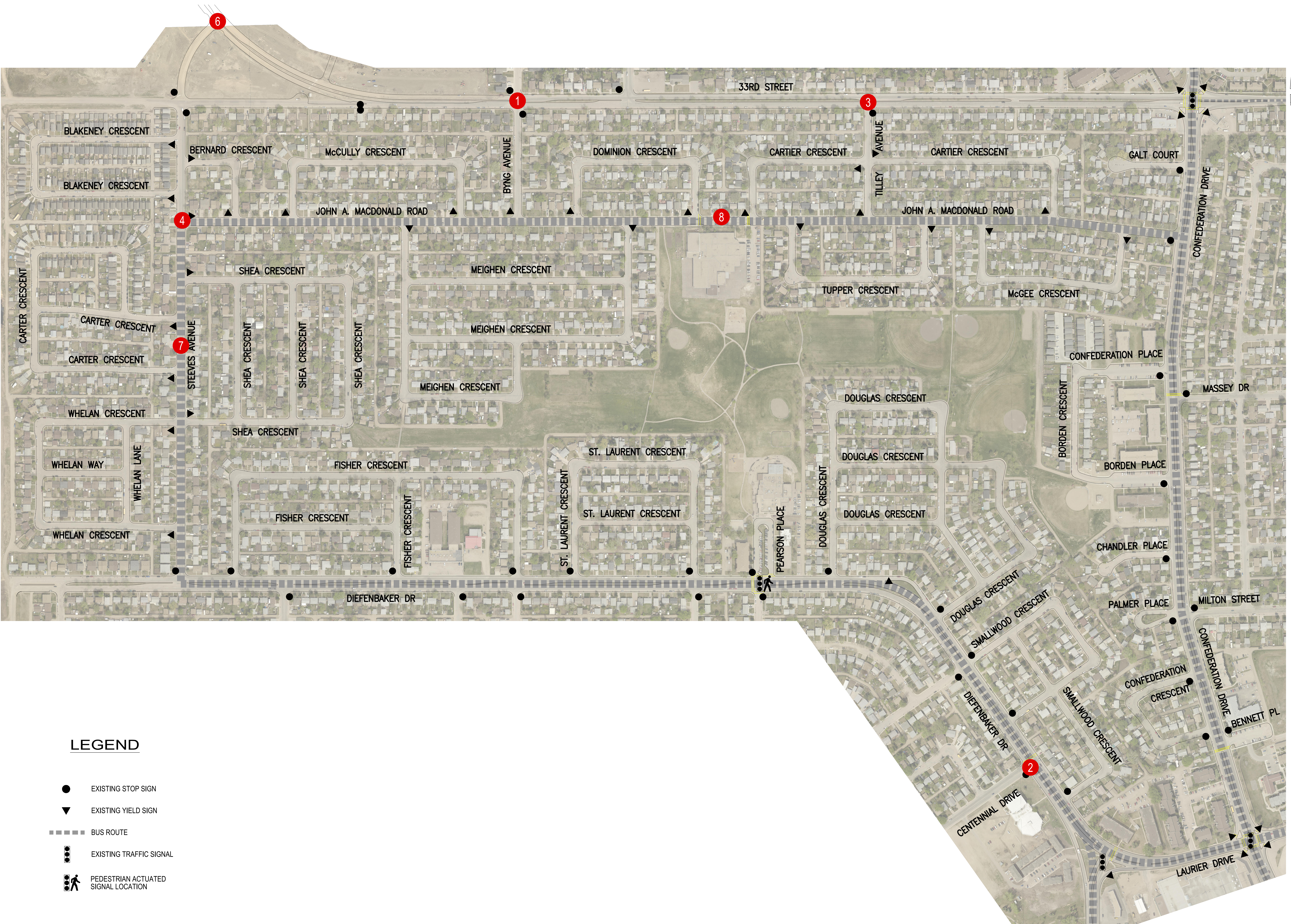
A public meeting was held in May of 2015 to identify traffic concerns and potential solutions within the Confederation Park neighbourhood. As a result of the meeting a number of traffic assessments were completed to confirm and quantify the concerns raised by the residents. Based on the residents input and the completed traffic assessments, a Traffic Management Plan was developed and presented to the community at a follow-up meeting held in October 2015.

A summary of recommended improvements for the Confederation Park neighbourhood are included in **Table ES-1**. The summary identifies the locations, the recommended improvement, and a schedule for implementation. The schedule to implement the Traffic Management Plan can vary depending on the complexity of the proposed improvement. According to the *Traffic Calming Guidelines and Tools* document, the time frame may range from short-term (1 to 2 year); medium-term (3 to 5 years) and long-term (5 years plus). Accordingly, the specific time frame to implement the improvements for these neighbourhoods ranges from 1 to 5 years.

The resulting proposed Confederation Park Traffic Management Plan is illustrated in **Exhibit ES-1**.

Table ES-1: Confederation Park Neighbourhood Recommended Improvements

Item	Location	Recommendation	Justification
1	33 rd Street & Byng Avenue	Standard pedestrian crosswalk (west leg)	Improve pedestrian safety
2	Diefenbaker Drive & Centennial Drive	Add hazard board to stop sign; install oversized pedestrian signs; add zebra crosswalk to south leg with additional pedestrian signs; install 15m parking restriction on northwest corner (on Diefenbaker Drive)	Enhance driver compliance; improve pedestrian safety; improve visibility
3	33 rd Street & Tilley Avenue	Zebra pedestrian crosswalk (west leg)	Improve pedestrian safety
4	John A. MacDonald Road & Steeves Avenue	Change yield sign to stop sign	Improve intersection safety along bus route (as per Policy C07-007: Traffic Control Signs - Use of Stop & Yield Signs, stop signs are warranted along bus routes).
5	Diefenbaker Drive (all intersections between Centennial Drive & Steeves Avenue)	Parking enforcement	Improve driver visibility at intersections
6	Steeves Avenue & 33 rd Street (north intersection)	Add name blade on right side	Improve visibility of street name sign
7	Steeves Avenue between Carter Crescent (north) & Carter Crescent (south)	Speed display board	Reduce speed
8	John A. McDonald Road - in front of Confederation Park School	Send speed data to Police Services to consider enforcement during school hours	Reduce speed near school
9	Diefenbaker Drive, Confederation Drive, 33 rd Street	Send speed data to Police Services to consider enforcement during peak hours	Reduce speed



LEGEND

- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- BUS ROUTE
- ⋮ EXISTING TRAFFIC SIGNAL
- ⋮ PEDESTRIAN ACTUATED SIGNAL LOCATION

Exhibit ES-1

CONFEDERATION PARK TRAFFIC PLAN



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1 INTRODUCTION

As the City of Saskatoon continues to grow many neighbourhoods face growing issues such as pedestrian safety, cut-through traffic, and increased speeds on local roads within neighbourhoods. In August 2013, City Council adopted the *City of Saskatoon Traffic Guidelines and Tools* that outlined 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 that were developed by the Administration and residents in collaborative fashion. Accordingly, this report provides the traffic management plan for Confederation Park.

The Confederation Park neighbourhood is located on the west side of the South Saskatchewan River and is bound by Diefenbaker Drive to the south, Confederation Drive to the east, 33rd Street to the north, and Steeves Avenue (including all Crescents on the west side of Steeves Avenue) to the west. The area use is mostly residential, with elementary schools (Confederation Park School on John A. MacDonald School and Bishop Roborecki School on Diefenbaker Drive), and some commercial land use along Diefenbaker Drive.

The development and implementation of the traffic management plan includes four stages:

- **Stage 1** - Identify existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon Website.
- **Stage 2** - Develop a draft traffic plan based on resident's 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 City Council for approval.
- **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 present the study findings and recommendations.

2 IDENTIFYING ISSUES, CONCERNS, AND POSSIBLE SOLUTIONS

A public meeting was held in May of 2015 to identify traffic concerns within the neighbourhood. At the meeting, residents were given the opportunity to express their concerns and suggest possible solutions. The meeting minutes are provided in **Appendix A**.

The following pages summarize the concerns and suggested solutions identified during the initial consultation with the neighbourhood residents.

2.1 Concern 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). In the case of Confederation Park, the bordering arterial street (33rd Street, Diefenbaker Drive, Confederation Drive) is designated to accommodate larger traffic volumes.

As speeding often accompanies shortcutting, these concerns have been grouped into one category.

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

- Steeves Avenue
- Diefenbaker Drive
- 33rd Street
- Byng Avenue
- Confederation Drive
- John A. MacDonald Road
- Back lanes:
 - East of 3710 Diefenbaker Drive (near church)

Proposed solutions identified by residents:

- Enforcement

2.2 Concern 2 – Pedestrian Safety

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

Pedestrian crosswalks need to adhere to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004 which states the following:

“The installation of appropriate traffic controls at pedestrian crossings shall be based on warrants listed in the document entitled *Traffic Control at Pedestrian Crossings – 2004* approved by City Council in 2004.”

Neighbourhood concerns regarding pedestrian safety were at the following locations:

- 33rd Street & Tilley Avenue
- 33rd Street & Hughes Drive
- Diefenbaker Drive & Centennial Drive
- Confederation Drive:
 - John A. MacDonald Road
 - Milton Street
 - Massey Drive

Proposed solutions identified by residents:

- Install standard or zebra pedestrian crosswalk
- Install activated pedestrian device

2.3 Concern 3 – Traffic Control

Traffic control signs are used in order to assign the right-of-way. City of Saskatoon Council Policy C07-007 *Traffic Control – Use of Stop and Yield Signs*, April 26, 2009 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 volume, collision history, and must have a balanced volume from each leg to operate sufficiently.

Neighbourhood concerns regarding traffic controls were at the following locations:

- 33rd Street & Hughes Drive
- Diefenbaker Drive & Centennial Drive
- 33rd Street & “new” 33rd Street (eastbound)

Proposed solutions identified by residents:

- Install four-way stop
- Install traffic signals

2.4 Concern 4 – Parking

Parking is allowed on all city streets unless signage is posted. According to City of Saskatoon Bylaw 7200, *The Traffic Bylaw*, December 16, 2013, vehicles are restricted from parking within 10 metres of an intersection and one metre of a driveway crossing.

Neighbourhood concerns regarding parking were at the following locations:

- Steeves Avenue
- Diefenbaker Drive
- 33rd Street & “new” 33rd Street

Proposed solutions identified by residents:

- Parking restrictions
- Parking enforcement

2.5 Concern 5 – Maintenance

Condition of the streets in Confederation Park was identified as a concern (i.e. snow clearing, potholes, tree trimming, and temporary traffic calming devices).

Neighbourhood concerns regarding maintenance were:

- Snow clearing (Steeves Avenue)
- Mud on streets (Meighen Crescent)

3 ASSESSMENT

3.1 Methodology

Stage 2 of the plan development included developing a draft traffic management 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:
 - Intersection turning moving counts
 - Pedestrian counts
 - Daily and weekly traffic counts
 - Average speed measurements
- 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 volumes (peak hours, daily, and weekly), travel speed, and pedestrian movements. A map of the traffic data collection is shown in **Appendix B**.

3.2 Travel Volumes and Travel Speeds

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**.

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

Characteristics	Classifications					
	Back Lanes		Locals		Collectors	
	Residential	Commercial	Residential	Commercial	Residential	Commercial
Traffic function	Access function only (traffic movement not a consideration)		Access primary function (traffic movement secondary consideration)		Traffic movement and land access of equal importance	
Average Daily Traffic (vehicles per day)	<500	<1,000	<1,000	<5,000	<5,000	8,000-10,000
Typical Speed Limits (kph)	20		50		50	
Transit Service	Not permitted		Generally avoided		Permitted	
Cyclist	No restrictions or special facilities		No restrictions or special facilities		No restrictions or special facilities	
Pedestrians	Permitted, no special facilities		Sidewalks on one or both sides	Sidewalks provided where required	Typically sidewalks provided both sides	Sidewalks provided where required
Parking	Some restrictions		No restrictions or restriction on one side only		Few restrictions other than peak hour	

Travel 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 Confederation Park neighbourhood is 50kph, except for school zones where the speed limit is 30kph from September and June, 8:00am to 5:00pm, excluding weekends.

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

Table 3-2: Speed Studies and Average Daily Traffic Counts (2015)

Street	Between	Class	Average Daily Traffic (vpd)	Speed (kph)
Back lane	East of 3710 Diefenbaker Drive	lane	>100	NA
Byng Avenue	33rd Street & John A. MacDonald Road	local	1,115	44
Steeves Avenue	John A. MacDonald Road & Shea Crescent	major collector	4,174	50.1
Steeves Avenue	Carter Crescent & Whelan Crescent		4,555	50.3
John A. MacDonald Road (school zone)	Dominion Crescent & Cartier Crescent		2,001	school= 43.5; regular= 48.8
Diefenbaker Drive	Fisher Crescent (west) & Fisher Crescent (east)	minor arterial	5,680	57.5
Diefenbaker Drive	Douglas Crescent (west) & Douglas Crescent (east)		8,400	65.8
33rd Street	Byng Avenue & Latrace Road		5,425	60.6
Confederation Drive	Borden Place & Massey Drive	major arterial	NA	57.9

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*, January 26, 2009.

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

Results of the studies are shown in **Table 3-3**.

Table 3-3: All-Way Stop Assessments

Location	Peak Hour Count	Average Daily Traffic (vpd)	# of Collisions within most recent 12 months	% of Traffic from minor street	Traffic Signals or all-way stop within 200m	All-Way Stop Warranted
Centennial Drive & Diefenbaker Drive	1,718	19,080	1	19%	no	All-Way Stop Not Warranted
33 rd Street & Hughes Drive	699	8,490	0	21%	no	
33rd Street & Tilley Avenue	644	7,160	0	9%	no	

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

3.4 Pedestrian Assessments

Pedestrian assessments are conducted to determine the need for pedestrian actuated signalized crosswalks which, in adherence to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004, are typically active pedestrian corridor (flashing yellow lights) or pedestrian-actuated signals. A warrant system assigns points for a variety of conditions that exist at the crossing location, including:

- Number of traffic lanes to be crossed;
- presence of a physical median;
- posted speed limit of the street;
- distance the crossing point is to the nearest protected crosswalk point; and
- number of pedestrian and vehicles at the location.

Pedestrian and traffic data is collected during the five peak hours of: 8:00am to 9:00am, 11:30am to 1:30pm, and 3:00pm to 5:00pm.

In addition, if a pedestrian actuated crosswalk is not warranted, a standard marked pedestrian crosswalk, or a zebra crosswalk (i.e. striped) may be considered. A summary of the pedestrian studies are provided in **Table 3-4**.

Table 3-4: Pedestrian Assessment

Location	Number of Pedestrians Crossing During Peak Hours	Results
Confederation Drive & Massey Drive	46	Pedestrian Device Warranted (Pedestrian Activated Signal is on priority list at Confederation Drive & Milton Street. This intersection is only 330 metres from Massey Drive, therefore only one of the two locations will receive pedestrian device.)
Confederation Drive & Milton Street	147	
33 rd Street & Tilley Avenue	12	Pedestrian Device Not Warranted
Centennial Drive & Diefenbaker Drive	15	
33 rd Street & Hughes Drive	7	
Confederation Drive & John A. MacDonald Road	6	
John A. MacDonald Road & Cartier Crescent (west)	155	

Details of the pedestrian actuated signal and active pedestrian corridor assessments are provided in **Appendix D**.

3.5 Traffic Signal Assessments

Assessments are conducted to determine the need for traffic signals, in adherence to the Traffic Signal and Pedestrian Signal Head Warrant Handbook. A warrant system assigns points for a variety of conditions, including:

- Number of traffic lanes;
- posted speed limit of the street;
- distance to the nearest protected traffic signal; and
- number of pedestrian and vehicles at the location.

Pedestrian and traffic data is collected during the five peak hours of: 8:00am to 9:00am, 11:30am to 1:30pm, and 3:00pm to 5:00pm.

If a traffic signal is not warranted, additional measures to improve safety (i.e. parking restrictions, oversized stop signs) may be considered. A summary of the traffic signal assessment are provided in **Table 3-4**.

Table 3-5: Traffic Signal Assessments

Location	Traffic Signal Warrant Points	Results
Centennial Drive & Diefenbaker Drive	88	Traffic Signal Not Warranted

Details of the traffic signal assessments are shown in **Appendix E**.

3.6 Collision Analysis

The most recently available five year collision statistics (2009 to 2013) were provided by 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. These include:

- Confederation Drive & Massey Drive
- Diefenbaker Drive & Centennial Drive
- Confederation Drive & John A. MacDonald Road
- Confederation Drive & Milton Street
- Diefenbaker Drive & Steeves Avenue
- Confederation Drive & Confederation Crescent (north)

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

4 PLAN DEVELOPMENT

4.1 Methodology

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

- Based on the assessments, prepare a plan that illustrates the appropriate recommended improvement
- 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 management plan, including the location, recommended improvement, and the 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*, January 26, 2009, “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 Speeding and Shortcutting Improvements

Location	Recommended Improvement	Justification
Steeves Avenue between Carter Crescent (north) & Carter Crescent (south)	Speed display board	Reduce speed
John A. McDonald Road - in front of Confederation Park School	Send speed data to Police Services to consider enforcement during school hours	Reduce speed near school
Diefenbaker Drive, Confederation Drive, 33rd Street	Send speed data to Police Services to consider enforcement during peak hours	Reduce speed

4.3 Pedestrian Safety

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

Table 4-2: Recommended Pedestrian Safety Improvements

Location	Recommended Improvement	Justification
33 rd Street & Byng Avenue	Standard pedestrian crosswalk (west leg)	Improve pedestrian safety (school route)
Diefenbaker Drive & Centennial Drive	Install oversized pedestrian signs; add zebra crosswalk to south leg with additional pedestrian signs	Improve pedestrian safety
33 rd Street & Tilley Avenue	Zebra pedestrian crosswalk (west leg)	Improve pedestrian safety (school route)

4.4 Traffic Control

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 Traffic Control Improvements

Location	Recommended Improvement	Justification
Diefenbaker Drive & Centennial Drive	Add hazard board to stop sign	Enhance visibility of stop sign & driver compliance
John A. MacDonald Road & Steeves Avenue	Change yield sign to stop sign	Improve intersection safety along bus route (as per Policy C07-007: Traffic Control Signs - Use of Stop & Yield Signs, stop signs are warranted along bus routes)

4.5 Parking Improvements

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

Table 4-4: Recommended Parking Improvements

Location	Recommended Improvement	Justification
Diefenbaker Drive (all intersections between Centennial Drive & Steeves Avenue)	Parking enforcement	Improve driver visibility at intersections
Diefenbaker Drive & Centennial Drive	Install 15m parking restriction on northwest corner (on Diefenbaker Drive)	Improve driver visibility

4.6 Miscellaneous Improvements

Visibility of street name signs, and other miscellaneous signs, were identified as a concern during the public consultation. The recommended improvements for miscellaneous signs are detailed in **Table 4-5**.

Table 4-5: Recommended Parking Improvements

Location	Recommended Improvement	Justification
Steeves Avenue & 33 rd Street (north intersection)	Add name blade on right side	Improve visibility of street name sign

4.7 Follow Up Consultation – Presentation of Traffic Management Plan

The initial recommended improvements were presented at a follow-up public meeting in November 2015. Meeting minutes are provided in **Appendix A**. Recommended improvements that were not supported by the residents 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**. A decision matrix for additional comments received after the draft traffic plan is also included in **Appendix G**.

The recommendations were circulated to the Civic Divisions (including Saskatoon Police Service, Saskatoon Light & Power, Saskatoon Fire Department, Environmental Services, and Saskatoon Transit) to gather comments and concerns. General support was received.

4.8 Major Intersection Reviews and Corridor Studies

The mandate for the Neighbourhood Traffic Management Reviews is to focus on neighbourhood streets such as local roads and collector roads. As almost all neighbourhoods are bound by arterial streets, such as Confederation Drive and 33rd Street, it is not uncommon to have residents raise issues regarding these streets. However, arterial streets are much more complex than local or collector streets due to larger traffic volumes, different types of drivers (commuters), coordinated traffic signals, transit accommodation, and potentially many commercial accesses. To properly address these, the typical transportation engineering approach would require a corridor study or a major intersection review, both of which are expensive and require significant resources. Through the Neighbourhood Traffic Reviews, the City is compiling a list of issues on arterial streets. The Transportation Division is working to prioritize the issues, identify the work requirements, and secure funding to complete these types of assessments.

5 RECOMMENDED PLAN & COST ESTIMATES

Stage 4, the last stage of the process, is to install the recommended improvements for the Confederation Park neighbourhood within the specified timeframe. The timeframe 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 signage will be completed short-term (1 to 2 years).

Major intersection reviews are based on the number of other locations to be reviewed city wide and the availability of funding. The timeline for review will be medium-term (3 to 5 years).

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

- **Table 5-1:** Traffic Calming Cost Estimate
- **Table 5-2:** Traffic Control Signs Cost Estimate
- **Table 5-3:** Pedestrian Safety Signs Cost Estimate
- **Table 5-4:** Miscellaneous Signs Cost Estimate
- **Table 5-5:** Total Cost Estimate

Table 5-1: Traffic Calming Cost Estimate

Location	Device	Cost Estimate		Time Frame
		Temporary	Permanent	
Steeves Avenue between Carter Crescent (north) & Carter Crescent (south)	Speed display board	\$1,500	\$5,000	1 to 2 years
John A. McDonald Road - in front of Confederation Park School	Send speed data to Police Services to consider enforcement during school hours	\$0	\$0	
Diefenbaker Drive, Confederation Drive, 33 rd Street	Send speed data to Police Services to consider enforcement during peak hours	\$0	\$0	
Totals		\$1,500	\$5,000	

Table 5-2: Traffic Control Signs Cost Estimate

Location	Recommended Improvement	Number of Signs	Cost Estimate	Time Frame
Diefenbaker Drive & Centennial Drive	Add hazard board to stop sign	1	\$250	1 to 2 years
John A. MacDonald Road & Steeves Avenue	Change yield sign to stop sign	1	\$250	
Totals		2	\$500	

Table 5-3: Pedestrian Safety Signs Cost Estimate

Location	Device	Cost Estimate	Time Frame
33 rd Street & Byng Avenue	Standard pedestrian crosswalk (west leg)	\$500	1 to 2 years
Diefenbaker Drive & Centennial Drive	Install oversized pedestrian signs; add zebra crosswalk to south leg with additional pedestrian signs	\$1,000	
33 rd Street & Tilley Avenue	Zebra pedestrian crosswalk (west leg)	\$500	
Totals		\$2,000	

Table 5-4: Miscellaneous Signs Cost Estimate

Location	Device	Number of Signs	Cost Estimate	Time Frame
Diefenbaker Drive (all intersections between Centennial Drive & Steeves Avenue)	Parking enforcement	NA	\$0	1 to 2 years
Diefenbaker Drive & Centennial Drive	"No Parking" sign	1	\$250	
Steeves Avenue & 33 rd Street (north intersection)	Street name sign	1	\$250	
Totals		2	\$500	

Table 5-5: Total Cost Estimate

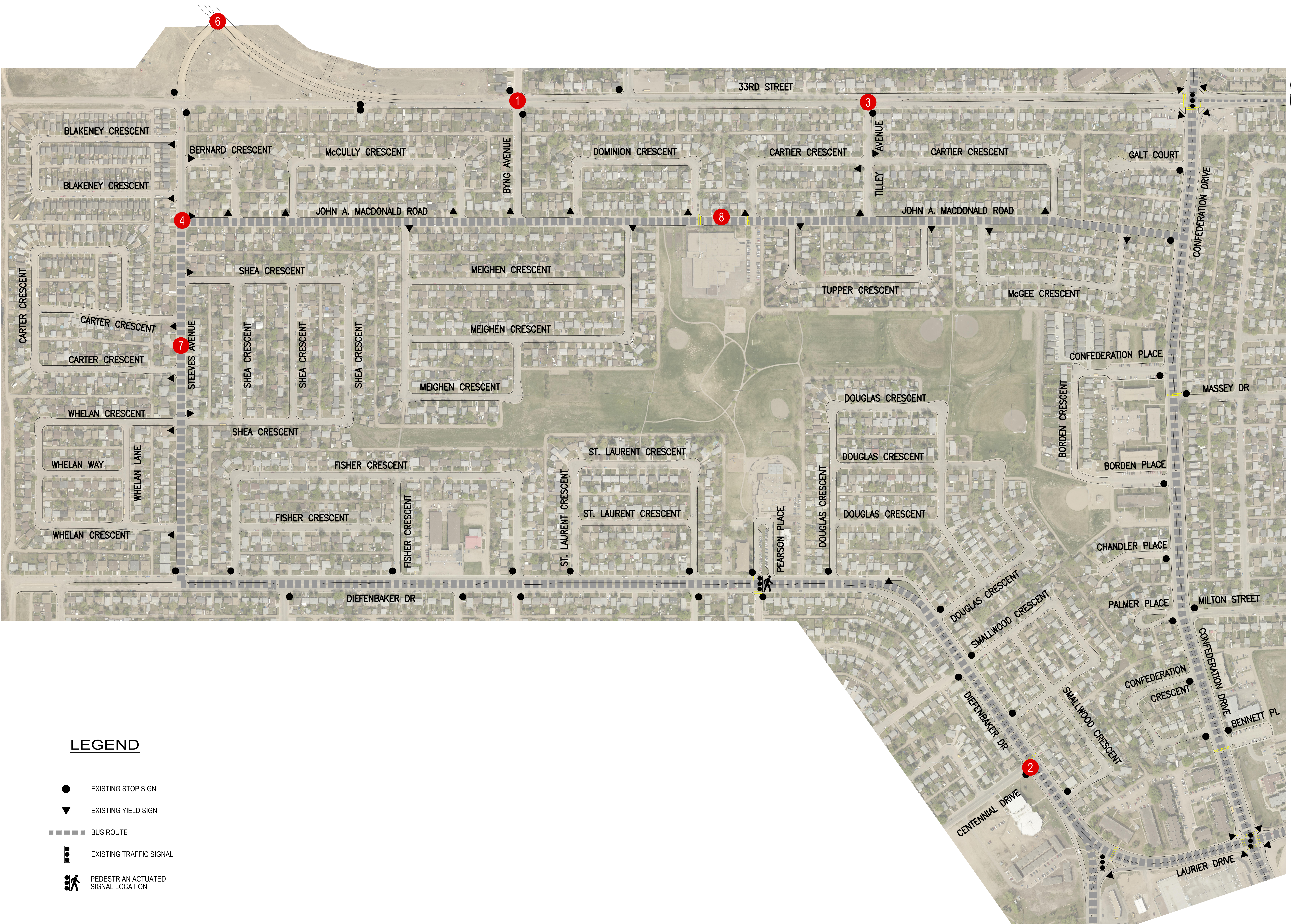
Category	Signing & Temporary Traffic Calming	Permanent
Traffic Calming	\$1,500	\$5,000
Traffic Control Signs	\$500	\$0
Pedestrian Signs	\$2,000	\$0
Miscellaneous Signs	\$500	\$0
Totals	\$4,500	\$5,000

The total cost estimate for the signage and temporary traffic calming to be installed in 2016 is **\$4,500**. The total cost estimate for the installation of future permanent devices is **\$5,000**.

Resulting from the plan development process, the recommended improvements, including the location, type of improvement, and schedule for implementation are summarized in **Table 5-6**. The resulting recommended Confederation Park neighbourhood Traffic Management Plan is illustrated in **Exhibit 5-1**.

Table 5-6: Confederation Park Neighbourhood Recommended Improvements

Item	Location	Recommendation	Justification
1	33 rd Street & Byng Avenue	Standard pedestrian crosswalk (west leg)	Improve pedestrian safety
2	Diefenbaker Drive & Centennial Drive	Add hazard board to stop sign; install oversized pedestrian signs; add zebra crosswalk to south leg with additional pedestrian signs; install 15m parking restriction on northwest corner (on Diefenbaker Drive)	Enhance driver compliance; improve pedestrian safety; improve visibility
3	33 rd Street & Tilley Avenue	Zebra pedestrian crosswalk (west leg)	Improve pedestrian safety
4	John A. MacDonald Road & Steeves Avenue	Change yield sign to stop sign	Improve intersection safety along bus route (as per Policy C07-007: Traffic Control Signs - Use of Stop & Yield Signs, stop signs are warranted along bus routes).
5	Diefenbaker Drive (all intersections between Centennial Drive & Steeves Avenue)	Parking enforcement	Improve driver visibility at intersections
6	Steeves Avenue & 33 rd Street (north intersection)	Add name blade on right side	Improve visibility of street name sign
7	Steeves Avenue between Carter Crescent (north) & Carter Crescent (south)	Speed display board	Reduce speed
8	John A. McDonald Road - in front of Confederation Park School	Send speed data to Police Services to consider enforcement during school hours	Reduce speed near school
9	Diefenbaker Drive, Confederation Drive, 33 rd Street	Send speed data to Police Services to consider enforcement during peak hours	Reduce speed



LEGEND

- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- BUS ROUTE
- ⋮ EXISTING TRAFFIC SIGNAL
- ⋮ PEDESTRIAN ACTUATED SIGNAL LOCATION

Exhibit 5-1

CONFEDERATION PARK TRAFFIC PLAN



APPENDIX A: MEETING MINUTES

**Confederation Park Neighbourhood
Traffic Review
Thursday, May 7, 2015, 7:00 – 9:00 P.M.
Confederation Park School**

Facilitators:

- Mitch Riabko & Kathy Dahl (Great Works Consulting)

Agenda

- Welcome & introductions
- Presentation from the Transportation Division
- Small group discussions
- Small group discussion – report back to large group
- Next Steps
- Question / Answers

Presentation from Councillor Iwanchuk

Traffic issues raised by residents she's received:

- Tilley Ave & 33r St
- Speeding on Confederation Dr
- Pedestrian safety at Confederation Dr & John A McDonald – report went to committee recently and signs, pavement markings will be upgraded.

Presentation from Transportation Division – Confederation Park Neighbourhood Traffic Review

(Presented by Justine Nyen – Traffic Engineer)

Presentation Outline:

- Neighbourhood Review Process
- Timeline for Confederation Park Review
- Sources of Information
- Concerns Received
- Description of Traffic Calming & Pedestrian Safety Devices

Neighbourhood Review Process:

- **August 2013** – New process; neighbourhood review vs issue by issue; eight neighbourhoods reviewed per year
- **Mandate** – Reduce & calm traffic, improve safety within neighbourhoods
- **2014** – Varsity View, Nutana, Brevoort Park, Haultain, Holliston, City Park, Westmount, Hudson Bay Park, Caswell Hill
- **2015** – Confederation Park, Meadowgreen, Adelaide-Churchill, Montgomery Place, Lakeview, Confederation Park, Greystone Heights, Mount Royal

Timeline for Confederation Park Review:

- **Stage 1** – Identify issues & possible solutions through community consultation (May to fall 2015)
- **Stage 2** – Develop a draft traffic plan (fall 2015)
- **Stage 3** – Present draft traffic plan to community for feedback (fall 2015)
- **Stage 4** – Implement the changes over time

Sources of Information:

- Past Studies
- Collision Analysis
- Feedback from Public Consultation
- Traffic Counts & Assessments

Concerns Received:

- Confederation Drive
 - speeding and pedestrian safety concerns
 - Pedestrian upgrades at John A McDonald (ie. improved signs and pavement markings)
 - pedestrian-activated signal is recommended and on the list of priority locations; will be installed when funding becomes available
- Tilley Avenue & 33rd St – pedestrian safety concerns
- Steeves Avenue – speeding concerns
- Back lanes near Diefenbaker Drive – speeding and high traffic volumes on weekends (near Church and from bars)

Traffic Calming Devices (Examples of devices used in Saskatoon):

1. Speed Display Boards
2. Raised Median Island – narrows road; provides center refuge for pedestrians
3. Curb Extensions – narrows road
4. Roundabouts
5. Diverter – used to address high traffic volumes
6. Right-in/right-out island - used to address high traffic volumes
7. Directional Closure – restrict movements onto the street from one direction
8. Raised median through intersection – restrict movements
9. Full closure

Pedestrian Devices:

1. Standard crosswalk
2. Zebra crosswalk (striped pavement markings)
3. Active pedestrian corridor (flashing yellow lights)
4. Pedestrian-activated signals

Presentation from Saskatoon Police Services

(Constable Kaolanko & Schmidt)

- **Saskatoon Police Services: 306-975-8300 OR 306-975-8068 to report a traffic complaint or a concern.**

Resident: Drivers aren't stopping from Steeves Avenue onto 33rd St. Speeding from Steeves Avenue.

Police: We'll follow up.

Resident: Speeding on Diefenbaker Drive, mid-morning into mid-afternoon. Around 8am, kids are speeding to school. Drivers coming off of highway. Cars parked near intersections make it difficult to see.

Police: Detailed information is great. Provide a license plate number and we can follow up with particular individuals. Police presence helps slow drivers. A number of tickets are also given out in schools zones.

Resident: Will you write tickets based on a residents word?

Police: Yes. As long as it's a valid source and detailed information is provided.

Resident: Are the ramps in the median on 22nd Street legal pedestrian crossings?

City: Yes. We are undergoing a review to improve pedestrian safety on 22nd Street. The high traffic volumes and number of lanes on 22nd St suggest that activated pedestrian devices are the best option. A couple years ago pedestrian-activated signals were installed at Avenue M and Avenue R to alleviate the pedestrian safety concerns on 22nd Street.

Resident: Shouldn't there be lines to mark the crossings?

City: If we put lines in, motorists wouldn't notice them because traffic is too high these areas. They'd get lost and be ineffective.

Resident: Do you ever do blitzes on signaling?

Police: Since officer has been with the department, they have not done enforcement for signalling.

Resident: Can you set up speed radar coming onto 33rd St?

Police: Not able to answer that question. We can enforce but not able to provide that information.

Small Group Discussions

- Breakout into small groups to discuss traffic concerns in Confederation Park and potential solutions

Group 1: Angela Gardiner (City Facilitator) & Justine Nyen (City Facilitator)

1. Centennial Drive & Diefenbaker Drive – there are no protected pedestrian crossings between Diefenbaker Drive and Pearson Place. There should be traffic signals or a pedestrian device installed.
2. Byng Avenue – high traffic volumes, especially southbound; contractors shortcutting; difficult to back out of driveways
3. 33rd Street between Byng Avenue & Steeves Avenue – drivers going through stop signs (eastbound); parking obstructs drivers view
4. Steeves Avenue – speeding; not stopping at stop signs; lots of construction vehicles; parking within 10m of intersection making it difficult to see; snow clearing makes road narrow to two lanes and snow is being pushed onto sidewalk forcing pedestrians to walk on the road; remove snow banks; snow is being piled in front of pedestrian ramps; traffic volumes will increase due to Kensington and Elk Point development; street sweeping needed; name blade from 33rd Street to get onto Steeves Avenue should be on the right side (currently on left) in the westbound direction.
5. Diefenbaker Drive – speeding to Steeves Avenue
6. Neault Road onto Dalmeny Road – provide information on what is proposed here at next meeting
7. Meighen Crescent – mud on streets needs cleaning

Next Steps

1. Continue monitoring traffic issues in your neighbourhood
2. Mail-in or email comments no later than June 14/15
3. Additional public input via City on-line Community Engagement webpage no later than June 14/15

<http://shapingsaskatoon.ca/discussions/confederation-park-neighbourhood-traffic-review-meeting>

4. Traffic count data collection – spring/summer 2015
5. City review of public input and data collected from traffic studies and prepare draft Traffic Plan
6. Follow-up public input meeting to provide input on draft
7. Determine revisions and finalize Traffic Plan
8. Present Traffic Plan to City Council for approval

List of Representatives

Mitch Riabko, Kathy Dahl – Great Works Consulting, Facilitators
 Angela Gardiner – City of Saskatoon, Transportation & Utilities, Transportation Director
 Jay Magus – City of Saskatoon, Transportation & Utilities, Engineering Manager
 Shirley Matt – City of Saskatoon, Transportation & Utilities, Traffic Management Supervisor
 Justine Nyen – City of Saskatoon, Transportation & Utilities, Traffic Management
 Mariniel Flores – City of Saskatoon, Transportation & Utilities, Traffic Management
 Lanre Akindipe – City of Saskatoon, Transportation & Utilities, Infrastructure Engineer
 Goran Lazic – City of Saskatoon, Transportation & Utilities, Traffic Operations Engineer
 Marina Melchiorre – City of Saskatoon, Transportation & Utilities, Traffic Engineer
 David LeBoutillier – City of Saskatoon, Transportation & Utilities, Traffic Engineer

Mark Emmons – City of Saskatoon, Planning & Development, Planner – Neighbourhood Planning
Konrad Andre – City of Saskatoon Planning & Development, Senior Planner
Ellen Pearson – City of Saskatoon Planning & Development, Planner

**Confederation Park Neighbourhood
Traffic Review
Thursday, October 22, 2015, 7:00 – 9:00 P.M.
Confederation Park Community School**

Facilitators:

- Mitch Riabko & Kathy Dahl (Great Works Consulting)

Agenda

- Welcome & introductions
- Presentation from the Transportation Division
- Small group discussions
- Small group discussion – report back to large group
- Next Steps
- Question / Answers

Presentation from Transportation Division – Confederation Park Neighbourhood Traffic Review

(Presented by Justine Nyen – Traffic Engineer)

Presentation Outline:

- Neault Rd / Dalmeny Rd Update
- Neighbourhood Traffic Management Program
- How We Got Here
- What We Heard
- What We Did
- What We Propose

Neault Rd / Dalmeny Rd:

- 4-lane divided arterial
- Phased implementation
- Traffic Signal at 33rd Street (north)
- Potential connection between North Industrial and South Industrial (West Connector Route)

Neighbourhood Traffic Management Program:

- Address neighbourhood traffic issues:
 - Speeding concerns
 - Short-cutting concerns
 - Pedestrian safety
 - Intersection safety
- August 2013 – changes to program
 - Neighbourhood-wide review
 - More community / stakeholder feedback
 - Efficient use of staff resources

How We Got Here:

- May 2015 – Initial Traffic Meeting

- May to October 2015 – gather feedback, conduct traffic studies, collect data, develop traffic plan
- October 2015 – Follow Up Traffic Meeting - display proposed traffic plan and gather feedback

What We Heard:

A. Speeding/Traffic Volumes:

- Steeves Avenue
- Diefenbaker Drive
- 33rd Street
- Byng Avenue
- John A. MacDonald Road
- Confederation Drive
- Back lanes

B. Pedestrian Safety:

- 33rd Street & Tilley Avenue
- 33rd Street & Byng Avenue/Hughes Drive
- Diefenbaker Drive & Centennial Drive
- Confederation Drive:
 - John A. MacDonald Road
 - Milton Street
 - Massey Drive

C. Intersection Safety:

- 33rd Street & Byng/Hughes Drive
- 33rd Street & 33rd Street (stop signs eastbound)

What We Did:

- Collected Data:
 - Past studies
 - 15 attendees at initial meeting
 - 9 resident responses (phone calls, emails, letters)
 - Recorded comments from Shaping Saskatoon discussions
 - 7 Intersection / Pedestrian counts
 - 7 – 7 day traffic count (24 hour) & Average Speed measurements
 - 1 back lane traffic volume count
 - Collision history
- Field Reviews
- Assessed the Issues
- Generated proposed recommendations

What We Propose:

- Proposed recommendations include:
- Standard pedestrian crosswalk – 1 location
- Zebra pedestrian crosswalks – 2 locations
- Hazard boards – 1 location
- Curb extension – 1 location
- Street name blade – 1 location
- Speed display boards
- Enforcement

- **Saskatoon Police Services: 306-975-8300 OR 306-975-8068 to report a traffic complaint or a concern.**

Small Group Discussions

- Breakout into small groups to discuss traffic concerns in Confederation Park and potential solutions

Group 1: Mariniel Flores (City facilitator)

- Not in favour of curb extension at Diefenbaker Dr & Steeves Avenue; install traffic signal instead; vehicles can't make southbound left turn
- John A. MacDonald Rd (in front of Confederation Park School) – add to list of photo radar locations
- Speed display board locations (make sure they are visible):
 - John A. MacDonald Rd – at Confederation Park School
 - Diefenbaker Dr between Douglas Cres to Steeves Ave
 - Centennial Dr – school zones
 - Confederation Dr – near Palmer PI
- Confederation Dr & Milton St – consider traffic signal
- Increase traffic and speed on Lisgar Ave – look into traffic calming
- 33rd St (south) & Steeves Ave – markings to separate northbound & southbound traffic
- Move school bus roll out sign to be more visible
- Consider traffic signal to replace pedestrian signal at Diefenbaker Dr & Pearson PI
- Diefenbaker Dr & Laurier Dr – left turn doesn't get activated as much (have to wait for 4 cars lined up to activate left turn signal)
- Many vehicles turning at Palmer PI cul-de-sac; collisions occurring
- Narrow streets in new neighbourhoods should be considered; should make sure there's room for 2 cars to pass (ie. Steeves Ave)
- Superstore driveway onto Laurier Ave – restrict northbound left turn
- Relocate yield sign closer to west and south
- Issue of right turning vehicles off 22nd St onto Diefenbaker Dr
- Speed traps at 8pm or 9pm too (not just 3pm/4pm)
- Confederation Dr & 22nd St – make 2 lanes instead of one (by Tim's)

Group 2: Mark Emmons (City facilitator)

- Diefenbaker Dr & Steeves Avenue – not sure if curb extension is needed. Kensington having major impact on traffic. Especially heavy truck traffic. Perhaps paint crosswalk instead.
- Diefenbaker Dr & Centennial Dr – bit of a blind corner. Busy pedestrian crossing. Not necessary to make zebra crosswalk. Focus on funnelling pedestrians to the northwest crossing. Still add oversized pedestrian signs for the northwest crossing. Hazard boards are fine but also consider oversized stop sign.
- 33rd St & Tilley Ave – perhaps double-faced pedestrian signs on median.
- Speed display boards:
 - 33rd St – place board for westbound traffic between Tilley Ave & curve
 - Confederation Dr – focus on northbound traffic near Milton St or Massey Dr

- Diefenbaker Dr – near Mac’s store

Group 3: Shirley Matt (City facilitator)

- Steeves Ave & Diefenbaker Dr – busy intersection; missing pavement on Diefenbaker; slow down at corner; overhead signs or pavement markings; need signals for westbound traffic
- Diefenbaker Dr & Centennial Dr – hazard boards will not benefit; install larger signs for zebra crossings; back corner is hard to walk; will be worse with new developments; still needs traffic signals
- 33rd St & 33rd St (eastbound) – close it off to traffic; see collisions; rolling through stop sign
- Steeves Ave – speeding; study in July; high school students; gravel trucks; heavy trucks; trucks going to and from Kensington; police enforcement needed
- Diefenbaker Dr & back alley (west of Steeves Ave) – parking restriction needed because there are visibility issues
- Back lane west of Whelan Cres - 20kph speed signs needed; jersey barriers causing some issues for vehicles setting in; maintenance needed
- Confederation Dr & John A. Macdonald Rd – traffic signals needed; difficult to turn left

Group 4: Justine Nyen (City facilitator)

- Diefenbaker Dr & Steeves Ave – not in favour of curb extension; difficult to turn left from Steeves Ave; parking on northwest corner obstructs driver’s view
- Diefenbaker Dr & Centennial Dr – sightlines are a concern, particularly looking northwest from Centennial Dr; review sightlines and consider parking restrictions to improve sightlines
- Speed display boards, where to install:
 - Steeves Ave – southbound at Carter Cres (north); or northbound at Carter Cres (south)
 - 33rd St – eastbound before Byng Ave
 - Diefenbaker Dr – northbound before curve; westbound near Fisher Cres (Mac’s Store); northbound south of Centennial Dr
- Diefenbaker Dr – send out parking enforcement to enforce 10m rule (ie. according to Bylaw 7200 vehicles are not to park within 10m of on intersection)
- Steeves Ave & John A. MacDonald Rd – school buses stopping to drop off students; pedestrian safety concern
- 33rd St & 33rd St (eastbound at stop signs) – drivers stopping or slowing down on north leg because stop sign is visible; difficult to see behind at stop sign
- Diefenbaker Dr & Steeves – sanding needed in winter; very icy
- Steeves Ave – remove snow bank in winter; this is a transit / school bus route
- Drivers don’t stop for pedestrians on Confederation Dr or Diefenbaker Dr
- Laurier Dr to Circle Dr – increased volumes
- Diefenbaker Dr – concerns at Superstore entrance

Next Steps

1. Mail-in or email comments no later than Nov 22/15

2. Additional public input via City on-line Community Engagement webpage no later than Nov 22/15

<http://shapingsaskatoon.ca/discussions/confederation-park-neighbourhood-traffic-review-meeting>

3. Additional consultation if required
4. Present traffic plan to City Council for approval
5. What happens after City Council approval? Implementation begins. Signs and temporary traffic calming will be installed as early as next spring (2016)
6. What if I don't agree? Request time to speak at City Council meeting

Q&A

Resident: When did the traffic monitoring take place?

City: Some counts were during the summer months. Some were during school months.

Resident: When you drive down Diefenbaker Dr past Steeves, there's a road block and no signs to warn you of dead end. Need warning signs. A lot of drivers are frustrated.

Resident: Westbound on 33rd Street turning to eastbound on Confederation Dr look at yield signs.

Resident: What do SGI collision stats look like? Where were high collision locations?

City: Top locations are typically intersections with higher volumes. Confederation Dr & Massey, Diefenbaker Dr & Centennial Dr etc. These were reviewed as part of the study.

