



**PUBLIC AGENDA
STANDING POLICY COMMITTEE
ON TRANSPORTATION**

Tuesday, April 4, 2017, 2:00 p.m.

Council Chamber, City Hall

Committee Members:

Councillor R. Donauer, Chair, Councillor Z. Jeffries, Vice-Chair, Councillor C. Block, Councillor S. Gersher, Councillor A. Iwanchuk, His Worship Mayor C. Clark (Ex-Officio)

Pages

1. CALL TO ORDER

2. CONFIRMATION OF AGENDA

Recommendation

That the agenda be confirmed as presented.

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 13, 2017 be adopted.

5. UNFINISHED BUSINESS

6. COMMUNICATIONS (requiring the direction of the Committee)

6.1 Delegated Authority Matters

- 6.1.1 **Saskatoon Accessibility Advisory Committee - Request for Term-limit and Tracking on Loading Zones in Residential Areas [File No. CK 6145-1]** 9 - 9

A letter dated March 22, 2017 from the Saskatoon Accessibility Advisory Committee is provided.

The Saskatoon Accessibility Advisory Committee is recommending that the Standing Policy Committee on Transportation recommend that the Administration explore options for placing a term-limit on loading zones in residential areas and options for follow-up regarding tracking of these signs when no longer required; and that an update be provided to the Committee at the appropriate time.

J.D. McNabb, Chair, Saskatoon Accessibility Advisory Committee will be in attendance to answer questions.

Recommendation

That the direction of Committee issue.

6.2 Matters Requiring Direction

6.3 Requests to Speak (new matters)

- 6.3.1 **Municipal Road Salt - Logan McMahon [File No. CK 150-1]** 10 - 10

Attached is an email from Logan McMahon dated March 9, 2017, requesting to speak.

Recommendation

That the information be received.

7. REPORTS FROM ADMINISTRATION

7.1 Delegated Authority Matters

- 7.1.1 **Request for Encroachment Agreement - 343 20th Street West** 11 - 15
[Files CK 4090-2 and PL 4090-2]

Recommendation

1. That the existing and new encroachments at 343 20th Street West (Lot 26, Block 19, Plan No. E5618) be recognized;
2. That the City Solicitor be requested to prepare the appropriate encroachment agreement, making provision to collect the applicable fees; and
3. That His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal and in a form that is satisfactory to the City Solicitor.

7.2 Matters Requiring Direction

- 7.2.1 **Inquiry – Councillor Z. Jeffries (September 19, 2016) Creation of** 16 - 52
Policy – Traffic Impact Assessments [File No. CK 6315-1]

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated April 4, 2017, be forwarded to City Council for information.

7.2.2 Amendments to Bylaw 7200, The Traffic Bylaw – Right-of-Way Fees and Fines [Files CK 6320-1 and TS 6320-1]

53 - 60

Recommendation

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

1. That the majority of Bylaw No. 2954, Streets Use Bylaw be repealed;
2. That a section for Construction, Detour and Street Use, including fines, be added to Bylaw No. 7200, The Traffic Bylaw;
3. That the City Solicitor be requested to prepare the appropriate bylaw amendments to Bylaw No. 7200, The Traffic Bylaw and Bylaw 2954, Streets Use Bylaw; and
4. That the Administration enter into discussions with stakeholders related to the fees for Right-of-Way usage and report to the Standing Policy Committee on Transportation before the end of 2017.

7.2.3 Construction Zone Arrow and Message Boards – Award of Contract [Files CK 1000-4 and TS 1000-13]

61 - 63

Recommendation

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

1. That the City of Saskatoon enter into agreement with ATS Traffic for the supply of Ver-Mac arrow and message boards at an upset limit of \$277,481.38 (including GST and PST) over a three-year period; 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.

7.2.4 Victoria Avenue Corridor Transportation Improvements [Files CK 6320-1 and TS 6320-1]

64 - 70

Recommendation

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

1. That the proposed plan for Victoria Avenue between 8th Street and 11th Street be approved;
2. That the amount of \$295,000 be approved for Capital Project #2270 – Paved Roads and Sidewalk Preservation from the Transportation Infrastructure Expansion Reserve; and
3. That the amount of \$30,000 be approved for Capital Project #2270 – Paved Roads and Sidewalk Preservation from the Active Transportation Reserve.

7.2.5 2017 Overpass Testing and Inspection Program - Award of Engineering Services [Files CK 6050-1 and TU 6050-104-01]

71 - 73

Recommendation

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

1. That the engineering services proposal submitted by ISL Engineering Ltd. for completion of the 2017 Overpass Testing and Inspection Program, at a total estimated cost, on a lump sum basis, to an upset limit of \$103,425 (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.

| | | |
|--------------|--|----------------|
| 7.2.6 | 2017 Annual Street Sweeping Work Plan [Files CK 6315-3 and PW 6315-3] | 74 - 77 |
|--------------|--|----------------|

Recommendation

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

1. That the Administration be directed to implement the pilot program in the seven neighbourhoods outlined in this report; and
2. That following the pilot, the Administration report back on the overall effectiveness of the pilot including, but not limited to, citizen feedback and operational impacts.

| | | |
|--------------|---|----------------|
| 7.2.7 | Street Sweeping Services in Developing Subdivisions [File No. CK 6315-3] | 78 - 81 |
|--------------|---|----------------|

Recommendation

That the report of the General Manager, Transportation & Utilities Department, dated April 4, 2017, be forwarded to City Council as information.

| | | |
|--------------|---|----------------|
| 7.2.8 | 2018 Fall Sweep Program Design Options [Files CK 6315-3 and PW 6315-3] | 82 - 85 |
|--------------|---|----------------|

Recommendation

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

That the Administration be directed to identify street sweeping areas using a risk-based design model, rather than the current neighbourhood design model for the 2018 Fall Sweep Program as outlined in the report of the General Manager, Transportation & Utilities Department dated April 4, 2017.

| | | |
|--------------|--|----------------|
| 7.2.9 | Dust Mitigation on Gravel Streets and Lanes [Files CK 6315-1 and PW 6315-1] | 86 - 89 |
|--------------|--|----------------|

Recommendation

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

1. That the information be received; and
2. That the Administration be directed to proceed with a pilot study to evaluate dust mitigation on gravel streets and back lanes.

| | | |
|---------------|--|-----------------|
| 7.2.10 | Grosvenor Park Neighbourhood Traffic Review [Files CK 6320-1 and TS 6320-1] | 90 - 176 |
|---------------|--|-----------------|

Recommendation

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

That the Neighbourhood Traffic Review for the Grosvenor 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.

| | | |
|---------------|--|------------------|
| 7.2.11 | Sutherland Neighbourhood Traffic Review [Files CK 6320-1 and TS 6320-1] | 177 - 262 |
|---------------|--|------------------|

Recommendation

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

That the Neighbourhood Traffic Review for the Sutherland 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)

At the Standing Policy Committee on Transportation meeting held on March 13, 2017, Councillor Iwanchuk gave the following Notice of Motion:

"Take notice that at the next meeting of the Standing Policy Committee on Transportation, I will move the following motion:

'That the Standing Policy Committee on Transportation recommend to City Council that the Administration be requested to do a review of the neighbourhoods which have participated in a Neighbourhood Traffic Review to determine whether or not the programs put in place to prevent speeding are working, or other alternatives should be explored."

10. GIVING NOTICE

11. IN CAMERA AGENDA ITEMS

Recommendation

That the following agenda items be considered In Camera.

11.1 Adoption of In Camera Minutes - April 11, 2016

11.2 Update Report [Files CK 670-3, x 6295-016-007 and WT 6000-1]

[In Camera - Danger to Health or Safety]

12. ADJOURNMENT

March 22, 2017

Secretary, SPC on Transportation

Dear Secretary:

**Re: Saskatoon Accessibility Advisory Committee - Report for SPC on
Transportation
Request of Term-limit and Tracking on Loading Zones in Residential Areas
[File No. CK 6145-1]**

The Saskatoon Accessibility Advisory Committee, at its meeting held on March 10, 2017, considered options to be explored concerning a term-limit and tracking system for loading zones in residential areas. The Committee heard from Administration regarding parking programs available to persons with disabilities and the issuing of signs and disabled parking zones.

The Committee indicated that there is a need of a term-limit on loading zones in residential areas including follow-up tracking for the removal of the signs. A term-limit would assist in removing the unnecessary residential loading zones if no longer required thus minimizing the misuse of the zone.

The Committee resolved:

That this matter be forwarded to the Standing Policy Committee on Transportation to recommend that the Administration explore options for placing a term-limit on loading zones in residential areas and options for follow-up regarding tracking of these signs when no longer required; and update the Committee at the appropriate time.

The Saskatoon Accessibility Advisory Committee respectfully requests that the recommendation be considered by the Standing Policy Committee on Transportation.

Yours truly,



Holly Thompson, Committee Assistant
Saskatoon Accessibility Advisory Committee

HT

Attachment

cc: General Manager, Community Services Department
General Manager, Transportation and Utilities Department
Director, Community Standards, Community Services Department
Director, Transportation, Transportation and Utilities Department
Mr. J.D. McNabb, Chair, Saskatoon Accessibility Advisory Committee

150-1

From: City Council
Sent: March 09, 2017 2:48 PM
To: City Council
Subject: Form submission from: Write a Letter to Council



Submitted on Thursday, March 9, 2017 - 14:47
Submitted by anonymous user: 128.233.8.102
Submitted values are:

Date: Thursday, March 09, 2017
To: His Worship the Mayor and Members of City Council
First Name: Logan
Last Name: McMahon
Address: Box 377
City: Dalmeny
Province: Saskatchewan
Postal Code: S0K 1E0
Email: lfm548@mail.usask.ca
Comments:
Greetings,

I am a member of a group in the ENVS 401: Sustainability in Action class at the University of Saskatchewan. Our group has been examining the usage and implications of municipal road salt as it relates to the environment and sustainable cities. We have gathered information regarding the environmental impacts of road salt, the city's current practices, and alternatives.

Working towards sustainable cities it is important for the community to be engaged in the process. Overall my group members and I have happy with the environmental considerations for salt management and openness of the city to our inquiries. We are hoping make a brief presentation on our project to the mayor and council or the appropriate committee. We have noted the council meeting on March 27th as a potential date. This lines up with our undergraduate symposium on sustainability and the end of semester. Please let us know if the mayor and council would be interested in hearing about our project. Thank you for your consideration.

Sincerely,

Logan McMahon

The results of this submission may be viewed at:
<https://www.saskatoon.ca/node/398/submission/155993>

Request for Encroachment Agreement – 343 20th Street West

Recommendation

1. That the existing and new encroachments at 343 20th Street West (Lot 26, Block 19, Plan No. E5618) be recognized;
2. That the City Solicitor be requested to prepare the appropriate encroachment agreement, making provision to collect the applicable fees; and
3. That His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal and in a form that is satisfactory to the City Solicitor.

Topic and Purpose

The purpose of this report is to seek approval for new encroachments for the portions of the building façade located at 343 20th Street West.

Report Highlights

1. The existing building encroachment area is 2.56 square metres.
2. The new building façade encroachment area is 3.17 square metres.
3. The building façade will extend onto the 20th Street West sidewalk by up to 0.46 metres and onto the Avenue D South sidewalk by up to 0.49 metres.

Strategic Goals

This report supports the City of Saskatoon’s Strategic Goals of Sustainable Growth and Quality of Life by ensuring that designs of proposed developments are consistent with planning and development criteria and that these designs do not pose a hazard for public safety.

Background

Building Bylaw No. 7306 states, in part, that:

“The General Manager of the Community Services Department shall not issue a permit for the erection or alteration of any building or structure the plans of which show construction of any kind on, under, or over the surface of any public place until permission for such construction has been granted by Council.”

Report

The owner of the property located at 343 20th Street West has requested approval (see Attachment 1) to allow a revision to an existing encroachment (see Attachment 2) by adding new encroachments (see Attachment 3). As shown on the Site Plan (see Attachment 3), the building façade will extend onto the 20th Street West sidewalk by up

to 0.46 metres and onto the Avenue D South sidewalk by up to 0.49 metres. The total area of the existing encroachment is 2.56 square metres and the total area of the new encroachment is approximately 3.17 square metres. The total area of all encroachments is 5.73 square metres; therefore, will be subject to an annual charge of \$50.

Public and/or Stakeholder Involvement

There is no public or stakeholder involvement.

Other Considerations/Implications

There are no options, policy, financial, environmental, privacy, or CPTED implications or considerations; a communication plan is not required at this time.

Due Date for Follow-up and/or Project Completion

There is no follow-up report planned.

Public Notice

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

Attachments

1. Request for Encroachment Agreement Dated February 28, 2017
2. Copy of the Real Property Report Detailing Existing Encroachment
3. Copy of the Site Plan Detailing New Encroachments

Report Approval

Written by: Tanda Wunder-Buhr, Commercial Permit Supervisor, Building Standards
Reviewed by: Daisy Harington, Senior Building Code Engineer, Building Standards
Approved by: Kara Fagnou, Acting General Manager, Community Services Department

S/Reports/2017/BS/TRANSP – Request for Encroachment Agreement – 343 20th Street West/ks



BUILDING STANDARDS
222-3rd AVE NORTH, SASKATOON, SK S7K 0J5

ENC 3/2017
THIS IS NOT AN AGREEMENT

ENCROACHMENT AGREEMENT APPLICATION

RECEIVED
FEB 28 2017
Building Standards

SECTION A – PROJECT INFORMATION (to be completed for ALL ENCROACHMENT AGREEMENT APPLICATIONS)
(Please note the approval process may take up to 10 weeks dependent on the Standing Policy Committee Meeting Schedule)

| | | | |
|-----------------------------|--|---|--|
| TYPE OF ENCROACHMENT | | New Proposed <input checked="" type="checkbox"/> | Revision <input type="checkbox"/> |
| PROJECT INFORMATION | Site Address | 343 20th Street West | |
| | Legal Description (Lot/Block/Plan) | Parcel 119861534 - Lot 26 Block 19 Plan E5618 | |
| APPLICANT | Contact Name | Curtis Olson | |
| | Company Name (if applicable) | 102002707 Saskatchewan Ltd | |
| | Address | City | Province |
| | Phone Number (incl. Area Code) | Email Address | Postal Code |
| | | Preferred method of correspondence: | |
| | | MAIL or EMAIL | |
| OWNER | Contact Name (Official Name that will appear on the Agreement) | Curtis Olson | |
| | Company Name (if applicable) | 102002707 Saskatchewan Ltd | |
| | Address | City | Province |
| | Phone Number (incl. Area Code) | Email Address | Postal Code |
| | | Preferred method of correspondence: | |
| | | MAIL or EMAIL | |

SECTION B – SUBMISSION REQUIREMENTS (to be completed for ALL ENCROACHMENT APPLICATIONS)

| ENCROACHMENT AGREEMENT APPLICATION REQUIREMENTS | | Submitted | Received (office use only) |
|---|-------------------------------------|--|-------------------------------------|
| <input type="checkbox"/> | Application Fee | An Encroachment Application Fee of \$100.00 is required to be submitted at the time of application | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | Existing Encroachment | Current Real Property Report/Surveyor's Certificate that clearly outlines the encroaching areas, including detailed dimensions of all areas that encroach onto City of Saskatoon Property. (Site Plan) | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | Proposed Future Encroachment | Detailed drawings of the proposed encroaching areas including detailed dimensions of all areas that will encroach onto City of Saskatoon Property. (Once construction is complete, an updated Real Property Report/Surveyor's Certificate will be required to confirm the area of encroachment.) | <input type="checkbox"/> |

Upon receipt of the request, the Building Standards Division of the Community Services Department will request approvals from the necessary Departments and Divisions, including Development Services, Building Standards, Transportation & Utilities and any other Department or Division as deemed necessary, depending on the type of encroachment. Upon receipt of the various approvals and that there are no objections to the request; the application will be forwarded to the next available Standing Policy Committee on Transportation meeting for their approval. Once the Standing Policy Committee on Transportation has approved, the City Clerks office will advise the applicant of the Committee's decision and will prepare the agreement. Please note that encroachment agreement requests may take up to 10 weeks to process and is dependent on the Standing Policy Committee Meeting Schedule.

Assuming the encroachment is approved, an annual fee will be applied to the tax notice. This fee is based on the area of encroachment, and is calculated at \$3.25 per square meter. The current minimum fee is \$50.00

I DO HEREBY DECLARE:

- That the issuance of an Encroachment Agreement does not relieve the owner and authorized agents from complying with the requirements of the 2010 National Building Code of Canada, as amended and within the scope of the Uniform Building and Accessibility Standards Act.
- That the submission of this application does not give permission for encroachment of any portion of the building, and that appropriate building permits are required to be obtained prior to the construction of the encroachment.

I certify that I have read and agree to abide by the conditions above, and all information contained within this application is correct.

| | | | | |
|-------------------------------------|---------------------|-----------|-------------------------|---------------|
| DECLARATION & SIGNATURES | | Feb 28/17 | | Feb 28/17 |
| | Applicant Signature | Date | Application Received By | Date Received |
| | | | | |
| | | | | |

Copy of the Real Property Report Detailing Existing Encroachment

ATTACHMENT 2

SCHEDULE "A"

Feb. 2, 2007 9:38AM Peters Surveys Ltd.
Peters Surveys Ltd.