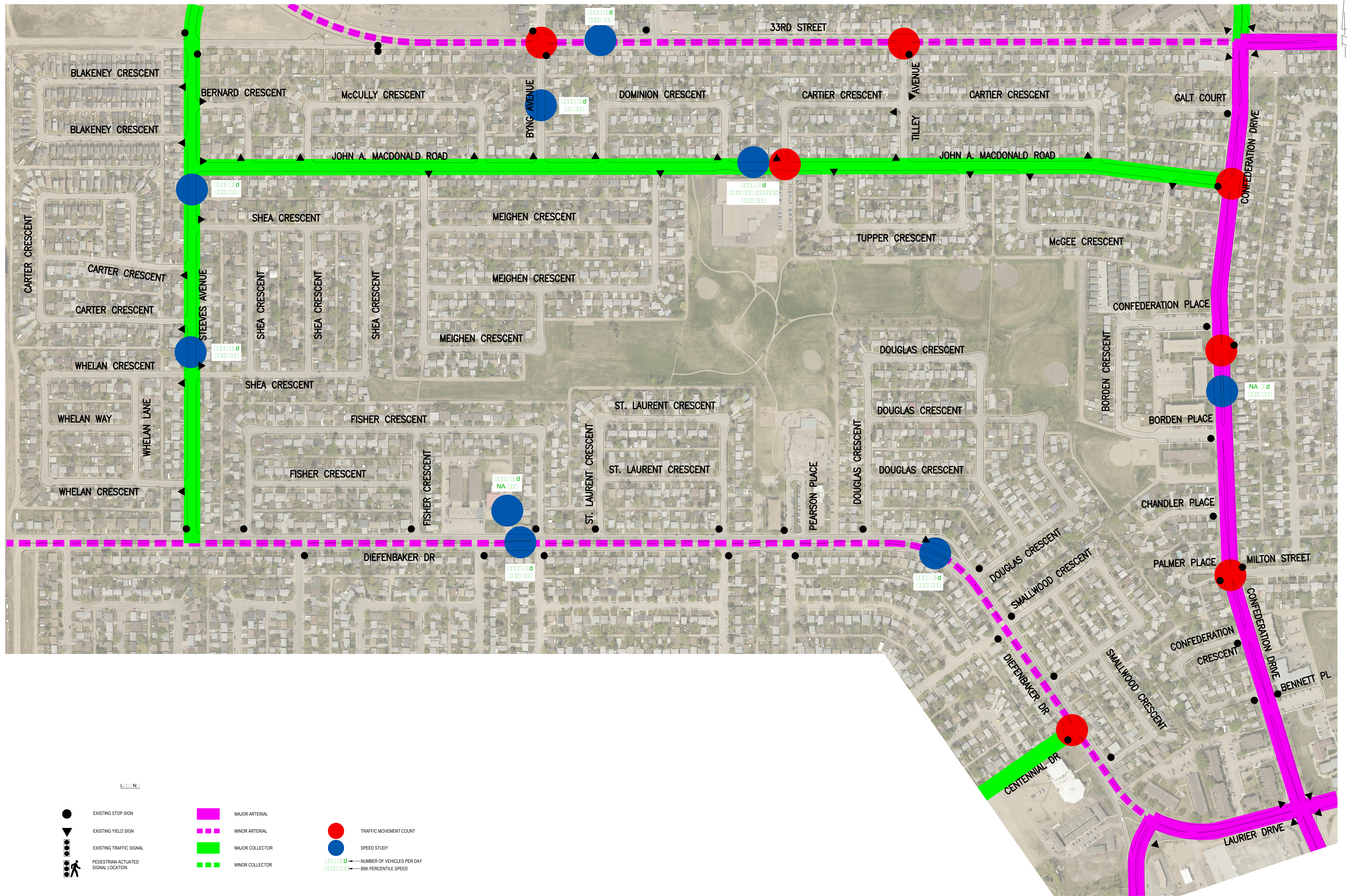
Resident: Corner of John A. MacDonald Rd & Steeves Ave there's a yield sign. Can this be changed to a stop sign?

City: Since this is on a transit route we can change it to a stop sign.

List of Representatives

Mitch Riabko, Kathy Dahl – Great Works Consulting, Facilitators
Shirley Matt, Justine Nyen, Mariniel Flores – City of Saskatoon, Transportation & Utilities
Mark Emmons – City of Saskatoon, Planning & Development

APPENDIX B: TRAFFIC DATA COLLECTION



CONFEDERATION PARK TRAFFIC DATA

APPENDIX C: ALL-WAY STOP ASSESSMENTS

All-way Stop Assessment (Policy C07-007 – Traffic Control – Use of Stop & Yield Signs)

Step 1:

The following conditions must be met for all-way stop control to be considered:

i) The combined volume of traffic entering the intersection over the five peak hour periods from the minor street must be at least 25% of the total volume for a three-way stop control, and at least 35% of the total volume for a four-way stop control.

ii) There can be no all-way stop control and traffic signal within 200 metres of the proposed intersection being considered for all-way stop control on either of the intersecting streets.

Location	Condition 1: % of Traffic from minor street	Condition 2: Traffic Signals or all-way stop within 200m	All-Way Stop Warrant
Centennial & Diefenbaker	19% (no)	no	Conditions NOT met.
33rd & Hughes	21% (no)	no	
33rd St & Tilley Ave	9% (no)	no	

Conditions not met. No need to proceed to Step 2.

APPENDIX D: PEDESTRIAN DEVICE ASSESSMENTS

Active Pedestrian Corridor Warrant

Confederation Drive & Massey Drive:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts					Factored Counts		P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods
			Total Both Sides									
	15 min.	30 min.	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.			
7:00												
7:15												
7:30												
7:45												
8:00	385	385	1				1	1	1	385		
8:15	394	779	2				2	2	3	2,337		
8:30	413	807	2				2	2	4	3,228		
8:45	346	759							2	1,518		
9:00		346										
9:15												
9:30												
9:45												
AM Totals	1,538		5				5					
11:30	267		2				2	2				
11:45	268	535							2	1,070		
12:00	272	540										
12:15	247	519	2				2	2	2	1,038		
12:30	281	528	1				1	1	3	1,584		
12:45	280	561							1	561		
13:00	255	535	4				4	4	4	2,140		
13:15	223	478							4	1,912		
Noon Totals	2,093		9				9					
14:00												
14:15												
14:30												
14:45												
15:00	337	337	4				4	4	4	1,348		
15:15	371	708							4	2,832		
15:30	428	799										
15:45	466	894	10				10	10	10	8,940		
16:00	449	915	6				6	6	16	14,640	1	14,640
16:15	392	841	8				8	8	14	11,774	1	11,774
16:30	437	829	3				3	3	11	9,119	1	9,119
16:45	511	948	1				1	1	4	3,792		
17:00		511							1	511		
17:15												
17:30												
17:45												
18:00												
18:15												
18:30												
18:45												
19:00												
19:15												
19:30												
19:45												
20:00												
20:15												
20:30												
20:45												
PM Totals	3,391		32				32					35,533
Totals	7,022		46				46					
			100%				100%					
			North Crosswalk =				41	<<< install crosswalk on this side of the int.				
			South Crosswalk =				5					

SUMMARY

Total Warranted PC Points: 35,533 or 11,844 / period
Highest PC point value: 14,640 at
Average PC point value: 4,582
No. of periods warranted: 3

Confederation Drive & Milton Street/Palmer Place:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts					P.C.		Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods	
			Total Both Sides					Factored Counts				Warrant
	15 min.	30 min.	Child	Teen	Adult	Senior/ Impaired	Total	15 min.	30 min.	Points		
7:00												
7:15												
7:30												
7:45												
8:00	250	250	6				6	6	1,500			
8:15	325	575	5				5	11	6,325	1		6,325
8:30	368	693	6				6	11	7,623	1		7,623
8:45	347	715	1				1	7	5,005			
9:00		347						1	347			
9:15												
9:30												
9:45												
AM Totals	1,290		18				18					13,948
11:30	206		2				2					
11:45	227	433	6				6	8	3,464			
12:00	230	457	6				6	12	5,484	1		5,484
12:15	244	474	8				8	14	6,636	1		6,636
12:30	230	474	3				3	11	5,214	1		5,214
12:45	306	536	9				9	12	6,432	1		6,432
13:00	267	573	6				6	15	8,595	1		8,595
13:15	226	493	9				9	15	7,395	1		7,395
Noon Totals	1,936		49				49					39,756
14:00												
14:15												
14:30												
14:45												
15:00	307	307	7				7	7	2,149			
15:15	367	674	15				15	22	14,828	1		14,828
15:30	390	757	8				8	23	17,411	1		17,411
15:45	308	698	4				4	12	8,376	1		8,376
16:00	349	657	9				9	13	8,541	1		8,541
16:15	345	694	11				11	20	13,880	1		13,880
16:30	367	712	10				10	21	14,952	1		14,952
16:45	384	751	16				16	26	19,526	1		19,526
17:00		384						16	6,144	1		6,144
17:15												
17:30												
17:45												
18:00												
18:15												
18:30												
18:45												
19:00												
19:15												
19:30												
19:45												
20:00												
20:15												
20:30												
20:45												
PM Totals	2,817		80				80					103,658
Totals	6,043		147				147					
			100%				100%					
			North Crosswalk =		59							
			South Crosswalk =		88							

<<< install crosswalk on this side of the int.

SUMMARY

Total Warranted PC Points: 157,362 or 9,835 / period
Highest PC point value: 19,526 at
Average PC point value: 11,322
No. of periods warranted: 16

Centennial Drive & Diefenbaker Drive:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts					P.C.		Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods	
			Total Both Sides					Factored Counts				Warrant
	15 min.	30 min.	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.	Points		
7:00												
7:15												
7:30												
7:45												
8:00	298	298	1				1	1	1	298		
8:15	321	619	4				4	4	5	3,095		
8:30	360	681							4	2,724		
8:45	262	622										
9:00		262										
9:15												
9:30												
9:45												
AM Totals	1,241		5				5					
11:30	226		2				2	2				
11:45	251	477							2	954		
12:00	245	496	1				1	1		496		
12:15	236	481							1	481		
12:30	262	498										
12:45	256	518										
13:00	217	473										
13:15	211	428	2				2	2	2	856		
Noon Totals	1,904		5				5					
14:00												
14:15												
14:30												
14:45												
15:00	275	275										
15:15	356	631	1				1	1		631		
15:30	394	750	1				1	1	2	1,500		
15:45	376	770	1				1	1	2	1,540		
16:00	370	746							1	746		
16:15	363	733										
16:30	341	704	1				1	1		704		
16:45	433	774	1				1	1	2	1,548		
17:00		433							1	433		
17:15												
17:30												
17:45												
18:00												
18:15												
18:30												
18:45												
19:00												
19:15												
19:30												
19:45												
20:00												
20:15												
20:30												
20:45												
PM Totals	2,908		5				5					
Totals	6,053		15				15					
			100%				100%					
			North Crosswalk =				11	<<< install crosswalk on this side of the int.				
			South Crosswalk =				4					

SUMMARY

Total Warranted PC Points: or / period
Highest PC point value: 3,095 at
Average PC point value: 1,067
No. of periods warranted:

Confederation Drive & John A. MacDonald Road:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts						P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods
			Total Both Sides				Factored Counts				
			Child	Teen	Adult	Senior/ Impaired	Total	15 min.			
7:00	175										
7:15	223	398									
7:30	262	485									
7:45	317	579									
8:00	349	666	1				1	1	1	666	
8:15	331	680							1	680	
8:30	374	705									
8:45	333	707									
9:00		333									
9:15											
9:30											
9:45											
AM Totals	2,364		1				1				
11:30	205										
11:45	185	390									
12:00	302	487			1		1	0.5	0.5	244	
12:15	240	542							0.5	271	
12:30	264	504		1			1	0.67	0.67	338	
12:45	246	510							0.67	342	
13:00	289	535									
13:15	253	542									
Noon Totals	1,984		1	1			2				
14:00											
14:15											
14:30											
14:45											
15:00	340	340									
15:15	378	718									
15:30	396	774									
15:45	391	787		1			1	0.67	0.67	527	
16:00	372	763	1				1	1	1.67	1,274	
16:15	388	760							1	760	
16:30	426	814									
16:45	448	874			1		1	0.5	0.5	437	
17:00	460	908							0.5	454	
17:15	460	920									
17:30	451	911									
17:45	439	890									
18:00		439									
18:15											
18:30											
18:45											
19:00											
19:15											
19:30											
19:45											
20:00											
20:15											
20:30											
20:45											
PM Totals	4,949		1	1	1		3				
Totals	9,297		2	2	2		6				
			33%	33%	33%		100%				
			North Crosswalk =				4	<<< install crosswalk on this side of the int.			
			South Crosswalk =				2				

SUMMARY

Total Warranted PC Points: _____ **or** _____ **/ period**
Highest PC point value: 1,274 **at**
Average PC point value: 399
No. of periods warranted: _____

John A. MacDonald Road & Cartier Crescent (west):

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts					P.C.		Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods
			Total Both Sides					Factored Counts			
	15 min.	30 min.	Child	Teen	Adult	Senior/ Impaired	Total	15 min.	30 min.		
7:00											
7:15											
7:30											
7:45											
8:00	37	37	2				2	2	2	74	
8:15	36	73	6				6	6	8	584	
8:30	62	98	13				13	13	19	1,862	
8:45	48	110	21				21	21	34	3,740	
9:00		48							21	1,008	
9:15											
9:30											
9:45											
AM Totals	183		42				42				
11:30	29		5				5	5			
11:45	24	53	6				6	6	11	583	
12:00	48	72	1				1	1	7	504	
12:15	26	74	7				7	7	8	592	
12:30	31	57	2				2	2	9	513	
12:45	24	55	1				1	1	3	165	
13:00	20	44	1				1	1	2	88	
13:15	30	50							1	50	
Noon Totals	232		23				23				
14:00											
14:15											
14:30											
14:45											
15:00	38	38	3				3	3	3	114	
15:15	33	71	17				17	17	20	1,420	
15:30	53	86	46				46	46	63	5,418	
15:45	69	122	13				13	13	59	7,198	1
16:00	35	104	8				8	8	21	2,184	
16:15	60	95							8	760	
16:30	49	109	3				3	3	3	327	
16:45	66	115							3	345	
17:00		66									
17:15											
17:30											
17:45											
18:00											
18:15											
18:30											
18:45											
19:00											
19:15											
19:30											
19:45											
20:00											
20:15											
20:30											
20:45											
PM Totals	403		90				90				7,198
Totals	818		155				155				
			100%				100%				
			West Crosswalk =				151	<<< install crosswalk on this side of the int.			
			East Crosswalk =				4				

SUMMARY

Total Warranted PC Points: 7,198 or 7,198 / period
Highest PC point value: 7,198 at
Average PC point value: 1,835
No. of periods warranted: 1

Pedestrian Actuated Signal Warrant

Confederation Drive & Massey Drive:

Location & Roadway Classification: Confederation & Massey
Date of Count: Day of wk: Wed/Thurs Mth, Day, Yr: May 27/15
Weather: fair
Traffic Control Devices: stop sign
Current Pedestrian Control: standard
Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 5 lanes

Is there a physical median in this crosswalk(s)? y (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 450 m
 Location: 33rd St
 Type: TS

Is the orientation of this crosswalk(s) N-S? n (y or n)

Duration of pedestrian count 5 hrs

Elementary:	46	Total Warranted PC Points:	35,533	or	11,844 / period
High School:		Highest PC point value:	14,640	at	
Adult:		Active Ped Corridor Points:	3		
Senior:		Pedestrian Actuated Signal Points:	74		
Vehicles passing through crosswalk(s):	7,022				

ACTIVE PEDESTRIAN CORRIDOR WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

****Install device at the North Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	223	25	137		1								
8:15	224	27	143		2								
8:30	239	31	143		2								
8:45	191	15	140										
9:00													
9:15													
9:30													
9:45													
AM Totals	877	98	563		5								
11:30	108	15	144		2								
11:45	128	16	124										
12:00	112	12	148										
12:15	117	18	112		2								
12:30	140	19	122		1								
12:45	130	17	133										
13:00	106	10	139		4								
13:15	104	17	102										
Noon Totals	945	124	1,024		9								
14:00													
14:15													
14:30													
14:45													
15:00	137	19	181		4								
15:15	147	24	200										
15:30	174	18	236										
15:45	182	27	257		9								1
16:00	177	22	250		3								3
16:15	156	29	207		7								1
16:30	163	20	254		3								
16:45	177	20	314		1								
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	1,313	179	1,899		27								5
Totals	3,135	401	3,486		41								5
North Crosswalk =								41	South Crosswalk =				5

Confederation Drive & Milton Drive:

tion & Roadway Classification: Milton & Confed
Date of Count: Day of wk: Tues Mth, Day, Yr: January-24-12
Weather: Mainly Clear -13 degrees
Traffic Control Devices: Standard pedestrian crosswalk & signage
Current Pedestrian Control: #REF!
Other Notes: if PAS is warranted, install on south side

Number of travel lanes passing through the crosswalk(s) 5 lanes

Is there a physical median in this crosswalk(s)? y (y or n)

Speed limit (or 85th percentile speed) 30 km/h

85th percentile (check one)

Posted Limit

Distance to nearest protected crosswalk 220 m

Location: Bennet PI

Type: zebra

Is the orientation of this crosswalk(s) N-S? n (y or n)

Duration of pedestrian count 5 hrs

Elementary:	147	Total Warranted PC Points:	157,362	or	9,835	/ period
High School:		Highest PC point value:	19,526	at		
Adult:		Active Ped Corridor Points:	16			
Senior:		Pedestrian Actuated Signal Points:	122			
Vehicles passing through crosswalk(s):	6,043					

**ACTIVE PEDESTRIAN CORRIDOR WARRANTED
PEDESTRIAN ACTUATED SIGNAL WARRANTED**

****Install device at the South Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	159	21	70		3								3
8:15	190	30	103	2	1								4
8:30	201	26	141		4								2
8:45	178	26	140	3	1								
9:00													
9:15													
9:30													
9:45													
AM Totals	728	103	454	5	9								9
11:30	80	8	118		1								1
11:45	111	10	105	1	3								3
12:00	88	10	131	1	4								2
12:15	101	8	134	1	5								3
12:30	100	9	121		1								2
12:45	141	19	146		5								4
13:00	126	11	129	1	2								4
13:15	90	14	120	2	6								3
Noon Totals	837	89	1,004	6	27								22
14:00													
14:15													
14:30													
14:45													
15:00	123	21	162	1	5								2
15:15	135	19	211	2	4								11
15:30	172	20	197	1									8
15:45	119	18	170	1	3								1
16:00	126	22	199	2	2								7
16:15	136	14	193	2	2								9
16:30	136	12	219		3								7
16:45	131	17	235	1	4								12
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	1,078	143	1,586	10	23								57
Totals	2,643	335	3,044	21	59								88
North Crosswalk =								59	South Crosswalk =				88

33rd Street & Tilley Avenue:

Location & Roadway Classification: 33rd St & Tilley Ave
Date of Count: Day of wk: Wed Mth, Day, Yr: May 27/15
Weather: fair
Traffic Control Devices: stop sign
Current Pedestrian Control: non
Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 5 lanes

Is there a physical median in this crosswalk(s)? y (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 500 m
Location: Confederation
Type: TS

Is the orientation of this crosswalk(s) N-S? y (y or n)

Duration of pedestrian count 5 hrs

Elementary:	12	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	1,192	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	39		
Vehicles passing through crosswalk(s):	2,405				

ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

****Install device at the West Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00		39	14	69									
8:15		42	24	72									
8:30		41	16	86									
8:45		45	18	46									
9:00													
9:15													
9:30													
9:45													
AM Totals		167	72	273									
11:30		36	5	48									3
11:45		40	8	41	2								
12:00		44	7	41									
12:15		49	7	50									
12:30		39	7	44	1								
12:45		36	6	42									
13:00		56	9	44									
13:15		34	10	44									
Noon Totals		334	59	354	3								3
14:00													
14:15													
14:30													
14:45													
15:00		57	6	39	1								
15:15		52	7	66	1								
15:30		86	18	69	2								1
15:45		85	9	61									
16:00		70	12	44									
16:15		94	9	54									
16:30		89	11	60									
16:45		91		57	1								
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals		624	72	450	5								1
Totals		1,125	203	1,077	8								4
West Crosswalk =								8	East Crosswalk =				4

Centennial Drive & Diefenbaker Drive:

Location & Roadway Classification: Centennial & Diefenbaker
Date of Count: Day of wk: Mon Mth, Day, Yr: Jun 15/15
Weather: fair
Traffic Control Devices: stop sign
Current Pedestrian Control:
Other Notes:

Number of travel lanes passing through the crosswalk(s) 6 lanes

Is there a physical median in this crosswalk(s)? y (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 400 m
Location: Confederation
Type: TS

Is the orientation of this crosswalk(s) N-S? n (y or n)

Duration of pedestrian count 5 hrs

Elementary:	15	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	3,095	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	50		
Vehicles passing through crosswalk(s):	6,053				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the North Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	132		97	69	1								
8:15	124		133	64	2								2
8:30	143		125	92									
8:45	93		106	63									
9:00													
9:15													
9:30													
9:45													
AM Totals	492		461	288	3								2
11:30	65		102	59	1								1
11:45	78		119	54									
12:00	61		143	41									1
12:15	56		122	58									
12:30	80		120	62									
12:45	76		135	45									
13:00	83		96	38									
13:15	65		109	37	2								
Noon Totals	564		946	394	3								2
14:00													
14:15													
14:30													
14:45													
15:00	72		164	39									
15:15	87		190	79	1								
15:30	101		231	62	1								
15:45	105		219	52	1								
16:00	104		215	51									
16:15	89		222	52									
16:30	64		220	57	1								
16:45	79		283	71	1								
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	701		1,744	463	5								
Totals	1,757		3,151	1,145	11								4
North Crosswalk =								11	South Crosswalk =				4

33rd Street & Hughes Drive:

Location & Roadway Classification: 33rd St & Hughes Dr
Date of Count: Day of wk: Tues Mth, Day, Yr: Jun 23/15
Weather: fair
Traffic Control Devices: stop sign
Current Pedestrian Control: none
Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 6 lanes

Is there a physical median in this crosswalk(s)? y (y or n)

Speed limit (or 85th percentile speed) 60.6 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 1,000 m
 Location: none
 Type: _____

Is the orientation of this crosswalk(s) N-S? y (y or n)

Duration of pedestrian count 5 hrs

Elementary:	7	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	696	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	45		
Vehicles passing through crosswalk(s):	2,571				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the West Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	17	38	14	53									1
8:15	24	51	14	50									
8:30	16	44	11	56	2								
8:45	14	40	6	46									
9:00													
9:15													
9:30													
9:45													
AM Totals	71	173	45	205	2								1
11:30	6	44	3	47									
11:45	8	40	6	46									
12:00	15	33	1	49	1								
12:15	10	57	1	61									1
12:30	6	51	9	48									
12:45	7	53	7	48									
13:00	7	40	6	46									
13:15	8	50	5	42									
Noon Totals	67	368	38	387	1								1
14:00													
14:15													
14:30													
14:45													
15:00	9	38	7	53									
15:15	10	64	4	53									
15:30	3	78	15	72									
15:45	11	73	6	67									
16:00	9	76	6	74									
16:15	9	67	5	60									
16:30	10	69	10	61									
16:45	15	91	14	78	2								
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	76	556	67	518	2								
Totals	214	1,097	150	1,110	5								2
West Crosswalk =									5	East Crosswalk =			2

Confederation Drive & John A. MacDonald Road:

Location & Roadway Classification: Confederation Dr (Major Arterial) & John A MacDonald Rd (Major Collector)
Date of Count: Day of wk: Thursday Mth, Day, Yr: November-06-14
Weather: 3°C and Cloudy (no snow on ground)
Traffic Control Devices: Stop sign on John A MacDonald Rd giving right-of-way to Confederation Dr
Current Pedestrian Control: None
Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 4 lanes

Is there a physical median in this crosswalk(s)? y (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 215 m
Location: Confederation Dr & 33rd St W
Type: Traffic Signals

Is the orientation of this crosswalk(s) N-S? n (y or n)

Duration of pedestrian count 7 hrs

Elementary:	2	Total Warranted PC Points:		or	/ period
High School:	2	Highest PC point value:	1,274	at	
Adult:	2	Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	21		
Vehicles passing through crosswalk(s):	9,297				

ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

****Install device at the North Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00	83		55	37									
7:15	122		64	37									
7:30	145		71	46									
7:45	193		90	34									
8:00	196		116	37	1								
8:15	186		116	29									
8:30	198		125	51									
8:45	168		118	47									
9:00													
9:15													
9:30													
9:45													
AM Totals	1,291		755	318	1								
11:30	82		104	19									
11:45	69		88	28									
12:00	107		167	28			1						
12:15	100		120	20									
12:30	120		111	33							1		
12:45	103		115	28									
13:00	111		155	23									
13:15	117		117	19									
Noon Totals	809		977	198							1		
14:00													
14:15													
14:30													
14:45													
15:00	129		186	25									
15:15	131		199	48									
15:30	162		217	17									
15:45	150		213	28							1		
16:00	143		198	31	1								
16:15	143		221	24									
16:30	150		245	31									
16:45	176		247	25			1						
17:00	163		275	22									
17:15	156		285	19									
17:30	167		253	31									
17:45	182		231	26									
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	1,852		2,770	327	1						1		
Totals	3,952		4,502	843	2		2				2		
North Crosswalk =								4	South Crosswalk =				2

John A. MacDonald Road & Cartier Crescent (west):

Location & Roadway Classification: John A. MacDonald Rd (Major Collector) & Cartier Cres (W) (Local)
Date of Count: Day of wk: Tuesday Mth, Day, Yr: April-01-14
Weather: Fair
Traffic Control Devices: Yield giving right-of-way to John A. MacDonald Rd
Current Pedestrian Control: Pedestrian corridor
Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes

Is there a physical median in this crosswalk(s)? y (y or n)

Speed limit (or 85th percentile speed) 30 km/h
 85th percentile (check one)
 Posted Limit
 (Posted Limit)

Distance to nearest protected crosswalk 90 m
Location: John A. MacDonald Rd & Dominion Cres (E)
Type: Yield & standard crosswalks

Is the orientation of this crosswalk(s) N-S? y (y or n)

Duration of pedestrian count 5 hrs

Elementary:	155	Total Warranted PC Points:	7,198	or	7,198	/ period
High School:		Highest PC point value:	7,198	at		
Adult:		Active Ped Corridor Points:	1			
Senior:		Pedestrian Actuated Signal Points:	18			
Vehicles passing through crosswalk(s):	818					

ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

****Install device at the West Crosswalk ****

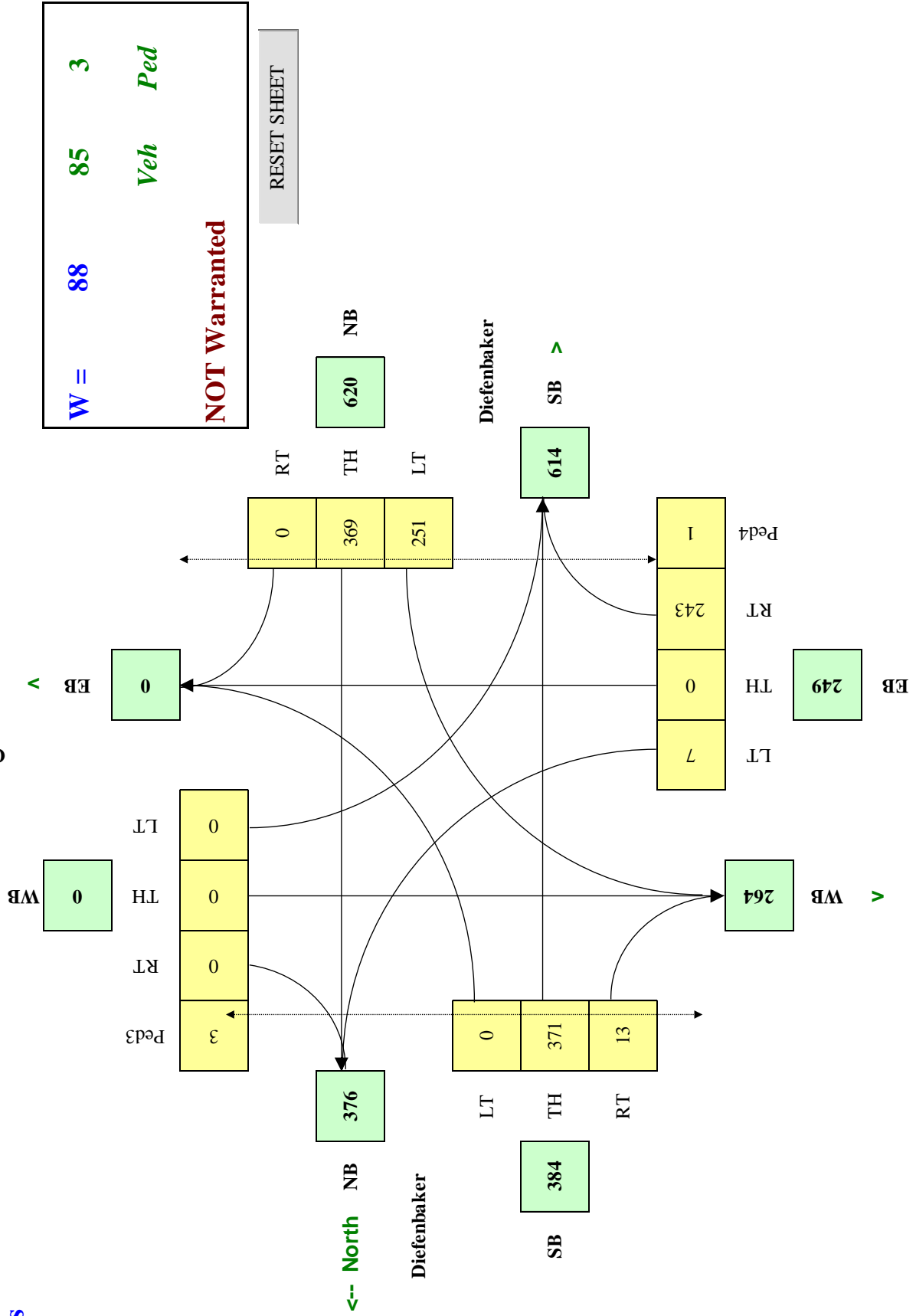
(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	1	12		24	1								1
8:15		11		25	6								
8:30	2	18		42	13								
8:45		17		31	21								
9:00													
9:15													
9:30													
9:45													
AM Totals	3	58		122	41								1
11:30	1	15		13	5								
11:45	1	15		8	6								
12:00		27		21	1								
12:15		8		18	7								
12:30	1	11		19	1								1
12:45		12		12	1								
13:00		9		11									1
13:15		13		17									
Noon Totals	3	110		119	21								2
14:00													
14:15													
14:30													
14:45													
15:00		22		16	3								
15:15	1	15		17	16								1
15:30		27		26	46								
15:45		36		33	13								
16:00		18		17	8								
16:15		38		22									
16:30		30		19	3								
16:45		46		20									
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	1	232		170	89								1
Totals	7	400		411	151								4
West Crosswalk =								151	East Crosswalk =				4

APPENDIX E: TRAFFIC SIGNAL ASSESSMENTS

Average 6-hour Peak Turning Movements

$$W = [C_{bt}(X_{v-v}) / K_1 + (F(X_{v-p}) L) / K_2] \times C_i$$



APPENDIX F: COLLISION ANALYSIS

Street 1	Street 2	Ugrid	All Collisions	All collisions - 2013	RA, LT, RT	RA, LT, RT - 2013 only	Average	Collector or Arterial
Confederation Dr	Massy Dr	B6-15	18	5	4	1	4	yes
Diefenbaker Dr	Centennial Dr	B7-19	17	2	6	0	3	yes
Confederation Dr	John A McDonald	B6-24	17	5	6	2	3	yes
Confederation Dr	Milton St	B6-19	16	4	4	1	3	yes
Diefenbaker Dr	Steeves Ave	AA6-11	15	3	4	1	3	yes
Confederation Dr	Confederation Cres (north)	B7-46	8	0	1	0	2	yes
Steeves Ave	33rd St	AA5-4	7	1	0	0	1	no
Steeves Ave	Shea Cres (north)	AA6-25	5	1	3	1	1	no
John A McDonald	Dominion Cres (west)	A6-75	5	1	1	0	1	yes
Confederation Dr	Borden Pl	B6-21	5	0	0	0	1	yes
Steeves Ave	Carter Cres (north)	AA6-65	3	0	2	0	1	no
Diefenbaker Dr	Douglas Cres (east)	A6-68	3	1	1	1	1	yes
John A McDonald	Cartier Cres (east)	B6-89	3	0	1	0	1	yes
Confederation Dr	Galt Crt	B6-61	3	1	1	0	1	yes
Diefenbaker Dr	Fisher Cres (west)	AA6-73	3	0	0	0	1	yes
Steeves Ave	Carter Cres (south)	AA6-49	3	1	0	0	1	no
Steeves Ave	John A McDonald	AA6-10	3	1	0	0	1	no
Steeves Ave	Blakeney Cres (north)	AA6-79	3	0	0	0	1	no
John A McDonald	Dominion Cres (east)	A6-23	3	0	0	0	1	yes
33rd St	Tilley Ave	A5-4	3	0	0	0	1	yes
Diefenbaker Dr	Fisher Cres (mid)	AA6-19	2	0	2	0	0	yes
Diefenbaker Dr	St. Laurent Cres (west)	A6-19	2	2	1	1	0	yes
John A McDonald	McCully Cres (west)	AA6-71	2	1	1	0	0	yes
33rd St	Byng Ave	A5-1	2	0	1	0	0	yes
Diefenbaker Dr	Smallwood Cres (south)	B7-16	2	0	0	0	0	yes
Douglas Cres	Douglas Cres (400/500 block)	A6-13	2	0	0	0	0	no
Steeves Ave	Whelan Cres (south)	AA6-68	2	0	0	0	0	no
Steeves Ave	Bernard Cres	AA6-67	2	1	0	0	0	no
John A McDonald	Tilley Ave	A6-2	2	1	0	0	0	yes
Diefenbaker Dr	Smallwood Cres (north)	A7-7	1	0	1	0	0	yes
Diefenbaker Dr	Fisher Cres (east)	A6-11	1	1	1	1	0	yes
John A McDonald	Meighen Cres (east)	A6-45	1	1	1	1	0	yes
Diefenbaker Dr	St. Laurent Cres (east)	A6-26	1	0	0	0	0	yes
Steeves Ave	Whelan Cres (north)	AA6-69	1	0	0	0	0	no
John A McDonald	Bernard Cres	AA6-70	1	0	0	0	0	yes
Confederation Dr	Confederation Pl	B6-64	1	0	0	0	0	yes
Confederation Dr	Chandler Pl	B6-31	1	0	0	0	0	yes
Smallwood Cres	Smallwood Cres	B7-45	0	0	0	0	0	no
Douglas Cres	Douglas Cres (east)	A6-79	0	0	0	0	0	no
Douglas Cres	Douglas Cres (300/500 block)	A6-7	0	0	0	0	0	no
Diefenbaker Dr	Douglas Cres (west)	A6-8	0	0	0	0	0	yes
Diefenbaker Dr	Pearson Pl	A6-48	0	0	0	0	0	yes
St. Laurent Cres	St. Laurent Cres (400/100 block)	A6-65	0	0	0	0	0	no
Shea Cres	Shea Cres (100/500 block)	AA6-51	0	0	0	0	0	no
John A McDonald	McCully Cres (east)	AA6-3	0	0	0	0	0	yes
John A McDonald	Meighen Cres (west)	AA6-17	0	0	0	0	0	yes
Meighen Cres (west)	Meighen Cres (300/400 block)	AA6-51	0	0	0	0	0	no
John A McDonald	Byng Ave	A6-35	0	0	0	0	0	yes
John A McDonald	Cartier Cres (west)	A6-76	0	0	0	0	0	yes
John A McDonald	Tupper Cres (west)	A6-12	0	0	0	0	0	yes
John A McDonald	Tupper Cres (east)	A6-4	0	0	0	0	0	yes
John A McDonald	McGee Cres (west)	A6-77	0	0	0	0	0	yes
John A McDonald	McGee Cres (east)	B6-26	0	0	0	0	0	yes

APPENDIX G: DECISION MATRIX

Decision Matrix – Additional Issues raised at October 22, 2015 meeting

Item	Location	Concern	Recommendation
1	33rd St (old) & Steeves Ave	marking separate northbound & southbound traffic	Lane markings not recommended on local roadways.
2	Diefenbaker Dr & Pearson Pl	Replace pedestrian activated signal with traffic signal	Traffic signals are typically recommended on collector or arterial roadways to facilitate higher traffic flows; since Pearson Pl is a local roadway that ends only 90m from the intersection, traffic signals are not recommended.
3	Diefenbaker Dr & Laurier Dr	Left turn doesn't get activated as much (takes 4 cars to activate left-turn signal)	Documented for further review as part of Major Intersection Reviews.
4	Diefenbaker Dr (westbound past Steeves)	Need warning signage to indicate dead end	This leads to Kensington, which is still being developed. No further recommendations.
5	33rd St & Confederation Dr	Westbound on 33rd St onto Confederation Dr - issues with yield signs. Needs to be reviewed	No issues noted during site check.
6	John A. MacDonald Rd & Steeves Ave	Change yield sign to stop sign	As per Policy C07-007, stop signs are warranted along bus routes. Add to list of recommendations.
7	Diefenbaker Dr	Parking enforcement for "10m rule"	Forwarded to Parking Enforcement
8	Steeves Ave & John A. MacDonald Rd	School buses stopping near intersection to drop off students; pedestrian safety concerns	Forwarded comments to School Division.
9	33rd St & 33rd St (eastbound at stop signs)	Drivers stopping on north leg because stop sign is visible; difficult to look back (from south leg) to see drivers on north leg	Request sent to sign shop to add a board on the left side of the stop sign so it isn't visible from the north side. No issues noted for driver visibility looking back (from south leg) to see drivers on north leg. Drivers can stop further back from the stop line to see back.
10	Steeves Ave	Snow bank left on road. Snow removal needed. This is a transit / school bus route.	Forwarded to Public Works
11	Confederation Dr and Diefenbaker Dr	Icy conditions; dangerous intersection	Collision analysis indicated "Road Conditions" were a contributing factor; forwarded to Public Works and requested priority snow clearing

Decision Matrix – Recommendations proposed at October 22, 2015 meeting

Item	Location	Recommendation	Reason	Group 1	Group 2	Group 3	Group 4	Decision
1	33rd St & Byng Ave	Standard pedestrian crosswalk (west leg)	Improve pedestrian safety					Carried.
2	Steeves Ave & Diefenbaker Dr	Curb extension on northeast corner (on Diefenbaker Dr)	Reduce speed when turning from Diefenbaker (westbound) to Steeves Ave (northbound)	Not in favour	Not in favour	Not in favour. Difficult to turn left from Steeves. Address sightlines by installing parking restrictions (especially on northwest corner). Sanding needed in winter because it's very icy.	Not in favour	Removed.
3	Steeves Ave & 33rd St (north intersection)	Add name blade on right side	Improve visibility of street name sign					Carried.
4	Diefenbaker Dr & Centennial Dr	Add hazard board to stop sign; install oversized pedestrian signs; add zebra crosswalk to south leg with additional pedestrian signs	Enhance driver compliance at stop sign; improve pedestrian safety			Difficult to make left-turn from Centennial Dr. Sightlines need to be reviewed. Difficult to see north from Centennial Dr. Parking restrictions may help.		Carried. 15m parking restriction will be added on northwest corner (on Diefenbaker Dr) to improve sightlines.
5	33rd St & Tilley	Zebra pedestrian crosswalk (west leg)	Improve pedestrian safety (connects to Confederation Park School)					Carried.
6	John A McDonald - in front of Confederation Park School	Send speed data to Police Service to consider enforcement during school hours	Reduce speed (during school hours)	Add to photo radar locations				Carried. Photo radar program is operated by SGI.
7	33rd St; Confederation Dr; Diefenbaker Dr	Install speed display boards; Send speed data to Police Services to consider enforcement	Reduce speed	John A MacDonald (in front of school); Diefenbaker Dr - Douglas to Steeves Ave; Centennial Dr school zones; Confederation Dr near Palmer Pl		Add Steeves Ave (southbound) install at Carter Cres (south) & northbound install on Carter Cres (north); 33rd St install before Byng Ave (eastbound); Diefenbaker Dr install at curve (northbound), Fisher Cres (westbound), or south of Centennial Dr (northbound)		Carried. See Speed Board & Enforcement Location Selection

Greystone Heights Neighbourhood Traffic Review

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:
That the Neighbourhood Traffic Review for the Greystone Heights neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process.

Topic and Purpose

The purpose of this report is to provide information on the Neighbourhood Traffic Review (NTR) for the Greystone Heights neighbourhood.

Report Highlights

A Neighbourhood Traffic Plan for the Greystone Heights neighbourhood was developed in consultation with the community in response to concerns such as speeding, traffic shortcutting, and pedestrian safety. The plan will be implemented over time as funding for the improvements is available.

Strategic Goal

This report supports the Strategic Goal of Moving Around by providing a plan to guide the installation of traffic calming devices and pedestrian safety enhancements to improve the safety of pedestrians, motorists, and cyclists.

Background

A public meeting was held in May 2015 to identify traffic concerns and potential solutions within the Greystone Heights neighbourhood. Representatives from the Saskatoon Police Service were in attendance to address traffic enforcement issues. Based on the residents' input provided at the initial public meeting and the analysis of the traffic data collected, a Neighbourhood Traffic Plan was developed and presented to the community at a second public meeting held in December 2015.

Report

The development and implementation of the Neighbourhood Traffic Plan includes four stages:

1. Identify existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon.ca website;
2. Develop a draft traffic plan based on residents' input and traffic assessments;
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 City Council for adoption; and
4. Implement the proposed measures in a specific time frame, short-term (1 to 2 years), medium-term (3 to 5 years), or long-term (more than 5 years).

The majority of concerns identified during the consultation included shortcutting, speeding, pedestrian safety, and parking.

The Administration is recommending the following modifications to improve safety in the Greystone Heights neighbourhood:

- Speed Display Board
- Parking restrictions
- 20 kph speed signs
- School zone extension
- Pedestrian crosswalks
- Pedestrian accessibility ramps
- Median islands
- Curb extensions
- Parking enforcement
- Speeding enforcement
- Additional traffic counts (spring 2016)

The installation of each proposed improvement will be implemented in three specific time frames as follows:

Short-term (1 to 2 years)	Temporary traffic calming measures, signage, pavement markings, enforcement, speed display boards
Medium-term (3 to 5 years)	Permanent traffic calming devices, accessible pedestrian ramps, roadway realignment, sidewalks (in some cases), major intersection reviews
Long-term (5 years plus)	Roadway realignment, sidewalks

If approved by City Council, all of the temporary traffic calming measures will be installed in 2016. The annual report on the NTRs will provide an update on the status of converting the temporary measures to a permanent condition.

The Greystone Heights Neighbourhood Traffic Review is included in Attachment 1.

Public and/or Stakeholder Involvement

In May 2015, a public meeting was held to discuss traffic concerns and identify potential solutions. The feedback was used to develop the Neighbourhood Traffic Plan which was presented at a follow-up public meeting in December 2015. Additional feedback received at the follow-up public meeting was also incorporated into the NTR.

Feedback was provided by internal civic stakeholders of various divisions and departments: Public Works, Saskatoon Transit, Planning & Development, Saskatoon Light & Power, Saskatoon Police Service, and the Saskatoon Fire Department on the proposed improvements, which was incorporated into the recommended NTR.

Communication Plan

The final Neighbourhood Traffic Plan will be shared with the residents of the impacted neighbourhood using several methods: City website, the Community Association, communication forums (i.e. website, newsletter), and by a direct mail-out.

Environmental Implications

The overall impact of the recommendations on traffic characteristics, including the impacts on greenhouse gas emissions, has not been quantified at this time.

Financial Implications

The implementation of the Neighbourhood Traffic Plan will have significant financial implications. The costs are summarized in the following table:

Item	2016	Beyond 2016
Traffic Calming & Speed Display Board	\$ 4,000	\$190,000
Traffic Control Signs	750	-
Pedestrian Safety	1,000	14,000
Miscellaneous Signs	3,000	-
Traffic Counts	1,450	-
TOTALS	\$10,200	\$204,000

There is sufficient funding within Capital Project #1512 – Neighbourhood Traffic Management to undertake the work in 2016, which includes implementation of all signage and temporary traffic calming measures.

The remainder of the work beyond 2016 includes construction of permanent traffic calming measures and accessibility ramps, and will be considered alongside all other improvements identified through the NTR Program. The Administration’s annual budget submission package will include the list of projects recommended to be funded, and the rationale used to prioritize the projects.

Other Considerations/Implications

There are no options, policy, privacy or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

If adopted by City Council, temporary traffic calming devices and signage will be implemented during the 2016 construction season.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Greystone Heights Neighbourhood Traffic Review, March 4, 2016

Report Approval

Written by: Justine Nyen, Traffic Safety Engineer, Transportation

Greystone Heights Neighbourhood Traffic Review

Reviewed by: Jay Magus, Engineering Manager, Transportation
Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS JN – Greystone Heights Neighbourhood Traffic Review

CITY OF SASKATOON
2015 NEIGHBOURHOOD TRAFFIC REVIEWS

Greystone Heights

March 4, 2016

Greystone Heights Neighbourhood Traffic Review

March 4, 2016

Authorization

Prepared By:



Justine Nyen, P.Eng.

Transportation Engineer

Checked By:



Shirley Matt, P.Eng.