1136 8th St. E., Saskatoon
 Phone 343-8137 - 97H054



Saskatchewan Land Surveyors
Real Property Report

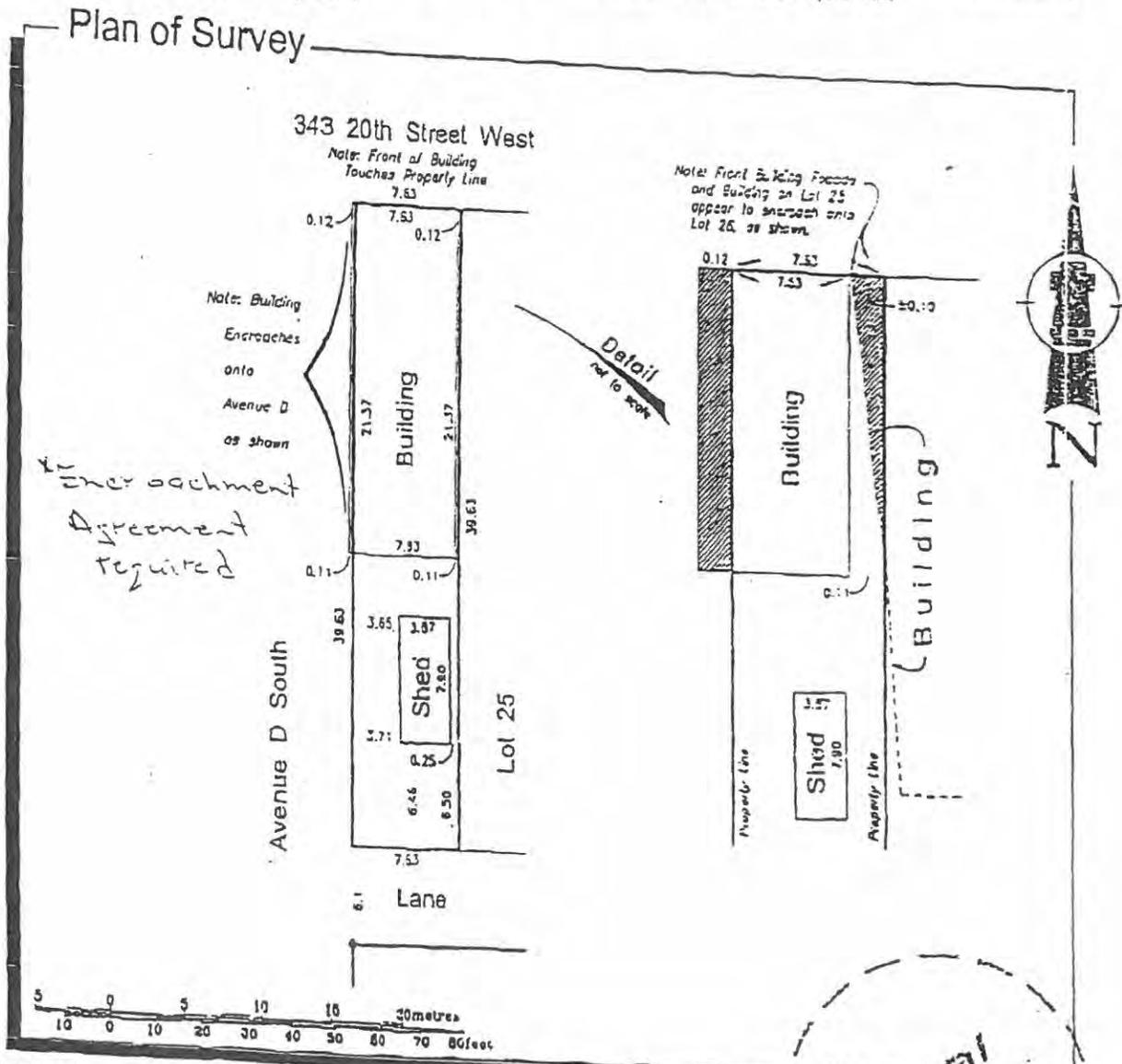
Property Report Prepared for:
 Property Description:

Ravi Ravindran
 Lot 26, Block 19, Plan E5618
 Surface Parcel #119861534
 Saskatoon, Sask.

I, Wilfred John Peters,
 Saskatchewan Land Surveyor,
 do hereby certify that:

- 1 This survey was completed on: August 11th, 2004.
- 2 This plan and survey were made in accordance with the standards established by Bylaw Number XIII of the Saskatchewan Land Surveyors' Act.

Plan of Survey



Encroachment Agreement required

Legend:

- Measurements shown are in metres and decimals.
- Iron posts at property corners are shown thus...o
- This document is not valid unless it bears the original signature and embossed seal of the certifying Saskatchewan Land Surveyor.
- Measurements are to the main exterior wall of structure shown.
- Pro

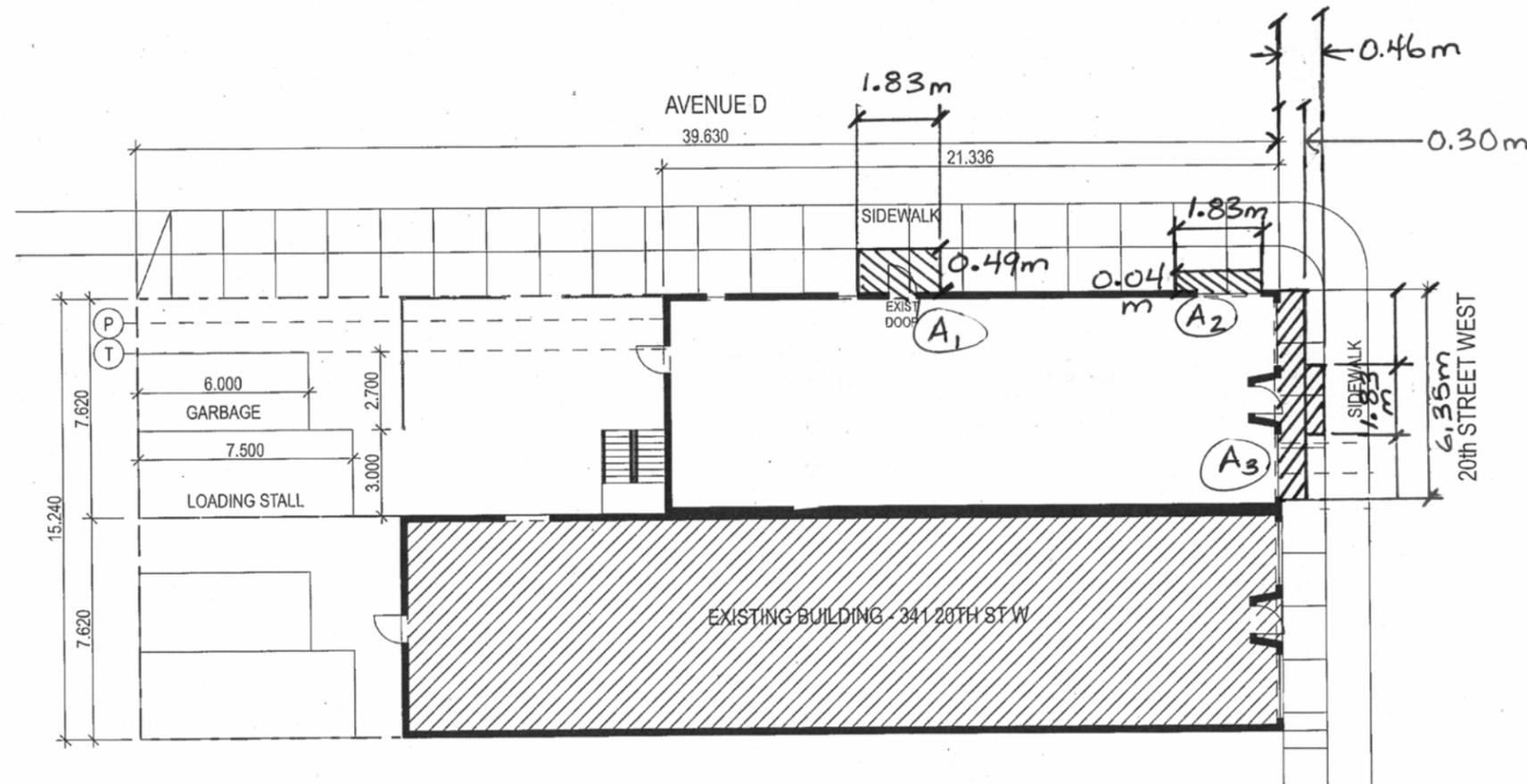
File: C5
 Book: 108-50
 Re: 040810-4

Dated at Saskatoon this 7th day of September, 2004 A.D.

Wilfred Peters
 Saskatchewan Land Surveyor

©2004

Copy of the Site Plan Detailing New Encroachments



IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE PROPOSED STRUCTURE WILL NOT ENCROACH UPON ANY ELECTRICAL OR GAS LINES OR ANY EASEMENTS REGISTERED AGAINST THE PROPERTY IN QUESTION. THE LOCATION OF THE ELECTRICAL OR GAS LINES MAY BE LOCATED BY CONTACTING SASKPOWER OR SASKENERGY RESPECTIVELY.