Senior Transportation Engineer

Acknowledgements

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

- Greystone Heights residents
- Greystone Heights Community Association
- Saskatoon Police Service
- Saskatoon Light & Power
- Saskatoon Fire Department
- City of Saskatoon Environmental Services
- City of Saskatoon Transit
- City of Saskatoon Planning & Development
- City of Saskatoon Public Works
- City of Saskatoon Community Standards
- City of Saskatoon Transportation
- Great Works Consulting
- Councillor Eric Olauson

Cover Photograph Kara Toews

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 revised program involves additional community and stakeholder consultation that provides the environment for neighbourhood residents and City staff to work together in developing solutions that address traffic concerns. The process is outlined in the *Traffic Calming Guidelines and Tools*, City of Saskatoon, 2013.

A public meeting was held in May of 2015 to identify traffic concerns and potential solutions within the Greystone Heights neighbourhood. 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 Management Plan was developed and presented to the community at a follow-up meeting held in December 2015.

A summary of recommended improvements for the Greystone Heights neighbourhood are included in **Table ES-1**. The summary identifies the locations, the recommended improvement, and a schedule for implementation. The schedule to implement the Traffic Management Plan can vary depending on the complexity of the proposed improvement. According to the *Traffic Calming Guidelines and Tools* document, the time frame may range from short-term (1 to 2 year); medium-term (3 to 5 years) and long-term (5 years plus). Accordingly, the specific time frame to implement the improvements for these neighbourhoods ranges from 1 to 5 years.

The resulting proposed Greystone Heights Traffic Management Plan is illustrated in **Exhibit ES-1**.

Table ES-1: Greystone Heights Neighbourhood Recommended Improvements

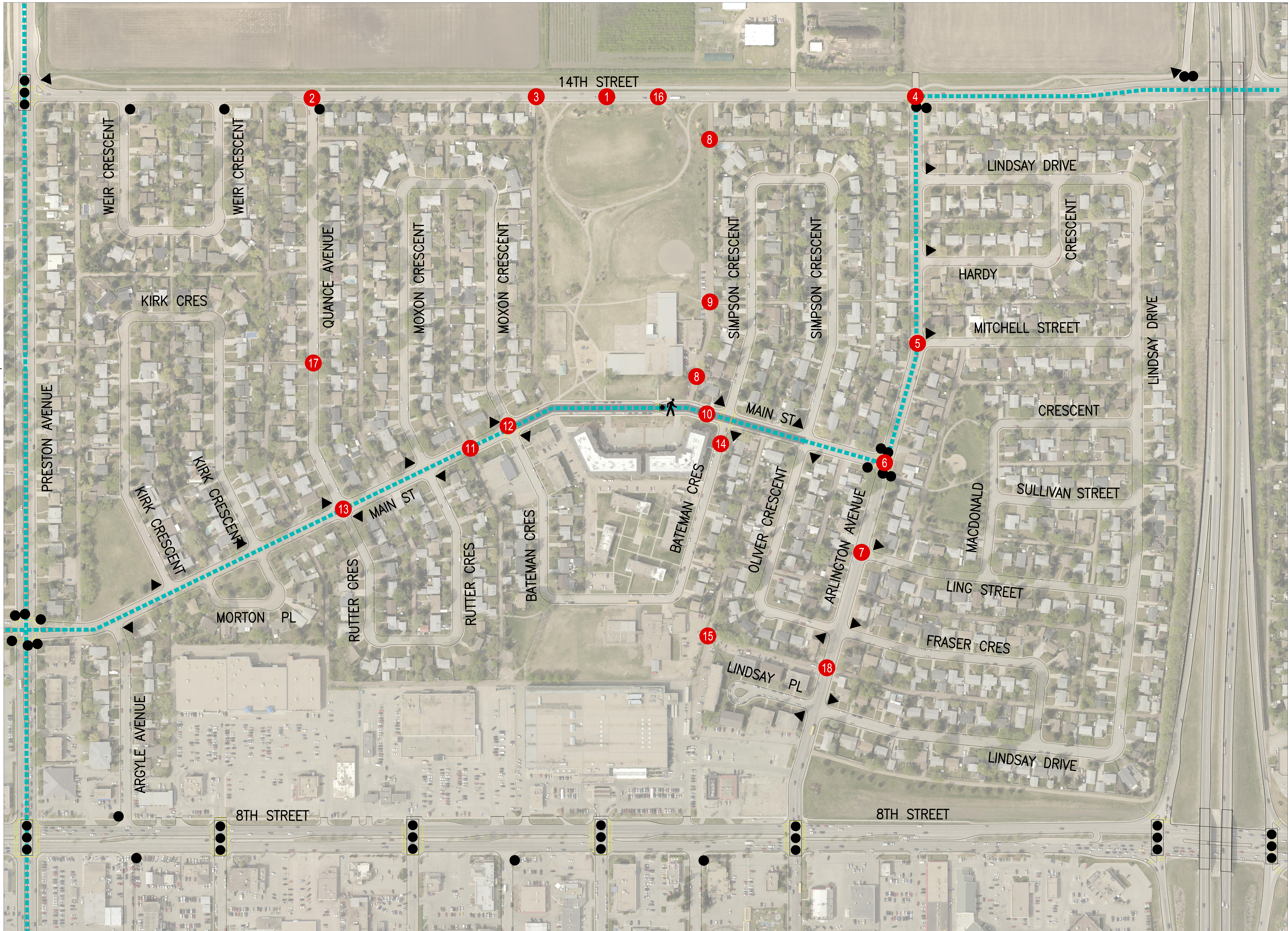
Item	Location	Proposed Measure	Reason
1	14 th Street between Quance Avenue & Arlington Avenue	Speed Display Board	Reduce speed
2	14 th Street & Quance Avenue	"No Parking" signs 15m from intersection on southwest corner. Pedestrian & traffic volume count in spring 2016 to determine need for pedestrian crossing.	Improve pedestrian safety & enhance visibility
3	14 th Street & Greystone Heights Park (pathway connection on west end)	Pedestrian & traffic volume count in spring to determine if crosswalk should be moved from Quance Avenue.	Improve pedestrian safety near park (school route)
4	14 th Street & Arlington Avenue	Zebra Crosswalks & "No Parking" Signs (15m southeast and southwest corners)	Improve pedestrian safety & enhance visibility
5	Arlington Avenue & Mitchell Street	Curb extension on northeast corner and median island on south leg	Reduce speed
6	Arlington Avenue & Main Street	Median Island on south leg with additional stop sign, zebra crosswalks, & pedestrian accessibility ramps (northwest & southwest corners). Pedestrian & traffic volume count in spring 2016 to determine need for additional curb extension.	Enhance visibility of stop sign northbound & improve pedestrian safety
7	Arlington Avenue & Ling Street	"No Parking" Sign (10m on southeast corner)	Enhance visibility
8	Lane east of Greystone Heights School (between Main Street & 14 th Street)	20kph Speed Signs	Reduce speed
9	Lane east of Greystone Heights School (near lane to Simpson Crescent)	"No Parking" Signs & Parking Enforcement	Enhance visibility (near walkway leading to park)
10	Main Street - west of Bateman Crescent/Simpson Crescent	Remove "No Parking" signs on south side	Increase parking for parents picking up/dropping off students
11	Main Street - west side of Moxon Crescent/Bateman Crescent	Extend School Zone to west side of Moxon Crescent/Bateman Crescent	Improve pedestrian safety & reduce speed near school

Table ES-1 Continued

Item	Location	Proposed Measure	Reason
12	Main Street & Moxon Crescent (east leg)	Curb extensions on northeast & southwest corners; pedestrian accessibility ramps on northwest & southeast corners	Reduce speed & improve pedestrian safety & connectivity near school
13	Main Street & Quance Avenue	Stop signs	Enhance safety along bus route
14	Bateman Crescent (east leg) near Main Street	School zone sign prior to Main Street access	Ensure drivers are aware they're entering school zone
15	Back lane between Bateman Crescent/Oliver Crescent/Lindsay Place	Collect traffic volume data in spring 2016	Determine if traffic volumes are within acceptable range (parents using loop to drop-off/pick-up students)
16	14 th Street	Send information to Parking Services to provide enforcement.	Improve safety along route
17	Quance Avenue	Speeding enforcement (send peak hour data to Saskatoon Police Service for further consideration to enforce)	Reduce Speed
18	Arlington Avenue	Speeding enforcement (send peak hour data to Saskatoon Police Service for further consideration to enforce)	Reduce Speed

LEGEND

- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- BUS ROUTE
- ▭ SCHOOL ZONE
- 🚦 EXISTING TRAFFIC SIGNAL
- 🚶 PEDESTRIAN ACTUATED SIGNAL LOCATION
- 🚶 ACTIVE PEDESTRIAN CORRIDOR SIGNAL LOCATION



GREYSTONE HEIGHTS TRAFFIC PLAN

Exhibit ES-1

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1 INTRODUCTION

As the City of Saskatoon continues to grow many neighbourhoods face growing issues such as pedestrian safety, cut-through traffic, and increased speeds on local roads within neighbourhoods. In August 2013, City Council adopted the *City of Saskatoon Traffic Guidelines and Tools* that outlined 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 that were developed by the Administration and residents in collaborative fashion. Accordingly, this report provides the traffic management plan for Greystone Heights.

The Greystone Heights neighbourhood is located on the east side of the South Saskatchewan River and is bound by 8th Street to the south, Circle Drive to the east, 14th Street to the north, and Preston Avenue to the west. The area use is mostly residential, with elementary schools on Main Street (Greystone Heights School) and Bateman Crescent (Ecole St. Matthew School). Commercial areas within the neighbourhood are mostly along 8th Street.

The development and implementation of the traffic management plan includes four stages:

- **Stage 1** - Identify existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon Website.
- **Stage 2** - Develop a draft traffic plan based on resident's 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 City Council for approval.
- **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 present the study findings and recommendations.

2 IDENTIFYING ISSUES, CONCERNS, AND POSSIBLE SOLUTIONS

A public meeting was held in May of 2015 to identify traffic concerns within the neighbourhood. At the meeting, residents were given the opportunity to express their concerns and suggest possible solutions. The meeting minutes are provided in **Appendix A**.

The following pages summarize the concerns and suggested solutions identified during the initial consultation with the neighbourhood residents.

2.1 Concern 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). In the case of Greystone Heights, the bordering arterial street (8th Street, Preston Avenue) is designated to accommodate larger traffic volumes.

As speeding often accompanies shortcutting, these concerns have been grouped into one category.

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

- Arlington Avenue
- 14th Street
- Back lane east of Greystone Heights School
- Main Street
- Quance Avenue
- Back lane between Preston Avenue & Argyle Avenue and 8th Street & Main Street

Proposed solutions identified by residents:

- Install stop signs
- Install traffic calming (ie. median islands, curb extensions, speed bumps, speed humps)
- Reduce speed limit
- Implement/extend school zone
- Install gate (back lane east of Greystone Heights School)
- Install speed display board

2.2 Concern 2 – Pedestrian Safety

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

Pedestrian crosswalks need to adhere to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004 which states the following:

“The installation of appropriate traffic controls at pedestrian crossings shall be based on warrants listed in the document entitled *Traffic Control at Pedestrian Crossings – 2004* approved by City Council in 2004.”

Neighbourhood concerns regarding pedestrian safety were at the following locations:

- 14th Street & Arlington Avenue
- Arlington Avenue & Main Street
- 14th Street (at pathway connections)
- 14th Street & Quance Avenue
- Walkway east of Greystone Heights School (connects to back lane)
- Main Street (in front of Greystone Heights School)

Proposed solutions identified by residents:

- Install pedestrian crossing
- Install active pedestrian device
- Pedestrian device in front of school needs to flash longer
- Implement/extend school zone
- Make school zone speed limit effective in summer and evening hours
- Implement flashing lights in school zones

2.3 Concern 3 – Traffic Control

Traffic control signs are used in order to assign the right-of-way. City of Saskatoon Council Policy C07-007 *Traffic Control – Use of Stop and Yield Signs*, April 26, 2009 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 volume, collision history, and must have a balanced volume from each leg to operate sufficiently.

Neighbourhood concerns regarding traffic controls were at the following locations:

- 14th Street & Arlington Avenue
- Arlington Avenue & Fraser Crescent
- 14th Street & Quance Avenue
- Main Street & Simpson Crescent (west)
- Main Street & Moxon Crescent (east)

Proposed solutions identified by residents:

- Install all-way stop (i.e. three-way stop or four-way stop)
- Install traffic signals

2.4 Concern 4 – Parking

Parking is allowed on all city streets unless signage is posted. According to City of Saskatoon Bylaw 7200, *The Traffic Bylaw*, December 16, 2013, vehicles are restricted from parking within 10 metres of an intersection and one metre of a driveway crossing.

Neighbourhood concerns regarding parking were at the following locations:

- 14th Street & Arlington Avenue
- Arlington Avenue & Mitchell Street
- Arlington Avenue & Ling Crescent
- Back lane east of Greystone Heights School
- Condo site across the street from Greystone Heights School (parents are parking in lot)
- Main Street (near school)
- Main Street & Quance Avenue

Proposed solutions identified by residents:

- Implement parking restrictions
- Parking enforcement
- Implement pick-up/drop-off zone in front of school
- Widen road to add loading zone

2.5 Concern 5 – Maintenance

Condition of the streets in Greystone Heights was identified as a concern (i.e. snow clearing, potholes, tree trimming, and temporary traffic calming devices).

In addition, street signs requiring maintenance (i.e. knocked over, obstructed by trees, damaged) were also identified as a concern.

Neighbourhood concerns regarding maintenance were:

- 14th Street & Arlington Avenue – tree trimming required
- 14th Street – snow removal needed
- Back lane behind old Co-op on 8th Street is full of garbage and muddy in spring
- Back lane east of Staples has gate that's not always working
- 50kph speed sign in Simpson Crescent near walkway should be moved
- Pave back lanes

2.6 Concern 6 – Major Intersections

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

Neighbourhood concerns regarding major intersections:

- 8th Street & Arlington Avenue:
 - Congestion on Arlington Avenue for vehicles southbound
 - Difficult to make left turn onto 8th Street
 - Too narrow on Arlington Avenue
 - Traffic gets backed up onto 8th Street due to car wash on south side
 - Driver confusion
 - Drivers don't know where lanes are
 - It's a race to get across

Proposed solutions identified by residents:

- 8th Street & Arlington Avenue:
 - Implement separate green light for each leg, similar to Acadia Drive & 8th Street
 - Install southbound on-ramp
 - Install dedicated left turn lanes
 - Install dedicated right turn lane westbound on 8th Street
 - Parking restrictions needed
 - Install sign to direct vehicles on Arlington Avenue into proper lane.

2.7 Concern 7 – Preston Avenue Corridor Study

A comprehensive review was conducted in response to future traffic demands along Preston Avenue between 14th Street and Circle Drive. Public consultation began in 2011. During the consultation and review process, a number of current and future operations of the roadway, needs, and priorities were identified. A list of recommended improvements was developed, including a few locations along the border of the Greystone Heights neighbourhood (8th Street to 14th Street). Recommendations are as follows:

1. Preston Avenue & 14th Street – the existing Jersey barrier will be replaced with a permanent concrete island in order to properly channelize the southbound right-turn
2. Preston Avenue & Main Street – roundabout
3. Preston Avenue between Main Street & 8th Street – median closure and parking restrictions

Refer to **Appendix B** for full details of the Preston Avenue Corridor Study.

Residents of the Greystone Heights neighbourhood were provided information on the Preston Avenue Corridor Study and the proposed recommendations.

Neighbourhood concerns regarding the Preston Avenue corridor and the proposed recommendations were:

- Preston Avenue & Main Street:
 - Not in favour of proposed roundabout
 - Kids use route to go to school
 - Roundabout causes pedestrian safety concerns
 - Parking on street on Main Street (between Preston Avenue & Argyle Avenue)
 - Problems in southbound direction

- Preston Avenue & 14th Street:
 - Long waits when no one is on opposing direction
 - Eastbound and westbound left turn improvements needed
 - Crossing east-west is an issue
 - Westbound to northbound right turn get backed up
- Preston Avenue & midblock near walkway – visibility issues
- Preston Avenue between 8th Street & Main Street:
 - Northbound left turn into Real Canadian Wholesale parking lot causes queuing northbound
 - Drivers are shortcutting through parking lot on east side of Preston Ave

Proposed solutions identified by residents:

- Preston Avenue & Main Street:
 - Consider no parking on north side west of Argyle Avenue and east of alley. Lane markings would also help; northeast side of intersection remove parking
 - Smooth curve on Main Street east of Preston Avenue
- Preston Avenue & 14th Street:
 - Traffic signals should be better timed or detection when vehicle is waiting
 - Continue 4 lanes of traffic on Preston Avenue south of 14th Street
 - Install left-turn lanes
 - Nicer blockade needed
 - Walk light needs to be pushed to activate
 - Automatic walk light
 - Southbound signs need to be better because drivers don't know curb lane turns into right-turn only lane coming from College Drive
 - Install "right-turn only" sign closer to College Drive
 - Extend southbound to eastbound left turn

- Preston Avenue & 8th Street – extend southbound green light in PM peak hour (4:00pm to 7:00pm)
- Preston Avenue & midblock near walkway – crossing needed
- Preston Avenue between 8th Street & Main Street:
 - Remove parking because it prevents right turn onto Main Street (northbound) and traffic gets backed up at four-way stop
 - Real Canadian Wholesale driveway – barrier should block northbound traffic from turning in/out.
 - Implement timed parking restrictions

3 ASSESSMENT

3.1 Methodology

Stage 2 of the plan development included developing a draft traffic management 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:
 - Intersection turning moving counts
 - Pedestrian counts
 - Daily and weekly traffic counts
 - Average speed measurements
- 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 volumes (peak hours, daily, and weekly), travel speed, and pedestrian movements. A map of the traffic data collection is shown in **Appendix C**.

3.2 Travel Volumes and Travel Speeds

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**.

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

Characteristics	Classifications					
	Back Lanes		Locals		Collectors	
	Residential	Commercial	Residential	Commercial	Residential	Commercial
Traffic function	Access function only (traffic movement n`ot a consideration)		Access primary function (traffic movement secondary consideration)		Traffic movement and land access of equal importance	
Average Daily Traffic (vehicles per day)	<500	<1,000	<1,000	<5,000	<5,000	8,000-10,000
Typical Speed Limits (kph)	20		50		50	
Transit Service	Not permitted		Generally avoided		Permitted	
Cyclist	No restrictions or special facilities		No restrictions or special facilities		No restrictions or special facilities	
Pedestrians	Permitted, no special facilities		Sidewalks on one or both sides	Sidewalks provided where required	Typically sidewalks provided both sides	Sidewalks provided where required
Parking	Some restrictions		No restrictions or restriction on one side only		Few restrictions other than peak hour	

Travel 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 Greystone Heights neighbourhood is 50kph, except for school zones where the speed limit is 30kph from September and June, 8:00am to 5:00pm, excluding weekends.

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

Table 3-2: Speed Studies and Average Daily Traffic Counts (2015)

Street	Between	Class	Average Daily Traffic (vpd)	Speed (kph)
Back lane between Preston Avenue & Argyle Avenue	8 th Street & Main Street	lane	62	34.5
Back lane east of Greystone Heights School	Main Street & 14 th Street		120 & 50	NA
Quance Avenue	Main Street & 14 th Street	local	575	49.4
Main Street	Moxon Crescent & Simpson Crescent (summer count)	minor collector	2,954	49.7
Arlington Avenue	Fraser Crescent & Lindsay Drive	major collector	5,638	52.3
Arlington Avenue	Hardy Crescent & Lindsay Drive		4,585	54
14 th Street	Quance Avenue & Arlington Avenue		6,967	60
14 th Street north of Greystone Park	Arlington Avenue & Circle Drive		9,035	58

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*, January 26, 2009.

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

Results of the studies are shown in **Table 3-3**.

Table 3-3: All-Way Stop Assessments

Location	Peak Hour Count	Average Daily Traffic (vpd)	# Collisions within most recent 12 months	% of Traffic from minor street	Traffic Signals or all-way stop within 200m	All-Way Stop Warranted
14 th Street & Arlington Avenue	1,156	12,730	1	17%	no	All-Way Stop Not Warranted

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

3.4 Pedestrian Assessments

Pedestrian assessments are conducted to determine the need for pedestrian actuated signalized crosswalks which, in adherence to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004, are typically active pedestrian corridor (flashing yellow lights) or pedestrian actuated signals. A warrant system assigns points for a variety of conditions that exist at the crossing location, including:

- Number of traffic lanes to be crossed;
- presence of a physical median;
- posted speed limit of the street;
- distance the crossing point is to the nearest protected crosswalk point; and
- number of pedestrian and vehicles at the location.

Pedestrian and traffic data is collected during the five peak hours of: 8:00am to 9:00am, 11:30am to 1:30pm, and 3:00pm to 5:00pm.

In addition, if a pedestrian actuated crosswalk is not warranted, a standard marked pedestrian crosswalk, or a zebra crosswalk (i.e. striped) may be considered. A summary of the pedestrian studies are provided in **Table 3-4**.

Table 3-4: Pedestrian Assessment

Location	Number of Pedestrians Crossing During Peak Hours	Results
14 th Street & Arlington Avenue	6	Pedestrian Device Not Warranted

Details of the pedestrian actuated signal and active pedestrian corridor assessments are provided in **Appendix E**.

3.5 Collision Analysis

The most recently available five year collision statistics (2009 to 2013) were provided by 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. These include:

- 14th Street & Arlington Avenue
- Main Street & Arlington Avenue (three-way stop installed in 2011)

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

4 PLAN DEVELOPMENT

4.1 Methodology

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

- Based on the assessments, prepare a plan that illustrates the appropriate recommended improvement
- 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 management plan, including the location, recommended improvement, and the 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*, January 26, 2009, “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 Speeding and Shortcutting Improvements

Location	Recommended Improvement	Justification
14 th Street between Quance Avenue & Arlington Avenue	Speed Display Board	Reduce speed (north of Greystone Heights Park)
Arlington Avenue & Mitchell Street	Curb extension on northeast corner and median island on south leg	Reduce speed along bus & school route
Arlington Avenue & Main Street	Median Island on south leg with additional stop sign	Enhance visibility of stop sign northbound
Lane east of Greystone Heights School (between Main Street & 14 th Street)	20kph Speed Signs	Reduce speed near school
Main Street - west side of Moxon Crescent/Bateman Crescent	Extend School Zone to west side of Moxon Crescent/Bateman Crescent	Reduce speed near school
Main Street & Moxon Crescent (east leg)	Curb extensions on northeast & southwest corners	Reduce speed near school
Quance Avenue	Speeding enforcement (send peak hour data to Saskatoon Police Service for further consideration to enforce)	Reduce Speed
Arlington Avenue	Speeding enforcement (send peak hour data to Saskatoon Police Service for further consideration to enforce)	Reduce speed along bus & school route
Bateman Crescent (east leg) near Main Street	School zone sign prior to Main St access	Ensure drivers are aware they're entering school zone
Back lane between Bateman Crescent/Oliver Crescent/Lindsay Place	Collect traffic volume data in spring 2016	Determine if traffic volumes are within acceptable range (parents using loop to drop-off/pick-up students)

4.3 Pedestrian Safety

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

Table 4-2: Recommended Pedestrian Safety Improvements

Location	Recommended Improvement	Justification
14 th Street & Quance Avenue	Pedestrian & traffic count in spring 2016 to determine need for pedestrian crossing.	Improve pedestrian safety (connects to pathway on north side)
14 th Street & Greystone Heights Park (pathway connection on west end)	Pedestrian & traffic count in spring to determine if crosswalk should be moved from Quance Avenue.	Improve pedestrian safety near park (school route)
14 th Street & Arlington Avenue	Zebra Crosswalks & No Parking Signs (15m southeast and southwest corners)	Improve pedestrian safety (connects to pathway on north side)
Main Street & Moxon Crescent (east leg)	Pedestrian accessibility ramps on northwest & southeast corners	Improve pedestrian safety & connectivity near school
Arlington Avenue & Main Street	Zebra crosswalks & pedestrian accessibility ramps (northwest & southwest corners). Pedestrian & traffic count in spring 2016 to determine need for additional curb extension.	Improve pedestrian safety (school route)
Main Street - west side of Moxon Crescent/Bateman Crescent	Extend School Zone to west side of Moxon Crescent/Bateman Crescent	Improve pedestrian safety near school

4.4 Traffic Control

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 Traffic Control Improvements

Location	Recommended Improvement	Justification
Main Street & Quance Avenue	Stop signs	Ensure driver compliance & increase intersection safety along bus route

4.5 Parking Improvements

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

Table 4-4: Recommended Parking Improvements

Location	Recommended Improvement	Justification
14 th Street & Quance Avenue	"No Parking" signs 15m from intersection on southwest corner	Enhance visibility
14 th Street & Arlington Avenue	"No Parking" Signs (15m southeast and southwest corners)	Enhance visibility
Arlington Avenue & Ling Street	"No Parking" Sign (10m on southeast corner)	Enhance visibility
Lane east of Greystone Heights School (near lane to Simpson Crescent)	"No Parking" Signs & Parking Enforcement	Enhance visibility (near walkway leading to park)
Main Street - west of Bateman Crescent/Simpson Crescent	Remove "No Parking" signs on south side	Increase parking for parents picking up/dropping off students
14 th Street	Send information to Parking Services to provide enforcement.	Ensure drivers aren't parking in restricted area

4.6 Follow Up Consultation – Presentation of Traffic Management Plan

The initial recommended improvements were presented at a follow-up public meeting in December 2015. Meeting minutes are provided in **Appendix A**. Recommended improvements that were not supported by the residents 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**. A decision matrix for additional comments received after the draft traffic plan is also included in **Appendix G**.

The recommendations were circulated to the Civic Divisions (including Saskatoon Police Service, Light & Power, Saskatoon Fire Department, Environmental Services, and Transit) to gather comments and concerns. General support was received.

4.7 Major Intersection Reviews and Corridor Studies

The mandate for the Neighbourhood Traffic Management Reviews is to focus on neighbourhood streets such as local roads and collector roads. As almost all neighbourhoods are bound by arterial streets, such as 8th Street and Preston Avenue, it is not uncommon to have residents raise issues regarding these streets. However, arterial streets are much more complex than local or collector streets due to larger traffic volumes, different types of drivers (commuters), coordinated traffic signals, transit accommodation, and potentially many commercial accesses. To properly address these, the typical transportation engineering approach would require a corridor study or a major intersection review, both of which are expensive and require significant resources. Through the Neighbourhood Traffic Reviews, the City is compiling a list of issues on arterial streets. The Transportation Division is working to prioritize the issues, identify the work requirements, and secure funding to complete these types of assessments.

5 RECOMMENDED PLAN & COST ESTIMATES

Stage 4, the last stage of the process, is to install the recommended improvements for the Greystone Heights neighbourhood within the specified timeframe. The timeframe 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 signage will be completed short-term (1 to 2 years).

Major intersection reviews are based on the number of other locations to be reviewed city-wide and the availability of funding. The timeline for review will be medium-term (3 to 5 years).

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

- **Table 5-1:** Traffic Calming Cost Estimate
- **Table 5-2:** Traffic Control Signs Cost Estimate
- **Table 5-3:** Pedestrian Safety Cost Estimate
- **Table 5-4:** Miscellaneous Signs Cost Estimate
- **Table 5-5:** Additional Traffic Counts Cost Estimate
- **Table 5-6:** Total Cost Estimate

Table 5-1: Traffic Calming Cost Estimate

Location	Device	Cost Estimate		Time Frame
		Temporary	Permanent	
14 th Street between Quance Avenue & Arlington Avenue	Speed Display Board	\$1,500	\$5,000	1 to 5 years (traffic calming devices will be installed temporarily until proven effective)
Arlington Avenue & Mitchell Street	Curb extensions	\$1,000	\$90,000	
Arlington Avenue & Main Street	Median Island	\$500	\$5,000	
Main Street & Moxon Crescent (east leg)	Curb extensions	\$1,000	\$90,000	
Totals		\$4,100	\$190,000	

Table 5-2: Traffic Control Signs Cost Estimate

Location	Device	Number of Signs	Cost Estimate	Time Frame
Main Street & Quance Avenue	Stop sign	2	\$500	1 to 2 years
Arlington Avenue & Main Street	Stop sign	1	\$250	
Totals		3	\$750	

Table 5-3: Pedestrian Safety Cost Estimate

Location	Device	Cost Estimate		Time Frame
		Temporary	Permanent	
14th Street & Arlington Avenue	Zebra Crosswalks	\$500	\$0	1 to 2 years
Arlington Avenue & Main Street	Zebra crosswalks	\$500	\$0	
Arlington Avenue & Main Street	Pedestrian accessibility ramps (2)	\$0	\$7,000	
Main Street & Moxon Crescent (east leg)	Pedestrian accessibility ramps (2)	\$0	\$7,000	
Totals		\$1,000	\$14,000	

Table 5-4: Miscellaneous Signs Cost Estimate

Location	Device	Number of Signs	Cost Estimate	Time Frame
14 th Street & Quance Avenue	"No Parking" sign	1	\$250	1 to 2 years
14 th Street & Arlington Avenue	"No Parking" sign	2	\$500	
Arlington Avenue & Ling Street	"No Parking" sign	1	\$250	
Lane east of Greystone Heights School (between Main Street & 14 th Street)	20kph sign	2	\$500	
Lane east of Greystone Heights School (near lane to Simpson Crescent)	"No Parking" sign	5	\$1,250	
Bateman Crescent (east leg) near Main Street	School zone sign	1	\$250	
Totals		12	\$3,000	

Table 5-5: Additional Traffic Counts Cost Estimate

Location	Count	Cost Estimate
14 th Street & Quance Avenue	Peak hour turning movement count (including pedestrians)	\$400
14 th Street & Greystone Heights Park (pathway connection on west end)	Peak hour turning movement count (including pedestrians)	\$400
Arlington Avenue & Main Street	Peak hour turning movement count (including pedestrians)	\$400
Back lane between Bateman Crescent/Oliver Crescent/Lindsay Place	3-day traffic volume count	\$250
Total		\$1,450

Table 5-6: Total Cost Estimate

Category	Signing, Temporary Traffic Calming & Traffic Counts	Permanent
Traffic Calming	\$4,000	\$190,000
Traffic Control Signs	\$750	\$0
Pedestrian Safety	\$1,000	\$14,000
Miscellaneous	\$3,000	\$0
Traffic Counts	\$1,450	\$0
Totals	\$10,200	\$204,000

The total cost estimate for the signage and temporary traffic calming to be installed in 2016 is **\$10,200**. The total cost estimate for the installation of future permanent devices is **\$204,000**.

Resulting from the plan development process, the recommended improvements, including the location, type of improvement, and schedule for implementation are summarized in **Table 5-7**.

The resulting recommended Greystone Heights neighbourhood Traffic Management Plan is illustrated in **Exhibit 5-1**.

Table 5-7: Greystone Heights Neighbourhood Recommended Improvements

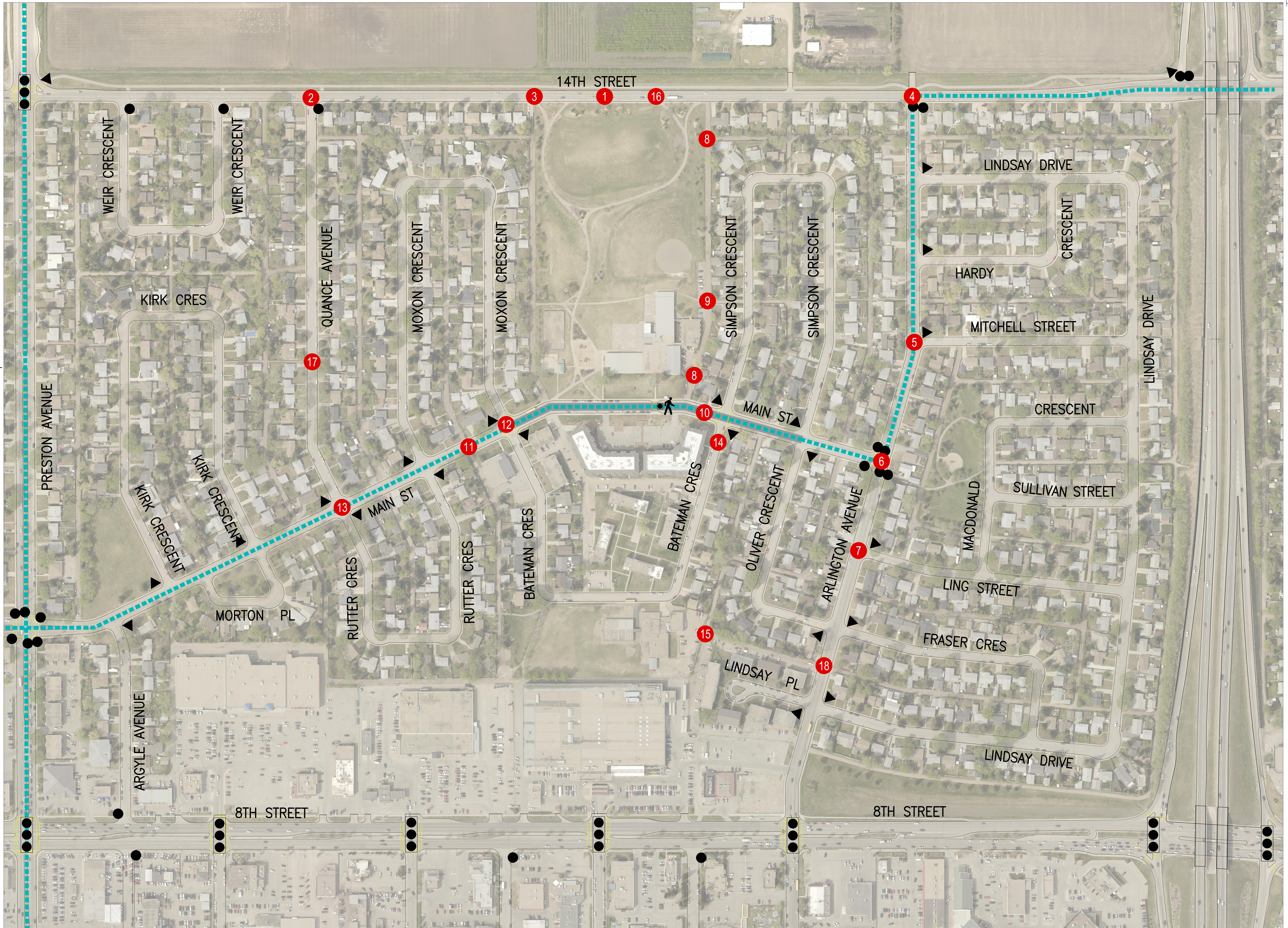
Item	Location	Proposed Measure	Reason
1	14 th Street between Quance Avenue & Arlington Avenue	Speed Display Board	Reduce speed
2	14 th Street & Quance Avenue	"No Parking" signs 15m from intersection on southwest corner. Pedestrian & traffic volume count in spring 2016 to determine need for pedestrian crossing.	Improve pedestrian safety & enhance visibility
3	14 th Street & Greystone Heights Park (pathway connection on west end)	Pedestrian & traffic volume count in spring to determine if crosswalk should be moved from Quance Avenue.	Improve pedestrian safety near park (school route)
4	14 th Street & Arlington Avenue	Zebra Crosswalks & "No Parking" Signs (15m southeast and southwest corners)	Improve pedestrian safety & enhance visibility
5	Arlington Avenue & Mitchell Street	Curb extension on northeast corner and median island on south leg	Reduce speed
6	Arlington Avenue & Main Street	Median Island on south leg with additional stop sign, zebra crosswalks, & pedestrian accessibility ramps (northwest & southwest corners). Pedestrian & traffic volume count in spring 2016 to determine need for additional curb extension.	Enhance visibility of stop sign northbound & improve pedestrian safety
7	Arlington Avenue & Ling Street	"No Parking" Sign (10m on southeast corner)	Enhance visibility
8	Lane east of Greystone Heights School (between Main Street & 14 th Street)	20kph Speed Signs	Reduce speed
9	Lane east of Greystone Heights School (near lane to Simpson Crescent)	"No Parking" Signs & Parking Enforcement	Enhance visibility (near walkway leading to park)
10	Main Street - west of Bateman Crescent/Simpson Crescent	Remove "No Parking" signs on south side	Increase parking for parents picking up/dropping off students
11	Main Street - west side of Moxon Crescent/Bateman Crescent	Extend School Zone to west side of Moxon Crescent/Bateman Crescent	Improve pedestrian safety & reduce speed near school

Table 5-7 Continued

Item	Location	Proposed Measure	Reason
12	Main Street & Moxon Crescent (east leg)	Curb extensions on northeast & southwest corners; pedestrian accessibility ramps on northwest & southeast corners	Reduce speed & improve pedestrian safety & connectivity near school
13	Main Street & Quance Avenue	Stop signs	Enhance safety along bus route
14	Bateman Crescent (east leg) near Main Street	School zone sign prior to Main Street access	Ensure drivers are aware they're entering school zone
15	Back lane between Bateman Crescent/Oliver Crescent/Lindsay Place	Collect traffic volume data in spring 2016	Determine if traffic volumes are within acceptable range (parents using loop to drop-off/pick-up students)
16	14 th Street	Send information to Parking Services to provide enforcement.	Improve safety along route
17	Quance Avenue	Speeding enforcement (send peak hour data to Saskatoon Police Service for further consideration to enforce)	Reduce Speed
18	Arlington Avenue	Speeding enforcement (send peak hour data to Saskatoon Police Service for further consideration to enforce)	Reduce Speed

LEGEND

- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- BUS ROUTE
- ▬ SCHOOL ZONE
- ⬆ EXISTING TRAFFIC SIGNAL
- ⬆ PEDESTRIAN ACTUATED SIGNAL LOCATION
- ⬆ ACTIVE PEDESTRIAN CORRIDOR SIGNAL LOCATION



GREYSTONE HEIGHTS TRAFFIC PLAN

Exhibit 5-1

APPENDIX A: MEETING MINUTES

**Greystone Heights Neighbourhood
Traffic Review
Thursday, May 21, 2015, 7:00 – 9:00 P.M.
Greystone Heights School**

Facilitators:

- Mitch Riabko & Kathy Dahl (Great Works Consulting)

Agenda

- Welcome & introductions
- Presentation from the Transportation Division
- Small group discussions
- Small group discussion – report back to large group
- Next Steps
- Question / Answers

Councillor Olauson is in attendance.

Presentation from Transportation Division – Greystone Heights Neighbourhood Traffic Review (Presented by Justine Nyen, Traffic Engineer)

Presentation Outline:

- Neighbourhood Review Process
- Timeline for Greystone Heights Review
- Sources of Information
- Concerns Received
- Description of Traffic Calming & Pedestrian Safety Devices

Neighbourhood Review Process:

- **August 2013** – New process; neighbourhood review vs issue by issue; eight neighbourhoods reviewed per year
- **Mandate** – Reduce & calm traffic, improve safety within neighbourhoods
- **2014** – Varsity View, Nutana, Brevoort Park, Haultain, Holliston, City Park, Westmount, Hudson Bay Park, Caswell Hill
- **2015** – Greystone Heights, Meadowgreen, Adelaide-Churchill, Montgomery Place, Confederation Park, Avalon, Lakeview, Mount Royal

Timeline for Greystone Heights Review:

- **Stage 1** – Identify issues & possible solutions through community consultation (May to fall 2015)
- **Stage 2** – Develop a draft traffic plan (fall 2015)
- **Stage 3** – Present draft traffic plan to community for feedback (fall 2015)
- **Stage 4** – Implement the changes over time

Sources of Information:

- Past Studies
- Collision Analysis
- Feedback from Public Consultation
- Traffic Counts & Assessments

Concerns Received:

- 14th Street & Arlington Avenue – parked cars reduce visibility; difficult to make left turn; increased traffic and speeding on 14th Street; difficult for pedestrians and cyclists to cross; install a three-way stop of traffic signals
- Greystone Heights School – shortcutting and speeding in back lane adjacent to school
- Main Street – speeding, especially near Greystone Heights School, at park, and paddling pool; extend school zone on western side to include Moxon Crescent; many children in area when school zone is not in effect (ie. after 5pm and in summer)
- Quance Avenue – shortcutting because Preston Avenue is slow moving
- Preston Avenue & 14th Street – long waits when no one is on opposing direction; traffic signals should be better timed or detection when vehicle is waiting; continue 4 lanes of traffic on Preston Avenue south of 14th Street
- 8th Street & Arlington Avenue – difficult to make left turn onto 8th Street; too narrow on Arlington Avenue; traffic gets backed up onto 8th Street due to car wash on south side; install dedicated left turn lanes; install dedicated right turn lane westbound on 8th Street

Traffic Calming Devices (Examples of devices used in Saskatoon):

1. Speed Display Boards
2. Raised Median Island – narrows road; provides center refuge for pedestrians
3. Curb Extensions – narrows road
4. Roundabouts
5. Diverter – used to address high traffic volumes
6. Right-in/right-out island - used to address high traffic volumes
7. Directional Closure – restrict movements onto the street from one direction
8. Raised median through intersection – restrict movements
9. Full closure

Pedestrian Devices:

1. Standard crosswalk
2. Zebra crosswalk (striped pavement markings)
3. Active pedestrian corridor (flashing yellow lights)
4. Pedestrian-activated signals

Presentation from Saskatoon Police Services (Constable Pat Foster)

Traffic Stats for Greystone Heights:

- 119 traffic offenses in Greystone Heights since January 2015 (many were on 8th Street)

- 25 intersection/U-turn
- 25 no driver's license or learners
- 10 due care/cell phone

Saskatoon Police Services: 306-975-8300 OR 306-975-8068 to report a traffic complaint or a concern.

Q&A

Resident: Trucks are loud. Do you track these?

Police: Yes. But we need as much information as possible. We'll check with SGI, need a plate number, description, time of day etc. We will track down those vehicles.

Resident: Is it possible to get someone there during rush hour?

Police: Yes. Our shift is noon to 10pm.

Resident: How does our area compare to others? Are there similar concerns?

Police: Biggest concern in your area is 8th Street. A lot of things happen just off of 8th Street. Speed on 14th Street is also an area.

Resident: Are the City and Police working together to have 40kph speed limit in residential?

City: We get this question at many of these meetings. We get both sides from the public, reduce speeds or increase speeds, or remove school zones altogether. We need to be consistent, not neighbourhood by neighbourhood. So if we implement it, it needs to be city wide. Province of Ontario is currently doing a study on reduced speed limits on residential streets and we're waiting to find out the results of that. The 40kph speed limit on residential is being considered by City Council.

Resident: Main Street eastbound, can we have a speed board in the school zone? So it can be monitored.

Resident: Do we have access to the accident data? And what accidents involve pedestrians?

City: We receive data from SGI. There's a 1 to 2 year lag in the data, the newest available data is 2013. We'll include this information in the final report.

Small Group Discussions

- Breakout into small groups to discuss traffic concerns in Greystone Heights and potential solutions

Group 1: Mariniel Flores (City Facilitator)

1. 8th Street & Arlington Avenue – congestion on Arlington Avenue for vehicles southbound. Separate green light for each leg, similar to Acadia Drive & 8th Street; install southbound on-ramp
2. 14th Street & Arlington Avenue – same as previous. Separate green light for northbound, or three-way stop; southbound on-ramp
3. Arlington Avenue & Main Street – Add stop sign on median for south leg and curb extensions
4. Circle Drive from 14th Street northbound off-ramp from Circle Drive to 14th Street
5. Main Street & Simpson Crescent (west leg) – four-way stop or traffic calming circle
6. Main Street & Moxon Crescent (east leg) – four-way stop or traffic calming circle
7. Arlington Avenue south of Main Street – speeding; shortcutting; install speed “pillows”
8. 14th Street near park north of school – speeding; shortcutting; install speed “pillows”
9. 14th Street & west pathway of Greystone Park (near Moxon Crescent and back lane) – standard crosswalk needed
10. Near north leg of Main Street & Quance Avenue and south leg of Arlington Avenue & Mitchell Street – restrict parking
11. 14th Street & Arlington Avenue – trim tree on southwest corner
12. Fraser Avenue & Arlington Avenue – four-way stop
13. Quance Avenue & 14th Street – three-way stop
14. Preston Avenue & 8th Street – extend southbound green light in PM peak hour (4-7pm)

Group 2: Marina Melchiorre (City Facilitator)

1. 8th Street & Arlington Avenue – difficult to left turn; parking restrictions needed; protected left turns
2. 14th Street & Arlington Avenue – difficult to turn left; big trucks parking and obstructing view; install three-way stop and pedestrian crossing
3. Quance Avenue – speeding; high traffic volumes; speed display boards needed; install traffic calming at mid-block
4. 14th Street & Preston Avenue – eastbound and westbound left turn improvements needed; install left turn lanes; nicer blockade needed
5. 14th Street & Quance Avenue – pedestrian crossing is dangerous; snow removal needed
6. Preston Avenue – mid-block crossing with walkway needed to connect to walkway; visibility issues near walkway
7. Main Street - School zone lengthening on west side between Bateman Crescent and Rutter Crescent
8. Back lane near Greystone Heights School (Simpson Crescent) – shortcutting
9. Preston Avenue & Main Street – unsure about roundabout
10. Quance Avenue & Main Street – stop signs
11. Main Street & Moxon Crescent (east leg) – ramps in poor condition

Group 3: Justine Nyen (City Facilitator)

1. 8th Street & Arlington Avenue – jammed; driver confusion, drivers don't know where lanes are; it's a race to get across
2. 14th Street & Arlington Avenue – difficult to turn left; causes drivers to shortcut down Main Street; install pedestrian device
3. Quance Avenue – shortcutting caused by traffic on Arlington Avenue and Preston Avenue; speeding
4. Greystone Heights School – back lane east of school is a shortcut; parents drop off or pick up kids and use lane to loop because theirs is no drop-off/pick-up loop; front of school is congested; walkway at middle of back lane where many children cross is pedestrian safety concern; close lane by installing gate at middle of lane and only open for maintenance or in summer when shortcutting isn't an issue; talk to school board to implement drop-off/pickup loop in front of school; pave lane because it's causing dust; the pedestrian activated device in front of the school needs to flash longer for more time to cross; parents are parking in condo parking lot on south side
5. Main Street near paddling pool – widen road to add loading zone
6. 14th Street & Preston Avenue – southbound signs need to be better because drivers don't know curb lane turns into right-turn only lane coming from College Drive; install "right-turn only" sign closer to College Drive
7. Preston Avenue – remove parking because it prevents right turn onto Main Street (northbound) and traffic gets backed up at 4-way stop; northbound left turn into Wholesale parking lot
8. 14th Street – speeding; no residential on north side so it feels like speed limit should be higher; pathway on north side with no protected crossings on 14th Street to access; only marked crosswalks are closer to Preston Avenue

Group 4: Mark Emmons (City Facilitator)

1. 14th Street & Preston Avenue – walk light needs to be pushed to activate. Maybe should be automatic walk light. East-west issue.
2. Greystone Heights School – buses and vehicles parked on both sides. Visibility issues for motorists. Narrow roadway.
3. Roundabout at Preston Avenue & Main Street – was proposed before, but how will pedestrians safely cross? Kids crossing to go to school. Attention needs to be paid.
4. Speed sign should go at the bend of Main Street for eastbound traffic
5. Bateman Crescent should be considered a school zone
6. School zones should be 24/7, 365 days a year because of parks that kids play in at schools
7. Arlington Avenue & Ling Crescent – Turning left onto Arlington Avenue. Visibility issues. May also have same concern at similar intersections in neighbourhood. Combination of too much traffic and visibility. Steady stream of traffic.
8. 8th Street & Arlington Avenue – need sign to direct vehicles on Arlington Avenue into proper lane.
9. Visibility concerns at various intersections in neighbourhood. Overgrown trees and shrubs.

10. U-turns occurring at Main Street & Moxon Crescent (east leg). Visibility issues here too. Common route for kids going to school.
11. Recent improvements – snow clearing in front of Greystone Heights School. Helps lots and needs to continue. South side should be regularly cleared.
12. Properly identify no parking at intersections along Arlington Avenue.
13. Bateman Crescent – at bend there are vehicles parked but maybe should be no parking zone. Tough for vehicles to get passed safely.
14. Parking on street on Main Street near Preston Avenue (between Preston Avenue & Argyle Avenue). Consider no parking on north side west of Argyle Avenue and east of alley. Lane markings would also help.
15. Muddy mess and full of garbage behind old Co-Op in alley. Little roundabout serves no legitimate purpose anymore. Should be addressed.
16. Suggestion – no parking between Main Street and 8th Street on Preston Avenue. Would allow for right turn lane.
17. Arlington Avenue & 14th Street – 14th Street traffic moves very fast and should be stopped at Arlington Avenue with a three-way stop or maybe lights.
18. Need more crosswalks to get across 14th Street to pedestrian/cyclist pathway.
19. Real Canadian Wholesale – barrier should block northbound traffic from turning in/out.

Group 5: Jay Magus (City Facilitator)

1. No roundabout at Preston Avenue & Main Street
2. 14th Street & Arlington Avenue - Turning left on 14th Street after school drop off
3. 14th Street & Arlington Avenue - Parked vehicles block view on east corner
4. 14th Street & Arlington Avenue - Trees overgrown block view on west corner
5. Main Street & Arlington Avenue – stunting of vehicles, avoiding Preston Avenue & 8th Street traffic signals; traffic light turned up
6. Main Street & Arlington Avenue - Pedestrian crossing danger
7. Southbound left from Arlington Avenue onto 8th Street
8. Preston Avenue on east side south of Main Street - Could there be no parking?
9. East of Preston Avenue south of Main Street Cut-through parking lot
10. Preston Avenue between Main Street & 8th Street – no parking
11. Preston Avenue between Main Street & 8th Street, west side - timed parking restrictions
12. In front of Greystone Heights School on west side to park path on north - Kids crossing at the back alley
13. In front of Greystone Heights School - Pickup/drop-off
14. Moxon Crescent (east leg) - After exiting school zone, vehicles are turning right
15. Greystone Heights School - Move school zone end further west
16. Greystone Heights School - Move eastbound school zone sign further west
17. Simpson Crescent near walkway - 50kph sign is just before crosswalk. Move it. Similar throughout
18. Main Street between Simpson Crescent & Simpson Crescent on north side - Trees block view on northeast corner
19. In the winter, people drive slow
20. Main Street at Preston Avenue – northeast side of intersection remove parking

21. Main Street east of Preston Avenue - Smooth curve
22. Lindsay Drive on north side of crescent - Sound attenuation, noise from Circle Drive
23. Curb Extensions are dangerous to cyclists
24. Flashing light at school zone
25. Preston Avenue & 14th Street - Westbound to northbound right turn
26. Preston Avenue & 14th Street - Extend southbound to eastbound left turn
27. Roundabout not working
28. Main Street & Moxon Crescent (east leg) - Can't see southbound turn right
29. Avoiding 8th Street
30. Quance Avenue - Cut-through traffic to avoid Preston Avenue, accidents
31. Noise for all
32. Seager Wheeler/Caroline Robins school zone is better
33. Arlington Avenue north of Ling Street - Move school zone to Arlington Avenue
34. 24 hour school zones, 365 days a year, run over the summer time
35. 14th Street – north of Greystone Heights School – implement school zone
36. Back lane east of Staples - Gate not always working
37. 8th Street & Arlington Avenue - Eastbound to northbound left
38. Preston Avenue & Main Street - Problems in southbound
39. Ronald McDonald/University Drive

Next Steps (Presented by Jay Magus, Manager of Traffic Engineering Section)

1. Continue monitoring traffic issues in your neighbourhood
2. Mail-in or email comments no later than June 21/15
3. Additional public input via City on-line Community Engagement webpage no later than June 21/15

<http://shapingsaskatoon.ca/discussions/greystone-heights-neighbourhood-traffic-review-meeting>

4. Traffic count data collection – spring/summer 2015
5. City review of public input and data collected from traffic studies and prepare draft Traffic Plan
6. Follow-up public input meeting to provide input on draft
7. Determine revisions and finalize Traffic Plan
8. Present Traffic Plan to City Council for approval

Question & Answer (Jay Magus)

Resident: Is there money to implement the plan?

City: No. It needs to be approved by Council.

Resident: It's not the best time to collect traffic counts on Quance Avenue with closure of University Bridge.

City: We'll do counts when the bridge is open (ie. August 31/15)

Resident: Pedestrian counts are also low right now because University is out.

City: We'll wait to conduct the counts in the affected areas when University is back in session.

Resident: Is the roundabout at Preston Avenue and Main Street the "set in stone" plan?

City: This was the proposed design after public consultation and studies began in 2011, as part of the Preston Avenue Corridor Study. There was no funding towards this intersection. In my mind, no, it's not the plan.

Resident: Placement of the traffic circle (roundabout) and negotiating pedestrian and vehicle movements. What's the consensus? Is the roundabout happening?

Councillor Olauson: Public consultation began a few years ago. Many of you may have been involved from the beginning. It was the entire Preston Avenue Corridor. It's still in the process, and still the recommendation. It's a robust process to see it out there. Traffic changes over years. Need to continue monitoring. There's currently no funding for this project, so it's far from being done. These changes affect a number of other neighbourhoods, Greystone Heights, Grosvenor Park, Brevoort Park...

Resident: Noise. How do we request a noise study?

City: Please contact myself (Jay Magus). We have staff here that does the sound tests.

City: For more information and updates please visit Saskatoon.ca and search "Neighbourhood Traffic Reviews" in the top right search bar. You can also view examples of past reports.

List of Representatives

Mitch Riabko, Kathy Dahl – Great Works Consulting, Facilitators
Angela Gardiner – City of Saskatoon, Transportation & Utilities, Transportation Director
Jay Magus – City of Saskatoon, Transportation & Utilities, Engineering Manager
Shirley Matt – City of Saskatoon, Transportation & Utilities, Traffic Management Supervisor
Justine Nyen – City of Saskatoon, Transportation & Utilities, Traffic Management
Mariniel Flores – City of Saskatoon, Transportation & Utilities, Traffic Management
Lanre Akindipe – City of Saskatoon, Transportation & Utilities, Infrastructure Engineer
Goran Lazic – City of Saskatoon, Transportation & Utilities, Traffic Operations Engineer
Marina Melchiorre – City of Saskatoon, Transportation & Utilities, Traffic Engineer
David LeBoutillier – City of Saskatoon, Transportation & Utilities, Traffic Engineer
Mark Emmons – City of Saskatoon, Planning & Development, Planner – Neighbourhood Planning
Konrad Andre – City of Saskatoon Planning & Development, Senior Planner
Ellen Pearson – City of Saskatoon Planning & Development, Planner

**Greystone Heights Neighbourhood
Traffic Review
Thursday, December 17, 2015, 7:00 – 9:00 P.M.
Greystone Heights School**

Facilitators:

- Mitch Riabko & Kathy Dahl (Great Works Consulting)

Agenda

- Welcome & introductions
- Presentation from the Transportation Division
- Small group discussions
- Small group discussion – report back to large group
- Next Steps
- Question / Answers

Presentation from Transportation Division – Greystone Heights Neighbourhood Traffic Review

(Presented by Justine Nyen – Transportation Engineer)

Presentation Outline:

- Neighbourhood Traffic Management – Program Rationale
- How We Got Here
- What We Heard
- What We Did
- What We Propose

Neighbourhood Traffic Management Program:

- Address neighbourhood traffic issues:
 - Speeding concerns
 - Short-cutting concerns
 - Pedestrian safety
 - Intersection safety
- August 2013 – changes to program
 - Neighbourhood-wide review
 - More community / stakeholder feedback
 - Efficient use of staff resources

How We Got Here:

- June 2015 – Initial Traffic Meeting
- June to December 2015 – gather feedback, conduct traffic studies, collect data, develop traffic plan
- December 2015 – Follow Up Traffic Meeting - display proposed traffic plan and gather feedback

What We Heard:

- A. Speeding/Traffic Volumes:
- Arlington Ave
 - 14th St

- Areas around Greystone Heights School:
 - Main St –speeding occurring in summer; paddling pool; weekends & evenings to and from ball diamonds
 - Back lane east of Greystone Heights School- shortcutting (parents dropping off/pickup)
- Quance Ave
- Back lane between Preston Ave & Argyle Ave – shortcutting
- Bateman Cres – should be school zone

B. Pedestrian Safety:

- 14th St at Arlington, north of Greystone Heights Park, Quance Ave
- Back lane east of school - walkway at middle
- Main St in front of school
- Preston Ave - Mid-block crossing with walkway needed to connect to walkway

C. Intersection Safety:

- Arlington Avenue & 14th St – difficult to make left turn (causes drivers to shortcut down Main St as alternate route); increased traffic and speeding on 14th Street
- 8th Street & Arlington Avenue – queuing on Arlington; difficult to left turn; narrow; driver confusion
- Arlington Avenue & Main Street
- Fraser Cres – four-way stop
- 14th St & Quance Ave – three-way stop
- Preston Avenue & 14th Street – long waits; traffic signals timing or detection issues
- Preston Avenue & Main Street – many residents were not in favour of proposed roundabout (discussed at initial meeting in May)

D. Parking:

- Parked cars obstruct drivers view at intersections - 14th Street & Arlington Avenue; Arlington & Ling Cres
- Greystone Heights School:
 - Main St - Parents are parking in condo parking lot on south side near school
 - Back lane east of School – parking in lane restricting traffic flow; parking in front of garage accesses
- Preston Ave between 8th Street & Main Street - parking prevents right turn onto Main Street (northbound)
- Bateman Crescent - At bend parking on both sides makes it difficult for vehicles to pass

What We Did:

- Collected Data:
 - Past studies
 - Comments from initial meeting
 - Resident responses (phone calls, emails, letters)
 - Recorded comments from Shaping Saskatoon discussions
 - 1 Intersection / Pedestrian counts
 - 6 – 7 day traffic count (24 hour) & Average Speed measurements
 - 2 Back lane counts
 - Collision history
- Field Reviews

- Assessed the Issues
- Generated proposed recommendations

What We Propose:

- Parking Restrictions
- Parking Enforcement
- School Zone Extension
- Speed Limit Signs
- Stop Signs
- Accessibility Ramps
- Speed Display Boards
- Zebra Crosswalks
- Curb Extensions
- Raised Median Islands

- **Saskatoon Police Services: 306-975-8300 OR 306-975-8068 to report a traffic complaint or a concern.**

Small Group Discussions

- Breakout into small groups to discuss Greystone Heights draft traffic plan

Group 1: Lanre Akindipe (City facilitator)

Location	Proposed Measure	Reason	Group 1
Arlington Ave & Main St	Median Island on south leg with additional stop sign	Enhance visibility of stop sign northbound	install sign because walkway is hidden; zebra crosswalk needed to connect to walkway; accessibility ramps needed

Additional Concerns:

Location	Comments
8th St at overpass to Circle Dr	Issues with eastbound left turn (from 8th St onto Circle Dr) during peak hours; queuing; more time needed for left turn
Back lane adjacent to Lindsay Dr	Speeding
Preston Ave & Main St	Safety concerns for proposed roundabout

Group 2: Mariniel Flores (City facilitator)

Item	Location	Proposed Measure	Reason	Group 2
10	Main St & Moxon Cres (east leg)	Curb Extensions (east side)	Reduce speed & improve pedestrian safety near school	Install zebra crosswalk as well

Additional concerns:

Location	Comments
Preston Ave & Main St	how will crosswalks be included; remove parking on Preston Ave & open traffic lane; not in favour of roundabout because safety of pedestrians, particularly children; prefer synchronized traffic signals with 8th St & 14th St; could reduce congestion by eliminating parking from 14th St to Circle Dr on Preston Ave

Moxon Cres back lane (west side)	install marked crossing
Back lane between Preston Ave & Argyle Ave	congestion; move instant teller from bank
Arlington Ave & 8th St	install protected left turn signal (northbound & southbound)
Signalized intersections	more pedestrian counters

Group 3: Goran Lazic (City facilitator)

Item	Location	Proposed Measure	Reason	Group 3
1	14th St between Quance Ave & Arlington Ave	Speed Display Board	Reduce speed	in both directions; check where the speed limit signs are
2	14th St & Quance Ave	Zebra Crosswalk	Improve pedestrian safety (connects to pathway on north side)	consider parking restrictions
4	Arlington Ave & Mitchell St	Median Islands (north & south sides)	Reduce speed	curb extensions may be more effective
10	Main St & Moxon Cres (east leg)	Curb Extensions (east side)	Reduce speed & improve pedestrian safety near school	which side? Both sides if possible

Additional concerns:

Location	Comments
Arlington Ave & 8th St	left turn arrows needed; more pedestrian time to cross 8th St
14th St at Greystone Heights park pathway (on west end of park)	Bike access
Preston Ave between 8th St & 14th St	Remove parking on northbound side to increase capacity

Group 4: Justine Nyen (City facilitator)

Item	Location	Proposed Measure	Reason	Group 4
1	14th St between Quance Ave & Arlington Ave	Speed Display Board	Reduce speed	install on the north side for visibility (facing westbound); eastbound is important too
2	14th St & Quance Ave	Zebra Crosswalk	Improve pedestrian safety (connects to pathway on north side)	not if favour; remove crossing entirely and install on west end of Greystone Heights Park to connect to pathway; install accessibility ramps as well
3	14th St & Arlington Ave	Zebra Crosswalks & No Parking Signs (15m southeast and southwest corners)	Improve pedestrian safety & enhance visibility	trees on southwest corner need to be trimmed; needs more; maybe try a roundabout
4	Arlington Ave & Mitchell St	Median Islands (north & south sides)	Reduce speed	in support but might have issues with parking
5	Arlington Ave & Main St	Median Island on south leg with additional stop sign	Enhance visibility of stop sign northbound	trees blocking walkway; tree clearing needed; curb extension & accessibility ramps needed on southwest corner

8	Lane east of Greystone Heights School (near lane to Simpson Cres)	No Parking Signs & Parking Enforcement	Improve pedestrian safety near walkway to park	Congested parking around the school; parking in the back lane allows parents to pick-up/drop-off; consider restrictions around the walkway but perhaps signs remaining portions as 15min pickup/dropoff as long as driveways/garages aren't blocked
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Additional concerns:

Location	Comments
Arlington Ave & 8th St	traffic backs up on Arlington Ave on north side of 8th St (southbound)
14th St	Drivers parking on north side (where restricted); parking enforcement needed
Quance Ave	speeding enforcement (send peak hour data to police to enforce)
Arlington Ave	speeding enforcement (send peak hour data to police to enforce)
Back lane between Bateman Cres/Oliver Cres/Lindsay Pl	parents using route to drop-off/pickup students
Preston Ave at Superstore access	tight turn exiting (for right turn to go southbound)

Next Steps

1. Mail-in or email comments no later than Jan 17/16
2. Additional public input via City on-line Community Engagement webpage no later than Jan 17/16

<http://shapingsaskatoon.ca/discussions/greystone-heights-neighbourhood-traffic-review-meeting>

3. Additional consultation if required
4. Present traffic plan to City Council for approval
5. What if I don't agree? Request time to speak at City Council meeting
6. What if City Council approves? Implementation begins. Signs and temporary traffic calming will be installed as early as next spring (2016)

Q&A

Resident: There are lots of near misses on Quance Ave (child cycling and vehicle almost hit them) even though there's no crosswalks. You base everything on stats. How are near misses included?

City: We are provided collision data from SGI. These are reported collisions only. Near misses aren't provided but we hear about them during the public consultation and take the areas of concern into consideration.

Resident: Arlington Ave & 8th St – why weren't we told that these intersections aren't included in this review?

City: These are part of the major intersection review process. We gather concern during the consultation for the neighbourhood reviews and this helps us prioritize locations the review throughout the city. We also need to consider the concerns from nearby neighbourhoods, as many of the larger intersections are on the border between two or more neighbourhoods.

List of Representatives

Mitch Riabko, Kathy Dahl – Great Works Consulting, Facilitators

Justine Nyen, Lanre Akindipe, Goran Lazic, Mariniel Flores – City of Saskatoon, Transportation & Utilities

APPENDIX B: PRESTON AVENUE CORRIDOR STUDY

Countermeasures and Specific Recommendations **of the Preston Avenue Corridor**

A) Preston Avenue and 14th Street

The existing concrete Jersey barrier on the south west corner prevents vehicles from travelling through the intersection in the southbound right turn lane, however the barrier is not very aesthetically pleasing and it also poses a hazard to unwary motorists. The Administration is recommending the replacement of the Jersey barrier with a permanent concrete island in order to properly channelize the southbound right turn.

Estimated cost is \$150,000.

B) Preston Avenue and Main Street

The current traffic volume experienced at this intersection at peak times exceeds the capacity of the existing four-way stop control to effectively service the demand. As a result, the intersection needs to be upgraded to improve its efficiency. A detailed traffic analysis was conducted to ascertain the most efficient traffic control for both vehicular and pedestrian traffic movement. Some of the options considered include: installation of a traffic signal, a single lane roundabout, and a single lane roundabout with a bypass lane.

Based on the traffic analysis, this intersection currently operates at a level of service (*LOS) E during the morning peak period and a *LOS of E during the afternoon peak period. With the installation of a traffic signal, the intersection will operate at a *LOS C during the morning peak period and a *LOS C during the afternoon period. The construction of a single lane roundabout will improve the *LOS to B during the morning and afternoon peak periods. The administration is therefore recommending the construction of a single lane roundabout at this intersection.

The proposed roundabout will be more efficient than the traffic signal alternative primarily due to the fact that high volumes of traffic at this location last for relatively short periods of time and are not sustained throughout the entire of the day. Traffic signals typically work best at intersections with high traffic volumes for longer periods of day.

A roundabout also provides added safety benefits such as a reduction in excessive speeds by forcing drivers to slow down as they proceed into and through the intersection. In addition, limited or no electrical cost and lower maintenance costs translate in long-term operational savings compared to

signals. They are often more aesthetically pleasing and provide opportunities for landscaping adding more character to streets. Traffic signals are also not recommended due to the close proximity of the intersection to the traffic signals on 8th Street & Preston Avenue.

Estimated cost is \$300,000.

C) Preston Avenue (between Main Street and 8th Street)

The existing median opening between Main Street and 8th Street results in delays for northbound traffic in the AM peak and delays for southbound traffic in the PM peak. Given that this median opening is located within a left turn bay for southbound traffic, there are physically no opportunities to provide a northbound left turn bay into the adjacent property. Additionally, parking is currently prohibited in the northbound curb lane to provide relief for north bound vehicles, yet queuing remains an issue. To improve the traffic flows along Preston Avenue, the Administration is recommending the closure of the median and parking restrictions on this section.

Access to and from the shopping centre will not be severely affected as drivers can utilize alternate access points off 8th Street and Preston Avenue. Northbound traffic on Preston Avenue wishing to access the commercial centre can access directly from 8th Street or can utilize the roundabout at Main Street to make a legal U-turn. As per the Policy Number C01-021 - Public Notice, the Administration will consult with the adjacent property owners and undertake the public notice process. A further report will be submitted to Council before closing the median opening.

Estimated cost is \$40,000.

D) Preston Avenue and 7th Street

The existing 2-way Stop at this intersection results in significant delays for left turning traffic on 7th Street and Preston Avenue especially during the peak periods. Traffic and pedestrian safety is also a major concern at this intersection. The collision history shows predominantly rear end and right angle collisions. Rear end and right angle collisions accounts for 41% and 33% of collisions respectively at this intersection.

To address the safety concerns, the Administration is recommending the construction of a four leg single lane roundabout at this intersection. In addition to improving the intersection safety, the proposed roundabout will also improve the overall efficiency of the intersection while maintaining all movements.

Other options were also investigated. The most viable alternative entails geometric modifications to construct left turn bays for the northbound and southbound approaches on Preston Avenue while prohibiting east-west left-turn and through movements on 7th Street (i.e. right turns only). Due to its restrictive

nature, this option is not recommended. Traffic signals are also not recommended because of the proximity to 8th Street and potential excessive delays/queuing.

Estimated cost is \$300,000.

E) Preston Avenue and Taylor Street

The nonexistence of left turn bays especially for the southbound movement at this intersection results in significant traffic delays. Delays are also experienced by the westbound and eastbound traffic particularly during the peak hours due to lack of left turn lanes and signal phases.

Pedestrian safety and on street parking are also a concern at this intersection while the conflict between the westbound through movement and the bus stop on the northwest corner of the intersection results in delays, especially at the peak periods.

The Administration is recommending geometric modifications and reconfiguration as illustrated in the attachment. Both intersection safety and efficiency will be significantly improved by better alignment and the addition of designated left-turn lanes in all directions. For example, the southbound left turn movement will experience an improvement from *LOS D to *LOS B.

Estimated cost is \$200,000.

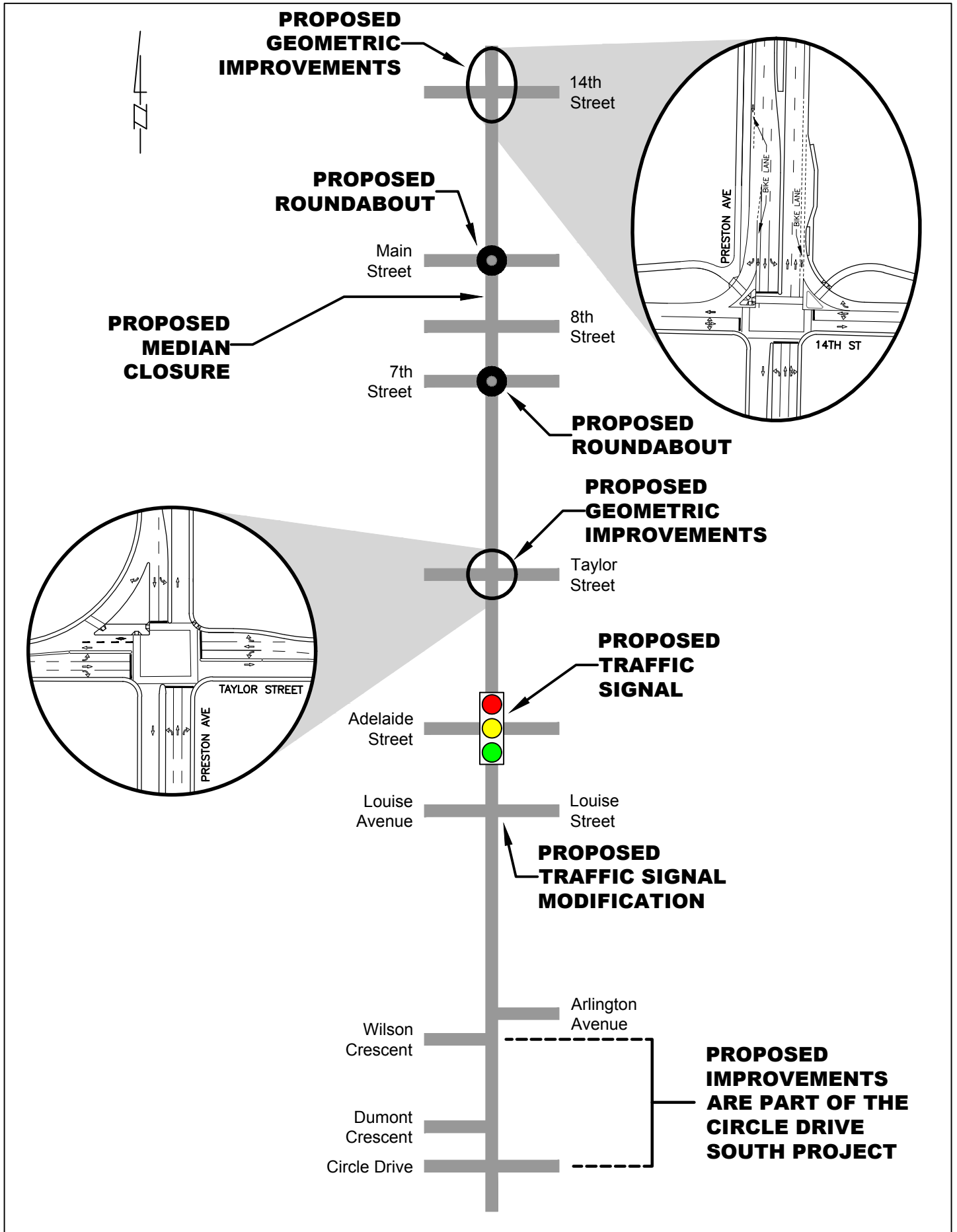
F) Preston Avenue and Adelaide Street

Safety concerns exist at this intersection due to its proximity to the major shopping mall and seniors' residences. There is a significant delay for traffic on Adelaide Street especially the westbound traffic during the peak periods. Pedestrians also experience delays in accessing the adjacent shopping mall during this period.

The installation of a full traffic signal is recommended at this intersection to reduce the traffic delays on Adelaide Street and to improve the safety of pedestrians. Signals will operate at an acceptable level of service for all movements.

Estimated cost is \$130,000.

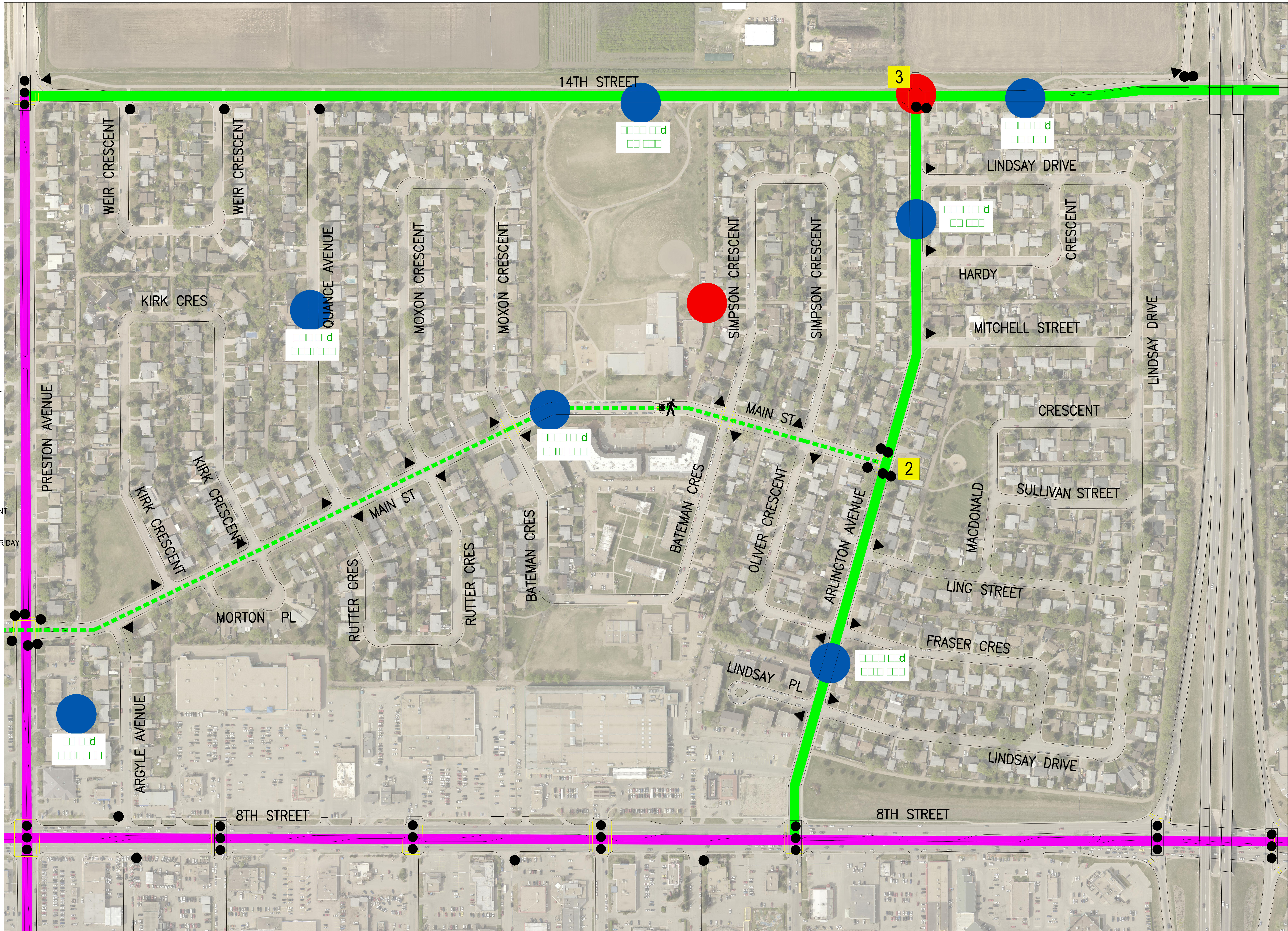
* **Level of service (LOS)** is a term used to qualitatively describe the operating conditions of a roadway based on factors such as speed, travel time, manoeuvrability, delay, and safety. The level of service of a facility is designated with a letter, A to F, with A representing the best operating conditions and F the worst.



APPENDIX C: TRAFFIC DATA COLLECTION

LEGEND

- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- MAJOR ARTERIAL
- MINOR ARTERIAL
- MAJOR COLLECTOR
- MINOR COLLECTOR
- EXISTING TRAFFIC SIGNAL
- PEDESTRIAN ACTUATED SIGNAL LOCATION
- ACTIVE PEDESTRIAN CORRIDOR SIGNAL LOCATION
- AVERAGE NUMBER OF COLLISIONS PER YEAR (2009-2013)
- TRAFFIC MOVEMENT COUNT
- SPEED STUDY
- NUMBER OF VEHICLES PER DAY
- 85th PERCENTILE SPEED



GREYSTONE HEIGHTS TRAFFIC DATA

APPENDIX D: ALL-WAY STOP ASSESSMENTS

All-way Stop Assessment (Policy C07-007 – Traffic Control – Use of Stop & Yield Signs)

Step 1:

The following conditions must be met for all-way stop control to be considered:

i) The combined volume of traffic entering the intersection over the five peak hour periods from the minor street must be at least 25% of the total volume for a three-way stop control, and at least 35% of the total volume for a four-way stop control.

ii) There can be no all-way stop control and traffic signal within 200 metres of the proposed intersection being considered for all-way stop control on either of the intersecting streets.

Location	Condition 1: % of Traffic from minor street	Condition 2: Traffic Signals or all-way stop within 200m	All-Way Stop Warrant
14 th Street & Arlington Avenue	17% (no)	no	Conditions NOT met.

Conditions not met. No need to proceed to Step 2.

APPENDIX E: PEDESTRIAN DEVICE ASSESSMENTS

Active Pedestrian Corridor Warrant

14th Street & Arlington Avenue:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts						P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods	
			Total Both Sides				Factored Counts					
	15 min.	30 min.	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.			
7:00												
7:15												
7:30												
7:45												
8:00	255	255	1				1	1	1	255		
8:15	255	510							1	510		
8:30	293	548										
8:45	211	504										
9:00		211										
9:15												
9:30												
9:45												
AM Totals	1,014		1				1					
11:30	152											
11:45	141	293										
12:00	170	311										
12:15	143	313	1				1	1	1	313		
12:30	163	306							1	306		
12:45	160	323	1				1	1	1	323		
13:00	171	331							1	331		
13:15	137	308										
Noon Totals	1,237		2				2					
14:00												
14:15												
14:30												
14:45												
15:00	176	176	1				1	1	1	176		
15:15	237	413	2				2	2	3	1,239		
15:30	256	493							2	986		
15:45	299	555										
16:00	248	547										
16:15	279	527										
16:30	301	580										
16:45	318	619										
17:00		318										
17:15												
17:30												
17:45												
18:00												
18:15												
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18:45												
19:00												
19:15												
19:30												
19:45												
20:00												
20:15												
20:30												
20:45												
PM Totals	2,114		3				3					
Totals	4,365		6				6					
			100%				100%					
			West Crosswalk =				2					
			East Crosswalk =				4					

<<< install crosswalk on this side of the int.

SUMMARY

Total Warranted PC Points: or / period
Highest PC point value: 1,239 at
Average PC point value: 296
No. of periods warranted:

Pedestrian Actuated Signal Warrant

14th Street & Arlington Avenue:

Location & Roadway Classification: 14th St & Arlington Ave - major collector & major collector
 Date of Count: Day of wk: Tues Mth, Day, Yr: Sep 15/15
 Weather: rain/fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: standard
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 60 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 970 m
 Location: Preston Ave
 Type: TS
 Is the orientation of this crosswalk(s) N-S? y (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	6	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	1,239	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	34		
Vehicles passing through crosswalk(s):	4,365				

ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

****Install device at the East Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00		169	34	52									1
8:15		160	39	56									
8:30		132	67	94									
8:45		126	39	46									
9:00													
9:15													
9:30													
9:45													
AM Totals		587	179	248									1
11:30		58	30	64									
11:45		51	38	52									
12:00		70	23	77									
12:15		68	29	46									1
12:30		81	41	41									
12:45		71	30	59									1
13:00		71	40	60									
13:15		55	26	56									
Noon Totals		525	257	455									2
14:00													
14:15													
14:30													
14:45													
15:00		89	28	59									1
15:15		71	60	106	2								
15:30		121	41	94									
15:45		123	53	123									
16:00		96	50	102									
16:15		114	50	115									
16:30		132	32	137									
16:45		128	40	150									
17:00													
17:15													
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19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals		874	354	886	2								1
Totals		1,986	790	1,589	2								4
West Crosswalk =								2	East Crosswalk =				4

APPENDIX F: COLLISION ANALYSIS

Street 1	Street 2	Ugrid	All Collisions	All collisions - 2013	RA, LT, RT	RA, LT, RT - 2013 only	Collector or Arterial	Average
14th St	Arlington Ave	M9-6	14	2	1	0	yes	3
Main St	Arlington Ave	M9-8	12	1	1	0	yes	2
Arlington Ave	Lindsay Dr	M9-71	7	3	5	3	yes	1
Main St	Kirk Cres (east)	L9-35	3	0	0	0	yes	1
Main St	Quance Ave	L9-16	3	0	0	0	yes	1
Main St	Moxon Cres (west)	L9-59	2	0	0	0	yes	0
Arlington Ave	Lindsay pl	M9-2	2	1	0	0	yes	0
14th St	Quance Ave	L9-49	2	0	1	0	yes	0
Lindsay Dr	Hardy Cres	M9-7	2	0	0	0	no	0
Lindsay Dr	Mitchell St	M9-87	2	1	0	0	no	0
Lindsay Dr	Ling St	M9-85	2	0	1	0	no	0
Main St	Moxon Cres (east)	L9-33	1	0	0	0	yes	0
Arlington Ave	Ling St	M9-30	1	0	0	0	yes	0
Arlington Ave	Mitchell St	M9-76	1	0	1	0	yes	0
Arlington Ave	Hardy Cres	M9-12	1	0	0	0	yes	0
14th St	Weir Cres (west)	L9-67	1	1	0	0	yes	0
14th St	Weir Cres (east)	L9-24	1	0	0	0	yes	0
Lindsay Dr	Sullivan St	M9-86	1	0	0	0	no	0
Main St	Kirk Cres (west)	L9-70	0	0	0	0	yes	0
Main St	Simpson Cres (west)	L9-28	0	0	0	0	yes	0
Main St	Simpson Cres (east)	M9-65	0	0	0	0	yes	0
Arlington Ave	Fraser Cres	M9-31	0	0	0	0	yes	0

APPENDIX G: DECISION MATRIX

Decision Matrix – Recommendations proposed at December meeting

Item	Location	Proposed Measure	Reason	Group 1	Group 2	Group 3	Group 4	Decision
1	14th St between Quance Ave & Arlington Ave	Speed Display Board	Reduce speed			in both directions; check where the speed limit signs are	install on the north side for visibility (facing westbound); eastbound is important too	Carried
2	14th St & Quance Ave	Zebra Crosswalk	Improve pedestrian safety (connects to pathway on north side)			consider parking restrictions	not if favour; remove crossing entirely and install on west end of Greystone Heights Park to connect to pathway; install accessibility ramps as well	Removed. Install parking restrictions to improve visibility. Complete pedestrian count in spring to determine if crosswalk should be moved to west end of Greystone Heights Park.
3	14th St & Arlington Ave	Zebra Crosswalks & No Parking Signs (15m southeast and southwest corners)	Improve pedestrian safety & enhance visibility				trees on southwest corner need to be trimmed; needs more; maybe try a roundabout	Carried.
4	Arlington Ave & Mitchell St	Median Islands (north & south sides)	Reduce speed			curb extensions may be more effective	in support but might have issues with parking	Changed to curb extension on northeast corner and median island on south leg. Median island on north leg cannot be installed due to driveway.
5	Arlington Ave & Main St	Median Island on south leg with additional stop sign	Enhance visibility of stop sign northbound		install sign because walkway is hidden; zebra crosswalk needed to connect to walkway; accessibility ramps needed		trees blocking walkway; tree clearing needed; curb extension & accessibility ramps needed on southwest corner	Carried. Site check determined hedges are obstructing walkway & stop sign (northbound). Tree trimming request will be forwarded to Parks to improve visibility. Install pedestrian accessibility ramps on northwest & southwest corners. Install zebra crosswalks. Pedestrian count in spring 2016 to determine pedestrian use in walkway. If count is high curb extension is recommended so pedestrians are visible around hedges and also addresses speeding concerns.
6	Arlington Ave & Ling St	"No Parking" Sign (10m on southeast corner)	Enhance visibility					Carried
7	Lane east of Greystone Heights School (between Main St & 14th St)	20kph Speed Signs	Reduce speed					Carried
8	Lane east of Greystone Heights School (near lane to Simpson Cres)	No Parking Signs & Parking Enforcement	Improve pedestrian safety near walkway to park				Congested parking around the school; parking in the back lane allows parents to pick-up/drop-off; consider restrictions around the walkway but perhaps signs remaining portions as 15min pickup/dropoff as long as driveways/garages aren't blocked	Carried.
9	Main St - west side of Moxon Cres/Bateman Cres	Extend School Zone to west side of Moxon Cres/Bateman Cres	Improve pedestrian safety & reduce speed near school					Carried
10	Main St & Moxon Cres (east leg)	Curb Extensions (east side)	Reduce speed & improve pedestrian safety near school		Install zebra crosswalk as well	which side? Both sides if possible		Carried. Install curb extensions on northeast & southwest corners so they do not interfere with bus stops. Zebra crosswalk already exists.
11	Main St & Moxon Cres (east leg)	Accessibility Ramps (northwest, southwest, & southeast corners)	Improve pedestrian safety & connectivity					Carried. To be completed after curb extension assessment is completed.
12	Main St & Quance Ave	Stop signs	Enhance safety along bus route					Carried
13	Bateman Cres (east leg) south of Main St	School zone sign prior to Main St access	Ensure drivers are aware they're entering school zone					Carried

Additional Issues Raised at the December 17, 2015 Meeting

Issue	Location	Comments	Decision
1	8th St at overpass to Circle Dr	Issues with eastbound left turn (from 8th St onto Circle Dr) during peak hours; queuing; more time needed for left turn	Documented for further consideration as part of Intersection Improvements.
2	Back lane adjacent to Lindsay Dr	Speeding	Traffic calming measures cannot be installed in back lanes. 20 kph will be added at the entrance of the lane.
3	Preston Ave & Main St	Safety concerns if roundabout is installed; how will crosswalks be included; remove parking on Preston Ave & open traffic lane; not in favour of roundabout because safety of pedestrians, particularly children; prefer synchronized traffic signals with 8th St & 14th St; could reduce congestion by eliminating parking from 14th St to Circle Dr on Preston Ave	Documented for further consideration as part of Intersection Improvements.
4	Moxon Cres back lane (west side)	Install marked crossing	Existing crosswalk at Moxon Crescent (east leg) is less than 40 metres away. No further recommendations.
5	Back lane between Preston Ave & Argyle Ave	Congestion; move instant teller from bank	Traffic count indicated an average daily traffic volume of 62 vehicles per day. This is within the acceptable range (ie. at or below 500 vehicles per day).
6	Arlington Ave & 8th St	Install protected left turn signal (northbound & southbound); more pedestrian time to cross 8th St; traffic backs up on Arlington Ave on north side of 8th St (southbound)	Documented for further consideration as part of Intersection Improvements.
7	Signalized intersections	More pedestrian counters	Documented for further consideration as part of Intersection Improvements.
8	14th St at Greystone Heights park pathway (on west end of park)	Bike access	Pedestrian study will determine if midblock crossing is necessary here. Pedestrian accessibility ramp will be added to priority list if crossing is recommended. We do not install bike ramps onto sidewalks as cyclists are not permitted to ride on sidewalks.
9	Preston Ave between 8th St & 14th St	Remove parking on northbound side to increase capacity	Document for further consideration as part of Corridor Studies.
10	Main St in front of Greystone Heights School	Is there a need for the parking restrictions on the south side of the street (southeast of main entrance at school)? Can this be removed to provide more drop-off/pick-up space for parents?	Parking restrictions will be removed to allow more on-street parking for parents picking up & dropping off students at Greystone Heights School
11	14th St	Drivers parking on north side (where restricted); parking enforcement needed	Send information to Parking Services to provide enforcement.

12	Quance Ave	Speeding enforcement (send peak hour data to Saskatoon Police Service to enforce)	Speed study indicated the 85th percentile speed was 49.4kph. This is typically not high enough for further recommendations. However, peak hours for speeding will be reviewed and information will be forwarded to Saskatoon Police Service for further consideration.
13	Arlington Ave	Speeding enforcement (send peak hour data to Saskatoon Police Service to enforce)	Speed study indicated 85th percentile speeds were 52.3 kph & 54 kph near Fraser Crescent and Hardy Crescent, respectively. Peak hours for speeding will be reviewed and information will be forwarded to Saskatoon Police Service for further consideration.
14	Back lane between Bateman Cres/Oliver Cres/Lindsay PI	Parents using route to drop-off/pickup students	Traffic count will be completed in spring to determine if traffic volumes are within the acceptable range (ie. at or below 500 vehicles per day).
15	Preston Ave at Superstore access	Tight turn exiting (for right turn to go southbound)	Private development.

Lakeview Neighbourhood Traffic Review

Recommendation

That the report of the General Manager, Transportation & Utilities Department, dated April 11, 2016, be forwarded to City Council for information.

Topic and Purpose

This report provides information on the implementation timelines of the recommendations from the Neighbourhood Traffic Review (NTR) process.

Report Highlights

1. The implementation timelines for recommendations from the NTR range from 1 to 5 years plus.
2. The process for addressing new issues raised during the later stages of the community engagement will vary based on the complexity of the issue.
3. The process for addressing new issues reside during the implementation stage.
4. The community is notified of the final recommendations prior to presentation of the plan to Standing Committee on Transportation or City Council.
5. The outcome of the review of specific issues in the Lakeview neighbourhood is included.

Strategic Goal

This report supports the Strategic Goal of Moving Around by providing a plan to guide the installation of traffic calming devices and pedestrian safety enhancements to improve the safety of pedestrians, motorists, and cyclists.

Background

At its Regular Business Meeting held on February 29, 2016, City Council adopted the Lakeview NTR as the framework for future traffic improvements in the area, and resolved in part:

- “2. That the matter of time parameters be referred back to the Administration for this review and all future neighbourhood traffic reviews.”

A request was also made for additional details on the outcome of specific issues in the Lakeview neighbourhood that were raised later in the engagement process.

Report

Implementation Timelines

The development and implementation of the NTR includes four stages:

1. Identify existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon.ca website;
2. Develop a draft traffic plan based on residents' input and traffic assessments;

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 City Council for adoption; and
4. Implement the proposed measures in a specific time frame, short-term (1 to 2 years), medium-term (3 to 5 years), or long-term (more than 5 years).