SITE SECURITY MUST BE PROVIDED DURING NEW CONSTRUCTION IN ESTABLISHED AREAS AND AS REQUIRED BY THE BUILDING INSPECTOR. THE SITE SECURITY SHALL BE A 6FT CONSTRUCTION FENCE AND WILL BE REQUIRED UNTIL ALL OPENINGS UP TO 6FT FROM GRADE ARE SEALED.

NBC 2010 REVIEW
 ROOF SOFFITS NOT ALLOWED WITHIN 0.45m OF PROPERTY LINE 9.10.15.5. (7)
 NO VENTED SOFFITS WITHIN 1.2m OF PROPERTY LINE. 9.10.15.5 (10)

PROJECT INFORMATION:
 ZONE: B5C
 CIVIC ADDRESS:
 343 20TH STREET WEST
 SASKATOON, SASKATCHEWAN
 LEGAL DESCRIPTION:
 LOT 26
 BLOCK 19
 PLAN E5618
 PARCEL: 119861534
 AREAS:
 BASEMENT: 1750ft² (162.6m²)
 MAIN FLOOR: 1750ft² (162.6m²)
 SECOND FLOOR: 1750ft² (162.6m²)

bldg.studio.inc.
 325 21st Street West
 Saskatoon, SK
 S7M 0W3
 306.241.6643
THIS DRAWING IS THE PROPERTY OF THE DESIGNER AND REPRODUCTION IS PROHIBITED WITHOUT PRIOR WRITTEN APPROVAL. THE CONTRACTOR IS TO CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE DESIGNER PRIOR TO CONSTRUCTION. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS PROPERLY SIGNED AND SEALED BY THE ENGINEER. COPYRIGHT 2016 BLDG STUDIO INC. ALL RIGHTS RESERVED.
 SEAL

PROJECT
 343 20th ST WEST
 SASKATOON
 CLIENT
 102002707 Saskatchewan Ltd
 17/02/01 BPA
 17/02/16 R1 SITE PLAN

DRAWN BY: CMB
 PROJECT NO.: 1661
 DATE: FEBRUARY 16, 2017
 SCALE: AS SHOWN/11x17 LAYOUT
 ISSUED: BP - R1

MODEL FILE: 343 20th St W-C002.ppt
 SHEET TITLE

SITE PLAN

A1.0

SHEET 2 OF 6

1 SITE PLAN
 SCALE: 1/16" = 1'-0"

Total area = A₁ + A₂ + A₃
 = 0.90 m² + 0.07 m² + 2.20 m²
 = 3.17 m²
 x \$ 3.25 / m²
 = \$ 10.30 / yr
 ⇒ \$ 50.00 / yr minimum.

RECEIVED
 FEB 28 2017
 CITY OF SASKATOON
 COMMERCIAL PERMIT OFFICER

THIS DRAWING IS THE PROPERTY OF THE DESIGNER AND REPRODUCTION IS PROHIBITED WITHOUT PRIOR WRITTEN APPROVAL. COPYRIGHT 2016 BLDG STUDIO INC. ALL RIGHTS RESERVED.

Inquiry – Councillor Z. Jeffries (September 19, 2016) Creation of Policy – Traffic Impact Assessments

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated April 4, 2017, be forwarded to City Council for information.

Topic and Purpose

The purpose of this report is to provide information on the creation of a Traffic Impact Assessment Study policy for Road Construction Traffic Reviews.

Report Highlights

1. Road Construction Traffic Review Process and Guidelines have been developed to manage the impact of construction projects.
2. In recent years, Road Construction Traffic Reviews have been successfully used on major construction projects.

Strategic Goal

This report supports the Strategic Goal of Moving Around by providing improved safety for 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 19, 2016:

“As the City has increased the amount of roadwork in Saskatoon, traffic tie ups have frustrated residents over the summer. In particular, on some arterial streets construction has stretched on for an extended period of time or caused unreasonable delays. Would the Administration report back on the creation of a policy to ensure that traffic impact assessments are done for extended roadwork on major streets including a traffic management or detour plan that seeks to limit the duration and severity of traffic impacts.”

Report

The Administration has a formal procedure for completing “Traffic Impact Assessments” (TIA’s) that are related to development activities; this terminology is standard to the transportation planning and land development industry and produces consistent engineering reports. To avoid confusion, for the purposes of this discussion, “Road Construction Traffic Reviews” will be used.

Road Construction Traffic Review Process and Guidelines

The Administration has established a process and guidelines to examine and review the traffic impacts of major construction projects. The general criteria for identifying projects requiring a Road Construction Traffic Review include:

- Multi-lane major arterials, freeways and expressways; and/or
- A multi-week duration; and/or
- Work zone requiring a significant detour or lane closure.

The Road Construction Traffic Review process typically includes:

- Evaluation of proposed staging and detour plans
- Review of the work zone for each stage
- Level of Service analysis for signalized intersections immediately impacted
 - AM and PM peak hour analysis, by stage if necessary
- Review using the Transportation model for the large-scale impacts of the project
 - AM and PM peak hour analysis, if necessary
 - Assist in identifying re-routing options
- Review of the signing and communication plan

Details on the process and guidelines are provided in Attachment 1.

Examples of Road Construction Traffic Reviews

Recent projects where additional traffic analysis was completed include:

- University Bridge Rehabilitation in 2015 (Attachment 2)
- Ruth Street Overpass Rehabilitation in 2016 (Attachment 3)
- 51st Street and Warman Road Intersection Improvements planned for 2017 (Attachment 4)
- McOrmond Drive & College Drive interchange construction planned for 2017 to 2018
- Boychuk Drive & Highway 16 interchange construction planned for 2017 to 2019

The above reviews met the criteria that identifies projects requiring a Road Construction Traffic Review and were completed in conjunction with Transportation, Major Projects & Preservation, and Construction & Design divisions. As project planning proceeds, the potential for traffic issues is identified and details for the management of traffic are discussed.

The 2016 Ruth Street Overpass Rehabilitation traffic analysis was completed prior to the construction tender. This supported the decision to tender and allow a one-lane closure in each direction on Idylwyld Drive, resulting in no unreasonable delays for traffic. If the analysis showed a significant impact, the construction tender would have been framed differently, potentially allowing for full closures on weekends.

For the upcoming 51st Street and Warman Road intersection improvements, the project was originally tendered with an option for evening work, however no bids were received from the proponents. Discussions are underway with the successful contractor to

develop a work scheme that minimizes disruption to users. Also a communication plan will be developed and shared with the area residents on what to expect during construction such as timelines, information on alternate routes, and expected delays.

In 2016, the major intersection improvements at Attridge Drive and Central Avenue were delivered as part of the P3 North Commuter Parkway Project to expedite the improvements. As a result of this delivery method, opportunities for the Administration to direct the construction phasing were minimized, therefore, formal traffic reviews were not completed. Delivering this project as a standalone or traditional delivery method would have provided more control over the construction phasing and disruption in timelines.

Public and/or Stakeholder Involvement

The project staff directly communicate with the appropriate Stakeholders and their input is incorporated into the traffic review.

Communication Plan

Formal communication plans are developed in conjunction with the proponent and are tailored to the specifics of the project and the concerns are identified through the review.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

Traffic reviews of future road construction projects will be submitted, as required, in an informational report to City Council as the work is awarded.

Public Notice

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

Attachments

1. Road Construction Traffic Review Guidelines
2. University Bridge Rehabilitation Traffic Impact Assessment, March 10, 2015
3. Idylwyld Drive at Ruth Street Construction Traffic Review
4. Major Intersection Improvement – Warman Road & 51st Street 2017 Construction

Report Approval

Written by: David LeBoutillier, Senior Transportation Engineer, Transportation
Reviewed by: Jay Magus, Engineering Manager, Transportation
Angela Gardiner, Director of Transportation
Approved by: Angela Gardiner, Acting/General Manager, Transportation & Utilities Department

ROAD CONSTRUCTION TRAFFIC REVIEW GUIDELINES

Criteria for initiating Road Construction Traffic Review:

- Multi-lane major arterials, freeways and expressways; and/or
- A multi-week duration; and/or
- Work zone requiring a significant detour or lane closure.

Process

Road Construction Traffic Reviews typically include the following elements:

1. Evaluation of proposed staging and detour plans
2. Review of the work zone for each stage
3. Level of Service analysis for signalized intersections immediately impacted
 - a. AM and PM peak hour analysis, by stage if necessary
4. Review using the Transportation model for the large-scale impacts of the project
 - a. AM and PM peak hour analysis, if necessary
 - b. Assist in identifying re-routing options
5. Review of the signing and communication plan

It is a goal that the City's roadway system capacity will be highly used during the weekday peak periods of travel but not result in substantial delays to traffic or low travel speeds. Transportation engineers generally describe this condition as an operating level of service "D". In general, all movements, intersections, and access points must operate at LOS D or better now and in the future. Level of Service standards for vehicular traffic are as follows:

| Average Control Delay (sec. / veh.) | Level of Service | General Description |
|-------------------------------------|------------------|---|
| <= 10 | A | Free Flow |
| >10 - 20 | B | Stable Flow (slight delays) |
| >20 - 35 | C | Stable Flow (acceptable delays) |
| >35 - 55 | D | Approaching unstable flow (tolerable delay, occasional wait through more than one signal cycle before proceeding) |
| >55 - 80 | E | Unstable flow (intolerable delay) |
| >80 | F | Forced flow (jammed) |

The City has not established level of service standards for cyclists and pedestrians; however, in general the work zone is to be configured to maintain accessible routes for both user groups and to avoid forcing pedestrians to walk in traffic or cross the street to complete their journey.

The considerations for each part of the traffic review includes:

Part 1: Evaluation of proposed staging and detour plans

- Look for opportunities to simplify the operation
- Look for opportunities to shorten the duration
- Attempt to reduce the impact of detours on users

Part 2: Review of the work zone for each stage

- Ensure safety of both the construction crew and the road users
- Try to reduce or eliminate potential conflicts
- Look for opportunities to simplify the operation
- Look for opportunities to reduce the number of lanes closed
- Ensure continuity of closures during each phase
- Minimize transient closures and short-term traffic accommodation changes

Part 3: Level of Service analysis for signalized intersections immediately impacted - AM and PM peak hour analysis, by stage if necessary

- Look for opportunities to improve the operation and reduce both queue length and delay
- Look for opportunities to reduce the number of lanes closed

Part 4: Review using the Transportation model for the large-scale impacts of the project - AM and PM peak hour analysis, if necessary

- Review both the upstream and downstream volume changes on the network:
 - Significant changes in volumes at signalized intersections are in-turn identified for Synchro analysis and detailed level of service evaluation
- Look for opportunities to improve the operation and reduce large increases in traffic volumes on residential streets
- Look for opportunities to reduce the number of lanes closed
- Review travel time impacts:
 - Typical PM peak hour impacts are evaluated as travel from City Hall to impacted residential neighbourhoods
 - Typical AM peak hour impacts are evaluated as travel from impacted residential neighbourhoods to City Hall

Part 5: Review of the signing and communication plan

- Look for opportunities to provide guidance for road users to alternative routes as early in their routes to/from work as possible

City of Saskatoon

University Bridge Rehabilitation Traffic Impact Assessment

March 10, 2015

Transportation & Utilities Department

City of Saskatoon

University Bridge Rehabilitation Traffic Impact Assessment

March 10, 2015

Transportation Division

222 - 3rd Avenue North

Saskatoon, SK S7K 0J5

www.saskatoon.ca

Project # 0000

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1.0 INTRODUCTION

The University Bridge requires rehabilitation to the bridge deck and supporting structure. At its meeting of February 23, 2015 City Council approved the recommendation to maintaining one lane of traffic from 6 AM to 8 PM, with the bridge otherwise closed. Subsequently the bridge rehabilitation project was awarded to Horseshoe Hill Construction Ltd. (Contractor). At key times in the construction project, a complete closure of the bridge will be required to support concrete pours. Although the contract specifically states that the Contractor has the ability to close the bridge each night from 8PM to 6AM, it has been indicated to the City of Saskatoon (City) that the Contractor will keep the single lane open.

The Contractor has access to the bridge starting on May 1, 2015, and a planned completion date of September 15, 2015.

The project will significantly disrupt driving behaviour and patterns over the course of the project. In order to plan to accommodate this disruption the Engineering Section within the Transportation division completed this Traffic Impact Assessment (TIA).

This report presents the TIA assumptions, methodology, analysis, and conclusions.

2.0 SCOPE OF THE ASSESSMENT

The primary purpose for completing the assessment was to analyze intersection operating conditions for the following scenarios:

- Existing: Using historical or current traffic counts at the analyzed intersections.
- May 1, 2015: The existing traffic re-assigned once the University Bridge is closed.

The weekday AM and PM peak hour operating conditions for the above scenarios were analyzed for the following intersections:

- Clarence Avenue / College Drive
- Royal University Hospital Access / College Drive
- Wiggins Avenue / College Drive
- Cumberland Avenue/ College Drive
- Preston Avenue/ College Drive
- Circle Drive NB Ramp/ College Drive
- Circle Drive SB Ramp / College Drive
- Broadway Avenue / 12th Street
- Clarence Avenue / 12th Street
- Lorne Avenue/ 8th Street
- Broadway Avenue/ 8th Street
- Preston Avenue / 8th Street
- Circle Drive NB Ramp/ 8th Street
- Circle Drive SB Ramp/ 8th Street
- 4th Avenue / 25th Street
- 4th Avenue / 22nd Street
- 4th Avenue / 20th Street
- 4th Avenue / 19th Street
- 2nd Avenue / 25th Street
- 1st Avenue/ 19th Street
- Idylwyld Drive / 25th Street
- Idylwyld Drive / 22nd Street
- Idylwyld Drive / 20th Street
- Warman Road / 33rd Street
- Warman Road/ Circle Drive WB Ramp
- Warman Road / Circle Drive EB Ramp

3.0 STUDY METHODOLOGY

The Traffic Impact Assessment was completed using the following methodology:

- ▮ Gather existing traffic counts at the studied intersections either from the City's historical database or new intersection traffic counts.
- ▮ Analyze existing intersection capacity and determine existing level of service and intersection delays.
- ▮ Using the City's VISUM Transportation Model determine how the traffic will be re-assigned to other routes once the University Bridge is closed.
- ▮ Analyze the May 1, 2015 scenario (bridge is closed) to determine the expected intersection capacity in terms of level of service and expected intersection delays.
- ▮ Identify the required signal timings to best mitigate the increased delay at impacted intersections.
- Identify high-level strategies to mitigate the impact of the bridge closure.

4.0 TRAFFIC ANALYSIS METHODOLOGY

Traffic analysis for the weekday AM and PM peak hours operating conditions at the identified intersections was carried out using the Synchro / SimTraffic software package. Synchro / SimTraffic software is based upon the methodology outlined in the Highway Capacity Manual (HCM).

In the HCM methodology, Level-of-Service (LOS) is the primary evaluation criteria for operating conditions. For unsignalized intersections, the LOS is based on the computed delays. LOS 'A' represents minimal delays to minor street traffic movements, and LOS 'F' represents a scenario with an insufficient number of gaps on the major street for minor street motorists to complete their movements without significant delays. For signalized intersections the methodology considers the intersection geometry, traffic volumes and composition, the traffic signal/ timing plan, and pedestrian volumes. The average delay for each lane group is calculated, as well as the average delay for the overall intersection.

Also, for signalized intersections, the 'volume-to-capacity' (v/c) ratio is used as an indicator of the extent to which a particular movement's capacity is being utilized.

The HCM intersection capacity evaluation criteria for both unsignalized and signalized intersections are summarized in **Table 4-1**.

Table 4-1: Level of Service Criteria

| Level of Service (LOS) | Average Delay for UNSIGNALIZED Intersection Movements | Average Delay for SIGNALIZED Intersection Movements |
|------------------------|---|---|
| A | 0 - 10 sec. per vehicle | 0 - 10 sec. per vehicle |
| B | > 10 - 15 sec. per vehicle | > 10 - 20 sec. per vehicle |
| C | > 15 - 25 sec. per vehicle | > 20 - 35 sec. per vehicle |
| D | > 25 - 35 sec. per vehicle | > 35 - 55 sec. per vehicle |
| E | > 35 - 50 sec. per vehicle | > 55 - 80 sec. per vehicle |
| F | > 50 sec. per vehicle | > 80 sec. per vehicle |

5.0 ANALYSIS

5.1 Methodology

The analysis was completed in three steps:

- **Step 1:** Operating conditions at the studied intersections were assessed based on the existing traffic volumes. Traffic counts at the studied intersections were collected during the periods of 6:00 - 8:00 AM and 4:00 - 6:00 PM. The analysis reflected the existing road network and lane configurations.
- **Step 2** The City maintains a VISUM Transportation Model. This model includes a baseline condition, which provides traffic forecasts on road segments throughout the City for the AM and PM Peak Hours. In the model 'turning off road segments such as specific lanes on University Bridge, or restricted turns at the intersection of College Drive and Clarence Avenue was completed. Accordingly the lanes on University Bridge were turned off and the model was re-run with new traffic forecasts being projected. The re-assignment, or 'shifting' of traffic to other road segments was examined.
- **Step 3** The Synchro model was also adjusted to reflect the following:
 - At the intersection of College Drive and Clarence Avenue, westbound through movements and northbound left turns would not be permitted, but westbound left turns would be permitted.
 - At the intersection of Spadina Crescent and 25th Street, eastbound through movements and northbound right turns would not be permitted
- **Step 4:** The studied intersections were analyzed a second time, with the additional traffic re-assigned to that intersection as a result of the closed University Bridge.
- **Step 5:** The studied intersections were analyzed a third time, with the traffic signal timings improved to provide the optimum LOS and shortest delay.

5.2 Results

Operating conditions at the studied intersections were assessed as described in the methodology. The analysis results are shown in Table 5-1.