In each NTR, information is provided on the timeframe for installation of the proposed recommendations. The timeframe provided is typically as follows:

- Short-term (one to two years): This includes all traffic calming measures being installed in a temporary fashion. Also includes all signage and pavement markings being installed.
- Medium-term (three to five years): This includes converting traffic calming measures installed in a temporary fashion to permanent, roadway realignment, sidewalks, and major intersection and corridor reviews.
- Long-term (five years plus): This can also include roadway realignment and sidewalks, if applicable.

Attachment 1 identifies the timeframe for installation of each of the recommendations provided in the Lakeview NTR. The revised Lakeview NTR report is included as Attachment 2.

Process for New Concerns Raised at Second Public Meeting

Concerns raised at a second public meeting are addressed based on their complexity:

1. If the issue is straightforward (i.e. a stop sign request), the Administration will follow-up by collecting and assessing additional traffic data. These new concerns are added into the appendix of the technical report and specify the location of concern, and recommendations are provided.
2. If the issue is complex, a third meeting is held after the Administration has reviewed the issue further and collected and assessed traffic and / or pedestrian data, and generated recommendations. Some examples of complex concerns include traffic calming requests in Nutana near 14th Street / Lansdowne Avenue / Temperance Street and shortcutting on Glasgow Street in Avalon.

Concerns Raised During the Implementation Phase

On several occasions the Administration has worked with the respective Councillor and residents after City Council has approved the NTR, and implementation has begun. These situations typically result in minor adjustments to the installations, but have also on occasion resulted in the removal as the recommended measure has been deemed ineffective once evaluated in the field.

Ongoing Communication with Residents

Prior to 2016, the Administration posted the NTR on the City's website typically one week prior to the appropriate Standing Committee or Council meeting. No formal notification was provided to the community.

Moving forward, the Administration will notify the Community Association and respective Councillor that the NTR technical report has been shared on the City's website a week in advance of the appropriate Standing Committee or Council meeting.

Specific Traffic Issues

1. The request for parking restrictions at the intersection of Taylor Street / Heritage Crescent / Weyakwin Drive was reviewed as part of the Lakeview neighbourhood review. Comments are shown in Appendix E – Decision Matrix (item #11) of attachment, Lakeview NTR, Revised March 22, 2016. A summary is provided below:
 - Southwest corner – Parking restrictions of 40 metres from intersection were included in the recommendations proposed at the second meeting to improve visibility. Residents supported the restrictions to be included in the final plan.
 - Northeast corner – Parking restrictions exist 90 metres from the intersection, therefore sight distance is adequate (no further recommendations).
 - Northwest corner – Parking restrictions exist 25 metres from the intersection, therefore sight distance is adequate (no further recommendations).
 - Southeast corner – No parking restrictions are necessary due to the curvature of roadway and centre median (no further recommendations).

2. A speed study was completed on Lakeshore Crescent based on the concerns received during the initial consultation. The results indicated an 85th percentile speed (the speed at which 85 percent of the vehicles are travelling at or below) of 36.5kph, which is within the acceptable range for a local roadway, therefore no recommendations were proposed. During the second meeting, residents identified that the location of the speed study should have been placed further north. Given that speed studies are not conducted during the winter months, a recommendation to undertake an additional speed study on Lakeshore Crescent has been included in the attachment, Lakeview NTR, Revised March 22, 2016 item #15 in the final recommendations.

Public and/or Stakeholder Involvement

In May 2015, a public meeting was held to discuss traffic concerns and identify potential solutions. The feedback was used to develop the NTR which was presented at a follow-up public meeting in November 2015.

Feedback was provided by internal civic stakeholders of various divisions and departments: Public Works, Saskatoon Transit, Planning & Development, Saskatoon Light & Power, Saskatoon Police Service, and the Saskatoon Fire Department on the proposed improvements, which was incorporated into the recommended NTR.

Communication Plan

The final Neighbourhood Traffic Plan will be shared with the residents of the impacted neighbourhood using several methods: City website, the Community Association, communication forums (i.e. website, newsletter), and by a direct mail-out.

Financial Implications

The implementation of the NTR will have financial implications. The costs are summarized in the following table.

Item	2016	Beyond 2016
Traffic Calming & Speed Display Board	\$4,500	\$75,000
Traffic Control Signs	4,250	-
Pedestrian Crosswalks	1,500	-
Traffic Counts	500	-
Miscellaneous Signs	750	-
TOTALS	\$11,500	\$75,000

There is sufficient funding within Capital Project #1512 – Neighbourhood Traffic Management to undertake the work in 2016, which includes implementation of all signage and temporary traffic calming measures.

The remainder of the work, beyond 2016, includes construction of permanent traffic calming measures, and will be considered alongside all other improvements identified through the NTR. The Administration’s annual budget submission package will include the list of projects recommended to be funded, and the rationale used to prioritize the projects.

Environmental Implications

The overall impact of the recommendations on traffic characteristics, including the impacts on greenhouse gas emissions, has not been quantified at this time.

Other Considerations/Implications

There are no options, policy, privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

No further report required.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Lakeview Neighbourhood Recommended Improvements Timeframe
2. Lakeview Neighbourhood Traffic Review, Revised March 22, 2016

Report Approval

Written by: Jay Magus, Engineering Manager, Transportation

Lakeview Neighbourhood Traffic Review

Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS JM – Lakeview Neighbourhood Traffic Review.docx

Table: Lakeview Neighbourhood Recommended Improvements

Item	Location	Recommendation	Timeframe	
			Temporary	Made Permanent Within
1	Kingsmere Boulevard & Costigan Road (north)	Median island (on north side)	2016	5 years
2	Kingsmere Boulevard & Costigan Road (south)	Median islands (on north & south sides)	2016	5 years
3	Kingsmere Boulevard & Whiteshore Crescent (north) / Delaronde Road	School zone sign on signal overhead	n/a	2016-17
4	Kingsmere Boulevard & Whiteshore Crescent (north) / Delaronde Road	"No parking" sign on Kingsmere Boulevard 10m from intersection (on southeast corner)	n/a	2016-17
5	Kingsmere Boulevard & curve between Delaronde Road & Delaronde Road	Move existing school zone sign south (across from 50kph sign) & install additional school zone sign on back side of 50kph sign	n/a	2016-17
6	Kingsmere Boulevard & Whitewood Road/Wollaston Crescent	"No Parking" sign on Kingsmere Boulevard 18m from intersection (on northeast corner)	n/a	2016-17
7	Kingsmere Boulevard & all intersecting streets between Taylor Street & Weyakwin Drive	Change all yield signs to stop signs (15 signs total)	n/a	2016-17
8	Stillwater Drive & Kingsmere Boulevard	Median island (on east side)	2016	5 years
		Stop sign	n/a	2016-17
9	Stillwater Drive & McKercher Drive	Zebra crosswalks	n/a	2016-17
10	Stillwater Drive & Emerald Crescent (west)	Curb extension (on southwest corner)	2016	5 years
		Zebra crosswalks	n/a	2016-17
11	Taylor Street & Weyakwin Drive	Median island (on south side)	2016	5 years
		Stop sign	n/a	2016-17
12	Taylor Street & Weyakwin Drive	"No Parking" sign on Taylor Street 40m from intersection (on southwest corner)	n/a	2016-17
13	Taylor Street - 200m west of Weyakwin Drive	Speed display board facing eastbound traffic	n/a	5 years
14	Crean Lane	Speed study in spring 2016 to determine additional measures	n/a	n/a

CITY OF SASKATOON
2015 NEIGHBOURHOOD TRAFFIC REVIEWS

Lakeview

January 19, 2016

Revision 1 – March 22, 2016

Lakeview Neighbourhood Traffic Review

January 19, 2016

Revised

March 22, 2016

Authorization

Prepared By:



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Acknowledgements

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

- Lakeview residents
- Lakeview Community Association
- Saskatoon Police Services
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- Saskatoon Fire Department
- City of Saskatoon Environmental Services
- City of Saskatoon Transit
- City of Saskatoon Planning & Development
- City of Saskatoon Public Works
- City of Saskatoon Community Standards
- City of Saskatoon Transportation
- Great Works Consulting
- Councillor Tiffany Paulsen

Cover Photograph Kara Toews

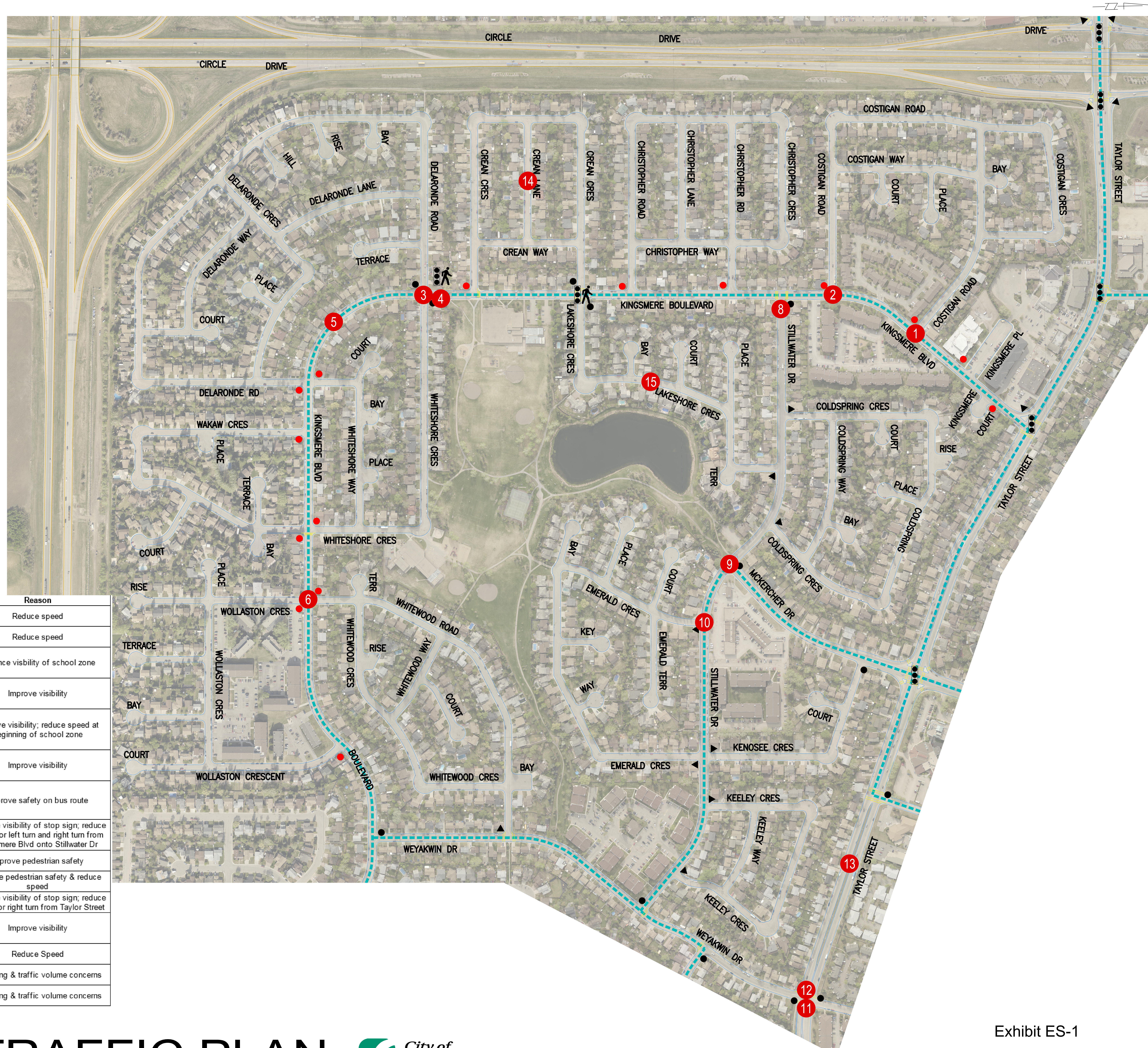
EXECUTIVE SUMMARY

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 revised program involves additional community and stakeholder consultation that provides the environment for neighbourhood residents and City staff to work together in developing solutions that address traffic concerns. The process is outlined in the *Traffic Calming Guidelines and Tools*, City of Saskatoon, 2013.

A public meeting was held in May of 2015 to identify traffic concerns and potential solutions within the Lakeview neighbourhood. 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 Management Plan was developed and presented to the community at a follow-up meeting held in November 2015.

A summary of recommended improvements for the Lakeview neighbourhood are included in **Table ES-1**. The summary identifies the locations, the recommended improvement, and a schedule for implementation. The schedule to implement the Traffic Management Plan can vary depending on the complexity of the proposed improvement. According to the *Traffic Calming Guidelines and Tools* document, the time frame may range from short-term (1 to 2 year); medium-term (3 to 5 years) and long-term (5 years plus). Accordingly, the specific time frame to implement the improvements for these neighbourhoods ranges from 1 to 5 years.

The resulting proposed Lakeview Traffic Management Plan is illustrated in **Exhibit ES-1**.



LEGEND

- PROPOSED STOP SIGN
- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- - - BUS ROUTE
- ⬆ EXISTING TRAFFIC SIGNAL
- 🚶 PEDESTRIAN ACTUATED SIGNAL LOCATION

Item	Location	Recommendation	Reason
1	Kingsmere Blvd & Costigan Rd (north)	Median island (on north side)	Reduce speed
2	Kingsmere Blvd & Costigan Rd (south)	Median islands (on north & south sides)	Reduce speed
3	Kingsmere Blvd & Whiteshore Cres (north) / Delaronde Rd	School zone sign on signal overhead	Enhance visibility of school zone
4	Kingsmere Blvd & Whiteshore Cres (north) / Delaronde Rd	"No parking" sign on Kingsmere Blvd 10m from intersection (on southeast corner)	Improve visibility
5	Kingsmere Blvd & curve between Delaronde Rd & Delaronde Rd	Move existing school zone sign south (across from 50kph sign) & install additional school zone sign on back side of 50kph sign	Improve visibility; reduce speed at beginning of school zone
6	Kingsmere Blvd & Whitewood Rd/Wollaston Cres	"No Parking" sign on Kingsmere Blvd 18m from intersection (on northeast corner)	Improve visibility
7	Kingsmere Blvd & all intersecting streets between Taylor St & Weyakwin Dr	Change all yield signs to stop signs (15 signs total)	Improve safety on bus route
8	Stillwater Dr & Kingsmere Blvd	Median island with additional stop sign (on east side)	Enhance visibility of stop sign; reduce speed for left turn and right turn from Kingsmere Blvd onto Stillwater Dr
9	Stillwater Dr & McKercher Dr	Zebra crosswalks	Improve pedestrian safety
10	Stillwater Dr & Emerald Cres (west)	Zebra crosswalks & curb extension (on southwest corner)	Improve pedestrian safety & reduce speed
11	Taylor St & Weyakwin Dr	Median island with additional stop sign (on south side)	Enhance visibility of stop sign; reduce speed for right turn from Taylor Street
12	Taylor St & Weyakwin Dr	"No Parking" sign on Taylor St 40m from intersection (on southwest corner)	Improve visibility
13	Taylor St - 200m west of Weyakwin Dr	Speed display board facing eastbound traffic	Reduce Speed
14	Crean Lane	Speed study in spring 2016 to determine additional measures	Speeding & traffic volume concerns
15	Lakeshore Crescent	Speed study in spring 2016 to determine additional measures	Speeding & traffic volume concerns

Exhibit ES-1

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1 INTRODUCTION

As the City of Saskatoon continues to grow many neighbourhoods face growing issues such as pedestrian safety, cut-through traffic, and increased speeds on local roads within neighbourhoods. In August 2013, City Council adopted the *City of Saskatoon Traffic Guidelines and Tools* that outlined 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 that were developed by the Administration and residents in collaborative fashion. Accordingly, this report provides the traffic management plan for Lakeview.

The Lakeview neighbourhood is located on the east side of the South Saskatchewan River and is bound by Highway 16 to the south, Weyakwin Drive to the east, Circle Drive to the west, and Taylor Street to the north. The area use is mostly residential, with an elementary school (Lakeview School) on Kingsmere Boulevard, and some commercial land use along Taylor Street.

The development and implementation of the traffic management plan includes four stages:

- **Stage 1** - Identify existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon Website.
- **Stage 2** - Develop a draft traffic plan based on resident's 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 City Council for approval.
- **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 present the study findings and recommendations.

2 IDENTIFYING ISSUES, CONCERNS, AND POSSIBLE SOLUTIONS

A public meeting was held in May of 2015 to identify traffic concerns within the neighbourhood. At the meeting, residents were given the opportunity to express their concerns and suggest possible solutions.

The following pages summarize the concerns and suggested solutions identified during the initial consultation with the neighbourhood residents.

2.1 Concern 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). In the case of Lakeview, the bordering arterial street (Taylor Street) is designated to accommodate larger traffic volumes.

As speeding often accompanies shortcutting, these concerns have been grouped into one category.

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

- Kingsmere Boulevard
- Delaronde Crescent
- Lakeshore Crescent
- Kennossee Crescent
- Whiteshore Crescent

Proposed solutions identified by residents:

- Install traffic calming (median islands or speed bumps) or concrete barriers
- Improve visibility of school zone sign
- Install speed display board
- Install “residents only” sign
- Install another entrance/exit to neighbourhood
- Enforcement

2.2 Concern 2 – Pedestrian Safety

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

Pedestrian crosswalks need to adhere to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004 which states the following:

“The installation of appropriate traffic controls at pedestrian crossings shall be based on warrants listed in the document entitled *Traffic Control at Pedestrian Crossings – 2004* approved by City Council in 2004.”

Neighbourhood concerns regarding pedestrian safety were at the following locations:

- Kingsmere Boulevard & Stillwater Drive
- Kingsmere Boulevard & Whiteshore Crescent / Delaronde Road
- Kingsmere Boulevard & Kingsmere Place
- Stillwater Drive & Emerald Crescent
- Stillwater Drive & McKercher Drive
- Taylor Street & Weyakwin Drive

Proposed solutions identified by residents:

- Improve visibility of school zone signs (either by moving the sign or tree trimming)
- Install active pedestrian corridor (overhead flashing yellow lights)
- Install traffic calming to restrict driver’s from passing on the right
- Block side of crosswalk that pedestrian shouldn’t be using at Whiteshore Crescent / Delaronde Road
- Extend school zone
- Install pedestrian sign with flashing light
- Add pedestrian connection at Delaronde Crescent crossing Circle Drive
- Add pedestrian connection south of Wollaston Court crossing Circle Drive
- Consider adding pedestrian controlled lights at walkways for pedestrians to cross safely

2.3 Concern 3 – Traffic Control

Traffic control signs are used in order to assign the right-of-way. City of Saskatoon Council Policy C07-007 *Traffic Control – Use of Stop and Yield Signs*, April 26, 2009 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 volume, collision history, and must have a balanced volume from each leg to operate sufficiently.

Neighbourhood concerns regarding traffic controls were at the following locations:

- Stillwater Drive & McKercher Drive
- Taylor Street & Weyakwin Drive
- Delaronde Crescent

Proposed solutions identified by residents:

- Install all-way stop (Stillwater Drive & McKercher Drive and Taylor Street & Weyakwin Drive)
- Change yield sign to stop sign

2.4 Concern 4 – Parking

Parking is allowed on all city streets unless signage is posted. According to City of Saskatoon Bylaw 7200, *The Traffic Bylaw*, December 16, 2013, vehicles are restricted from parking within 10 metres of an intersection and one metre of a driveway crossing.

Neighbourhood concerns regarding parking were at the following locations:

- Kingsmere Boulevard & Costigan Road
- Kingsmere Boulevard & Whitewood Road / Wollaston Cres

Proposed solutions identified by residents:

- Parking restrictions
- Parking enforcement

2.5 Concern 5 – Maintenance

Condition of the streets in Lakeview was identified as a concern (i.e. snow clearing, potholes, tree trimming, and temporary traffic calming devices).

Neighbourhood concerns regarding maintenance were:

- Snow build-up on Kingsmere Boulevard
- Trees obstructing signs

2.6 Concern 6 – Transit

Transit:

- Kingsmere Boulevard & Whiteshore Crescent / Delaronde Road – buses stopping/parking during peak hours; buses speeding
- Kingsmere Boulevard & Costigan Road – bus stop creates a blind spot for drivers trying to exit Costigan Road onto Kingsmere Boulevard
- Kingsmere Boulevard & Wollaston Crescent / Whitewood Road - bus stop eastbound on Kingsmere Boulevard obstructs driver's view.

3 ASSESSMENT

3.1 Methodology

Stage 2 of the plan development included developing a draft traffic management 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:
 - Intersection turning moving counts
 - Pedestrian counts
 - Daily and weekly traffic counts
 - Average speed measurements
- 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 judgement.

The following sections provide details on the data collected for traffic volumes (peak hours, daily, and weekly), travel speed, and pedestrian movements. A map of the traffic data collection is shown in **Appendix A**.

3.2 Travel Volumes and Travel Speeds

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**.

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

Characteristics	Classifications					
	Back Lanes		Locals		Collectors	
	Residential	Commercial	Residential	Commercial	Residential	Commercial
Traffic function	Access function only (traffic movement not a consideration)		Access primary function (traffic movement secondary consideration)		Traffic movement and land access of equal importance	
Average Daily Traffic (vehicles per day)	<500	<1,000	<1,000	<5,000	<5,000	8,000-10,000
Typical Speed Limits (kph)	20		50		50	
Transit Service	Not permitted		Generally avoided		Permitted	
Cyclist	No restrictions or special facilities		No restrictions or special facilities		No restrictions or special facilities	
Pedestrians	Permitted, no special facilities		Sidewalks on one or both sides	Sidewalks provided where required	Typically sidewalks provided both sides	Sidewalks provided where required
Parking	Some restrictions		No restrictions or restriction on one side only		Few restrictions other than peak hour	

Travel 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 Lakeview neighbourhood is 50kph, except for school zones where the speed limit is 30kph from September and June, 8:00am to 5:00pm, excluding weekends.

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

Table 3-2: Speed Studies and Average Daily Traffic Counts (2015)

Street	Between	Class	Average Daily Traffic (vpd)	Speed (kph)
Lakeshore Crescent	South portion of Crescent	36.5	288	local
Kenossee Crescent	Midblock	41.4	274	
Whiteshore Crescent	St. Bernard School Zone	school=30.4; regular=37.9	356	
Kingsmere Boulevard	Wakaw Crescent to Delaronde Road	55.1	3042	majorcollector
Kingsmere Boulevard	Costigan Road (north) to Costigan Road (south)	51.5	9303	
Kingsmere Boulevard	Christopher Road (north) to Christopher Road (south)	58	5414	
Stillwater Drive	Emerald Crescent (west) to Emerald Crescent (east)	53.8	2822	collector

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*, January 26, 2009.

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

Results of the studies are shown in **Table 3-3**.

Table 3-3: All-Way Stop Assessments

Location	Peak Hour Count	Average Daily Traffic (vpd)	# of Collisions within most recent 12 months	% of Traffic from minor street	Traffic Signals or all-way stop within 200m	All-Way Stop Warranted
Stillwater Drive & Emerald Crescent (west)	394	4460	0	15%	no	All-Way Stop Not Warranted
Stillwater Drive & McKercher Drive	810	8470	0	19%	no	
Kingsmere Boulevard & Stillwater Drive	1657	17060	0	7%	no	
Taylor Street & Weyakwin Drive	1365	15990	4	24%	no	

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

3.4 Pedestrian Assessments

Pedestrian assessments are conducted to determine the need for pedestrian actuated signalized crosswalks which, in adherence to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004, are typically active pedestrian corridor (flashing yellow lights) or pedestrian-actuated signals. A warrant system assigns points for a variety of conditions that exist at the crossing location, including:

- Number of traffic lanes to be crossed;
- presence of a physical median;
- posted speed limit of the street;
- distance the crossing point is to the nearest protected crosswalk point; and
- number of pedestrian and vehicles at the location.

Pedestrian and traffic data is collected during the five peak hours of: 8:00am to 9:00am, 11:30am to 1:30pm, and 3:00pm to 5:00pm.

In addition, if a pedestrian actuated crosswalk is not warranted, a standard marked pedestrian crosswalk, or a zebra crosswalk (i.e. striped) may be considered. A summary of the pedestrian studies are provided in **Table 3-4**.

Table 3-4: Pedestrian Assessment

Location	Number of Pedestrians Crossing During Peak Hours	Results
Stillwater Drive & McKercher Drive	109	Pedestrian Device Not Warranted
Stillwater Drive & Emerald Crescent (west)	38	
Kingsmere Boulevard & Stillwater Drive	18	
Taylor Street & Weyakwin Drive	23	
Kingsmere Boulevard & Delaronde Road/Whiteshore Crescent	148	Existing Pedestrian-Actuated Signal

Details of the pedestrian actuated signal and active pedestrian corridor assessments are provided in **Appendix C**.

3.5 Collision Analysis

The most recently available five year collision statistics (2009 to 2013) were provided by 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. These include:

- Taylor Street & Weyakwin Drive
- Kingsmere Boulevard & Whiteshore Crescent / Delaronde Road
- Kingsmere Boulevard & Wollaston Crescent (east)
- Stillwater Drive & Weyakwin Drive

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

4 PLAN DEVELOPMENT

4.1 Methodology

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

- Based on the assessments, prepare a plan that illustrates the appropriate recommended improvement
- 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 management plan, including the location, recommended improvement, and the 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*, January 26, 2009, “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 Speeding and Shortcutting Improvements

Location	Recommended Improvement	Justification
Kingsmere Boulevard & Costigan Road (north)	Median island (on north side)	Reduce speed
Kingsmere Boulevard & Costigan Road (south)	Median islands (on north & south sides)	Reduce speed
Stillwater Drive & Kingsmere Boulevard	Median island (on east side)	Reduce speed for left-turn and right-turn from Kingsmere Boulevard onto Stillwater Drive
Stillwater Drive & Emerald Crescent (west)	Curb extension (on southwest corner)	Improve pedestrian safety & reduce speed
Taylor Street & Weyakwin Drive	Median island (on south side)	Reduce speed for right turn from Taylor Street
Taylor Street - 200m west of Weyakwin Drive	Speed display board facing eastbound traffic	Reduce Speed
Crean Lane	Speed study in spring 2016 to determine additional measures	Speeding & traffic volume concerns

4.3 Pedestrian Safety

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

Table 4-2: Recommended Pedestrian Safety Improvements

Location	Recommended Improvement	Justification
Kingsmere Boulevard & Whiteshore Crescent (north) / Delaronde Road	School zone sign on signal overhead	Enhance visibility of school zone
Kingsmere Boulevard & curve between Delaronde Road & Delaronde Road	Move existing school zone sign south (across from 50kph sign) & install additional school zone sign on back side of 50kph sign	Improve visibility; reduce speed at beginning of school zone
Stillwater Drive & McKercher Drive	Zebra crosswalks	Improve pedestrian safety
Stillwater Drive & Emerald Crescent (west)	Zebra crosswalks	Improve pedestrian safety & reduce speed

4.4 Traffic Control

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 Traffic Control Improvements

Location	Recommended Improvement	Justification
Kingsmere Boulevard & all intersecting streets between Taylor Street & Weyakwin Drive	Change all yield signs to stop signs (15 signs total)	Improve safety on bus route
Stillwater Drive & Kingsmere Boulevard	Median island with additional stop sign (on east side)	Enhance visibility of stop sign
Taylor Street & Weyakwin Drive	Median island with additional stop sign (on south side)	Enhance visibility of stop sign

4.5 Parking Improvements

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

Table 4-4: Recommended Parking Improvements

Location	Recommended Improvement	Justification
Kingsmere Boulevard & Whiteshore Crescent (north) / Delaronde Road	"No parking" sign on Kingsmere Boulevard 10m from intersection (on southeast corner)	Improve visibility
Kingsmere Boulevard & Whitewood Road / Wollaston Crescent	"No Parking" sign on Kingsmere Boulevard 18m from intersection (on northeast corner)	Improve visibility
Taylor Street & Weyakwin Drive	"No Parking" sign on Taylor Street 40m from intersection (on southwest corner)	Improve visibility

4.6 Follow Up Consultation – Presentation of Traffic Management Plan

The initial recommended improvements were presented at a follow-up public meeting in November 2015. Recommended improvements that were not supported by the residents were eliminated or altered accordingly. A decision matrix detailing the list of recommended improvements presented at the follow-up meeting are included in **Appendix E**. A decision matrix for additional comments received after the draft traffic plan is also included in **Appendix E**.

The recommendations were circulated to the Civic Divisions (including Police Services, Light & Power, Saskatoon Fire Department, Environmental Services, and Transit) to gather comments and concerns. General support was received. Transit was concerned about the proposed curb extension at the intersection of Stillwater Drive and McKercher Drive, as their drivers are currently expected to turn left to go northbound at this intersection. The curb extension was removed from the plan.

4.7 Major Intersection Reviews and Corridor Studies

The mandate for the Neighbourhood Traffic Management Reviews is to focus on neighbourhood streets such as local roads and collector roads. As almost all neighbourhoods are bound by arterial streets, such as Taylor Street, it is not uncommon to have residents raise issues regarding these streets. However, arterial streets are much more complex than local or collector streets due to larger traffic volumes, different types of drivers (commuters), coordinated traffic signals, transit accommodation, and potentially many commercial accesses. To properly address these, the typical transportation engineering approach would require a corridor study or a major intersection review, both of which are expensive and require significant resources. Through the Neighbourhood Traffic Reviews, the City is compiling a list of issues on arterial streets. The Transportation Division is working to prioritize the issues, identify the work requirements, and secure funding to complete these types of assessments.

5 RECOMMENDED PLAN & COST ESTIMATES

Stage 4, the last stage of the process, is to install the recommended improvements for the Lakeview neighbourhood within the specified timeframe. The timeframe 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 signage will be completed short-term (1 to 2 years).

Major intersection reviews are based on the number of other locations to be reviewed city-wide and the availability of funding. The timeline for review will be medium-term (3 to 5 years).

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

- **Table 5-1:** Traffic Calming Cost Estimate
- **Table 5-2:** Traffic Control Signs Cost Estimate
- **Table 5-3:** Pedestrian Safety Signs Cost Estimate
- **Table 5-4:** Miscellaneous Signs Cost Estimate
- **Table 5-5:** Traffic Counts Cost Estimate
- **Table 5-6:** Total Cost Estimate

Table 5-1: Traffic Calming Cost Estimate

Location	Device	Cost Estimate		Time Frame
		Temporary	Permanent	
Kingsmere Boulevard & Costigan Road (north)	Median island (on north side)	\$500	\$5,000	1 to 5 years (traffic calming devices will be installed temporarily until proven effective)
Kingsmere Boulevard & Costigan Road (south)	Median islands (on north & south sides)	\$1,000	\$10,000	
Stillwater Drive & Kingsmere Boulevard	Median island (on east side)	\$500	\$5,000	
Stillwater Drive & Emerald Crescent (west)	Curb extension (on southwest corner)	\$500	\$45,000	
Taylor Street & Weyakwin Drive	Median island (on south side)	\$500	\$5,000	
Taylor Street - 200m west of Weyakwin Drive	Speed display board facing eastbound traffic	\$0	\$5,000	
Totals		\$3,000	\$75,000	

Table 5-2: Traffic Control Signs Cost Estimate

Location	Device	Number of Signs	Cost Estimate	Time Frame
Kingsmere Boulevard & all intersecting streets between Taylor Street & Weyakwin Drive	Stop sign	15	\$3,750	1 to 2 years
Stillwater Drive & Kingsmere Boulevard	Stop sign	1	\$250	
Taylor Street & Weyakwin Drive	Stop sign	1	\$250	
Totals		17	\$4,250	

Table 5-3: Pedestrian Safety Signs Cost Estimate

Location	Device	Cost Estimate	Time Frame
Kingsmere Boulevard & Whiteshore Crescent (north) / Delaronde Road	School zone sign	\$250	1 to 2 years
Kingsmere Boulevard & curve between Delaronde Road & Delaronde Road	School zone sign	\$250	
Stillwater Drive & McKercher Drive	Zebra crosswalks	\$500	
Stillwater Drive & Emerald Crescent (west)	Zebra crosswalks	\$500	
Total		\$1,500	

Table 5-4: Miscellaneous Signs Cost Estimate

Location	Device	Number of Signs	Cost Estimate	Time Frame
Kingsmere Boulevard & Whiteshore Crescent (north) / Delaronde Road	"No parking" sign	1	\$250	1 to 2 years
Kingsmere Boulevard & Whitewood Road / Wollaston Crescent	"No parking" sign	1	\$250	
Taylor Street & Weyakwin Drive	"No parking" sign	1	\$250	
Totals		3	\$750	

Table 5-5: Traffic Counts Cost Estimate

Location	Details	Permanent
Crean Lane	3-day traffic volumes and speed studies	\$250
Lakeshore Crescent	3-day traffic volumes and speed studies	\$250
Total		\$500

Table 5-6: Total Cost Estimate

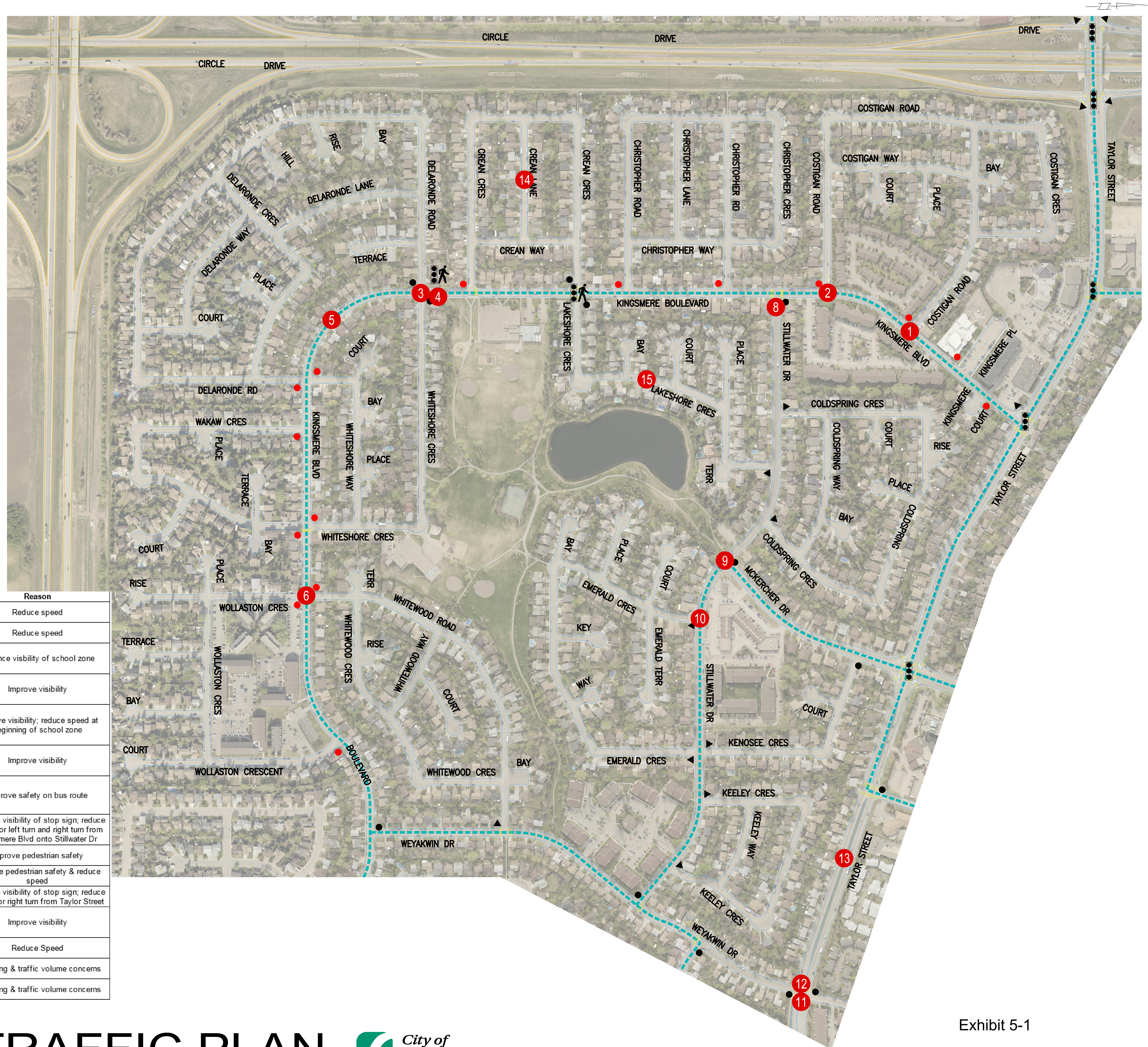
Category	Signing, Temporary Traffic Calming, Traffic Counts (2016)	Permanent (Beyond 2016)
Traffic Calming	\$3,000	\$75,000
Traffic Control Signs	\$4,250	\$0
Pedestrian Safety Signs	\$1,500	\$0
Miscellaneous Signs	\$750	\$0
Traffic Counts	\$500	\$0
Totals	\$10,000	\$75,000

The total cost estimate for the signage and temporary traffic calming to be installed in 2016, and the additional traffic counts, is **\$10,000**. The total cost estimate for the installation of future permanent devices, including the active pedestrian corridor, and sidewalks, is **\$75,000**.

Resulting from the plan development process, the recommended improvements, including the location, type of improvement, and schedule for implementation are summarized in **Table 5-7**. The resulting recommended Lakeview neighbourhood Traffic Management Plan is illustrated in **Exhibit 5-1**.

LEGEND

- PROPOSED STOP SIGN
- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- - - BUS ROUTE
- ⬆ EXISTING TRAFFIC SIGNAL
- 🚶 PEDESTRIAN ACTUATED SIGNAL LOCATION



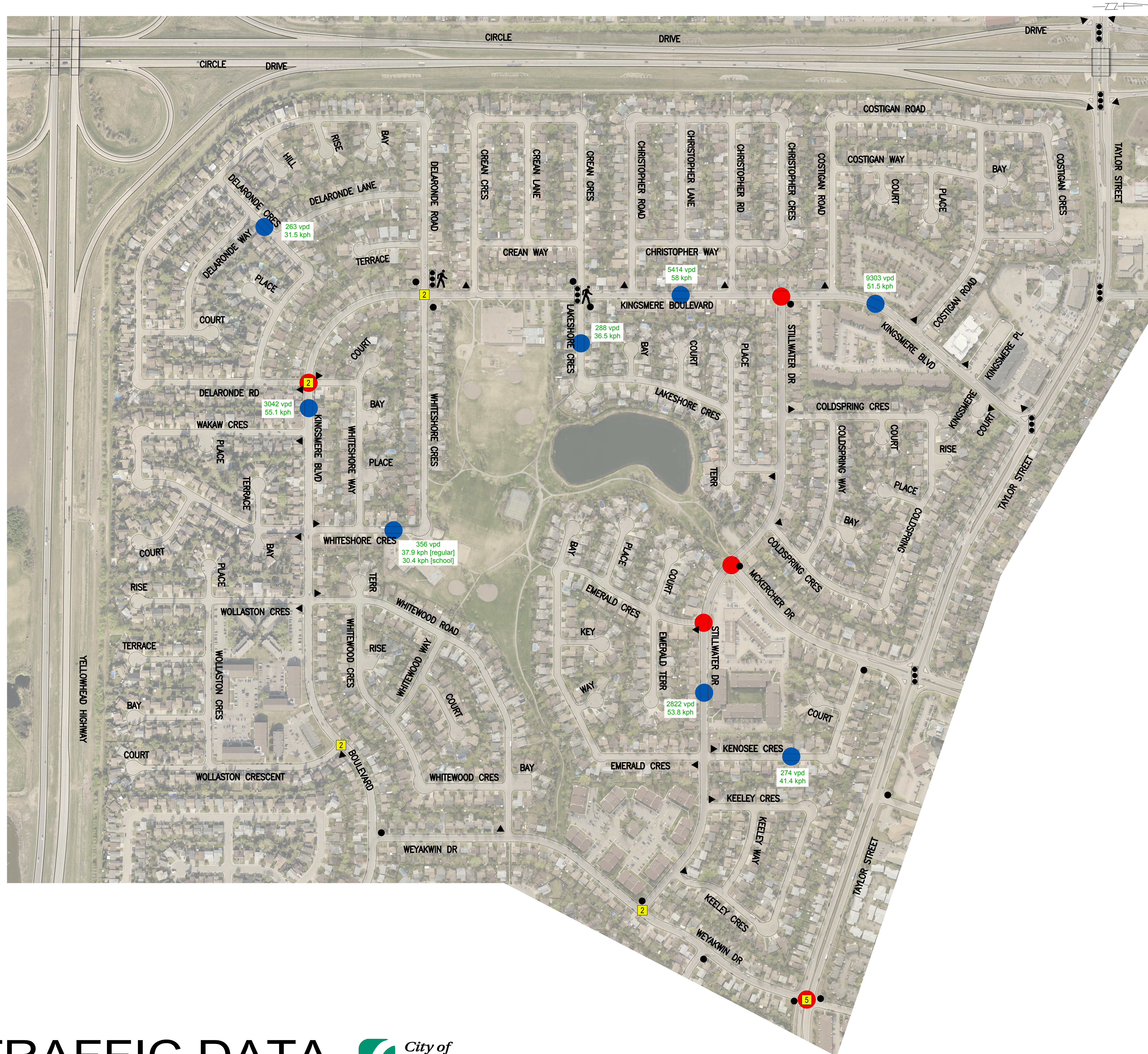
Item	Location	Recommendation	Reason
1	Kingsmere Blvd & Costigan Rd (north)	Median island (on north side)	Reduce speed
2	Kingsmere Blvd & Costigan Rd (south)	Median islands (on north & south sides)	Reduce speed
3	Kingsmere Blvd & Whiteshore Cres (north) / Delaronde Rd	School zone sign on signal overhead	Enhance visibility of school zone
4	Kingsmere Blvd & Whiteshore Cres (north) / Delaronde Rd	"No parking" sign on Kingsmere Blvd 10m from intersection (on southeast corner)	Improve visibility
5	Kingsmere Blvd & curve between Delaronde Rd & Delaronde Rd	Move existing school zone sign south (across from 50kph sign) & install additional school zone sign on back side of 50kph sign	Improve visibility; reduce speed at beginning of school zone
6	Kingsmere Blvd & Whitewood Rd/Wollaston Cres	"No Parking" sign on Kingsmere Blvd 18m from intersection (on northeast corner)	Improve visibility
7	Kingsmere Blvd & all intersecting streets between Taylor St & Weyakwin Dr	Change all yield signs to stop signs (15 signs total)	Improve safety on bus route
8	Stillwater Dr & Kingsmere Blvd	Median island with additional stop sign (on east side)	Enhance visibility of stop sign; reduce speed for left turn and right turn from Kingsmere Blvd onto Stillwater Dr
9	Stillwater Dr & McKercher Dr	Zebra crosswalks	Improve pedestrian safety
10	Stillwater Dr & Emerald Cres (west)	Zebra crosswalks & curb extension (on southwest corner)	Improve pedestrian safety & reduce speed
11	Taylor St & Weyakwin Dr	Median island with additional stop sign (on south side)	Enhance visibility of stop sign; reduce speed for right turn from Taylor Street
12	Taylor St & Weyakwin Dr	"No Parking" sign on Taylor St 40m from intersection (on southwest corner)	Improve visibility
13	Taylor St - 200m west of Weyakwin Dr	Speed display board facing eastbound traffic	Reduce Speed
14	Crean Lane	Speed study in spring 2016 to determine additional measures	Speeding & traffic volume concerns
15	Lakeshore Crescent	Speed study in spring 2016 to determine additional measures	Speeding & traffic volume concerns

Exhibit 5-1

Table 5-6: Lakeview Neighbourhood Recommended Improvements

Item	Location	Recommendation	Reason
1	Kingsmere Boulevard & Costigan Road (north)	Median island (on north side)	Reduce speed
2	Kingsmere Boulevard & Costigan Road (south)	Median islands (on north & south sides)	Reduce speed
3	Kingsmere Boulevard & Whiteshore Crescent (north) / Delaronde Road	School zone sign on signal overhead	Enhance visibility of school zone
4	Kingsmere Boulevard & Whiteshore Crescent (north) / Delaronde Road	"No parking" sign on Kingsmere Boulevard 10m from intersection (on southeast corner)	Improve visibility
5	Kingsmere Boulevard & curve between Delaronde Road & Delaronde Road	Move existing school zone sign south (across from 50kph sign) & install additional school zone sign on back side of 50kph sign	Improve visibility; reduce speed at beginning of school zone
6	Kingsmere Boulevard & Whitewood Road/Wollaston Crescent	"No Parking" sign on Kingsmere Boulevard 18m from intersection (on northeast corner)	Improve visibility
7	Kingsmere Boulevard & all intersecting streets between Taylor Street & Weyakwin Drive	Change all yield signs to stop signs (15 signs total)	Improve safety on bus route
8	Stillwater Drive & Kingsmere Boulevard	Median island (on east side)	Enhance visibility of stop sign; reduce speed for left-turn and right-turn from Kingsmere Boulevard onto Stillwater Drive
9	Stillwater Drive & McKercher Drive	Zebra crosswalks	Improve pedestrian safety
10	Stillwater Drive & Emerald Crescent (west)	Zebra crosswalks & curb extension (on southwest corner)	Improve pedestrian safety & reduce speed
11	Taylor Street & Weyakwin Drive	Median island (on south side)	Reduce speed of drivers making right-turn from Taylor Street onto Weyakwin Drive; Additional location for stop sign on Weyakwin Drive
12	Taylor Street & Weyakwin Drive	"No Parking" sign on Taylor Street 40m from intersection (on southwest corner)	Improve visibility
13	Taylor Street - 200m west of Weyakwin Drive	Speed display board facing eastbound traffic	Reduce Speed
14	Crean Lane	Speed study in spring 2016 to determine additional measures	Speeding & traffic volume concerns

APPENDIX A: TRAFFIC DATA COLLECTION



LEGEND

- X AVERAGE NUMBER OF COLLISIONS PER YEAR (2009-2013)
- TRAFFIC MOVEMENT COUNT
- SPEED STUDY
- 786 vpd — NUMBER OF VEHICLES PER DAY
- 47.2 kph — 85th PERCENTILE SPEED
- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- EXISTING TRAFFIC SIGNAL

LAKEVIEW TRAFFIC DATA



APPENDIX B: ALL-WAY STOP ASSESSMENTS

All-way Stop Assessment (Policy C07-007 – Traffic Control – Use of Stop & Yield Signs)

Step 1:

The following conditions must be met for all-way stop control to be considered:

i) The combined volume of traffic entering the intersection over the five peak hour periods from the minor street must be at least 25% of the total volume for a three-way stop control, and at least 35% of the total volume for a four-way stop control.

ii) There can be no all-way stop control and traffic signal within 200 metres of the proposed intersection being considered for all-way stop control on either of the intersecting streets.