Table 5-1: Analysis Summary

| Intersection | AM Peak Hour | | | | PM Peak Hour | | | |
|---------------------------------------|----------------|------------------|-----------------|------------------|----------------|------------------|-----------------|------------------|
| | Do Nothing | | After Re-Timing | | Do Nothing | | After Re-timing | |
| | LOS Change | Delay Change (s) | LOS Change | Delay Change (s) | LOS Change | Delay Change (s) | LOS Change | Delay Change (s) |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
| Clarence Avenue & College Drive | E - F | +43.3 | See Note | | E - F | +110.3 | See Note | |
| RUH & College Drive | E - C | -46.5 | E-> B | -55.1 | c - c | +7.6 | C-> B | -8.3 |
| Wiggins Avenue & College Drive | E - F | +67.1 | E-> D | -32.9 | D - F | +265.1 | D->C | -18.2 |
| Cumberland Avenue & College Drive | D - B | -23.9 | 0->A | -30.7 | - O | -30.8 | E-> D | -37.3 |
| Preston Avenue & College Drive | F - F | -38.8 | F-> D | -73.4 | F - D | -32.8 | F-> D | -32.8 |
| Circle Drive NB Ramps & College Drive | A-A | -0.4 | A-> A | -0.4 | A-A | +0.9 | A->A | +0.9 |
| Circle Drive SB Ramps & College Drive | A - A | +0.1 | A-> A | +0.1 | B - B | -3.2 | B-> B | -1.0 |
| Broadway Avenue & 12th Street | S - C | +11.7 | B-> D | +26.7 | D - E | +11.6 | 0->D | -2.0 |
| Clarence Avenue & 12th Street | C - F | +433.9 | C-> D | +27.3 | B - F | +116.5 | B-> C | +17.6 |
| Lome Avenue & 8th Street | c - D | +13.0 | C-> C | +0.4 | E - F | +121.9 | E-> D | -11.5 |
| Broadway Avenue & 8th Street | O - O | +4.6 | D-> C | -6.6 | E - F | +66.1 | E-> D | -13.0 |

Table 5-1 Continued

| Intersection | AM Peak Hour | | | | PM Peak Hour | | | |
|------------------------------------|--------------|------------------|-----------------|------------------|--------------|------------------|-----------------|------------------|
| | Do Nothing | | After Re-Timing | | Do Nothing | | After Re-timing | |
| | LOS Change | Delay Change (s) | LOS Change | Delay Change (s) | LOS Change | Delay Change (s) | LOS Change | Delay Change (s) |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
| Preston Avenue & 8th Street | 8 - 8 | +0.0 | B-> B | +0.5 | D - F | +28.2 | D-> D | -1.3 |
| Circle Drive NB Ramps & 8th Street | A - A | -0.2 | A -A | -0.1 | C - D | +22.4 | C-> D | +31.2 |
| Circle Drive SB Ramps & 8th Street | B - B | +0.0 | 8-> B | +2.5 | C - C | -2.4 | C-> D | +24.1 |
| 4th Avenue & 25th Street | F - 8 | -183.2 | F-> B | -184.2 | F - B | -183.8 | F-> C | -171.2 |
| 4th Avenue & 22nd Street | B - 8 | +1.9 | 8-> 8 | +1.7 | 8 - B | -0.9 | 8-> A | -4.0 |
| 4th Avenue & 20th Street | B - E | +55.7 | 8-> D | +24.1 | D - D | -4.2 | D-> D | -3.4 |
| 4th Avenue & 19th Street | A - 8 | +4.1 | A -A | +0.7 | A - B | +4.4 | A-> 8 | +4.4 |
| 2nd Avenue & 25th Street | D - E | +28.3 | D-> C | -19.8 | E - F | +42.7 | E-> E | -15.4 |
| 1st Avenue & 19th Street | B - B | -0.4 | B-> B | +0.4 | C - C | +6.6 | C-> C | +4.0 |
| Idylwyld Drive & 25th Street | D - D | +3.5 | D-> D | -5.0 | D - D | +0.5 | D-> D | +2.5 |
| Idylwyld Drive & 22nd Street | D - D | +0.2 | D-> D | -1.5 | D - E | +5.6 | D-> E | +4.0 |
| Idylwyld Drive & 20th Street | C - 8 | -2.6 | C-> B | -2.4 | D - D | -6.1 | D-> D | -12.5 |

Table 5-1 Continued

| Intersection | AM Peak Hour | | | | PM Peak Hour | | | |
|-----------------------------------|--------------|------------------|-----------------|------------------|--------------|-----------------|-----------------|------------------|
| | Do Nothing | | After Re-Timing | | Do Nothing | | After Re-timing | |
| | LOS Change | Delay Change (s) | LOS Change | Delay Change (s) | LOS Change | Delay Change(s) | LOS Change | Delay Change (s) |
| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
| Warman Rd & 33rd Street | O-C | -4.0 | D-> D | +4.4 | C-O | +4.8 | C-> D | +18.2 |
| Warman Rd & Circle Drive WB Ramps | F - F | +22.4 | F-> F | -28.2 | F - F | +69.7 | F-> F | -57.7 |
| Warman Rd & Circle Drive EB Ramps | A - B | +4.7 | A-> B | +2.3 | D - F | +129.2 | D-> E | +20.6 |

Comments on the table are as follows:

- Column (A) illustrates the change in the Level-of-Service at a specific intersection if nothing is done to the signal timings or intersection operation. For example at the 2nd Avenue/ 25th Street intersection, in the AM peak hour, the LOC will move from a 'D' to an 'E'.
- Column (B) illustrates the change in the average delay, in seconds, at a specific intersection if nothing is done to the signal timings or intersection operation. For example at the 2nd Avenue/ 25th Street intersection, in the AM peak hour, the average delay will increase by 28.3 seconds.
- Column (C) illustrates the change in the Level-of-Service at a specific intersection if changes are made to the signal timings (adjusting splits (green time) and in some cases cycle length). For example at the 2nd Avenue/ 25th Street intersection, in the AM peak hour, the LOC will move from a 'D' to a 'C'.
- Column (D) illustrates the change in the average delay at a specific intersection if changes are made to the signal timings (adjusting splits (green time) and in some cases cycle length). For example at 2nd Avenue/ 25th Street intersection, in the AM peak hour, the average delay will be reduced by 19.8 seconds.

- Column (E) to Column (H) presents the information for the PM peak hour.

During the full closure of the University Bridge, some signalized intersections are expected to operate at improved levels of service with reduced average delay. This improvement results from the "unloading" of the intersection. Along with the reduced delay, shortened queues should also appear.

Unfortunately, during the full closure of the University Bridge, some signalized intersections are expected to experience significantly down-graded levels of service, increased delay and significantly lengthened queues.

The following strategies will be employed at intersections forecast to experience significantly increased delays:

- ^a Use critical movement analysis to re-time existing traffic signals (fundamentally, the amount of time in an hour is fixed, two vehicles or a vehicle and pedestrian cannot safely occupy the same space at the same time) - this technique identifies the movements that cannot be timed concurrently and require the most amount of time to serve demand;
 - ^a Changing cycle length and green-time allocations to promote traffic flow;
 - ▮ Lengthening both the all-red and yellow times to improve safety during the detour;
 - Changing from conventional single left-turn lanes using protected / permitted movements to dual, fully-protected left-turn movements where appropriate;
 - Along major corridors, improving coordination and progression;
 - ▮ No permanent physical changes will be proposed (no new detectors, no new turn bays, and no new traffic signals); temporary placement of additional signal heads and detectors may be selectively considered.

6.0 RECOMMENDATIONS

Based on the analysis the following recommendations are provided:

1. Clarence Avenue & College Drive

- ▮ To accommodate a single-lane on the bridge with two-way emergency vehicle and transit use, the traffic signal will be completely retimed;
- The westbound dual left-turn should remain; the northbound right-turn can be maintained at single lane.

2. Hospital Drive (RUH) & College Drive

- ▮ With much reduced eastbound traffic volumes, reduce cycle length and serve the southbound left turn from Royal University Hospital more frequently.

3. Wiggins Avenue & College Drive

- ▮ With much reduced eastbound traffic volumes, reduce cycle length and serve the southbound left turn from the University of Saskatchewan more frequently.

4. Cumberland Avenue & College Drive

- With reduced eastbound and westbound traffic volumes, reduce cycle length and place more green time on eastbound flows to accommodate the eastbound right turn.

5. Preston Avenue & College Drive

- a With reduced eastbound and westbound traffic volumes, reduce cycle length and/or place more green time on northbound and southbound flows.

6. Circle Drive northbound ramps & College Drive

- No changes recommended at this time;
- ▮ Consider shortening cycle length to reduce left-turn delays.

7. Circle Drive southbound ramps & College Drive

- ii No changes recommended at this time;
- m Consider shortening cycle length to reduce left-turn delays.

8. Broadway Avenue & 12th Street

- ii No changes recommended at this time.

9. Clarence Avenue & 12th Street

- ii Allocate more green time to east- and westbound traffic;
- ci Evaluate progression after first two weeks.