Location	Condition 1: % of Traffic from minor street	Condition 2: Traffic Signals or all-way stop within 200m	All-Way Stop Warrant
Stillwater Drive & Emerald Crescent (west)	15% (no)	no	Conditions NOT met.
Stillwater Drive & McKercher Drive	19% (no)	no	
Kingsmere Boulevard & Stillwater Drive	7% (no)	no	
Taylor Street & Weyakwin Drive	24% (no)	no	

Conditions not met. No need to proceed to Step 2.

APPENDIX C: PEDESTRIAN DEVICE ASSESSMENTS

Pedestrian Corridor Assessment:

Stillwater Drive & Emerald Cres:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts						P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods	
			Total Both Sides				Factored Counts					
	15 min.	30 min.	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.			
7:00												
7:15												
7:30												
7:45												
8:00	64	64										
8:15	78	142	1				1	1	1	142		
8:30	87	165							1	165		
8:45	64	151										
9:00		64										
9:15												
9:30												
9:45												
AM Totals	293		1				1					
11:30	42		3				3	3				
11:45	44	86	6				6	6	9	774		
12:00	52	96	1				1	1	7	672		
12:15	64	116	10				10	10	11	1,276		
12:30	63	127							10	1,270		
12:45	76	139										
13:00	38	114										
13:15	44	82										
Noon Totals	423		20				20					
14:00												
14:15												
14:30												
14:45												
15:00	70	70	5				5	5	5	350		
15:15	63	133	3				3	3	8	1,064		
15:30	67	130	6				6	6	9	1,170		
15:45	71	138	1				1	1	7	966		
16:00	71	142							1	142		
16:15	104	175	1				1	1	1	175		
16:30	90	194							1	194		
16:45	100	190	1				1	1	1	190		
17:00		100							1	100		
17:15												
17:30												
17:45												
18:00												
18:15												
18:30												
18:45												
19:00												
19:15												
19:30												
19:45												
20:00												
20:15												
20:30												
20:45												
PM Totals	636		17				17					
Totals	1,352		38				38					
			100%				100%					
			West Crosswalk =				30	<<< install crosswalk on this side of the int.				
			East Crosswalk =				8					

SUMMARY

Total Warranted PC Points: or / period
 Highest PC point value: 1,276 at
 Average PC point value: 577
 No. of periods warranted:

Stillwater Drive & McKercher Drive:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts					Factored Counts		P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods
			Total Both Sides									
	15 min.	30 min.	Child	Teen	Adult	Senior/ Impaired	Total	15 min.	30 min.			
7:00												
7:15												
7:30												
7:45												
8:00	86	86										
8:15	88	174	2				2	2	2	348		
8:30	98	186	11				11	11	13	2,418		
8:45	88	186	3				3	3	14	2,604		
9:00		88							3	264		
9:15												
9:30												
9:45												
AM Totals	360		16				16					
11:30	57		1				1	1				
11:45	65	122	10				10	10	11	1,342		
12:00	59	124	12				12	12	22	2,728		
12:15	69	128	3				3	3	15	1,920		
12:30	91	160	5				5	5	8	1,280		
12:45	98	189							5	945		
13:00	57	155	1				1	1	1	155		
13:15	58	115	1				1	1	2	230		
Noon Totals	554		33				33					
14:00												
14:15												
14:30												
14:45												
15:00	79	79										
15:15	86	165	6				6	6	6	990		
15:30	98	184	16				16	16	22	4,048		
15:45	92	190	3				3	3	19	3,610		
16:00	101	193	4				4	4	7	1,351		
16:15	118	219	15				15	15	19	4,161		
16:30	118	236	5				5	5	20	4,720		
16:45	106	224	11				11	11	16	3,584		
17:00		106							11	1,166		
17:15												
17:30												
17:45												
18:00												
18:15												
18:30												
18:45												
19:00												
19:15												
19:30												
19:45												
20:00												
20:15												
20:30												
20:45												
PM Totals	798		60				60					
Totals	1,712		109				109					
			100%				100%					
			West Crosswalk =				39					
			East Crosswalk =				70					

<<< install crosswalk on this side of the int.

SUMMARY

Total Warranted PC Points: or / period
Highest PC point value: 4,720 at
Average PC point value: 2,524
No. of periods warranted:

Kingsmere Blvd & Delaronde/Whiteshore Cres:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts					P.C.		Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods	
			Total Both Sides					Factored Counts				Warrant Points
	15 min.	30 min.	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.			
7:00												
7:15												
7:30												
7:45												
8:00	122	122	2				2	2	2	244		
8:15	134	256	3				3	3	5	1,280		
8:30	147	281	19				19	19	22	6,182	1	
8:45	142	289	13				13	13	32	9,248	1	
9:00		142							13	1,846		
9:15												
9:30												
9:45												
AM Totals	545		37				37					15,430
11:30	84		2				2	2				
11:45	79	163	16				16	16	18	2,934		
12:00	87	166	6				6	6	22	3,652		
12:15	75	162	9				9	9	15	2,430		
12:30	102	177	1				1	1	10	1,770		
12:45	74	176	3				3	3	4	704		
13:00	79	153							3	459		
13:15	60	139	1				1	1	1	139		
Noon Totals	640		38				38					
14:00												
14:15												
14:30												
14:45												
15:00	90	90	2				2	2	2	180		
15:15	110	200	7				7	7	9	1,800		
15:30	159	269	37				37	37	44	11,836	1	11,836
15:45	156	315	5				5	5	42	13,230	1	13,230
16:00	118	274	4				4	4	9	2,466		
16:15	125	243	3				3	3	7	1,701		
16:30	144	269	12				12	12	15	4,035		
16:45	167	311	3				3	3	15	4,665		
17:00		167							3	501		
17:15												
17:30												
17:45												
18:00												
18:15												
18:30												
18:45												
19:00												
19:15												
19:30												
19:45												
20:00												
20:15												
20:30												
20:45												
PM Totals	1,069		73				73					25,066
Totals	2,254		148				148					
			100%				100%					
			North Crosswalk =				44					
			South Crosswalk =				104					

<<< install crosswalk on this side of the int.

SUMMARY

Total Warranted PC Points: 40,496 or 10,124 / period
Highest PC point value: 13,230 at
Average PC point value: 4,753
No. of periods warranted: 4

Pedestrian Actuated Signal Assessment:

Stillwater Drive & Emerald Cres:

Location & Roadway Classification: Stillwater & Emerald - collector & local
 Date of Count: Day of wk: Thurs Mth, Day, Yr: May 21/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: none
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 1,000 m
 Location: none
 Type: _____
 Is the orientation of this crosswalk(s) N-S? y (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	38	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	1,276	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	34		
Vehicles passing through crosswalk(s):	1,352				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the West Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00		28	24	12									
8:15		42	12	24	1								
8:30		40	27	20									
8:45		29	8	27									
9:00													
9:15													
9:30													
9:45													
AM Totals		139	71	83	1								
11:30		15	8	19	3								
11:45		14	5	25	6								
12:00		17	5	30	1								
12:15		20	8	36	10								
12:30		17	14	32									
12:45		33	9	34									
13:00		18	4	16									
13:15		15	5	24									
Noon Totals		149	58	216	20								
14:00													
14:15													
14:30													
14:45													
15:00		36	7	27	1								4
15:15		20	7	36	3								
15:30		20	5	42	3								3
15:45		32	7	32									1
16:00		24	2	45									
16:15		36	9	59	1								
16:30		28	9	53									
16:45		28	15	57	1								
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals		224	61	351	9								8
Totals		512	190	650	30								8
West Crosswalk =								30	East Crosswalk =				8

Stillwater Drive & McKercher Drive:

Location & Roadway Classification: Stillwater & McKercher
 Date of Count: Day of wk: Thurs Mth, Day, Yr: May 21/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: standard
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes

Is there a physical median in this crosswalk(s)? y (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 1,000 m
 Location: none
 Type: _____

Is the orientation of this crosswalk(s) N-S? y (y or n)

Duration of pedestrian count 5 hrs

Elementary:	109	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	4,720	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	47		
Vehicles passing through crosswalk(s):	1,712				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the East Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	9	46		31									
8:15	18	48		22	1								1
8:30	21	54		23	4								7
8:45	24	33		31	2								1
9:00													
9:15													
9:30													
9:45													
AM Totals	72	181		107	7								9
11:30	20	22		15	1								
11:45	23	18		24	2								8
12:00	21	19		19	4								8
12:15	28	29		12									3
12:30	31	37		23	5								
12:45	30	42		26									
13:00	21	23		13									1
13:15	20	17		21	1								
Noon Totals	194	207		153	13								20
14:00													
14:15													
14:30													
14:45													
15:00	27	34		18									
15:15	32	19		35	3								3
15:30	42	25		31	2								14
15:45	23	40		29	1								2
16:00	44	34		23	4								
16:15	47	42		29	1								14
16:30	53	35		30	4								1
16:45	39	35		32	4								7
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	307	264		227	19								41
Totals	573	652		487	39								70
West Crosswalk =									39	East Crosswalk =			70

Kingsmere Blvd & Delaronde/Whiteshore Cres (existing pedestrian actuated signal):

Location & Roadway Classification: Kingsmere & Delaronde/Whiteshore
 Date of Count: Day of wk: Mon/Tues Mth, Day, Yr: Jun 8/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: PAS
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 1,000 m
 Location: none
 Type: _____
 Is the orientation of this crosswalk(s) N-S? n (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	148	Total Warranted PC Points:	40,496	or	10,124 / period
High School:		Highest PC point value:	13,230	at	
Adult:		Active Ped Corridor Points:	4		
Senior:		Pedestrian Actuated Signal Points:	68		
Vehicles passing through crosswalk(s):	2,254				

ACTIVE PEDESTRIAN CORRIDOR WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

****Install device at the South Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	11	58	25	28									2
8:15	16	70	20	28	1								2
8:30	14	60	28	45	1								18
8:45	23	51	13	55	6								7
9:00													
9:15													
9:30													
9:45													
AM Totals	64	239	86	156	8								29
11:30	7	34	9	34									2
11:45	3	25	7	44	1								15
12:00	9	28	4	46	5								1
12:15	4	26	8	37	2								7
12:30	8	31	11	52	1								
12:45	6	20	11	37	3								
13:00	4	28	15	32									
13:15	2	21	7	30	1								
Noon Totals	43	213	72	312	13								25
14:00													
14:15													
14:30													
14:45													
15:00	3	33	7	47									2
15:15	4	41	12	53	3								4
15:30	21	45	7	86	7								30
15:45	19	35	11	91	1								4
16:00	8	23	10	77	3								1
16:15	5	32	11	77									3
16:30	8	40	16	80	9								3
16:45	9	38	13	107									3
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	77	287	87	618	23								50
Totals	184	739	245	1,086	44								104
North Crosswalk =								44	South Crosswalk =				104

Kingsmere Blvd & Stillwater Dr:

Location & Roadway Classification: Kingsmere & Stillwater Dr - major collector & collector
 Date of Count: Day of wk: Tues Mth, Day, Yr: Sep 22/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: zebra crosswalks
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes

Is there a physical median in this crosswalk(s)? n (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 460 m
 Location: Taylor St
 Type: TS

Is the orientation of this crosswalk(s) N-S? n (y or n)

Duration of pedestrian count 5 hrs

Elementary:	18	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	3,728	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	36		
Vehicles passing through crosswalk(s):	3,864				

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
 PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

****Install device at the North Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	North Crosswalk				South Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	46	30	129										1
8:15	49	29	161		4								
8:30	80	31	116		4								
8:45	88	34	138		1								
9:00													
9:15													
9:30													
9:45													
AM Totals	263	124	544		9								1
11:30	56	18	49										1
11:45	76	15	64										
12:00	66	16	54		1								
12:15	69	25	52										
12:30	74	15	55										
12:45	48	15	61										
13:00	60	23	55		1								
13:15	50	12	53										
Noon Totals	499	139	443		2								1
14:00													
14:15													
14:30													
14:45													
15:00	67	22	53										
15:15	132	23	51										
15:30	121	24	85		1								1
15:45	128	23	129										
16:00	113	21	76										2
16:15	144	19	81										
16:30	161	25	74										1
16:45	165	15	100										
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	1,031	172	649		1								4
Totals	1,793	435	1,636		12								6
North Crosswalk =								12	South Crosswalk =				6

Taylor St & Weyakwin Dr:

Location & Roadway Classification: Taylor St & Weyakwin - arterial & collecot
 Date of Count: Day of wk: Tues Mth, Day, Yr: Sep 22/15
 Weather: fair
 Traffic Control Devices: stop sign
 Current Pedestrian Control: zebra
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 6 lanes
 Is there a physical median in this crosswalk(s)? y (y or n)
 Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 530 m
 Location: McKercher Dr
 Type: TS
 Is the orientation of this crosswalk(s) N-S? y (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	23	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	2,772	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	53		
Vehicles passing through crosswalk(s):	4,908				

ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

****Install device at the East Crosswalk ****
 (Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	13	129	61	44									3
8:15	19	96	83	95									1
8:30	9	77	86	84									1
8:45	15	80	57	84									1
9:00													
9:15													
9:30													
9:45													
AM Totals	56	382	287	307									6
11:30	14	47	27	91									
11:45	16	41	28	88									
12:00	11	51	34	137									2
12:15	18	44	30	89									
12:30	21	45	39	95									2
12:45	12	65	41	72									1
13:00	19	45	39	85	1								
13:15	10	25	29	87	1								1
Noon Totals	121	363	267	744	2								6
14:00													
14:15													
14:30													
14:45													
15:00	11	60	25	103									2
15:15	14	66	42	157	1								2
15:30	14	78	49	175									
15:45	10	68	37	174									
16:00	11	64	30	164									
16:15	16	78	34	208									
16:30	11	72	39	208	1								1
16:45	13	64	50	236	2								
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	100	550	306	1,425	4								5
Totals	277	1,295	860	2,476	6								17
West Crosswalk =								6	East Crosswalk =				17

APPENDIX D: COLLISION ANALYSIS

Street 1	Street 2	All Collisions (2009 – 2013)	All collisions - 2013	Right Angle, Left Turn, Right Turn only	Right Angle, Left Turn, Right Turn only – 2013	Average (2009 – 2013)
Taylor St	Weyakwin Dr	23	4	15	3	5
Kingsmere Blvd	Whiteshore/Delaronde	11	2	6	0	2
Kingsmere Blvd	Wollaston Cres (east)	9	1	6	0	2
Stillwater Dr	Weyakwin Dr	8	1	6	1	2
Kingsmere Blvd	Whiteshore Way	6	1	4	0	1
Kingsmere Blvd	Whiteshore/Wakaw	4	1	3	1	1
Kingsmere Blvd	Wollaston/Whitewood	7	1	3	1	1
Stillwater Dr	Emerald Cres (west)	4	0	3	0	1
Kingsmere Blvd	Kingsmere Pl	4	1	2	1	1
Kingsmere Blvd	100 block (cul-de-sac)	3	0	1	0	1
Kingsmere Blvd	Costigan Rd (north)	4	1	1	1	1
Kingsmere Blvd	Stillwater Dr	5	0	1	0	1
Kingsmere Blvd	Christopher Rd (north)	2	0	1	0	0
Kingsmere Blvd	Christopher Rd (south)	3	1	1	0	1
Stillwater Dr	McKercher Dr	8	4	1	0	2
Kingsmere Blvd	Costigan Rd (south)	1	0	0	0	0
Kingsmere Blvd	Crean Cres (north)	1	1	0	0	0
Kingsmere Blvd	Crean Cres (south)	1	0	0	0	0
Kingsmere Blvd	Wakaw Cres	0	0	0	0	0
Costigan Cres	Costigan Bay	0	0	0	0	0
Costigan Cres	Costigan Cres (300/400 block)	1	0	0	0	0
Costigan Cres	Costigan Way (south)	1	1	0	0	0
Christopher Cres	Christopher Rd (east)	1	0	0	0	0
Christopher Cres	Christopher Rd (west)	2	1	0	0	0
Christopher Cres	Christopher Lane (east)	1	0	0	0	0
Christopher Cres	Christopher Cres (400/600 block)	0	0	0	0	0
Delaronde Cres	Delaronde Terr	0	0	0	0	0
Delaronde Cres	Delaronde Lane (north)	1	0	0	0	0
Delaronde Cres	Delaronde Rise	1	1	0	0	0
Delaronde Cres	Delaronde Hill	0	0	0	0	0
Wakaw Cres	Wakaw Crt	0	0	0	0	0
Wollaston Cres	Wollaston Bay	0	0	0	0	0
Wollaston Cres	Wollaston Crt	0	0	0	0	0
Lakeshore Cres	Lakeshore Bay	0	0	0	0	0
Lakeshore Cres	Lakeshore Terr	0	0	0	0	0
Stillwater Dr	Coldspring Cres (west)	0	0	0	0	0
Stillwater Dr	Lakeshore Cres	1	0	0	0	0
Stillwater Dr	Coldspring Cres (east)	0	0	0	0	0
Stillwater Dr	Emerald Cres (east)	1	1	0	0	0
Stillwater Dr	Keeley Cres (west)	0	0	0	0	0
Stillwater Dr	Keeley Cres (east)	4	0	0	0	1
Emerald Cres	Emerald Pl	0	0	0	0	0
Keeley Cres	Keeley Way (west)	1	0	0	0	0
McKercher Dr	Kenosee Cres	0	0	0	0	0

APPENDIX E: DECISION MATRIX

Decision Matrix – Items presented at the November 5, 2015 meeting

Item	Location	Recommendation	Reason	Group 1: Goran Lazic	Group 2: Justine Nyen	Group 3: Jay Magus	Decision
Kingsmere Blvd							
1	Costigan Rd (north)	Median island on south leg	Reduce speed				Revised. Moved to north leg so bus stop does not restrict traffic flow.
2a	Stillwater Dr	Median island on south leg (based on approval from Transit) & curb extension on southeast corner	Improve pedestrian safety, reduce speed & ensure drivers cannot pass on right	May be excessive; either median island or curb extension. Curb extension should be on west leg. Questionable benefit of curb extension on southeast corner	this is preferred (over 2b); consider curb extension on northwest side instead of median island; residents parking and backing out of driveway may be effected so give consideration	Some hesitancy, may create a traffic flow problem	Removed. Coordination with Transit Services to move bus stop and concerns with nearby driveways. Install median islands at Costigan Rd (south) to address speeding.
2b	Costigan Rd (south)	Median Island on north leg	Reduce speed		2a is preferred		Revised. Install median islands on north & south sides. Chosen location instead of Stillwater Dr (65m south) because Transit, parking, and traffic flow will not be effected.
3	Whitashore Cres (north) / Delaronde Rd	Median island on south leg	Reduce speed; enhance visibility of school zone		Pedestrian sign on median instead of school zone. Maybe put school zone on signal overhead instead.	Consider "no parking" on west side of Kingsmere instead, north of Delaronde Rd; tree trimming needed	Removed. Install school zone sign on signal overhead instead. Not standard to install pedestrian sign with Pedestrian-Activated Signal. Install "no parking" sign 10m from intersection on southeast corner.
4	Curve between Delaronde Rd & Delaronde Rd	Move existing school zone sign south (across from 50kph sign)	Improve visibility; reduce speed at beginning of school zone				Carried.
5	Whitewood/Wollaston	Parking restrictions on northeast corner to driveway (803 Kingsmere Blvd)	Improve visibility		Visibility issues due to tree (west side) and parked cars within "10m zone"		Carried. Notice will be sent to resident to ensure they are aware of restrictions prior to installation.
6	All intersecting streets between Taylor St & Weyakwin Dr	Change all yield signs to stop signs (15 signs total)	Stop signs warranted along bus routes to improve safety				Carried.
Stillwater Dr							
7	Kingsmere Blvd	Median island on east leg	Enhance visibility of stop sign; reduce speed for left turn and right turn from Kingsmere Blvd onto Stillwater Dr				Carried.
8	McKercher Dr	Zebra crosswalks & curb extension on south side	Improve pedestrian safety; reduce speed; eliminate drivers from passing on right				Removed. Transit requires space to make left turn. Further improve pedestrian safety by moving the advertisement signs next to the park path to improve visibility.
9	Emerald Cres (west)	Median island on east leg	Improve pedestrian safety & reduce speed	Consider pedestrian light or curb extension instead of island			Revised. Install zebra crosswalks & curb extension on southwest corner (majority of pedestrians crossed on west side)
Taylor St & Weyakwin Dr							
10	-	Median island on south leg	Reduce speed of drivers making right turn from Taylor St onto Weyakwin Dr; Additional location for stop sign on Weyakwin Dr	Ensure there's still room for 2 lanes (1 through/left & 1 right) on Weyakwin Dr; consider pedestrian improvements			Carried.
11	-	Parking restrictions on southwest corner (on Taylor St to first driveway approximately 40m)	Improve visibility		consider adding parking restrictions on northeast side too.		Carried. Existing parking restrictions on the north side. Visibility is adequate on the southwest corner.
12	-	Include location on speed display board priority list (facing eastbound traffic)	Reduce Speed	Consider having one on the westbound side too		Move to Kingsmere Blvd	Carried.

Decision Matrix – Additional Issues raised at November 5, 2015 meeting

Item	Location	Concern	Decision
1	Crean Lane at both ends (Crean Cres & Way)	Drivers looping from school and speeding down Crescent, not yielding at intersections. Lots of children in the area.	Speed study in the spring to determine speeds.
2	Taylor St between Kingsmere & Acadia	Winter snow maintenance should be improved; slippery up hill & vehicles getting stuck	Forward to Public Works for further consideration.
3	Stillwater Dr between McKercher & Weyakwin Dr	Snow pushed on the side reducing width of traffic lanes resulting in congestion	Forward to Public Works for further consideration.
4	Kenossee Cres	shortcutting	7-day traffic volume study indicated average of 274 vehicles per day; this is within the acceptable range for a local roadway (1,000 vehicles per day)
5	Kingsmere Blvd near Lakeshore Cres (south)	trees blocking school zone signs	Trees were trimmed at the time of site check. No further recommendations.
6	Kingsmere Blvd in front of Lakeview School	Snow clearance needed; U-turns	Forward to Public Works & Saskatoon Police Services for further consideration.
7	Stillwater Dr - driveway across from Keeley Cres	parking causing visibility issues; restrictions needed	"No Parking" signs are already installed.
8	Stillwater Dr & Weyakwin Dr	parking causing visibility issues on northwest corner; restrictions needed	"No Parking" signs are already installed.
9	Lakeshore Cres	speeding midblock; speed study was placed around curve and too far south therefore results are not accurate	Re-do speed study further north (midblock) in spring 2016.
10	Kingsmere Blvd	Clear trees	Need specific locations
11	McKercher Dr & Taylor St	green is too long for east/west	Document for further consideration as part of Intersection Improvements.
12	Taylor St - Arlington to Circle Dr	Traffic signal timing coordination required; leave Arlington Ave on green to catch red light at Circle Dr	Document for further consideration as part of Corridor Studies for further consideration.
13	Arlington Ave & Taylor	large tree obstructing driver's view	Trees were trimmed at the time of site check. No further recommendations.
14	Kingsmere Blvd & Taylor St	potholes	Forward to Public Works for further consideration.
15	Acadia Dr & Taylor St	potholes; running red lights	Forward to Public Works and Saskatoon Police Services for further consideration.
16	Taylor St	parking shouldn't be allowed in front of businesses	Document for further consideration as part of Corridor Studies.

APPENDIX F: MEETING NOTES

**Lakeview Neighbourhood
Traffic Review
Thursday, May 14, 2015, 7:00 – 9:00 P.M.
Lakeview School**

Facilitators:

- Mitch Riabko & Kathy Dahl (Great Works Consulting)

Agenda

- Welcome & introductions
- Presentation from the Transportation Division
- Small group discussions
- Small group discussion – report back to large group
- Next Steps
- Question / Answers

Councillor Paulsen sends her regrets as she is unable to attend

Presentation from Transportation Division – Lakeview Neighbourhood Traffic Review
(Presented by Justine Nyen – Traffic Engineer)

Presentation Outline:

- Neighbourhood Review Process
- Timeline for Lakeview Review
- Sources of Information
- Concerns Received
- Description of Traffic Calming & Pedestrian Safety Devices

Neighbourhood Review Process:

- **August 2013** – New process; neighbourhood review vs issue by issue; eight neighbourhoods reviewed per year
- **Mandate** – Reduce & calm traffic, improve safety within neighbourhoods
- **2014** – Varsity View, Nutana, Brevoort Park, Haultain, Holliston, City Park, Westmount, Hudson Bay Park, Caswell Hill
- **2015** – Lakeview, Meadowgreen, Adelaide-Churchill, Montgomery Place, Confederation Park, Avalon, Greystone Heights, Mount Royal

Timeline for Lakeview Review:

- **Stage 1** – Identify issues & possible solutions through community consultation (May to fall 2015)
- **Stage 2** – Develop a draft traffic plan (fall 2015)
- **Stage 3** – Present draft traffic plan to community for feedback (fall 2015)
- **Stage 4** – Implement the changes over time

Sources of Information:

- Past Studies
- Collision Analysis
- Feedback from Public Consultation
- Traffic Counts & Assessments

Concerns Received:

- Kingsmere Boulevard – Speeding
 - Kingsmere Boulevard & Whitewood Road – difficult to see westbound cars on Kingsmere (coming off of Whitewood) due to parked cars
 - Kingsmere Boulevard & Whiteshore Crescent – currently Pedestrian-Activated Signal; drivers speeding around curve NB not stopping when light is red and nearly hitting peds
 - Kingsmere Boulevard & Costigan Rd (north) – bus stop and parking obstructs drivers view on Costigan
- Lakeshore Cres – speeding
- Stillwater Dr & Emerald Cres – cars not yielding to pedestrians
- McKercher Dr & Stillwater – pedestrian safety concerns; many children crossing; install 3-way stop
- Taylor St & Weyakwin – difficult to cross or turn onto Taylor

Traffic Calming Devices (Examples of devices used in Saskatoon):

1. Speed Display Boards
2. Raised Median Island – narrows road; provides center refuge for pedestrians
3. Curb Extensions – narrows road
4. Roundabouts
5. Diverter – used to address high traffic volumes
6. Right-in/right-out island - used to address high traffic volumes
7. Directional Closure – restrict movements onto the street from one direction
8. Raised median through intersection – restrict movements
9. Full closure

Pedestrian Devices:

1. Standard crosswalk
2. Zebra crosswalk (striped pavement markings)
3. Active pedestrian corridor (flashing yellow lights)
4. Pedestrian-activated signals

Presentation from Saskatoon Police Services

Unable to attend.

- **Saskatoon Police Services: 306-975-8300 OR 306-975-8068 to report a traffic complaint or a concern.**

Small Group Discussions

- Breakout into small groups to discuss traffic concerns in Lakeview and potential solutions

Group 1: Jay Magus (City Facilitator)

1. Kingsmere Boulevard – speeding
2. Delaronde Crescent (west) – Speeding, particularly northbound
3. Kingsmere Boulevard & Delaronde Road (south) - Yield signs are difficult to see and in poor locations; enforcement needed
4. Kingsmere Boulevard & Delaronde Road (south) - Difficult to see northbound; enforcement
5. Kingsmere Boulevard & Delaronde Road (south) - Difficult to see westbound; enforcement
6. Kingsmere Boulevard & Whiteshore Crescent/Wakaw - Why not red?
7. Kingsmere Boulevard & Wollaston Crescent/Whitewood - Bus stop eastbound on Kingsmere Boulevard is hard to see. Move it east a space.
8. Another entrance/exit into neighbourhood needed
9. Bike path around the neighbourhood
10. Highway, south of Wollaston Court - Pedestrian exit; bollards
11. Circle Drive & Delaronde Road (north) - Pedestrian connection
12. Speed on Circle Drive South
13. Taylor Street - 5 school zones; remove them
14. Taylor Street & McKercher Drive - Signal length needs to be reviewed northbound onto McKercher Drive
15. Wollaston Court - Turn around traffic; “Residents Only” sign
16. Yellowhead Highway - Air brakes
17. Kingsmere Boulevard & Kingsmere Place - Congestion; too many pedestrians
18. Kingsmere Boulevard & driveway south of Lakeshore Crescent - Hedges need to be trimmed
19. Kingsmere Boulevard & parking lot north of Lakeview School - Mud path; should be paved
20. Kingsmere Boulevard & curve south of Whiteshore Crescent (north) - Install concrete barriers
21. Kingsmere Boulevard (in front of Lakeview School) - Plow the entire length of the school require should be plowed
22. Stillwater Drive & Emerald Crescent - Drivers don't stop at the pedestrian crossing
23. Driveway off of Stillwater Drive near McKercher Drive (west of intersection on south side) - Condition, safety, community working with Constable and CofS staff
24. Kingsmere Boulevard between Whiteshore Crescent & Wollaston Crescent - Visibility of school zone
25. Kingsmere Boulevard & south of Whiteshore Crescent - Visibility of school zone
26. Whiteshore Crescent - U-turns in front of St. Bernard
27. Skateboard Centre/Park needed
28. Mail box concerns
29. Kingsmere Boulevard & Christopher Road (south) - 5m parking restriction needed on north side of intersection
30. Kingsemere Boulevard at Wollaston Crescent (both sides of crescent) - 5m parking restriction needed
31. Kingsmere Boulevard - Passing on right

Group 2: Justine Nyen (City Facilitator)

1. Kingsmere Boulevard – speeding
 - a. Kingsmere Boulevard & Stillwater Drive – pedestrian safety; drivers speeding around curve and not stopping for pedestrians; car stops for pedestrian and drivers passing on right; driving onto sidewalk due to speeds; long wait to make a left turn onto Kingsmere; bus stop nearby so many pedestrians crossing; pedestrian device needed; traffic calming, perhaps median islands needed; speed display board needed on curve; icy in the winter due to the hill
 - b. Kingsmere Boulevard & Whiteshore Cres/Delaronde Rd – buses stopping/parking during peak hours; buses speeding; pedestrians crossing on opposite side of pedestrian-activated signal; difficult to see or hear oncoming drivers as a pedestrian due to the road curve; consider blocking side of crosswalk pedestrians shouldn't be using; houses and fences have been hit due to speed; speeding onto Delaronde; extend school or improve the visibility of the signage at the curve between Delaronde Rd; install traffic calming along curve or at intersection; improve visibility of school zone sign
 - c. Kingsmere Boulevard & Costigan Rd – difficult to see; difficult to turn left
2. Enforcement needed:
 - a. Rolling through stop signs (McKercher Dr & Stillwater Dr)
 - b. Left turn (Kingsmere Blvd & Stillwater Dr)
 - c. Speeding on Kingsmere Blvd (curve between Delaronde Rd)

Next Steps

1. Continue monitoring traffic issues in your neighbourhood
2. Mail-in or email comments no later than June 14/15
3. Additional public input via City on-line Community Engagement webpage no later than June 14/15

<http://shapingsaskatoon.ca/discussions/lakeview-neighbourhood-traffic-review-meeting>

4. Traffic count data collection – spring/summer 2015
5. City review of public input and data collected from traffic studies and prepare draft Traffic Plan
6. Follow-up public input meeting to provide input on draft
7. Determine revisions and finalize Traffic Plan
8. Present Traffic Plan to City Council for approval

Question & Answer

Resident: Can you post draft traffic plan to website prior to next meeting? And notify the Community Association?

City: Yes the plans are usually posted online one week prior.

Facilitator: Community Association will be notified

Resident: Focus on moving traffic on larger roads. Transport through city.

Resident: Speeding is the concern. Consider practical options. It all comes down to budget.

Resident: School zone on Kingsmere should be along entire stretch from Delaronde way to the other side of the school.

Resident: 30kph signs on the street really help.

Resident: What are the plans for Circle Drive and Boychuk Dr?

City: A geotechnical consultant has been hired. They're preparing an RFQ for design-build. The City is trying to acquire money from the province for this project. This likely won't happen until next spring.

Resident: Consider traffic around schools. Parking, picking up, dropping off etc.

Resident: Why aren't they running 2 shifts for construction of the cloverleaf? Not overtime, just 2 shifts. Can't understand why we don't have 2 shifts.

City: We paved the ramps on the cloverleaf last year at night and this is expensive.

Resident: I've been taking Circle Drive South home with the University Bridge closure, and a couple days ago traffic was backed up all the way to Clarence Ave. It was a parking lot. Should work 2 shifts for the construction at the cloverleaf to get traffic moving.

List of Representatives

Mitch Riabko, Kathy Dahl – Great Works Consulting, Facilitators

Angela Gardiner – City of Saskatoon, Transportation & Utilities, Transportation Director

Jay Magus – City of Saskatoon, Transportation & Utilities, Engineering Manager

Shirley Matt – City of Saskatoon, Transportation & Utilities, Traffic Management Supervisor

Justine Nyen – City of Saskatoon, Transportation & Utilities, Traffic Management

Mariniel Flores – City of Saskatoon, Transportation & Utilities, Traffic Management

Lanre Akindipe – City of Saskatoon, Transportation & Utilities, Infrastructure Engineer

Goran Lazic – City of Saskatoon, Transportation & Utilities, Traffic Operations Engineer

Marina Melchiorre – City of Saskatoon, Transportation & Utilities, Traffic Engineer

David LeBoutillier – City of Saskatoon, Transportation & Utilities, Traffic Engineer

Mark Emmons – City of Saskatoon, Planning & Development, Planner – Neighbourhood Planning

Konrad Andre – City of Saskatoon Planning & Development, Senior Planner

Ellen Pearson – City of Saskatoon Planning & Development, Planner

**Lakeview Neighbourhood
Traffic Review
Thursday, November 5, 2015, 7:00 – 9:00 P.M.
St. Bernard School**

Facilitators:

- Mitch Riabko & Kathy Dahl (Great Works Consulting)

Agenda

- Welcome & introductions
- Presentation from the Transportation Division
- Small group discussions
- Small group discussion – report back to large group
- Next Steps
- Question / Answers

Presentation from Transportation Division – Lakeview Neighbourhood Traffic Review
(Presented by Justine Nyen – Transportation Engineer)

Presentation Outline:

- Neighbourhood Traffic Management Program
- How We Got Here
- What We Heard
- What We Did
- What We Propose

Neighbourhood Traffic Management Program:

- Address neighbourhood traffic issues:
 - Speeding concerns
 - Short-cutting concerns
 - Pedestrian safety
 - Intersection safety
- August 2013 – changes to program
 - Neighbourhood-wide review
 - More community / stakeholder feedback
 - Efficient use of staff resources

How We Got Here:

- May 2015 – Initial Traffic Meeting
- May to November 2015 – gather feedback, conduct traffic studies, collect data, develop traffic plan
- November 2015 – Follow Up Traffic Meeting - display proposed traffic plan and gather feedback

What We Heard:

- A. Speeding/Traffic Volumes:
 - Kingsmere Blvd – especially near Lakeview School and around curves
 - Taylor St
 - Delaronde Rd

- Whiteshore Cres (school zone)
- Lakeshore Cres
- Kennossee Cres

B. Pedestrian Safety:

- Kingsemere Blvd – drivers passing on right when a pedestrian is in the crosswalk; drivers not yielding to pedestrians
- Stillwater Dr
- Taylor St & Weyakwin Dr

C. Intersection Safety:

- Kingsmere Blvd – visibility issues due to parked cars; not stopping at yield signs on intersecting streets
- Kingsmere & Stillwater – not slowing down for turns
- Taylor & Weyakwin – difficult to turn left from Weyakwin
- Taylor & McKercher – review signal timing

What We Did:

- Collected Data:
 - Past studies
 - Comments from initial meeting
 - Resident responses (phone calls, emails, letters)
 - Recorded comments from Shaping Saskatoon discussions
 - 5 Intersection / Pedestrian counts
 - 7 – 7 day traffic count (24 hour) & Average Speed measurements
 - Collision history
- Field Reviews
- Assessed the Issues
- Generated proposed recommendations

What We Propose:

- Crosswalk upgrades – 1 location
- Traffic calming – 8 locations
- Parking restrictions – 2 locations
- Stop signs (intersecting streets on Kingsmere Blvd)
- Speed display board – 1 location
- **Saskatoon Police Services: 306-975-8300 OR 306-975-8068 to report a traffic complaint or a concern.**

Small Group Discussions

- Breakout into small groups to discuss traffic concerns in Lakeview and potential solutions

Group 1: Goran Lazic (City facilitator)

- Group was in support of recommendations with the following comments:

- Item #2a – Kingsmere Blvd & Stillwater Dr median island & curb extension on southeast corner – may be excessive. Select island or curb extension. Curb extension should be on west leg. Not sure if southeast corner would benefit.
- Item #3 – Kingsmere Blvd & Whiteshore Cres (north) / Delaronde Rd median island on south leg – nobody was in against it but not sure how well it will work
- Item #9 – Stillwater Dr & Emerald Cres (west) median island on east leg – group was in support but also consider pedestrian light or curb extension instead
- Item #10 – Taylor St & Weyakwin Dr median island on south leg – will island reduce the approach to single lane? Make sure there are 2 lanes (one for left/through and another for right). Also consider pedestrian improvements.
- Item #12 – Speed display board on Taylor St – group was in support but consider having one for westbound traffic as well.
- Other:
 - Stillwater Dr between McKercher to Weyakwin Dr – snow pushed on the side reducing width of traffic lanes resulting in congestion
 - Kenossee Cres – shortcutting; no measures proposed to address this concern.
 - Taylor St between Kingsmere Blvd & Acadia Dr – winter snow maintenance should be improved. Slippery up the hill and vehicles getting stuck.
 -

Group 2: Justine Nyen (City facilitator)

- Item #2a – Kingsmere Blvd & Stillwater Dr median island & curb extension – preferred location is Stillwater as opposed to Costigan Rd (Item #2b). Instead of median island consider curb extension on northwest corner. Consideration for residents parking and backing out of driveways.
- Item #3 – Kingsmere Blvd & the curve between Delaronde Rd (north) & Delaronde Rd (south) – consider installing pedestrian sign on median instead of school zone sign. Maybe install school zone sign on pedestrian activated signal overhead
- Item #5 – Kingsmere Blvd & Whitewood/Wollaston – visibility issues due to trees and parked cars. Maybe parking enforcement can issue warnings for the “10m rule”.
- Item #11 – Taylor St & Weyakwin Dr parking restrictions on the southwest corner to improve visibility – consider installing on the northeast corner also.
- Other:
 - Kingsmere Blvd (further east) – trees blocking school zone sign
 - School zones should be in effect 24/7
 - Snow clearance needed in front of Lakeview School
 - Stillwater Dr & driveway across from Keeley Cres – visibility issues due to parking. Install parking restrictions to improve sightlines
 - Stillwater Dr & Weyakwin Dr – visibility issues due to parked cars on northwest corner
 - Lakeshore Cres – speeding at midblock
 - School zone – U-turns in front of Lakeview School. Police should do a blitz to educate drivers.

Group 3: Jay Magus (City facilitator)

- Item #2a – Kingsmere Blvd & Stillwater Dr median island and curb extension – some hesitation; may create a traffic problem
- Item #3 – Kingsmere Blvd & Whiteshore Cres (north)/Delaronde Rd – consider “no parking” on west side of Kingsmere north of Delaronde Rd. Tree trimming needed.
- Other:
 - Clear trees:
 - around school zone sign
 - on Kingsmere
 - McKercher Dr & Taylor St – too long green on east/west phase
 - Traffic signal timing on Taylor St - leave at green light on Arlington Ave, catch red at Circle Dr.
 - Traffic signal operation – Taylor St & Weyakwin Dr

Next Steps

1. Mail-in or email comments no later than Dec 5/15
2. Additional public input via City on-line Community Engagement webpage no later than Dec 5/15

<http://shapingsaskatoon.ca/discussions/lakeview-neighbourhood-traffic-review-meeting>

3. Additional consultation if required
4. Present traffic plan to City Council for approval
5. What happens after City Council approval? Implementation begins. Signs and temporary traffic calming will be installed as early as next spring (2016)
6. What if I don't agree? Request time to speak at City Council meeting

Q&A

Resident: There's a focus on pedestrian safety with this review. Should consider movement of traffic.

City: The neighbourhood traffic reviews are to address issues within the neighbourhood streets. We've developed another program, major intersection reviews, where we address traffic movement on major roadways, as well as safety.

Resident: Arlington Ave & Taylor St – why does left turn signal not come on sometimes?

City: Detection needed. At least 3-4 vehicles must be queued in the left turn bay for the protected left turn signal to activate.

Resident: Sometimes there are 15 vehicles behind me and it doesn't come on.

City: The detector may have been malfunctioning. We'll look into it.

Resident: Arlington Ave & Taylor St – large tree obstructing driver’s view. Should be trimmed.

City: We’ll follow up.

Resident: Stillwater Dr & Kingsmere Blvd – if vehicles are restricted to pass on the right the left turning vehicles will create backlog down the street (mostly an issue for southbound traffic).

Resident: Would you consider doing one side at a time?

City: We’d implement everything at once if the recommendation is carried.

Resident: Kingsmere & Taylor – potholes. Also at Acadia & Taylor.

Resident: Better system for calling to report a pothole. Prompted with too many questions.

Resident: Taylor & Acadia – running red lights. Allowing parking in front of businesses on Taylor St. Not needed (also parking in area where it’s signed as “no parking”).

Resident: Circle mall – there’s a berm on Taylor & 8th where there’s room to expand and improve traffic flow.

List of Representatives

Mitch Riabko – Great Works Consulting, Facilitators

Jay Magus, Justine Nyen, Goran Lazic – City of Saskatoon, Transportation & Utilities

Mount Royal Neighbourhood Traffic Review

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:
That the Neighbourhood Traffic Review for the Mount Royal neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process.

Topic and Purpose

The purpose of this report is to provide information on the Neighbourhood Traffic Review (NTR) for the Mount Royal neighbourhood.

Report Highlights

A Neighbourhood Traffic Plan for the Mount Royal neighbourhood was developed in consultation with the community in response to concerns such as speeding, traffic shortcutting, and pedestrian safety. The plan will be implemented over time as funding for the improvements is available.

Strategic Goal

This report supports the Strategic Goal of Moving Around by providing a plan to guide the installation of traffic calming devices and pedestrian safety enhancements to improve the safety of pedestrians, motorists, and cyclists.

Background

A public meeting was held in June 2015 to identify traffic concerns and potential solutions within the Mount Royal neighbourhood. Representatives from the Saskatoon Police Service were in attendance to address traffic enforcement issues. Based on the residents' input provided at the initial public meeting and the analysis of the traffic data collected, a Neighbourhood Traffic Plan was developed and presented to the community at a second public meeting held in November 2015.

Report

The development and implementation of the Neighbourhood Traffic Plan includes four stages:

1. Identify existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon.ca website;
2. Develop a draft traffic plan based on residents' input and traffic assessments;
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 City Council for adoption; and
4. Implement the proposed measures in a specific time frame, short-term (1 to 2 years), medium-term (3 to 5 years), or long-term (more than 5 years).

Mount Royal Neighbourhood Traffic Review

The majority of concerns identified during the consultation included: shortcutting, speeding, pedestrian safety, and parking.

The Administration is recommending the following modifications to improve safety in the Mount Royal neighbourhood:

- Stop signs (including four-way stops)
- Parking restrictions
- Zebra crosswalks
- Hazard boards (striped red & white boards added to stop signs)
- 20 kph speed signs
- Speed display board
- Traffic calming devices:
 - Curb extensions
 - Median islands
- Sidewalk construction

The installation of each proposed improvement will be implemented in three phases:

Short-term (1 to 2 years)	Temporary traffic calming measures, signage, pavement markings, accessible pedestrian ramps
Medium-term (3 to 5 years)	Permanent traffic calming devices, roadway realignment, sidewalks (in some cases), major intersection reviews
Long-term (5 years plus)	Roadway realignment, sidewalks

The Mount Royal Neighbourhood Traffic Review is included in Attachment 1.

Public and/or Stakeholder Involvement

In June 2015, a public meeting was held to discuss traffic concerns and identify potential solutions. The feedback was used to develop the Neighbourhood Traffic Plan which was presented at a follow-up public meeting in November 2015. Additional feedback received at the follow-up public meeting was also incorporated into the NTR.

Feedback was provided by internal civic stakeholders of various divisions and departments: Public Works, Saskatoon Transit, Planning & Development, Saskatoon Light & Power, Saskatoon Police Service, and the Saskatoon Fire Department on the proposed improvements, which was incorporated into the recommended NTR.

Communication Plan

The final Neighbourhood Traffic Plan will be shared with the residents of the impacted neighbourhood using several methods: City website, the Community Association, communication forums (i.e. website, newsletter), and by a direct mail-out.