10. Lorne Avenue & 8th Street

- Retain cycle length and allocate more green time to the Idylwyld Drive southbound through and left-turn movements.

11. Broadway Avenue & 8th Street

- ii Retain cycle length; allocate more green time to the 8th Street east- and westbound flows;
- a Monitor southbound left-turns and westbound right-turns during peak periods and consider re-allocating green time to shorten queues if needed;
- iii Evaluate progression after first two weeks

12. Preston Avenue & 8th Street

- Retain cycle length; allocate more green time to the 8th Street east- and westbound flows;
- Evaluate progression after first two weeks.

13. Circle Drive northbound ramps & 8th Street

- Retain cycle length; allocate more green time to the 8th Street eastbound and westbound flows;
- Ⓐ Evaluate progression after first two weeks.

14. Circle Drive southbound ramps & 8th Street

- Ⓜ Retain cycle length; allocate more green time to the 8th Street eastbound and westbound flows;
- Re-evaluate southbound demand after first two weeks for additional green time, if Circle Drive volumes are significantly increased;
- Ⓐ Evaluate progression after first two weeks.

15. 4th Avenue & 25th Street

- Ⓘ Shorten cycle length; re-allocate green time to northbound left turn.

16. 4th Avenue & 22nd Street

- Ⓜ Retain cycle length; re-allocate green time to southbound and northbound flows;
- Ⓜ Monitor eastbound right-turns for congestion and queue length;
- Ⓐ Evaluate southbound progression after first two weeks.

17. 4th Avenue & 20th Street

- Ⓐ Retain cycle length; re-allocate green time to southbound and northbound flows;
- Ⓒ Monitor eastbound right-turns for congestion;
- Ⓐ Evaluate southbound progression after first two weeks.

18. 4th Avenue & 19th Street

- Retain cycle length; re-allocate green time to eastbound and westbound flows along 4th Avenue and Broadway Bridge;
- ▮ Monitor eastbound right-turns for congestion;
- ▮ Evaluate southbound progression after first two weeks.

19. 2nd Avenue & 25th Street

- ▮ Retain cycle length; re-allocate green time to northbound and southbound flows;
- ▮ Consider increasing cycle length after first two weeks if southbound volumes and queues are significant.

20. 1st Avenue & 19th Street

- ▮ Retain cycle length; re-allocate green time to southbound flows (especially in PM);
- a Monitor eastbound right-turns for congestion and queue length;
- Evaluate southbound progression along 1st Avenue after first two weeks.

21. Idylwyld Drive & 25th Street

- a Retain cycle length; re-allocate green time to westbound left-turns;
- a Evaluate progression along Idylwyld Drive after first two weeks.

22. Idylwyld Drive & 22nd Street

- Retain cycle length; re-allocate green time to eastbound and westbound flows;
- m Monitor eastbound right-turns for congestion and queue length;
- a After first two weeks, evaluate progression along Idylwyld Drive, and along 22nd Street after first two weeks - will have to favour the movement needing most improvement.

23. Idylwyld Drive & 20th Street

- a Retain cycle length; balance allocation of green time to east/westbound and north/southbound flows;
- Monitor eastbound right-turns for congestion and queue length;
- ii After first two weeks, evaluate progression along Idylwyld Drive, and along 20th Street after first two weeks - will have to favour the movement needing most improvement.

24. Warman Road & 33rd Street

- ii No changes recommended at this time.

25. Warman Road & Circle Drive westbound ramps

- a Retain cycle length; allocate additional green time to westbound left-turns.
- o Monitor westbound queue lengths for congestion.

26. Warman Road & Circle Drive eastbound ramps

- ii No changes recommended at this time.

27. 25th Street and 6th Avenue

- ii This should be re-configured to permit the cross-over for emergency and transit vehicle access to the University Bridge;
- ci 25th Street between 6th Avenue and Spadina Crescent should be posted as "Local Traffic Only".

Date: January 25, 2016

File: n/a

To: Todd Grabowski, Manager, Asset Preservation for Bridges
Rob Frank, Engineering Manager, Asset Preservation

From: Jay Magus, P.Eng., Transportation

CC: Angela Gardiner, Transportation
David LeBoutillier, Transportation
Colleen Cameron, Communications
Jeff Jorgenson, GM, Transportation & Utilities

Re: Idylwyld Drive at Ruth Street Construction Traffic Review

1. Background

The Asset Preservation section within Major Projects is planning to complete bridge rehabilitation to the Idylwyld Drive structure over Ruth Street in 2016. The rehabilitation was previously identified through the City's deck testing program.

The project will include the following work:

- Removal of existing asphalt wearing surface and membrane;
- Removal of the existing deck to below the top layer of reinforcement;
- Placement of new concrete;
- Placement of a concrete overlay;
- Modification of the approach slab; and
- Miscellaneous concrete repairs

The current traffic accommodation plan includes the following:

- The work will be phased with crews working on one side of the structure at a time (in a similar process to the Highway 16 / Highway 11 structure rehabilitation project completed in 2015).
- Two-way traffic will be maintained at all times, however traffic flow in each direction will be reduced from two lanes to one lane.
- More information on timing and schedules will be available once the tender closes.

Capital Project Number 2267 – TU Idylwyld Dr over Ruth Street was approved in the 2016 Corporate Business Plan and Operating Capital Budgets in the amount of \$5,500,000.

Also planned for 2016 is a rehabilitation of deep utilities project for Broadway Avenue and some intersecting streets, between 8th Street and the Broadway Bridge. To facilitate this project the Broadway Bridge will only be closed for a week, and restricted to one lane each way for about four weeks. Outside of these restrictions, the bridge will be fully open and closures will occur on Broadway Avenue one intersection at a time with detours planned to move local traffic along Dufferin Avenue. Commuter traffic that typically uses Broadway Avenue will be redirected to use other arterial roads and bridges using signage and a communication strategy.

Concern has been raised regarding completing both projects in the same construction season, and specifically about potential traffic being diverted away from Broadway Avenue to the Idylwyld Drive over Ruth Street project, and compounding any traffic delays at this location.

To assess these potential impacts the Transportation division examined the following:

- The capacity of the existing peak hour traffic being merged from two lanes to one lane on Idylwyld Drive.
- The potential queue length of the existing peak hour traffic resulting from the merge from two lanes to one lane.
- The potential delay in time for drivers resulting from the merge from two lanes to one lane.
- The impact the Broadway Avenue rehabilitation project may have by generating and reviewing forecasts of:
 - Diverted traffic volumes resulting from the Broadway Avenue project.
 - Potential for increased traffic on Idylwyld Drive at Ruth Street.

The following sections present the Transportation division's findings.

2. Merge Capacity Review

Traffic accommodation plans have been prepared for the Ruth Street Overpass project (Attachments 1 and 2). The plans illustrate a reduction from the current 4 lane arrangement (2 in either direction), to a 2 lane arrangement (1 in either direction.) This will require a merging from 2 to 1 lanes in both the northbound and southbound directions for the duration of the project.

The Transportation division has on file traffic data at this location from June 2014. This data illustrates the daily traffic volumes, grouped by the hour (Attachment 3). **Table 1** below presents the data in tabular form:

Table 1 – Existing Peak Hour Traffic Volumes

| Time period | Northbound | Southbound |
|------------------|------------|------------|
| 6:00am – 7:00am | 500 | 350 |
| 7:00am – 8:00am | 1,280 | 585 |
| 8:00am – 9:00am | 1,060 | 650 |
| 9:00am – 10:00am | 570 | 560 |
| 2:00pm – 3:00pm | 510 | 810 |
| 3:00pm – 4:00pm | 570 | 1,210 |
| 4:00pm – 5:00pm | 610 | 1,780 |
| 5:00pm – 6:00pm | 595 | 1,250 |
| 6:00pm – 7:00pm | 550 | 710 |

A review of the information presented above yields the following comments:

- The peak hour peak direction traffic volume is 1,780 vehicle trips in the southbound direction from 4:00pm to 5:00pm.
- The ‘shoulder’ hours to the peak hour show a reduction of nearly 30% of traffic.

A review of the Highway Capacity Manual 2010, Transportation Research Board, December 2010 yields the following information regarding lane capacity of long-term construction zones.

Table 2: Excerpt from HCM 2010 Exhibit 10-14

| State | Normal Lanes to Reduced Lanes 2 to 1 |
|----------------|---|
| TX | 1,340 |
| NC | 1,690 |
| CT | 1,500 – 1,800 |
| MO | 1,240 |
| NV | 1,375 – 1,400 |
| OR | 1,400 – 1,600 |
| SC | 950 |
| WA | 1,350 |
| WI | 1,560 – 1,900 |
| FL | 1,800 |
| VA | 1,300 |
| IA | 1,400 – 1,600 |
| MA | 1,340 |
| Default | 1,400 |

The Highway Capacity Manual notes that “capacities through long-term construction zones are highly variable and depend on many site-specific characteristics.” The manual lists site-specific characteristics as: lane-width considerations, capacity reductions due to weather and environmental conditions, capacity reductions due to traffic accidents or vehicular breakdowns. Specific to this project, these characteristics are favourable as there are no lane-width restrictions, generally the construction weather is favourable, and traffic accidents or vehicular breakdowns will benefit from Idylwyld Drive having a paved shoulder to pull out of the traffic stream.