Environmental Implications

The overall impact of the recommendations on traffic characteristics, including the impacts on greenhouse gas emissions, has not been quantified at this time.

Financial Implications

The implementation of the neighbourhood traffic calming plan will have significant financial implications. The costs are summarized in the following table:

Category	Signing & Temporary Traffic Calming (2016)	Permanent (Beyond 2016)
Traffic Calming	\$ 750	\$ 95,000
Traffic Control Signs	4,500	-
Pedestrian Safety	1,000	-
Miscellaneous Signs	1,750	-
Sidewalk Construction	-	421,400
TOTALS	\$8,000	\$516,400

There is sufficient funding within Capital Project #1512 – Neighbourhood Traffic Management to undertake the work in 2016, which includes implementation of all signage and temporary traffic calming measures.

The remainder of the work beyond 2016 includes construction of permanent traffic calming measures and sidewalk construction, and will be considered alongside all other improvements identified through the NTR Program. The Administration will include in their annual budget submission package the list of projects recommended to be funded, and the rationale used to prioritize the projects.

Other Considerations/Implications

There are no options, policy, privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

If approved by City Council, temporary traffic calming devices and signage will be implemented during the 2016 construction season.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Mount Royal Neighbourhood Traffic Review, February 9, 2016

Report Approval

Written by: Justine Nyen, Transportation Engineer, Transportation
Reviewed by: Jay Magus, Engineering Manager, Transportation
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities Department

CITY OF SASKATOON
2015 NEIGHBOURHOOD TRAFFIC REVIEWS

Mount Royal

February 9, 2016

Mount Royal Neighbourhood Traffic Review

February 9, 2016

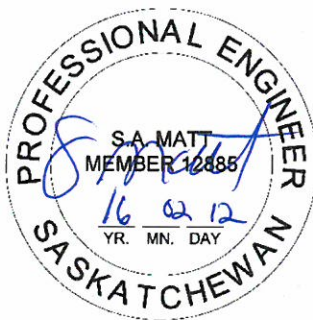
Authorization

Prepared By:



Justine Nyen, P.Eng.,
Transportation Engineer

Checked By:



Shirley Matt, P.Eng.,
Senior Transportation Engineer

Acknowledgements

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

- Mount Royal residents
- Mount Royal Community Association
- Saskatoon Police Service
- Saskatoon Light & Power
- Saskatoon Fire Department
- City of Saskatoon Environmental Services
- City of Saskatoon Transit
- City of Saskatoon Planning & Development
- City of Saskatoon Public Works
- City of Saskatoon Community Standards
- City of Saskatoon Transportation
- Great Works Consulting
- Councillor Troy Davies

Cover Photograph Kara Toews

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 revised program involves additional community and stakeholder consultation that provides the environment for neighbourhood residents and City staff to work together in developing solutions that address traffic concerns. The process is outlined in the *Traffic Calming Guidelines and Tools*, City of Saskatoon, 2013.

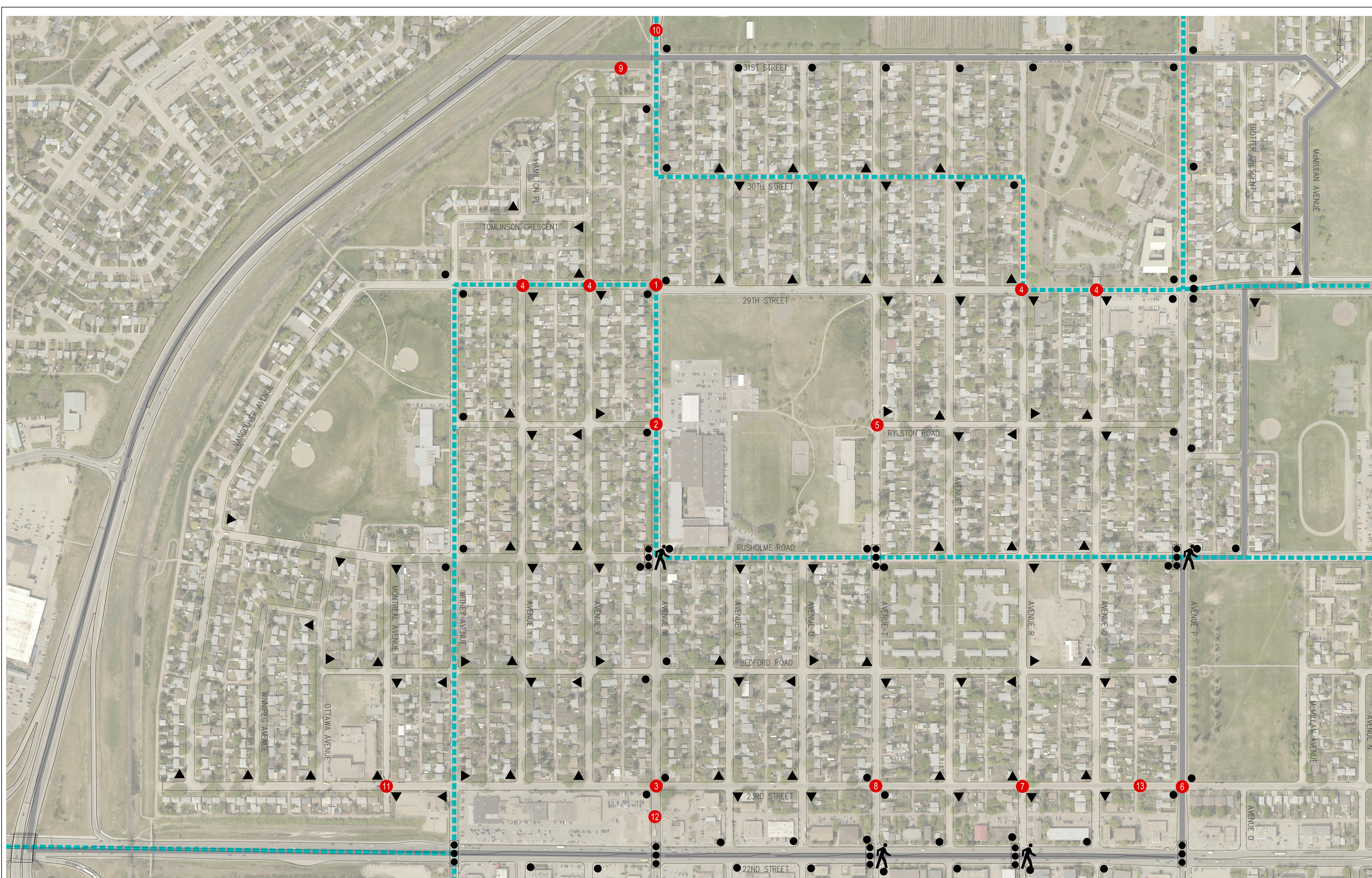
A public meeting was held in June of 2015 to identify traffic concerns and potential solutions within the Mount Royal neighbourhood. As a result of the meeting a number of traffic assessments were completed to confirm and quantify the concerns raised by the residents. Based on the residents input and the completed traffic assessments, a Traffic Management Plan was developed and presented to the community at a follow-up meeting held in November 2015.

A summary of recommended improvements for the Mount Royal neighbourhood are included in **Table ES-1**. The summary identifies the locations, the recommended improvement, and a schedule for implementation. The schedule to implement the Traffic Management Plan can vary depending on the complexity of the proposed improvement. According to the *Traffic Calming Guidelines and Tools* document, the time frame may range from short-term (1 to 2 year); medium-term (3 to 5 years) and long-term (5 years plus). Accordingly, the specific time frame to implement the improvements for these neighbourhoods ranges from 1 to 5 years.

The resulting proposed Mount Royal Traffic Management Plan is illustrated in **Exhibit ES-1**.

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LEGEND

- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- BUS ROUTE
- ⬆ EXISTING TRAFFIC SIGNAL
- 🚶 PEDESTRIAN ACTUATED SIGNAL LOCATION

Exhibit ES-1

MOUNT ROYAL TRAFFIC PLAN



Table ES-1: Mount Royal Neighbourhood Recommended Improvements

Item	Location	Recommendation	Reason
1	Avenue W & 29 th Street	Four-way Stop Signs	Improve driver & pedestrian safety
2	Avenue W & Rylston Road	Curb Extensions & Zebra Crosswalk on south side; parking restrictions on southwest corner	Reduce speed, improve pedestrian safety & improve sightlines
3	Avenue W & 23 rd Street	Hazard Boards	Enhance visibility of stop signs
4	29 th Street - intersections along bus route (Avenue Q, Avenue R, Avenue X, Avenue Y)	Stop Signs	Improve safety along bus route (as per Policy C07-007, stop signs are warranted along a transit route)
5	Avenue T & Rylston Road	Zebra Crosswalks	Improve pedestrian safety in front of school
6	Avenue P & 23 rd Street	Hazard Boards	Enhance visibility of stop signs
7	23 rd Street & Avenue R	Stop Signs	Improve intersection safety
8	23 rd Street & Avenue T	Four-way Stop Signs	Improve intersection & pedestrian safety
9	Back lane south of Circle Drive between 31 st Street to pedestrian tunnel	20kph Speed Signs	Reduce speed
10	Edmonton Ave near 31 st Street	Speed Display Board	Reduce Speed
11	23 rd Street & Montreal Avenue	Remove all temporary traffic calming	Direction of yield signs were changed in 2013 as part of the Blairmore Bikeway. Traffic calming not needed.
12	Avenue W - 22 nd Street to 23 rd Street	Sidewalk on west side	Improve pedestrian safety & connectivity(connects to grocery store)
13	23 rd Street - Avenue P to Avenue Q	Sidewalk on both sides	Improve pedestrian safety & connectivity (connects to school)
14	23 rd Street between Avenue Q & Avenue W	Sidewalk on south side	Improve pedestrian safety & connectivity
15	Bedford Road between Avenue W & Avenue T	Sidewalk on north side	Improve pedestrian safety & connectivity (school route)

APPENDIX A– PUBLIC MEETINGS INFORMATION

APPENDIX B – TRAFFIC DATA COLLECTION

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APPENDIX D – PEDESTRIAN DEVICE ASSESSMENTS

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1 INTRODUCTION

As the City of Saskatoon continues to grow many neighbourhoods face growing issues such as pedestrian safety, cut-through traffic, and increased speeds on local roads within neighbourhoods. In August 2013, City Council adopted the *City of Saskatoon Traffic Guidelines and Tools* that outlined 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 that were developed by the Administration and residents in collaborative fashion. Accordingly, this report provides the traffic management plan for Mount Royal.

The Mount Royal neighbourhood is located on the west side of the South Saskatchewan River and is bound by Circle Drive to the west, Avenue P & McMillan Avenue to the east, 31st Street to the north, and 22nd Street to the south. The area use is mostly residential, with a few schools (Mount Royal Collegiate, Howard Coad School, St. Gerard School, Royal West Campus, Saskatoon Trades and Skills Centre) and parks; as well as existing commercial land use along 22nd Street.

The development and implementation of the traffic management plan includes four stages:

- **Stage 1** - Identify existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon Website.
- **Stage 2** - Develop a draft traffic plan based on resident's 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 City Council for approval.
- **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 present the study findings and recommendations.

2 IDENTIFYING ISSUES, CONCERNS, AND POSSIBLE SOLUTIONS

A public meeting was held in June of 2015 to identify traffic concerns within the neighbourhood. At the meeting, residents were given the opportunity to express their concerns and suggest possible solutions. Meeting minutes are provided in **Appendix A**.

The following pages summarize the concerns and suggested solutions identified during the initial consultation with the neighbourhood residents.

2.1 Concern 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). In the case of Mount Royal, the bordering arterial streets (22nd Street and Avenue W) are designated to accommodate larger traffic volumes.

As speeding often accompanies shortcutting, these concerns have been grouped into one category.

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

- 29th Street
- Avenue W (especially near daycare south of 29th Street)
- 23rd Street
- Edmonton Avenue
- Avenue T (in front of Howard Coad School)
- Montreal Avenue (between Rylston Road & Bedford Road)

Proposed solutions identified by residents:

- Enforcement
- Reduce the speed limit
- Introduce or increase area of school speed zone
- Four-way stop signs
- Stop signs
- Traffic calming devices (ie. curb extensions, speed humps)
- Speed display board
- Photo radar
- Reduce speed limit

2.2 Concern 2 – Pedestrian Safety

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

Pedestrian crosswalks need to adhere to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004 which states the following:

“The installation of appropriate traffic controls at pedestrian crossings shall be based on warrants listed in the document entitled “Traffic Control at Pedestrian Crossings – 2004” approved by City Council in 2004.”

Neighbourhood concerns regarding pedestrian safety were at the following locations:

- 29th Street & Avenue W
- 29th Street & Avenue R
- 29th Street & Avenue T
- 29th Street & Avenue X
- 23rd Street & Avenue X (near grocery store)
- Avenue W & 23rd Street
- Avenue W & Rylston Road

Proposed solutions identified by residents:

- Narrow the roadway with traffic calming devices to improve pedestrian safety
- Install zebra crosswalks
- Remove temporary traffic calming
- Install pedestrian activated device (i.e. Pedestrian Actuated Signals or Active Pedestrian Corridor)
- Move schools away from main roads

2.3 Concern 3 – Traffic Control

Traffic control signs are used in order to assign the right-of-way. City of Saskatoon Council Policy C07-007 *Traffic Control – Use of Stop and Yield Signs*, April 26, 2009 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 volume, collision history, and must have a balanced volume from each leg to operate sufficiently.

Neighbourhood concerns regarding traffic controls were at the following locations:

- 29th Street & Avenue W
- 29th Street & Avenue R
- 23rd Street & Witney Avenue
- 23rd Street & Avenue T
- 23rd Street & Avenue W

Proposed solutions identified by residents:

- Stop signs
- Four-way stop
- Enforcement for rolling through stop signs

2.4 Concern 4 – Parking

Parking is allowed on all city streets unless signage is posted. According to City of Saskatoon Bylaw 7200, *The Traffic Bylaw*, December 16, 2013, vehicles are restricted from parking within 10 metres of an intersection and one metre of a driveway crossing.

Neighbourhood concerns regarding parking were at the following locations:

- 29th Street & Avenue W
- Avenue W south of 29th Street (in front of daycare)
- Witney Avenue near Rylston Road (Royal West Campus)
- Avenue W & Rusholme Road
- Avenue W & Rylston Road
- Avenue T (in front of Howard Coad School)

Proposed solutions identified by residents:

- Parking restrictions
- Parking enforcement
- Implement pick-up/drop-off zone
- Install curb extensions to restrict parking

2.5 Concern 5 – Maintenance

Condition of the streets in Mount Royal was identified as a concern (i.e. snow clearing, potholes, tree trimming, and temporary traffic calming devices).

Neighbourhood concerns regarding maintenance were:

- Trees blocking driver's view on side streets

2.6 Concern 6 – Major Intersections

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

Neighbourhood concerns regarding major intersections:

- 22nd Street & Avenue P
- 22nd Street & Witney Avenue
- 22nd Street & Avenue W

Proposed solutions identified by residents:

- 22nd St & Witney Ave:
 - Improvements needed for eastbound left turn
- 22nd St & Ave W:
 - Left turn arrow needed heading north
 - Advanced green light needed for eastbound and westbound left turns
 - More crossing time for pedestrians
- 22nd Street & Avenue P:
 - Implement left-turn arrow phases

3 ASSESSMENT

3.1 Methodology

Stage 2 of the plan development included developing a draft traffic management 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:
 - Intersection turning moving counts
 - Pedestrian counts
 - Daily and weekly traffic counts
 - Average speed measurements
- 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 volumes (peak hours, daily, and weekly), travel speed, and pedestrian movements. A map of the traffic data collection is shown in **Appendix B**.

3.2 Travel Volumes and Travel Speeds

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**.

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

Characteristics	Classifications					
	Back Lanes		Locals		Collectors	
	Residential	Commercial	Residential	Commercial	Residential	Commercial
Traffic function	Access function only (traffic movement not a consideration)		Access primary function (traffic movement secondary consideration)		Traffic movement and land access of equal importance	
Average Daily Traffic (vehicles per day)	<500	<1,000	<1,000	<5,000	<5,000	8,000-10,000
Typical Speed Limits (kph)	20		50		50	
Transit Service	Not permitted		Generally avoided		Permitted	
Cyclist	No restrictions or special facilities		No restrictions or special facilities		No restrictions or special facilities	
Pedestrians	Permitted, no special facilities		Sidewalks on one or both sides	Sidewalks provided where required	Typically sidewalks provided both sides	Sidewalks provided where required
Parking	Some restrictions		No restrictions or restriction on one side only		Few restrictions other than peak hour	

Travel 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 Mount Royal neighbourhood is 50kph, except for school zones where the speed limit is 30kph from September and June, 8:00am to 5:00pm, excluding weekends.

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

Table 3-2: Speed Studies and Average Daily Traffic Counts (2015)

Street	Between	Speed (kph)	Average Daily Traffic (vpd)	Class
Avenue T	Ryston Road & 29th Street	43.8	360	local
Witney Avenue	Rusholme Road & Rylston Road	school=48.6; regular=52.3	1,369	
23rd Street	Avenue X to Avenue Y	45.2	1,128	
23rd Street	Montreal Avenue & Ottawa Avenue	school=40.6; regular=46.8	854	
23rd Street	Avenue S to Avenue V	47.9	1,301	
Montreal Avenue	Bedford Road to Rusholme Road	35.5	102	
29th Street	Witney Avenue & east of curve to Vancouver Ave	50.4	414	
29th Street	Avenue R & Avenue T	54.1	1,966	collector
Edmonton Ave - north of 31st St	31st Street & curve near Riversdale Kiwanis Park	60.6	5,740	major collector
Avenue W	Rylston Road & 29th Street (school zone)	school=47.3; regular=55.4	4,937	
Avenue W	29th Street & 30th Street	56.5	5,094	

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*, January 26, 2009.

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

Results of the studies are shown in **Table 3-3**.

Table 3-3: All-Way Stop Assessments

Location	Peak Hour Count	Average Daily Traffic (vpd)	# of Collisions within most recent 12 months	% of Traffic from minor street	Traffic Signals or all-way stop within 200m	All-Way Stop Warranted
29 th Street & Avenue T	278	3080	1	12%	no	All-way stop not warranted.
Bedford Road & Avenue T	53	640	4	29%	no	High collisions. Yield signs were installed in October 2014 (after collision analysis 2009-2013 data); therefore no further review needed.
23 rd Street & Avenue R	167	1700	3	15%	no	Collision analysis indicated three reported collisions within most recent 12 months. Two-way stop recommended.
23 rd Street & Avenue T	185	2060	5	41%	no	All-way stop warranted.
Avenue W & 29 th Street	714	7300	4	29%	no	High collisions. Additional Review.

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

3.4 Pedestrian Assessments

Pedestrian assessments are conducted to determine the need for pedestrian actuated signalized crosswalks which, in adherence to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004, are typically active pedestrian corridor (flashing yellow lights) or pedestrian-actuated signals. A warrant system assigns points for a variety of conditions that exist at the crossing location, including:

- The number of traffic lanes to be crossed;
- the presence of a physical median;
- the posted speed limit of the street;
- the distance the crossing point is to the nearest protected crosswalk point; and
- the number of pedestrian and vehicles at the location.

Pedestrian and traffic data is collected during the five peak hours of: 8:00am to 9:00am, 11:30am to 1:30pm, and 3:00pm to 5:00pm.

In addition, if a pedestrian actuated crosswalk is not warranted, a standard marked pedestrian crosswalk, or a zebra crosswalk (i.e. striped) may be considered. A summary of the pedestrian studies are provided in **Table 3-4**.

Table 3-4: Pedestrian Assessment

Location	Number of Pedestrians Crossing During Peak Hours	Results
Avenue W & 29 th Street	29	Pedestrian Device Not Warranted
29 th Street & Avenue T	20	
Bedford Road & Avenue T	7	
29 th Street & Avenue R	13	
Avenue W & Rylston Road	120	
29 th Street & Avenue X	18	

Details of the pedestrian actuated signal and active pedestrian corridor assessments are provided in **Appendix D**.

3.5 Collision Analysis

The most recently available five year collision statistics (2009 to 2013) were provided by 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. These include:

- Avenue P & 23rd Street
- Avenue W & 29th Street
- Avenue P & 29th Street
- Avenue P & Rusholme Road
- Avenue W & Rusholme Road
- Bedford Road & Avenue T
- 23rd Street & Avenue Q
- 23rd Street & Avenue T
- Avenue P & Bedford Road
- Avenue W & 23rd Street

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

4 PLAN DEVELOPMENT

4.1 Methodology

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

- Based on the assessments, prepare a plan that illustrates the appropriate recommended improvement
- 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 management plan, including the location, recommended improvement, and the 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*, January 26, 2009, “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 Speeding and Shortcutting Improvements

Location	Recommended Improvement	Justification
Avenue W & Rylston Road	Curb Extensions on south side	Reduce speed & improve pedestrian safety
Back lane south of Circle Drive between 31 st Street to pedestrian tunnel	20kph Speed Signs	Reduce speed
Edmonton Ave near 31 st Street	Speed Display Board	Reduce Speed
23 rd Street & Montreal Avenue	Remove all temporary traffic calming	Direction of yield signs were changed in 2013 as part of the Blairmore Bikeway. Traffic calming not needed.

4.3 Pedestrian Safety

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

Table 4-2: Recommended Pedestrian Safety Improvements

Location	Recommended Improvement	Justification
Avenue W & Rylston Road	Zebra Crosswalk on south side	Improve pedestrian safety near schools
Avenue T & Rylston Road	Zebra Crosswalks	Improve pedestrian safety in front of school
Avenue W - 22 nd Street to 23 rd Street	Sidewalk on west side	Improve pedestrian safety & connectivity (connects to grocery store)
23 rd Street - Avenue P to Avenue Q	Sidewalk on both sides	Improve pedestrian safety & connectivity (school route)
23 rd St between Avenue Q & Avenue W	Sidewalk on south side	Improve pedestrian safety & connectivity
Bedford Road between Avenue W & Avenue T	Sidewalk on north side	Improve pedestrian safety & connectivity (school route)

4.4 Traffic Control

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 Traffic Control Improvements

Location	Recommended Improvement	Justification
Avenue W & 29 th Street	Four-way Stop Signs	Improve driver & pedestrian safety
29 th Street - intersections along bus route (Avenue Q, Avenue R, Avenue X, Avenue Y)	Stop Signs	Improve safety along bus route (as per Policy C07-007, stop signs are warranted along a transit route)
23 rd Street & Avenue R	Stop Signs	Improve intersection safety (as per Policy C07-007, stop signs are warranted when three or more collisions are reported within most recent 12 months)
23 rd Street & Avenue T	Four-way Stop Signs	Improve intersection safety (as per Policy C07-007, an all-way stop is warranted when five or more collisions are reported within most recent 12 months)
Avenue W & 23 rd Street	Hazard Boards	Enhance visibility of stop signs
Avenue P & 23 rd Street	Hazard Boards	Enhance visibility of stop signs

4.5 Parking Improvements

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

Table 4-4: Recommended Parking Improvements

Location	Recommended Improvement	Justification
Avenue W & Rylston Road	Parking restrictions on southwest corner	Improve sightlines

4.6 Follow Up Consultation – Presentation of Traffic Management Plan

The initial recommended improvements were presented at a follow-up public meeting in November 2015 (for the meeting minutes refer to **Appendix A**). Recommended improvements that were not supported by the residents were eliminated or altered accordingly. A decision matrix detailing the list of recommended improvements presented at the follow-up meeting are included in **Appendix F**. A decision matrix for additional comments received after the draft traffic plan is also included in **Appendix F**.

The recommendations were circulated to the Civic Divisions (including Saskatoon Police Service, Saskatoon Light & Power, Saskatoon Fire Department, Environmental Services, and Transit) to gather comments and concerns. General support was received.

4.7 Major Intersection Reviews and Corridor Studies

The mandate for the Neighbourhood Traffic Management Reviews is to focus on neighbourhood streets such as local roads and collector roads. As almost all neighbourhoods are bound by arterial streets, such as 22nd Street, it is not uncommon to have residents raise issues regarding these streets. However, arterial streets are much more complex than local or collector streets due to larger traffic volumes, different types of drivers (commuters), coordinated traffic signals, transit accommodation, and potentially many commercial accesses. To properly address these, the typical transportation engineering approach would require a corridor study or a major intersection review, both of which are expensive and require significant resources. Through the Neighbourhood Traffic Reviews, the City is compiling a list of issues on arterial streets. The Transportation Division is working to prioritize the issues, identify the work requirements, and secure funding to complete these types of assessments.

5 RECOMMENDED PLAN & COST ESTIMATES

Stage 4, the last stage of the process, is to install the recommended improvements for the Mount Royal neighbourhood within the specified timeframe. The timeframe 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 signage will be completed short-term (1 to 2 years).

Major intersection reviews are based on the number of other locations to be reviewed city-wide and the availability of funding. The timeline for review will be medium-term (3 to 5 years).

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

- **Table 5-1:** Traffic Calming Devices Cost Estimate
- **Table 5-2:** Traffic Control Signs Cost Estimate
- **Table 5-3:** Pedestrian Safety Signs Cost Estimate
- **Table 5-4:** Miscellaneous Signs Cost Estimate
- **Table 5-5:** Sidewalk Cost Estimate Total Cost Estimate
- **Table 5-6:** Total Cost Estimate

Table 5-1: Traffic Calming Devices Cost Estimate

Location	Device	Cost Estimate		Time Frame
		Temporary	Permanent	
Avenue W & Rylston Road	Curb Extensions on south side	\$500	\$90,000	1 to 5 years (traffic calming devices will be installed temporarily until proven effective)
23 rd Street & Montreal Avenue	Remove all temporary traffic calming	\$250	NA	
Edmonton Avenue near 31 st Street	Speed Display Board	\$0	\$5,000	
Totals		\$750	\$95,000	

Table 5-2: Traffic Control Signs Cost Estimate

Location	Device	Number of Signs	Cost Estimate	Time Frame
Avenue W & 29 th Street	Stop Signs	4	\$1,000	1 to 2 years
29 th Street - intersections along bus route (Avenue Q, Avenue R, Avenue X, Avenue Y)	Stop Signs	8	\$2,000	
23 rd Street & Avenue R	Stop Signs	2	\$500	
23 rd Street & Avenue T	Stop Signs	4	\$1,000	
Totals		18	\$4,500	

Table 5-3: Pedestrian Safety Signs Cost Estimate

Location	Device	Cost Estimate	Time Frame
Avenue W & Rylston Road	Zebra Crosswalk	\$500	1 to 2 years
Avenue T & Rylston Road	Zebra Crosswalks	\$500	
Total		\$1,000	

Table 5-4: Miscellaneous Signs Cost Estimate

Location	Device	Number of Signs	Cost Estimate	Time Frame
Avenue W & Rylston Road	"No Parking" sign	1	\$250	1 to 2 years
Back lane south of Circle Drive between 31st Street to pedestrian tunnel	20kph Speed Signs	2	\$500	
Avenue W & 23rd Street	Hazard Boards	2	\$500	
Avenue P & 23rd Street	Hazard Boards	2	\$500	
Totals		7	\$1,750	

Table 5-5: Sidewalk Cost Estimate Total Cost Estimate

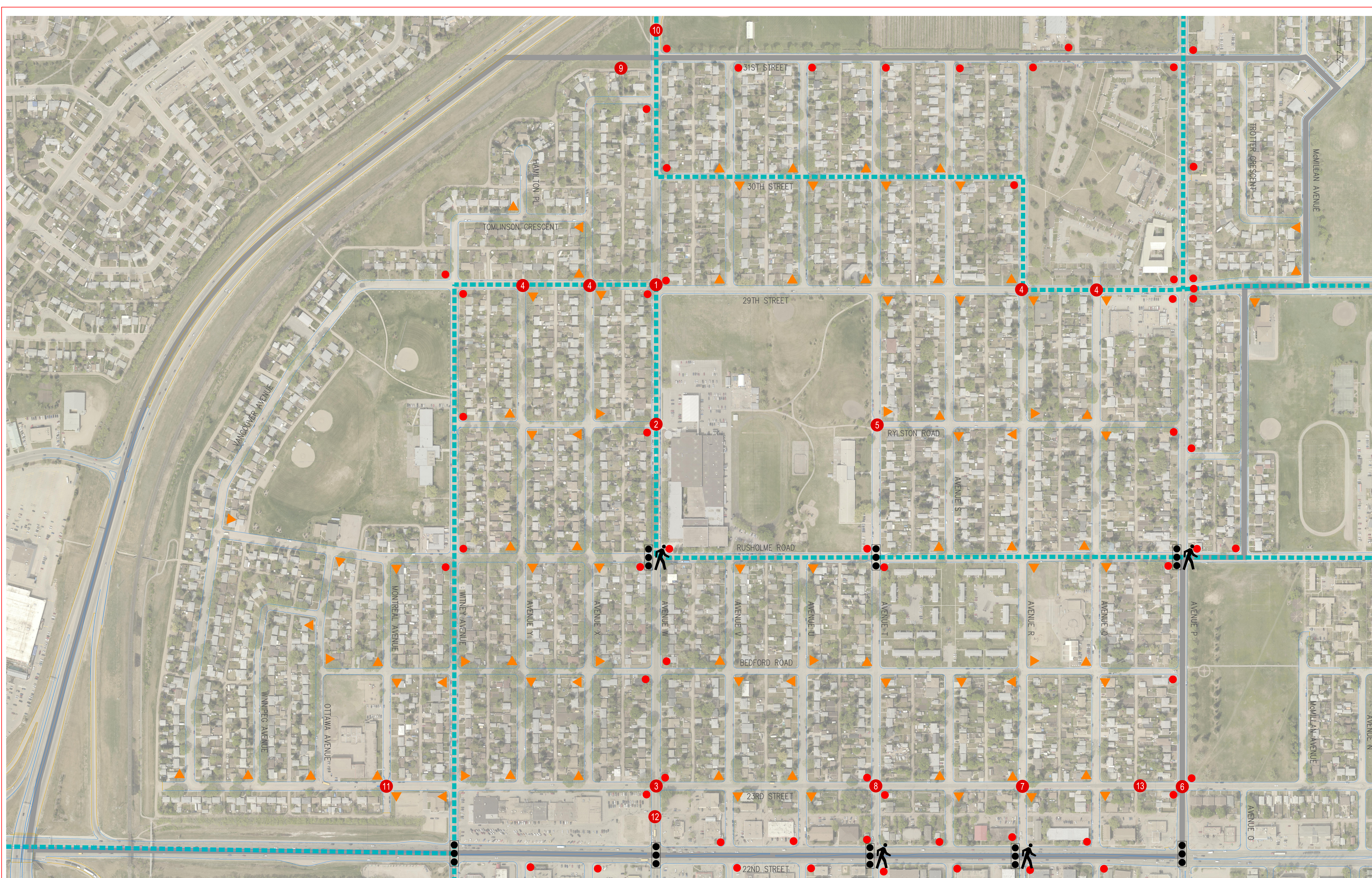
Location	Between	Length (metres)	Cost Estimate	Time Frame
Avenue W	22 nd Street to 23 rd Street (west side only)	82	\$28,700	5 years plus
23 rd Street	Avenue P to Avenue Q	222	\$77,700	
23 rd Street	Avenue Q & Avenue W (south side only)	600	\$210,000	
Bedford Road	Avenue W & Avenue T (north side only)	300	\$105,000	
Totals		1,204	\$421,400	

Table 5-6: Total Cost Estimate

Category	Signing & Temporary Traffic Calming (2016)	Permanent (Beyond 2016)
Traffic Calming	\$750	\$95,000
Traffic Control Signs	\$4,500	\$0
Pedestrian Safety	\$1,000	\$0
Miscellaneous	\$1,750	\$0
Sidewalk	\$0	\$421,400
Totals	\$8,000	\$516,400

The total cost estimate for the signage and temporary traffic calming to be installed in 2016 is **\$8,000**. The total cost estimate for the installation of future permanent devices, including the active pedestrian corridor, and sidewalks, is **\$516,400**.

Resulting from the plan development process, the recommended improvements, including the location, type of improvement, and schedule for implementation are summarized in **Exhibit 5-1**. The resulting recommended Mount Royal Neighbourhood Traffic Management Plan is illustrated in **Table 5-7**.



LEGEND

- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- BUS ROUTE
- EXISTING TRAFFIC SIGNAL
- PEDESTRIAN ACTUATED SIGNAL LOCATION

Exhibit 5-1

Table 5-7: Mount Royal Neighbourhood Recommended Improvements

Item	Location	Recommendation	Reason
1	Avenue W & 29 th Street	Four-way Stop Signs	Improve driver & pedestrian safety
2	Avenue W & Rylston Road	Curb Extensions & Zebra Crosswalk on south side; parking restrictions on southwest corner	Reduce speed, improve pedestrian safety & improve sightlines
3	Avenue W & 23 rd Street	Hazard Boards	Enhance visibility of stop signs
4	29 th Street - intersections along bus route (Avenue Q, Avenue R, Avenue X, Avenue Y)	Stop Signs	Improve safety along bus route (as per Policy C07-007, stop signs are warranted along a transit route)
5	Avenue T & Rylston Road	Zebra Crosswalks	Improve pedestrian safety in front of school
6	Avenue P & 23 rd Street	Hazard Boards	Enhance visibility of stop signs
7	23 rd Street & Avenue R	Stop Signs	Improve intersection safety
8	23 rd Street & Avenue T	Four-way Stop Signs	Improve intersection & pedestrian safety
9	Back lane south of Circle Drive between 31 st Street to pedestrian tunnel	20kph Speed Signs	Reduce speed
10	Edmonton Ave near 31 st Street	Speed Display Board	Reduce Speed
11	23 rd Street & Montreal Avenue	Remove all temporary traffic calming	Direction of yield signs were changed in 2013 as part of the Blairmore Bikeway. Traffic calming not needed.
12	Avenue W - 22 nd Street to 23 rd Street	Sidewalk on west side	Improve pedestrian safety & connectivity(connects to grocery store)
13	23 rd Street - Avenue P to Avenue Q	Sidewalk on both sides	Improve pedestrian safety & connectivity (connects to school)
14	23 rd Street between Avenue Q & Avenue W	Sidewalk on south side	Improve pedestrian safety & connectivity
15	Bedford Road between Avenue W & Avenue T	Sidewalk on north side	Improve pedestrian safety & connectivity (school route)

APPENDIX A: PUBLIC CONSULTATION

**Mount Royal Neighbourhood
Traffic Review
Thursday, June 4, 2015, 7:00 – 9:00 P.M.
Mount Royal Collegiate**

Facilitators:

- Mitch Riabko & Kathy Dahl (Great Works Consulting)

Agenda

- Welcome & introductions
- Presentation from the Transportation Division
- Small group discussions
- Small group discussion – report back to large group
- Next Steps
- Question / Answers

Councillor Davies sends his regrets.

Presentation from Transportation Division – Mount Royal Neighbourhood Traffic Review
(Presented by Justine Nyen – Traffic Engineer)

Presentation Outline:

- Neighbourhood Review Process
- Timeline for Mount Royal Review
- Sources of Information
- Concerns Received/Past Studies
- Description of Traffic Calming & Pedestrian Safety Devices

Neighbourhood Review Process:

- **August 2013** – New process; neighbourhood review vs issue by issue; eight neighbourhoods reviewed per year
- **Mandate** – Reduce & calm traffic, improve safety within neighbourhoods
- **2014** – Varsity View, Nutana, Brevoort Park, Haultain, Holliston, City Park, Westmount, Hudson Bay Park, Caswell Hill
- **2015** – Mount Royal, Meadowgreen, Adelaide-Churchill, Montgomery Place, Confederation Park, Avalon, Greystone Heights, Lakeview

Timeline for Mount Royal Review:

- **Stage 1** – Identify issues & possible solutions through community consultation (June to fall 2015)
- **Stage 2** – Develop a draft traffic plan (fall 2015)
- **Stage 3** – Present draft traffic plan to community for feedback (fall 2015)
- **Stage 4** – Implement the changes over time

Sources of Information:

- Past Studies (speed studies, traffic volumes counts, intersection reviews, pedestrian crossings)
- Collision Analysis
- Feedback from Public Consultation
- Traffic Counts & Assessments

Concerns Received/Past Studies:

- Stop & Yield Retrofit – Stop & Yield Retrofit program began as a pilot project in City Park. Favourable results were indicated with an overall reduction in collisions therefore the program was expanded to other neighbourhoods. Yield signs installed (in an alternating pattern so a thoroughfare isn't created) in fall 2014 at all uncontrolled intersections.
- 22nd Street – currently being reviewed to address pedestrian crossing safety; pedestrian activated crossings installed at Ave R and Ave M; assess to determine effectiveness and next steps
- 29th Street & Avenue W- speeding on Avenue W north & south of 29th St; dropping off kids at daycare (sometimes after 5pm so 30kph limit is not in effect) nearly getting hit by cars speeding by; hit & runs; skewed intersection; dangerous; parking is obstructing view; children walking to and from school; pedestrians crossing to access bus stops.
 - Possible solutions: make the area a reduced speed zone; road narrowing; speed bumps; close off Edmonton Ave; install four-way stop at 29th Street or traffic signals; install three-way stop at 31st Street
 - Four-way stop (last study was in 2012; didn't warrant four-way stop); stop signs aren't to be used as speed control devices;
 - Speed study on Avenue W between 29th St & 30th St in June 2013 indicated acceptable range; traffic calming not recommended; peak time info sent to police for enforcement; temporary speed display board was installed
 - Expanded school zone to include Ave W & 29th St intersection; implement parking restrictions to improve visibility
 - Installed 50kph further north where it turns into Edmonton Ave to ensure motorists are aware of speed limit
- 29th Street – speeding around curve where it turns into Vancouver Ave
- 29th Street & Avenue R – collision occurred; speeding on 29th Street; change yield signs to stop; enforcement; installed crosswalk
- 29th St & Ave T – speeding; ignoring yield signs; collisions; install four-way stop or speed bumps; or four-way stop a block or two away to slow down traffic on that stretch
- 23rd Street – Blairmore Bikeway installed in 2013 currently being assessed; speeding between Avenue P & Witney Avenue; beside No Frills parking lot and Shopper's Drug Mart; many elderly walking to and from area; install speed humps; reduce speed limit; enforcement
- 23rd Street & Witney Avenue – Four-way stop
- 23rd Street – speeding in front of St. Gerard School (between Ottawa & Montreal Avenue)
- Witney Avenue – parking issues across from Royal West Campus (near Rylston Road); students taking up on-street parking & blocking driveways; speeding

Traffic Calming Devices (Examples of devices used in Saskatoon):

1. Speed Display Boards
2. Raised Median Island – narrows road; provides center refuge for pedestrians
3. Curb Extensions – narrows road
4. Roundabouts
5. Diverter – used to address high traffic volumes
6. Right-in/right-out island - used to address high traffic volumes
7. Directional Closure – restrict movements onto the street from one direction
8. Raised median through intersection – restrict movements
9. Full closure

Pedestrian Devices:

1. Standard crosswalk
2. Zebra crosswalk (striped pavement markings)
3. Active pedestrian corridor (flashing yellow lights)
4. Pedestrian-activated signals

Presentation from Saskatoon Police Services

- Saskatoon is growing; more enforcement
- Tools allow us to judge speeds – radar, laser. However there are limits, trees blocking etc.
- Important to keep speeds down in residential area. In Mount Royal lots of times it's taking a drive through the area, because it's difficult to set up. Most calls we get are on 22nd Street and Avenue P.
- Goal is to reduce accidents, NOT give out tickets.
- Issues with residents contesting tickets in court. Have to make sure we have all the information.
- **Saskatoon Police Services: 306-975-8300 OR 306-975-8068 to report a traffic complaint or a concern.**

Q&A for Saskatoon Police Services:

Resident: Avenue W is no parking zone. Who's responsible for parking enforcement?

SPS: Commissionaires will provide parking enforcement (306-975-8344).

Resident: Collision stats. Who has those?

City: We're provided collision stats through SGI. These are reported collisions only. This information will be provided at the follow-up meeting.

Resident: Is daycare a challenge for enforcement? 7:30-8:30am and 5pm there should be enforcement for speeding.

SPS: Need to find a good place to set up, can be a challenge. If car is visible people slow down.

Resident: Park on 30th Street to set up for enforcement on Avenue W.

Resident: Police used to sit further down on Avenue W, before Edmonton Avenue.

Resident: I walk to with my kid to daycare. 29th Street & Avenue W is dangerous to cross.

Small Group Discussions

- Breakout into small groups to discuss traffic concerns in Mount Royal and potential solutions

Group 1: Justine Nyen (City facilitator)

- 23rd Street & Avenue T – not in favour of yield signs that were changed due to Blairmore Bikeway; change back to east-west stop; Avenue T is a main road so direction of the signs should be changed.
- 23rd Street bike route – not satisfied with signs changed (direction); no bikes use the route in the winter; issues with graders and temporary curbing; Avenue P traffic calming narrows the road and restricts to one lane, blocking traffic that's coming northbound from 22nd Street; sign on the median is always getting hit
- Witney Avenue – the driveway at Shoppers Drug Mart is too close to 22nd Street; drivers have to cross 4 lanes of traffic in a short distance to get back onto 22nd Street
- Avenue P – the 7-11 driveway is too close to 22nd Street; drivers have to cross 4 lanes of traffic in a short distance to get back onto 22nd Street
- 29th Street & Avenue W – skewed; visibility issues; parking in restricted areas and not enforced; no one stops for pedestrians; gets backed up on 29th Street (westbound) because when driver at front takes up entire lane (no space to go right); trees obstruct driver's view; should be a pickup and drop off area for the daycare; install flashing lights for the school zone; solutions (if four-way stop isn't warranted): trim trees to improve visibility, install curb extension on northeast corner of Ave W to restrict parking, improve sightlines, and narrow road to reduce speeds. This also won't restrict northbound movements.
- Avenue W & Rylston Road – install pedestrian device and curb extensions to help with parking
- Avenue W & Rusholme Road – install curb extensions to restrict parking; bus is parked in no parking zone on Ave W north of Rusholme
- Trees obstructing driver's view:
 - Ave T & 23rd St
 - Ave T & Bedford Rd
 - Ave P & 31st St
- Edmonton Avenue – speeding; enforcement would help

- Increase in traffic – 33rd Street->Ave W->22nd Street to avoid 22nd Street and Circle Drive intersection because there's no access to downtown.
- In favour of pedestrian flashing lights instead of full stop (pedestrian activated signal)

Group 2: Mariniel Flores (City facilitator)

- 29th Street & Avenue W – restrict parking at northeast corner; skewed intersection so it's difficult to see; four-way stop needed; zebra crosswalks (north and south)
- 23rd Street & Avenue W – Median keep getting hit; zebra crosswalk; improvements for pedestrian safety (many pedestrians)
- Ave W & Rylston Rd – daycare or active pedestrian corridor/signals
- Hedge trimming obstructs sidewalk on west side of Ave W between Rusholme Rd & Bedford Rd
- Tree blocking stop signs
- 22nd St & Ave W – advance green light for westbound and eastbound left; many pedestrians there as well
- Witney Ave & 23rd St – median keeps getting hit
- Edmonton Ave – speeding concerns around curve
- 29th St between Ave W & Ave X – paving needed; big gravel hole being dug up
- Ave W, as a whole, should be studied. Perhaps active transportation corridor
- 23rd St & Ave M – remove mini roundabout

Group 3: Jay Magus (City facilitator)

1. Why are schools too close to the main road?
2. Montreal Avenue between Bedford Rd & Rylston Rd – speeding
3. 29th Street & Avenue T - Pedestrian crossing safety at intersection
4. 29th Street & Avenue T - Change yield to stop signs
5. 22nd St & Avenue P - Why are there not left turn arrows?
6. 29th Street west of Avenue W – speeding; buses
7. Avenue W north of 29th Street on east side - Expand no parking further to north
8. Avenue W & 29th St - Continue of pavement
9. 22nd St & Witney Avenue - Eastbound left turn, into the queue of folks turning right
10. Avenue W & Rylston Rd (in front of school) - Parent pickup and drop off zone with the skills training center
11. Avenue W & 29th St - four-way stop
12. Avenue W & Avenue X - Zebra stripes
13. Avenue W & 30th Street - Raised median is not a solution
14. Avenue W & 29th St - Volume of traffic
15. Avenue W to 30th Street - Shortcutting
16. Eliminate school zone
17. Avenue W in front of Mount Royal Collegiate - Can't see
18. Avenue W & 29th St - Pedestrian safety
19. 22nd St between Avenue S & Avenue T - Pedestrian close to travel zone
20. Ave C & 29th St

21. Speed reader was placed too close to school zone last fall

Next Steps

1. Continue monitoring traffic issues in your neighbourhood
2. Mail-in or email comments no later than July 4/15
3. Additional public input via City on-line Community Engagement webpage no later than July 4/15

<http://shapingsaskatoon.ca/discussions/mount-royal-neighbourhood-traffic-review-meeting>

4. Traffic count data collection – spring/summer 2015
5. City review of public input and data collected from traffic studies and prepare draft Traffic Plan
6. Follow-up public input meeting to provide input on draft
7. Determine revisions and finalize Traffic Plan
8. Present Traffic Plan to City Council for approval

Question & Answer

Resident: It's approximately a year to implementing?

City: Must be approved by City Council. We've began implementing recommendations from last year's reviews. Those round 2 meetings wrapped up last December. We're hoping for the same timeline.

Resident: Cycling. Is this included in this review?

City: Our group looks at cycling issues. There's also the Active Transportation Plan coming soon. It looks at the entire cycling network – connections, new neighbourhoods, retrofitting in established neighbourhoods.

Resident: Who pays for this? Will taxes go up?

City: Goes through budget process.

Resident: Are cyclists being counted on 23rd Street?

City: This is currently being assessed. Cyclists will be counted.

Resident: It's not safe to bike to downtown. Even on 23rd Street.

City: Go to Shaping Saskatoon, search "Active Transportation" and share those comments (<http://shapingsaskatoon.ca/projects/active-transportation-plan>)

List of Representatives

Mitch Riabko, Kathy Dahl – Great Works Consulting, Facilitators

Jay Magus – City of Saskatoon, Transportation & Utilities, Engineering Manager
Justine Nyen – City of Saskatoon, Transportation & Utilities, Transportation Engineer
Mariniel Flores – City of Saskatoon, Transportation & Utilities, Transportation Engineer
Mark Emmons – City of Saskatoon, Planning & Development, Planner – Neighbourhood Planning

**Mount Royal Neighbourhood
Traffic Review
Tuesday, November 17, 2015, 7:00 – 9:00 P.M.
Mount Royal Collegiate**

Facilitators:

- Mitch Riabko & Kathy Dahl (Great Works Consulting)

Agenda

- Welcome & introductions
- Presentation from the Transportation Division
- Small group discussions
- Small group discussion – report back to large group
- Next Steps
- Question / Answers

Presentation from Transportation Division – Mount Royal Neighbourhood Traffic Review
(Presented by Justine Nyen – Transportation Engineer)

Presentation Outline:

- Neighbourhood Traffic Management Program
- How We Got Here
- What We Heard
- What We Did
- What We Propose

Neighbourhood Traffic Management Program:

- Address neighbourhood traffic issues:
 - Speeding concerns
 - Short-cutting concerns
 - Pedestrian safety
 - Intersection safety
- August 2013 – changes to program
 - Neighbourhood-wide review
 - More community / stakeholder feedback
 - Efficient use of staff resources

How We Got Here:

- June 2015 – Initial Traffic Meeting
- June to November 2015 – gather feedback, conduct traffic studies, collect data, develop traffic plan
- November 2015 – Follow Up Traffic Meeting - display proposed traffic plan and gather feedback

What We Heard:

- A. Speeding/Traffic Volumes:
- 29th St
 - Avenue W
 - 23rd Street

- Edmonton Ave
- Avenue T (in front of school)

B. Pedestrian Safety:

- Avenue W & 29th St
- Avenue W & Rylston Rd
- 23rd St

C. Intersection Safety:

- Avenue W & 29th St – difficult to cross or turn left from 29th St, visibility issues, skewed intersection
- Avenue W & 23rd St
- Witney Ave & 23rd St
- Ave T & 23rd St
- 22nd St at the signalized intersections (Ave W, Ave P & Witney Ave) – request for left turn arrow phase

D. Parking:

- Witney Ave (Royal West Campus) – blocking driveways, parking too close to intersections
- Avenue W – parents picking up/dropping off children at daycare

What We Did:

- Collected Data:
 - Past studies
 - Comments from initial meeting
 - Resident responses (phone calls, emails, letters)
 - Recorded comments from Shaping Saskatoon discussions
 - 6 Intersection / Pedestrian counts
 - 11 – 7 day traffic count (24 hour) & Average Speed measurements
 - Collision history
- Field Reviews
- Assessed the Issues
- Generated proposed recommendations

What We Propose:

- Zebra Crosswalks
 - Hazard Boards
 - Stop Signs (and four-way stops)
 - Parking Restrictions
 - Curb Extensions
 - Raised Median Islands
 - Sidewalks
 - Enforcement (speeding)
- **Saskatoon Police Services: 306-975-8300 OR 306-975-8068 to report a traffic complaint or a concern.**

Small Group Discussions

- Breakout into small groups to discuss traffic concerns in Mount Royal and potential solutions

Group 1: Mariniel Flores (City facilitator)

- Item #1 – Median islands at Edmonton Ave & 31st St – group was in neutral support; potential for photo radar or speed board
- 23rd St & Ave T – bushes obstructing driver's view and parking; install four-way stop or change orientation of stop signs
- Item #12 – Curb extensions on 23rd St in front of St. Gerard School – group was in neutral support
- Item #13 – Sidewalks on 23rd St – install on one side along entire section between Ave P and Ave W
- 23rd St - collisions at Ave R; speeding concerns
- Ave W near Rylston Rd – disabled parking needs to be reviewed
- Bedford Rd between Ave W and Ave T – no sidewalks at all; need sidewalk at least on one side
- Tree trimming needed along alleys and at Rylston Rd and Ave S
- Potholes along Witney Ave (Ave P is good) and Ave T – need to repair/repave and Ave X, Ave H

Group 2: Shirley Matt (City facilitator)

- Item #1 – Median islands at Edmonton Ave – Edmonton Ave is not wide enough; issues with younger drivers; ok as long as there is enough space for big trucks; maintenance issues with islands (during winter); drivers fly around corner; install four-way stop
- Item #2 – Four-way stop with median islands at Ave W & 29th St – median islands are more of a hazard
- Item #3 – Ave W & Rylston Rd median islands, zebra crosswalk & parking restrictions – not in support of islands; may have issues with daycare; prefer curb extensions at corner instead (on school side)
- Item #8 - zebra crosswalk, curb extension & median island at 29th St & Ave T – not in support of curbs or islands
- Item #11 - median island & crosswalk at Ave T & 23rd St – not in support of median island; hedges blocking view
- Item #12 – curb extension on 23rd St in front of St. Gerard School – split opinion
- General comments about traffic calming (ie. median island & curb extensions):
 - Maintenance issues
 - Level of service – snow removal, street sweeping
- Ave W & Rusholme Rd – remove pedestrian actuated signal and replace with active pedestrian corridor (ie. flashing yellow light) or four-way stop; move pedestrian actuated signal to Ave W & Rylston Rd for daycare

Group 3: Justine Nyen (City facilitator)

- Item #1 – median island at Edmonton Ave & 31st St – not sure if this will work; likely not enough to reduce speed

- Item #8 – curb extension & median island at 29th St & Ave T – devices might not be necessary; concerns with turning movements (most people turn here)
- Item #9 – stop signs at 29th St & Ave T – not necessary; most drivers are turning/slowing down anyways
- Item #10 – stop signs at Ave T & Bedford Rd – change direction of yield signs instead
- Item #11 – median island & crosswalk at 23rd St & Ave T – signs not necessary; change to yield signs stop (direction of signs changed in 2012 for bike route)
- Back lane south of Circle Dr between 31st St to pedestrian tunnel – speeding & increased traffic volumes; install 20kph speed signs, police enforcement needed
- General comments about traffic calming:
 - Locations might not be necessary. Consider pros & cons
 - Focus on school sites and walking routes to schools

Next Steps

1. Mail-in or email comments no later than Dec 17/15
2. Additional public input via City on-line Community Engagement webpage no later than Dec 17/15

<http://shapingsaskatoon.ca/discussions/mount-royal-neighbourhood-traffic-review-meeting>

3. Additional consultation if required
4. Present traffic plan to City Council for approval
5. What if City Council approves? Implementation begins. Signs and temporary traffic calming will be installed as early as next spring (2016)
6. What if I don't agree? Request time to speak at City Council meeting

Q&A

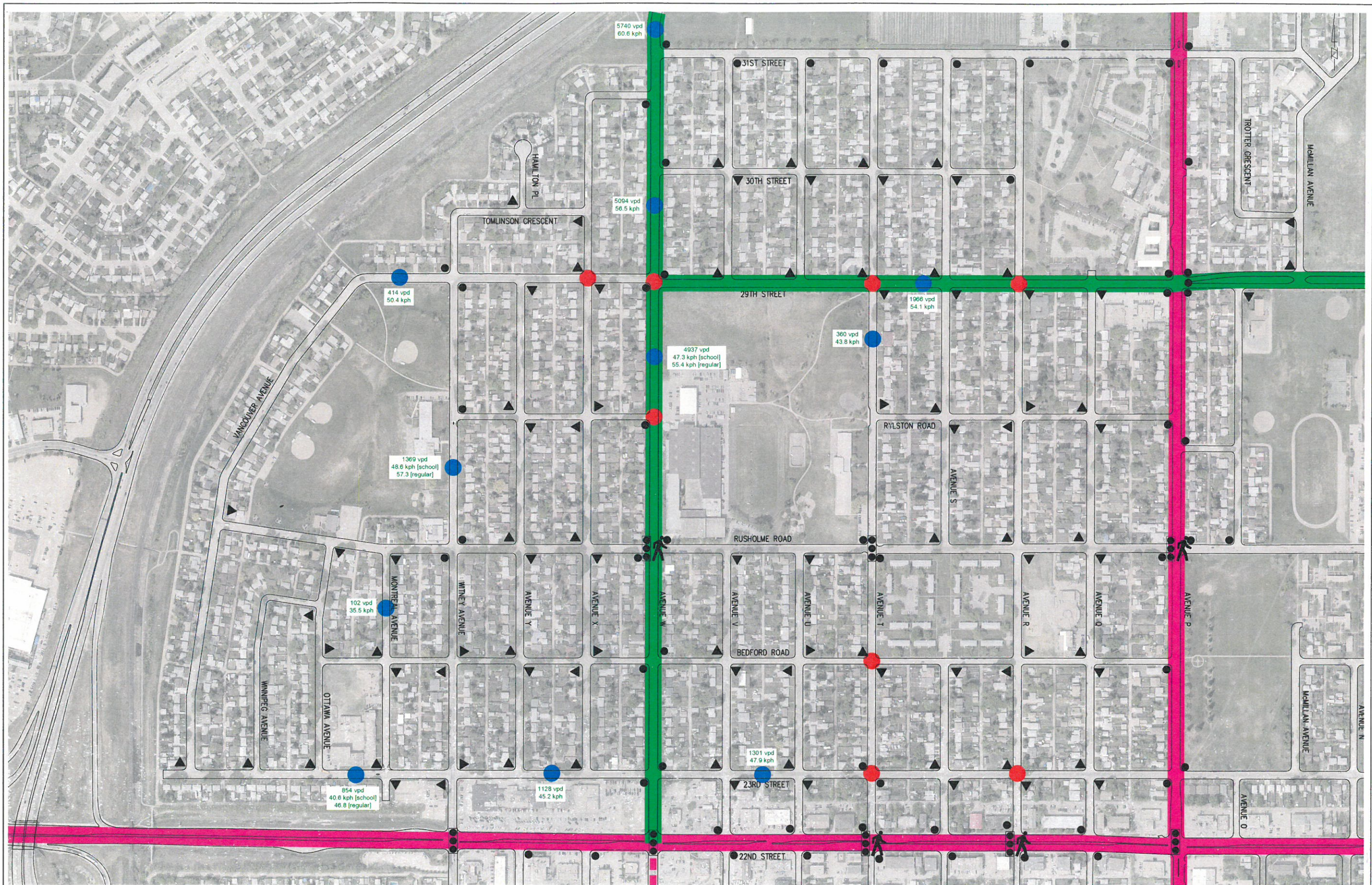
No questions received.

List of Representatives

Mitch Riabko, Kathy Dahl – Great Works Consulting, Facilitators

Justine Nyen, Shirley Matt, Mariniel Flores – City of Saskatoon, Transportation & Utilities

APPENDIX B: TRAFFIC DATA COLLECTION



LEGEND

- EXISTING STOP SIGN
- ▲ EXISTING YIELD SIGN
- ⓧ EXISTING TRAFFIC SIGNAL
- ⓧ PEDESTRIAN ACTUATED SIGNAL LOCATION
- MAJOR ARTERIAL
- ▨ MINOR ARTERIAL
- MAJOR COLLECTOR
- ▨ MINOR COLLECTOR
- TRAFFIC MOVEMENT COUNT
- SPEED STUDY
- 786 vpd — NUMBER OF VEHICLES PER DAY
- 47.2 kph — 85th PERCENTILE SPEED

MOUNT ROYAL TRAFFIC DATA



APPENDIX C: ALL WAY STOP ASSESSMENTS

All-way Stop Assessment (Policy C07-007 – Traffic Control – Use of Stop & Yield Signs)

Step 1:

The following conditions must be met for all-way stop control to be considered:

i) The combined volume of traffic entering the intersection over the five peak hour periods from the minor street must be at least 25% of the total volume for a three-way stop control, and at least 35% of the total volume for a four-way stop control.

ii) There can be no all-way stop control and traffic signal within 200 metres of the proposed intersection being considered for all-way stop control on either of the intersecting streets.

Location	Condition 1: % of Traffic from minor street	Condition 2: Traffic Signals or all-way stop within 200m	All-Way Stop Warrant
29 th Street & Avenue T	12% (no)	no	Conditions NOT met.
Bedford Road & Avenue T	29% (no)	no	
23 rd Street & Avenue R	15% (no)	no	
23 rd Street & Avenue T	41% (yes)	no	Conditions met.
Avenue W & 29 th Street	29% (no)	no	Conditions NOT met. However, high collisions requires further review.

Step 2:

Provided the above criteria are met, the following conditions, singly or in combination, may warrant the installation of all-way stop signs:

i) 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.

ii) When the total number of vehicles entering the intersection from all approaches averages at least 600 per hour for the peak hour or the total intersection entering volume exceeds 6,000 vehicles per day.

iii) The average delay per vehicle to the minor street traffic must be 30 seconds or greater during the peak hour.

iv) As an interim measure to control traffic while arrangements are being made for the installation of traffic signals.

Location	Criteria 1: 5 or more collisions in most recent 12 months	Criteria 2: total number of vehicles entering the intersection from all approaches averages at least 600 per hour for the peak hour	Criteria 3: total intersection entering volume exceeds 6,000 vehicles per day	Results
23 rd Street & Avenue T	5 – Condition met	185 – Condition NOT met	2,060 – Condition NOT met	Four-way stop warranted based on collisions.
Avenue W & 29 th Street	4 - Condition NOT met	714 - Condition met	7,300 - Condition met	Further consideration due to high collisions.

Traffic volume criteria meets the warrant requirements for a four-way stop. As previously identified, traffic from the minor street is slightly below the requirement (i.e. 35%). However, based on requests received during the public consultation, collision analysis, and traffic volumes a four-way stop at Avenue W & 29th Street is recommended. Installation of an unwarranted all-way stop may lead to issues such as queuing traffic on the major roadway, or driver non-compliance. The location will be monitored after installation of the four-way stop to determine effectiveness.

APPENDIX D: PEDESTRIAN DEVICE ASSESSMENTS

Active Pedestrian Corridor Warrant:

29th St & Ave X:

"Time

(15 minute intervals)"

Vehicle Counts
P.C. Periods Points of

Pedestrian Counts

Total Both Sides
Wrnt'd Wrnt'd

Factored Counts

Warrant 15 min. 30 min. Child Teen Adult Senior / Impaired Total 15 min. 30 min.
Points (1=Yes) Periods

7:00

7:15

7:30

7:45

8:00 114 114

8:15 138 252 3 3 3 3 756

8:30 157 295 4 4 4 7 2,065

8:45 148 305 3 3 3 7 2,135

9:00 148 3 444

9:15

9:30

9:45

AM Totals 557 10 10

11:30 95 3 3 3

11:45 106 201 3 603

12:00 121 227 1 1 1 1 227

12:15 127 248 2 2 3 744

12:30 114 241 2 482

12:45	97	211	5		5	5	5	1,055
13:00	110	207					5	1,035
13:15	107	217						
Noon Totals	877		11			11		
14:00								
14:15								
14:30								
14:45								
15:00	166	166	2		2	2	2	332
15:15	214	380	1		1	1	3	1,140
15:30	217	431	1		1	1	2	862
15:45	205	422	3		3	3	4	1,688
16:00	188	393					3	1,179
16:15	187	375	1		1	1	1	375
16:30	163	350					1	350
16:45	176	339						
17:00		176						
17:15								
17:30								
17:45								
18:00								
18:15								
18:30								
18:45								
19:00								

19:15

19:30

19:45

20:00

20:15

20:30

20:45

PM Totals	1,516	8	8
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Totals	2,950	29	29
		100%	100%

North Crosswalk = 10

South Crosswalk = 19 <<< install crosswalk

on this side of the int.

SUMMARY

Total Warranted PC Points: or / period

Highest PC point value: 2,135 at

Average PC point value: 1,031

No. of periods warranted:

Ave W & Rylston Rd:

"Time

	(15 minute intervals)"		Vehicle Counts					Pedestrian Counts			
	P.C.		Periods Points of								
	Warrant	Total Both Sides Wrnt'd Wrnt'd	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.		
	15 min.	30 min.	Child			Periods					
	Points	(1=Yes)	Periods								
7:00											
7:15											
7:30											
7:45											
8:00	73	73			3	3	1.5	1.5	110		
8:15	107	180			5	5	2.5	4	720		
8:30	137	244	5		11	16	10.5	13	3,172		
8:45	107	244	2	2	5	9	5.84	16.34	3,987		
9:00		107						5.84	625		
9:15											
9:30											
9:45											
AM Totals		424		7	2	24		33			
11:30	75				1	1	0.5				
11:45	65	140			5	2	7	4.5	5	700	
12:00	77	142	1		8	1	10	6	10.5	1,491	
12:15	88	165			11	11	5.5	11.5	1,898		
12:30	84	172			3	3	1.5	7	1,204		
12:45	60	144			5	5	2.5	4	576		
13:00	80	140			6	6	3	5.5	770		
13:15	78	158			3	3	1.5	4.5	711		

Noon Totals	607		1		42	3	46		
14:00									
14:15									
14:30									
14:45									
15:00	97	97		2		2	1	1	97
15:15	100	197		9		9	4.5	5.5	1,084
15:30	134	234	7	14		21	11.69	16.19	3,788
15:45	127	261		1		1	0.5	12.19	3,182
16:00	106	233		2		2	1	1.5	350
16:15	115	221		4		4	2	3	663
16:30	123	238		1		1	0.5	2.5	595
16:45	122	245		1		1	0.5	1	245
17:00		122						0.5	61
17:15									
17:30									
17:45									
18:00									
18:15									
18:30									
18:45									
19:00									
19:15									
19:30									
19:45									

20:00

20:15

20:30

20:45

PM Totals 924 7 34 41

Totals 1,955 8 9 100 3 120

7% 8% 83% 3% 100%

on this side of the int. North Crosswalk = 65 <<< install crosswalk

South Crosswalk = 55

SUMMARY

Total Warranted PC Points: or / period

Highest PC point value: 3,987 at

Average PC point value: 1,735

No. of periods warranted:

29th St & Ave R:

"Time

(15 minute intervals)" Vehicle Counts Pedestrian Counts
P.C. Periods Points of

Warrant Total Both Sides Factored Counts
Wrnt'd Wrnt'd

	15 min. Points	30 min. (1=Yes)	Child Periods	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.
7:00									
7:15									
7:30									
7:45									
8:00	57	57							
8:15	62	119	2			2 2	2	238	
8:30	70	132	2			2 2	4	528	
8:45	65	135					2	270	
9:00		65							
9:15									
9:30									
9:45									
AM Totals	254			4			4		
11:30	46		1			1 1			
11:45	40	86					1	86	
12:00	44	84							
12:15	33	77							
12:30	63	96							
12:45	61	124							
13:00	38	99							
13:15	41	79							
Noon Totals	366			1			1		
14:00									
14:15									

14:30								
14:45								
15:00	55	55						
15:15	77	132	3	3	3	3	396	
15:30	86	163	1	1	1	4	652	
15:45	77	163	1	1	1	2	326	
16:00	75	152				1	152	
16:15	65	140	2	2	2	2	280	
16:30	64	129				2	258	
16:45	87	151	1	1	1	1	151	
17:00		87				1	87	
17:15								
17:30								
17:45								
18:00								
18:15								
18:30								
18:45								
19:00								
19:15								
19:30								
19:45								
20:00								
20:15								
20:30								

20:45

PM Totals 586 8 8

Totals 1,206 13 13
100% 100%

on this side of the int. West Crosswalk = 8 <<< install crosswalk

East Crosswalk = 5

SUMMARY

Total Warranted PC Points: or / period

Highest PC point value: 652 at

Average PC point value: 228

No. of periods warranted:

Avenue W & 29th St:

"Time

(15 minute intervals)"

Vehicle Counts
P.C. Periods Points of

Pedestrian Counts

Total Both Sides
Warrant Wrnt'd Wrnt'd

Factored Counts

15 min. 30 min. Child Teen Adult Senior / Impaired
Points (1=Yes) Periods

Total 15 min. 30 min.

7:00

7:15								
7:30								
7:45								
8:00	114	114						
8:15	138	252	3		3	3	3	756
8:30	157	295	4		4	4	7	2,065
8:45	148	305	3		3	3	7	2,135
9:00		148					3	444
9:15								
9:30								
9:45								
AM Totals	557		10			10		
11:30	95		3		3	3		
11:45	106	201					3	603
12:00	121	227	1		1	1	1	227
12:15	127	248	2		2	2	3	744
12:30	114	241					2	482
12:45	97	211	5		5	5	5	1,055
13:00	110	207					5	1,035
13:15	107	217						
Noon Totals	877		11			11		
14:00								
14:15								
14:30								
14:45								

15:00	166	166	2		2	2	2	332
15:15	214	380	1		1	1	3	1,140
15:30	217	431	1		1	1	2	862
15:45	205	422	3		3	3	4	1,688
16:00	188	393					3	1,179
16:15	187	375	1		1	1	1	375
16:30	163	350					1	350
16:45	176	339						
17:00		176						
17:15								
17:30								
17:45								
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18:45								
19:00								
19:15								
19:30								
19:45								
20:00								
20:15								
20:30								
20:45								
PM Totals		1,516		8			8	

Totals	2,950	29	29	
		100%	100%	
			North Crosswalk =	10
			South Crosswalk =	19

on this side of the int. <<< install crosswalk

SUMMARY

Total Warranted PC Points: or / period

Highest PC point value: 2,135 at

Average PC point value: 1,031

No. of periods warranted:

Ave T & Bedford Rd:

"Time

(15 minute intervals)"

P.C.	Vehicle Counts				Pedestrian Counts				
	Periods		Points of		Factored Counts				
Warrant	Total Both Sides								
	Wrnt'd	Wrnt'd	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.
15 min.	30 min.	Points	(1=Yes)	Periods					

7:00

7:15

7:30

7:45								
8:00	4	4						
8:15	8	12						
8:30	4	12						
8:45	10	14						
9:00		10						
9:15								
9:30								
9:45								
AM Totals		26						
11:30	6							
11:45	10	16	1		1	1	1	16
12:00	9	19					1	19
12:15	12	21	1		1	1	1	21
12:30	11	23					1	23
12:45	18	29	1		1	1	1	29
13:00	13	31					1	31
13:15	12	25						
Noon Totals		91		3			3	
14:00								
14:15								
14:30								
14:45								
15:00	15	15						
15:15	14	29	2		2	2	2	58

15:30	17	31				2	62
15:45	12	29	1		1	1	29
16:00	11	23				1	23
16:15	9	20	1		1	1	20
16:30	13	22				1	22
16:45	19	32					
17:00		19					
17:15							
17:30							
17:45							
18:00							
18:15							
18:30							
18:45							
19:00							
19:15							
19:30							
19:45							
20:00							
20:15							
20:30							
20:45							
PM Totals		110		4		4	
Totals	227		7		7		
			100%		100%		

West Crosswalk = 1

East Crosswalk = 6 <<< install crosswalk

on this side of the int.

SUMMARY

Total Warranted PC Points: or / period

Highest PC point value: 62 at

Average PC point value: 24

No. of periods warranted:

29th St & Ave T:

"Time

(15 minute intervals)"

P.C. Vehicle Counts
Periods Points of

Pedestrian Counts

Warrant Total Both Sides
Wrnt'd Wrnt'd

Factored Counts

15 min. 30 min. Child Teen Adult Senior / Impaired Total 15 min. 30 min.
Points (1=Yes) Periods

7:00

7:15

7:30

7:45

8:00 59 59 1 1 1 1 59

8:15	69	128	4		4	4	5	640
8:30	86	155	3		3	3	7	1,085
8:45	64	150					3	450
9:00		64						
9:15								
9:30								
9:45								
AM Totals		278		8			8	
11:30	37		3		3	3		
11:45	46	83					3	249
12:00	60	106						
12:15	66	126						
12:30	36	102						
12:45	49	85	2		2	2	2	170
13:00	36	85					2	170
13:15	42	78						
Noon Totals		372		5			5	
14:00								
14:15								
14:30								
14:45								
15:00	69	69						
15:15	69	138	1		1	1	1	138
15:30	58	127					1	127
15:45	59	117	4		4	4	4	468

16:00	63	122	1		1	1	5	610
16:15	55	118	1		1	1	2	236
16:30	64	119					1	119
16:45	69	133						
17:00		69						
17:15								
17:30								
17:45								
18:00								
18:15								
18:30								
18:45								
19:00								
19:15								
19:30								
19:45								
20:00								
20:15								
20:30								
20:45								

PM Totals	506		7			7		
Totals	1,156		20			20		
			100%			100%		

West Crosswalk = 14 <<< install crosswalk
on this side of the int.

East Crosswalk = 6

SUMMARY

Total Warranted PC Points: or / period

Highest PC point value: 1,085 at

Average PC point value: 301

No. of periods warranted:

Pedestrian Actuated Signal Warrant:

29th St & Ave X:

1. Lanes Priority Points:

$L = 2$ lanes = number of lanes.

$LANF = 0.0$ points = $(L-2) \times 3.6$ to a max of 15 points, urban x-section only.

2. Median Priority Points:

$MEDF = 6.0$ points = indicating there is no physical median here.

3. Speed Priority Points:

$S = 50$ kph = speed limit or 85th percentile speed.

$SPDF = 6.7$ points = $(S-30) / 3$ to a maximum of 10 points.

4. Pedestrian Protection Location:

$D = 400$ m = distance from study location to nearest protected crosswalk.

$LOCF = 15.0$ points = $(D-200) / 13.3$ to a maximum of 15 points.

Actual value = 15.03759398 points.

5. Pedestrian/Vehicle Volume Priority Points:

$H = 5.0$ = (hours) duration of counting period.
 $P_s = 29.0$ = total number of children, teenagers, seniors and/or impaired counted.
 $P_a = 0.0$ = total number of adults counted.
 $P_w = 43.5$ = weighted average of pedestrians crossing the main street.
 $P_{cm} = 8.7$ = weighted average hourly pedestrian volume crossing the main street.
 $V = 2950.0$ = volume of traffic passing through the crossing(s).
 $V_{am} = 590.0$ = average hourly volume of traffic passing through the crossing(s).
 $VOLF = 10.3$ points = $V_{am} \times P_{cm} / 500$

6. Satisfaction of Installation Criteria:

$$SUMF = (LANF + MEDF + SPDF + LOCF + VOLF)$$

$$SUMF = 38 \text{ points}$$

(P.A. Signal Warrant Points)

The total of the warrant points is less than 100 indicating that

a pedestrian actuated signal is NOT warranted.

Ave W & Rylston Rd:

1. Lanes Priority Points:

$L = 2$ lanes = number of lanes.

$LANF = 0.0$ points = $(L-2) \times 3.6$ to a max of 15 points, urban x-section only.

2. Median Priority Points:

$MEDF = 6.0$ points = indicating there is no physical median here.

3. Speed Priority Points:

$S = 50$ kph = speed limit or 85th percentile speed.

$SPDF = 6.7$ points = $(S-30) / 3$ to a maximum of 10 points.

4. Pedestrian Protection Location:

$D = 190$ m = distance from study location to nearest protected crosswalk.

$LOCF = 0.0$ points = $(D-200) / 13.3$ to a maximum of 15 points.

5. Pedestrian/Vehicle Volume Priority Points:

$H = 5.0$ = (hours) duration of counting period.

$Ps = 20.0$ = total number of children, teenagers, seniors and/or impaired counted.

$P_a = 100.0$ = total number of adults counted.

$P_w = 130.0$ = weighted average of pedestrians crossing the main street.

$P_{cm} = 26.0$ = weighted average hourly pedestrian volume crossing the main street.

$V = 1955.0$ = volume of traffic passing through the crossing(s).

$V_{am} = 391.0$ = average hourly volume of traffic passing through the crossing(s).

$VOLF = 20.3$ points = $V_{am} \times P_{cm} / 500$

6. Satisfaction of Installation Criteria:

$SUMF = (LANF + MEDF + SPDF + LOCF + VOLF)$

$SUMF = 33$ points

(P.A. Signal Warrant Points)

The total of the warrant points is less than 100 indicating that

a pedestrian actuated signal is NOT warranted.

29th St & Ave R:

1. Lanes Priority Points:

$L = 2$ lanes = number of lanes.

LANF = 0.0 points = $(L-2) \times 3.6$ to a max of 15 points, urban x-section only.

2. Median Priority Points:

MEDF = 6.0 points = indicating there is no physical median here.

3. Speed Priority Points:

S = 50 kph = speed limit or 85th percentile speed.

SPDF = 6.7 points = $(S-30) / 3$ to a maximum of 10 points.

4. Pedestrian Protection Location:

D = 230 m = distance from study location to nearest protected crosswalk.

LOCF = 2.3 points = $(D-200) / 13.3$ to a maximum of 15 points.

5. Pedestrian/Vehicle Volume Priority Points:

H = 5.0 = (hours) duration of counting period.

Ps = 13.0 = total number of children, teenagers, seniors and/or impaired counted.

Pa = 0.0 = total number of adults counted.

$P_w = 19.5$ = weighted average of pedestrians crossing the main street.

$P_{cm} = 3.9$ = weighted average hourly pedestrian volume crossing the main street.

$V = 1206.0$ = volume of traffic passing through the crossing(s).

$V_{am} = 241.2$ = average hourly volume of traffic passing through the crossing(s).

$VOLF = 1.9$ points = $V_{am} \times P_{cm} / 500$

6. Satisfaction of Installation Criteria:

$SUMF = (LANF + MEDF + SPDF + LOCF + VOLF)$

$SUMF = 17$ points

(P.A. Signal Warrant Points)

The total of the warrant points is less than 100 indicating that

a pedestrian actuated signal is NOT warranted.

Ave W & 29th St:

1. Lanes Priority Points:

$L = 2$ lanes = number of lanes.

$LANF = 0.0$ points = $(L-2) \times 3.6$ to a max of 15 points, urban x-section only.

2. Median Priority Points:

MEDF = 6.0 points = indicating there is no physical median here.

3. Speed Priority Points:

S = 50 kph = speed limit or 85th percentile speed.

SPDF = 6.7 points = $(S-30) / 3$ to a maximum of 10 points.

4. Pedestrian Protection Location:

D = 400 m = distance from study location to nearest protected crosswalk.

LOCF = 15.0 points = $(D-200) / 13.3$ to a maximum of 15 points.

Actual value = 15.03759398 points.

5. Pedestrian/Vehicle Volume Priority Points:

H = 5.0 = (hours) duration of counting period.

Ps = 29.0 = total number of children, teenagers, seniors and/or impaired
counted.

Pa = 0.0 = total number of adults counted.

Pw = 43.5 = weighted average of pedestrians crossing the main street.

$P_{cm} = 8.7$ = weighted average hourly pedestrian volume crossing the main street.

$V = 2950.0$ = volume of traffic passing through the crossing(s).

$V_{am} = 590.0$ = average hourly volume of traffic passing through the crossing(s).

$VOLF = 10.3$ points = $V_{am} \times P_{cm} / 500$

6. Satisfaction of Installation Criteria:

$SUMF = (LANF + MEDF + SPDF + LOCF + VOLF)$

$SUMF = 38$ points

(P.A. Signal Warrant Points)

The total of the warrant points is less than 100 indicating that

a pedestrian actuated signal is NOT warranted.

Ave T & Bedford Rd:

1. Lanes Priority Points:

$L = 2$ lanes = number of lanes.

$LANF = 0.0$ points = $(L-2) \times 3.6$ to a max of 15 points, urban x-section only.

2. Median Priority Points:

MEDF = 6.0 points = indicating there is no physical median here.

3. Speed Priority Points:

S = 50 kph = speed limit or 85th percentile speed.

SPDF = 6.7 points = $(S-30) / 3$ to a maximum of 10 points.

4. Pedestrian Protection Location:

D = 1,000 m = distance from study location to nearest protected crosswalk.

LOCF = 15.0 points = $(D-200) / 13.3$ to a maximum of 15 points.

Actual value = 60.15037594 points.

5. Pedestrian/Vehicle Volume Priority Points:

H = 5.0 = (hours) duration of counting period.

Ps = 7.0 = total number of children, teenagers, seniors and/or impaired counted.

Pa = 0.0 = total number of adults counted.

Pw = 10.5 = weighted average of pedestrians crossing the main street.

Pcm = 2.1 = weighted average hourly pedestrian volume crossing the main street.

$V = 227.0$ = volume of traffic passing through the crossing(s).

$V_{am} = 45.4$ = average hourly volume of traffic passing through the crossing(s).

$VOLF = 0.2$ points = $V_{am} \times P_{cm} / 500$

6. Satisfaction of Installation Criteria:

$SUMF = (LANF + MEDF + SPDF + LOCF + VOLF)$

$SUMF = 28$ points

(P.A. Signal Warrant Points)

The total of the warrant points is less than 100 indicating that

a pedestrian actuated signal is NOT warranted.

29th St & Ave T:

1. Lanes Priority Points:

$L = 2$ lanes = number of lanes.

$LANF = 0.0$ points = $(L-2) \times 3.6$ to a max of 15 points, urban x-section only.

2. Median Priority Points:

$MEDF = 6.0$ points = indicating there is no physical median here.

3. Speed Priority Points:

$S = 50$ kph = speed limit or 85th percentile speed.

$SPDF = 6.7$ points = $(S-30) / 3$ to a maximum of 10 points.

4. Pedestrian Protection Location:

$D = 1,000$ m = distance from study location to nearest protected crosswalk.

$LOCF = 15.0$ points = $(D-200) / 13.3$ to a maximum of 15 points.

Actual value = 60.15037594 points.

5. Pedestrian/Vehicle Volume Priority Points:

$H = 5.0$ = (hours) duration of counting period.

$P_s = 20.0$ = total number of children, teenagers, seniors and/or impaired counted.

$P_a = 0.0$ = total number of adults counted.

$P_w = 30.0$ = weighted average of pedestrians crossing the main street.

$P_{cm} = 6.0$ = weighted average hourly pedestrian volume crossing the main street.

$V = 1156.0$ = volume of traffic passing through the crossing(s).

$V_{am} = 231.2$ = average hourly volume of traffic passing through the crossing(s).

$$VOLF = 2.8 \text{ points} = V_{am} \times P_{cm} / 500$$

6. Satisfaction of Installation Criteria:

$$SUMF = (LANF + MEDF + SPDF + LOCF + VOLF)$$

$$SUMF = 30 \text{ points}$$

(P.A. Signal Warrant Points)

The total of the warrant points is less than 100 indicating that

a pedestrian actuated signal is NOT warranted.

APPENDIX E: COLLISION ANALYSIS

Street 1	Street 2	Ugrid	All Collisions (2009 – 2013)	All collisions - 2013	Right Angle, Left Turn, Right Turn (2009-2013)	Right Angle, Left Turn, Right Turn - 2013 only	Collector or Arterial	Average (2009 – 2013)
Ave P	23rd St	E7-50	19	4	11	3	yes	4
Ave W	29th St	D6-14	18	4	11	3	yes	4
Ave P	29th St	E6-27	15	4	11	3	yes	3
Ave P	Rusholme Rd	E7-54	14	2	6	1	yes	3
Ave W	Rusholme Rd	D7-33	11	0	8	0	yes	2
Bedford Rd	Ave T N	D7-22	11	4	9	4	no	2
23rd St	Ave Q N	D7-3	10	3	7	3	no	2
23rd St	Ave T N	D7-20	9	1	9	1	no	2
Ave P	Bedford Rd	E7-51	8	0	3	0	yes	2
Ave W	23rd St	D7-31	8	2	3	1	yes	2
23rd St	Ave V N	D7-38	6	2	5	2	no	1
23rd St	Ave S N	D7-15	5	0	1	0	no	1
Rusholme Rd	Ave R N	D7-11	5	1	3	0	no	1
23rd St	Ave U N	D7-26	4	2	3	1	no	1
29th St	Ave T N	D6-6	4	1	1	0	yes	1
Ave W	Bedford Rd	D7-61	4	0	0	0	yes	1
Bedford Rd	Ave U N	D7-55	4	0	4	0	no	1
Rusholme Rd	Ave Y N	C7-7	4	2	2	1	no	1
Rylston Rd	Ave Q N	D7-7	4	1	3	1	no	1
23rd St	Ave R N	D7-9	3	3	3	3	no	1
Ave P	31st St	E6-30	3	0	1	0	yes	1
McMillan Ave	29th St	E6-41	3	0	1	0	yes	1
Rusholme Rd	Ave Q N	D7-6	3	0	1	0	no	1
Rylston Rd	Ave X N	C7-47	3	2	2	2	no	1
Witney Ave	29th St	C6-4	3	1	1	0	no	1
Witney Ave	Rusholme Rd	C7-10	3	1	1	1	no	1
30th St	Ave T N	D6-39	2	0	0	0	no	0
Ave W	Rylston Rd	D7-51	2	1	1	1	yes	0
Bedford Rd	Ave V N	D7-50	2	1	2	1	no	0
Bedford Rd	Ave Q N	D7-4	2	1	1	1	no	0
Edmonton Ave	31st St	D6-24	2	1	0	0	yes	0
McMillan Ave	31st St	E6-51	2	0	1	0	no	0
Witney Ave	Bedford Rd	C7-28	2	0	2	0	no	0
Witney Ave	23rd St	C7-14	2	0	1	0	no	0
23rd St	Vancouver Ave N	C7-26	1	1	0	0	no	0
23rd St	Ave X N	C7-65	1	0	1	0	no	0
29th St	Ave X N	C6-11	1	0	1	0	no	0
29th St	Ave U N	D6-27	1	0	0	0	yes	0
29th St	Ave S N	D6-9	1	0	1	0	yes	0
30th St	Ave V N	D6-47	1	0	1	0	no	0
31st St	Trotter Cres	E6-50	1	0	0	0	no	0
Ave P	Rylston Rd	E7-56	1	0	0	0	yes	0
Bedford Rd	Ave Y N	C7-29	1	0	0	0	no	0
Bedford Rd	Ave R N	D7-10	1	0	1	0	no	0
Ottawa Ave	Winnipeg Ave	C7-72	1	0	0	0	no	0
Rusholme Rd	Vancouver Ave N	C7-91	1	0	0	0	no	0
Rusholme Rd	Montreal Ave N	C7-86	1	1	0	0	no	0

Rusholme Rd	Ave V N	D7-79	1	0	0	0	no	0
Rusholme Rd	Ave T N	D7-24	1	0	0	0	no	0
Rusholme Rd	Ave S N	D7-18	1	0	1	0	no	0
Rylston Rd	Ave S N	D7-56	1	0	1	0	no	0
Rylston Rd	Ave R N	D7-12	1	0	1	0	no	0
Winnipeg Ave	Ottawa Ave N	C7-72	1	0	0	0	no	0
23rd St	Winnipeg Ave	C7-59	0	0	0	0	no	0
23rd St	Ottawa Ave N	C7-64	0	0	0	0	no	0
23rd St	Montreal Ave N	C7-53	0	0	0	0	no	0
23rd St	Ave Y N	C7-6	0	0	0	0	no	0
29th St	Ave Y N	C6-28	0	0	0	0	no	0
29th St	Ave V N	D6-7	0	0	0	0	yes	0
29th St	Ave R N	D6-3	0	0	0	0	yes	0
29th St	Ave Q N	D6-2	0	0	0	0	yes	0
29th St	Ave O N	E6-88	0	0	0	0	yes	0
30th St	Ave U N	D6-22	0	0	0	0	no	0
30th St	Ave S N	D6-37	0	0	0	0	no	0
30th St	Ave R N	D6-55	0	0	0	0	no	0
31st St	Ave V N	D6-23	0	0	0	0	no	0
31st St	Ave U N	D6-57	0	0	0	0	no	0
31st St	Ave T N	D6-49	0	0	0	0	no	0
31st St	Ave S N	D6-56	0	0	0	0	no	0
31st St	Ave R N	D6-5	0	0	0	0	no	0
Ave W	Ave X N	D6-54	0	0	0	0	yes	0
Ave W	30th St	D6-32	0	0	0	0	yes	0
Bedford Rd	Ottawa Ave N	C7-18	0	0	0	0	no	0
Bedford Rd	Montreal Ave N	C7-80	0	0	0	0	no	0
Bedford Rd	Ave X N	C7-3	0	0	0	0	no	0
Bedford Rd	Ave S N	D7-16	0	0	0	0	no	0
Ottawa Ave	Bedford Rd	C7-18	0	0	0	0	no	0
Rusholme Rd	Ottawa Ave N	C7-19	0	0	0	0	no	0
Rusholme Rd	Ave X N	C7-4	0	0	0	0	no	0
Rusholme Rd	Ave U N	D7-73	0	0	0	0	no	0
Rylston Rd	Ave Y N	C7-83	0	0	0	0	no	0
Witney Ave	Rylston Rd	C7-67	0	0	0	0	no	0

APPENDIX F: DECISION MATRIX

Decision Matrix – Recommendations proposed at November 17, 2015 meeting

Item	Location	Recommendation	Reason	Group 1	Group 2	Group 3	Recommendation
1	Edmonton Ave & 31st St	Median islands	Reduce Speed	neutral; consider photo radar or speed board	Edmonton Ave isn't wide enough; heard that younger drivers are driving over; install Four-way stop; people fly around corner; maintenance issues with islands during winter	not sure if this will be effective	Removed. Install speed display board instead.
2	Avenue W & 29th St	Four-way stop with median islands and additional stop signs on Avenue W	Improve safety for drivers crossing or turning onto Avenue W; improve pedestrian safety; reduce speed; median islands will ensure the stop signs are visible to drivers on Avenue W		median islands are more of a hazard		Install Four-way stop signs. Remove median islands.
3	Avenue W & Rylston Rd	Median islands; zebra crosswalk on south leg; parking restrictions on southwest corner	Reduce speed, improve pedestrian safety & improve sightlines		not in support of median islands; daycare at corner may have issues; prefer curb extensions at corners (south side of school side)		Changed to curb extensions on the south side & zebra crosswalk on the south leg.
4	Avenue W & 23rd St	Add hazard boards to stop signs	Enhance visibility of stop signs				Carried.
5	Avenue W - 22nd St to 23rd St	Sidewalk (west side)	Improve pedestrian safety & connectivity(connects to grocery store)				Carried.
6	29th St - intersections along bus route(Ave Q, Ave R, Ave X, Ave Y)	Stop signs	Improve safety along bus route (as per Policy C07-007, stop signs are warranted along a transit route)				Carried.
7	Avenue T & Rylston Rd	Zebra crosswalks	Improve pedestrian safety in front of school				Carried.
8	29th St & Ave T	Zebra crosswalks, curb extension & median island	Reduce speed & improve pedestrian safety	5 in favour; 1 person not sure about curb extensions	not in support of median islands or curb extensions	devices might not be needed; concerns turning around them	Removed.
9	29th St & Ave T	Stop signs	Improve intersection safety			not necessary; drivers are turning so they slow down regardless	Removed.
10	Ave T & Bedford Rd	Stop signs	Improve intersection safety			change direction of yield signs	Removed. 71% of total traffic is on Bedford Rd; therefore keep yield signs as is (facing lower volume street - Ave T)
11	23rd St & Ave T	Median island & standard crosswalk (west leg)	Reduce speed & improve pedestrian safety	bush obstruction and parking; Four-way stop; change orientation of signs	not in support of median island	change to yield signs, stop signs not necessary; median island not necessary	Removed. Collision analysis and turning movement count indicated Four-way stop is warranted. Add to list of recommendations.
12	23rd St in front of St. Gerard School	Move northwest curb extension to 23rd St side; remove northeast curb extension on Montreal Ave	Reduce speed & improve pedestrian safety (direction of yield signs changed in 2012 due to 23rd St bike route)	neutral	split opinions - depends on maintenance; hedges blocking view at south		Remove all temporary traffic calming. Site check indicated hedges were already trimmed.
13	23rd St - Ave P to Ave Q	Sidewalk (both sides)	Improve pedestrian safety & connectivity (connects to school)				Carried.
14	Avenue P & 23rd St	Add hazard boards to stop signs	Enhance visibility of stop signs				Carried.

Decision Matrix – Additional Issues raised at November 17, 2015 meeting

Item	Location	Concern	Decision
1	23rd St & Ave R	collisions	Collision analysis indicated three reported collisions within most recent 12 months (all right angle). Upgrade yield signs to stop signs.
2	23rd St between Ave P & Ave W	install sidewalk on one side; speeding	Sidewalk already recommended between Ave P & Ave Q on both sides. Add sidewalk between Ave Q to Ave W (additional 540m - south side only); speed study indicated 47.9kph. No further recommendations.
3	Ave W near Rylston Rd	Disabled parking not needed	Verified this is no longer required. Request sent to sign shop to remove.
4	Bedford Rd between Ave W & Ave T	no sidewalks; need sidewalk on at least one side	Connects to school. Install sidewalk on north side to connect to existing sidewalk on north side between Ave T and Ave R (270m - north side only).
5	Rylston Rd & Avenue S	Tree trimming	Site check determined adequate sightlines.
6	Witney Ave, Avenue T, Avenue X, Avenue H	potholes	Forwarded information to Public Works for further consideration.
7	Ave W & Rusholme Rd	replace pedestrian signal with active pedestrian corridor	Will be reviewed under Pedestrian Device Assessments (city wide).
8	Ave W & Rylston Rd	install pedestrian signal for daycare	Pedestrian device not warranted (33 points for the pedestrian activated signal)
9	Back lane south of Circle Dr between 31st St to pedestrian tunnel	drivers speeding & increased traffic; install 20kph signs; enforcement	Install 20kph speed signs