Summary:

1. The expected peak hour traffic marginally exceeds the suggested capacity of merging 2 lanes to 1 lane.
2. Some queuing and delays are expected in the southbound direction, during the weekday afternoon peak hour.
3. The shoulder hours to the peak hour have significant amount of capacity to absorb drivers who adjust their travel behaviour and / or work day.

3. Queue Length Examination

A review of the potential queue length resulting from the merging of 2 lanes to 1 in the southbound direction in the peak hour was completed using the Synchro / SimTraffic software package. Synchro is based on the Highway Capacity Manual, and provides an output that includes an expected queuing. Synchro is traffic modelling software that incorporates specific characteristics of the road such as lane width, posted speed, number of lanes, intersection geometry, etc. Synchro can also provide an estimate of expected delays at uncontrolled or signalized intersections, but not on uninterrupted flow such as a merge from 2 lanes to 1 lane.

Accordingly, the Synchro output for the weekday PM peak hour merge from 2 lanes to 1 lane indicates an average queue length of approximately 400 metres. This indicates that the merging will begin approximately 400 metres from the merge point. SimTraffic is a companion software package that is imbedded with Synchro. While Synchro is a static software package (based on calculations), SimTraffic provides a simulation of the traffic operations based on the parameters the user sets up in Synchro. The SimTraffic output was observed by Transportation staff and it was noted that a zipper merge methodology was not being simulated. The merging vehicles did not drive to the end of their lane, and merge left, instead they slowed down approximately 400 metres away from the end of their lane and merged right. This indicates that once a zipper merge is configured as intended for the Ruth Street Overpass project, the queue length will be significantly reduced, which will also reduce delays.

Summary:

1. The analysis indicates a peak hour queue length of 400 metres in the southbound direction.
2. A 400 metre queue is not unreasonable, however it is expected that this length will decrease with a zipper merge tactic applied.
3. Outside of the peak hours there should be minimal queuing barring unforeseen circumstances such as collisions or issues with the contractor having to reconfigure the work zone.

4. Driver Delay

To help understand the impact to driver delay, preliminary reviews were completed for the following scenarios:

1. Merging of northbound and southbound traffic on Idylwyld Drive at Ruth Street and maintaining Broadway Bridge as is.
2. Merging of northbound and southbound traffic on Idylwyld Drive at Ruth Street and closing Broadway Bridge (worst case condition). For clarification, Broadway Bridge is planned to be fully closed for one week only, and reduced to one-way traffic for another four weeks.

A comparison of the two scenarios was completed by undertaking the following:

1. The City of Saskatoon maintains a VISUM Transportation Model. This model includes a baseline condition, which provides traffic forecasts on road segments throughout the City for the AM and PM Weekday Peak Hours.
2. In the model 'turning off' road segments such as specific lanes on Broadway Bridge is possible.
3. After making adjustments to the road segments and intersections to reflect the scenario being assessed, the model provided results indicating the following:
 - The re-assignment, or 'shifting' of traffic to other road segments. For example, with traffic being restricted on Broadway Bridge, it is expected that University Bridge will attract re-assigned traffic.
 - The change in delay (reduction or increase) at specific intersections and on specific segments of road.
4. The re-assignment of traffic and additional intersection delay for each scenario is then compared.

The traffic forecasts for the two assessed scenarios were generated by the VISUM Transportation Model. As described in the methodology section, the re-assignment of traffic to other road segments, and the additional delay added to intersections, are key in assessing the scenarios. The re-assignment of peak hour traffic on key road segments is summarized in **Table 3**.

Table 3: VISUM Analysis Results

| Location | | Change in vehicle trips | | | |
|----------------|----------------------|--|---------------|---|---------------|
| | | Scenario 1: Merge lanes on Idylwyld + Broadway Bridge as is | | Scenario 2: Merge lanes on Idylwyld + Broadway Bridge closed | |
| | | Peak Hours | | Peak Hours | |
| | | AM (trips) | PM (trips) | AM (trips) | PM (trips) |
| Bridges | Senator Sid Buckwold | -15 | -27 | +689 | +823 |
| | Broadway | +4 | +19 | closed | Closed |
| | University | -7 | -21 | +268 | +270 |
| Idylwyld Drive | NB at Ruth Street | -9 | -6 | +66 | +23 |
| | SB at Ruth Street | -3 | -16 | -30 | +44 |

Using the City's VISUM Transportation Model a travel time comparison was made between the baseline condition (normal operations) and with a single lane open on Idylwyld Drive in the eastbound direction for two scenarios: Broadway Bridge open and Broadway Bridge closed. The comparisons were made for the trip from Rosewood to City Hall in the AM peak hour, and the trip from City Hall to Rosewood in the PM peak hour. The results indicate a marginal delay of approximately 30 seconds even under the Broadway Bridge closed scenario.

Summary:

1. The closing of Broadway Bridge is expected to have minimal impact on traffic volumes on Idylwyld Drive at Ruth Street.
2. The additional time expected for a driver to pass through the Idylwyld Drive construction zone is approximately 30 seconds.
3. The closure of the Broadway Bridge during the Broadway Avenue rehab project is not expected to increase the driver delay passing through the Idylwyld Drive construction zone. (For clarification, under this scenario Broadway Bridge is planned to be fully closed for one week only.)

5. Conclusions

The following conclusions are drawn:

1. Some queuing and delays are expected in the weekday peak hour southbound direction on Idylwyld Drive.
2. The shoulder hours to the peak hour have significant capacity to absorb additional traffic from drivers who adjust their behaviour and / or work day.
3. The analysis indicates a peak hour queue length of 400 metres in the southbound direction, which is not unreasonable; however, it is expected that this length will decrease with a zipper merge.
4. Outside of the peak hour there will be minimal queuing if any.
5. The closing of the Broadway Bridge is expected to have minimal impact on increasing traffic volumes on Idylwyld Drive at Ruth Street.
6. The additional time expected for a driver to pass through the Idylwyld Drive construction zone is approximately 30 seconds.
7. The closure of the Broadway Bridge during the Broadway Avenue rehab project is not expected to increase the driver delay passing through the Idylwyld Drive construction zone.

6. Recommendations

The recommendations are as follows:

1. Implement the currently planned traffic accommodation plans as is.
2. It is feasible to complete both the Idylwyld Drive at Ruth Street and Broadway Bridge construction projects in 2016.
3. Implement a communication plan for both projects to advise drivers of potential delays and alternate routes, similar to the successful Reroute your Commute campaign that supported the University Bridge Rehabilitation project.

Attachments

CITY OF SASKATOON

Transportation & Utilities

Date March 20, 2017

To: Megan Thoreson, Project Engineer

From: Jay Magus, Transportation Engineering Manager

Re: Major Intersection Improvement – Warman Road & 51st Street 2017 Construction

Proposed Construction Staging Review and Observations

A review of the ASL proposal yields the following observations:

1. Table 1 summarizes the expected level of service for the intersection during each peak hour of demand across each proposed phase of construction.
2. Phase 1A is expected to produce the longest delays and queues, with northbound queues and delays likely becoming intolerable for users of this intersection.
3. Phase 1A was evaluated in depth and alternative configurations were considered, see below.
4. The remaining phases are expected to reduce level of service during construction, but still within tolerable levels.

A summary of options for Phase 1A we reviewed include:

1. As proposed
 - Duration is approximately 18-days
 - As bid
2. Modified Phase 1A traffic operations
 - Duration is approximately 18-days
 - Improved level of service
 - Prohibit southbound and westbound left turns from the intersection - displace low-volume left turns to adjacent intersections
3. Night-work
 - 7:00 p.m. to 6:00 a.m., 1-lane each for north and southbound traffic
 - 6:00 a.m. to 7:00 p.m., 2-lanes each for north and southbound traffic
 - Is expected to take more than 18-days
 - Is expected to cost more than original bid
4. 24-hour work
 - Level of disruption remains significant
 - Is expected to take less than 18-days
 - Is expected to cost more than original bid
5. Break work into 2 components: east and westbound
 - Level of disruption remains significant
 - Would increase the duration

6. Full closure
 - Would significantly simplify the work zone
 - Is expected to take less than 18-days
 - Would amplify the disruption and impact adjacent roads and intersections
7. Relocate 3 right turns
 - Would require more than 18-days to build 3 new temporary right-turn bays
 - Would significantly increase cost
8. Remove traffic signals and operate with four-way stop
 - Would simplify work zone operation
 - Likely to shorten duration to less than 18-days
 - Unlikely to have any impact on cost

To facilitate diversion of traffic away from Warman Rd / Wanuskewin Rd and this intersection, during construction we are requesting advance signage at:

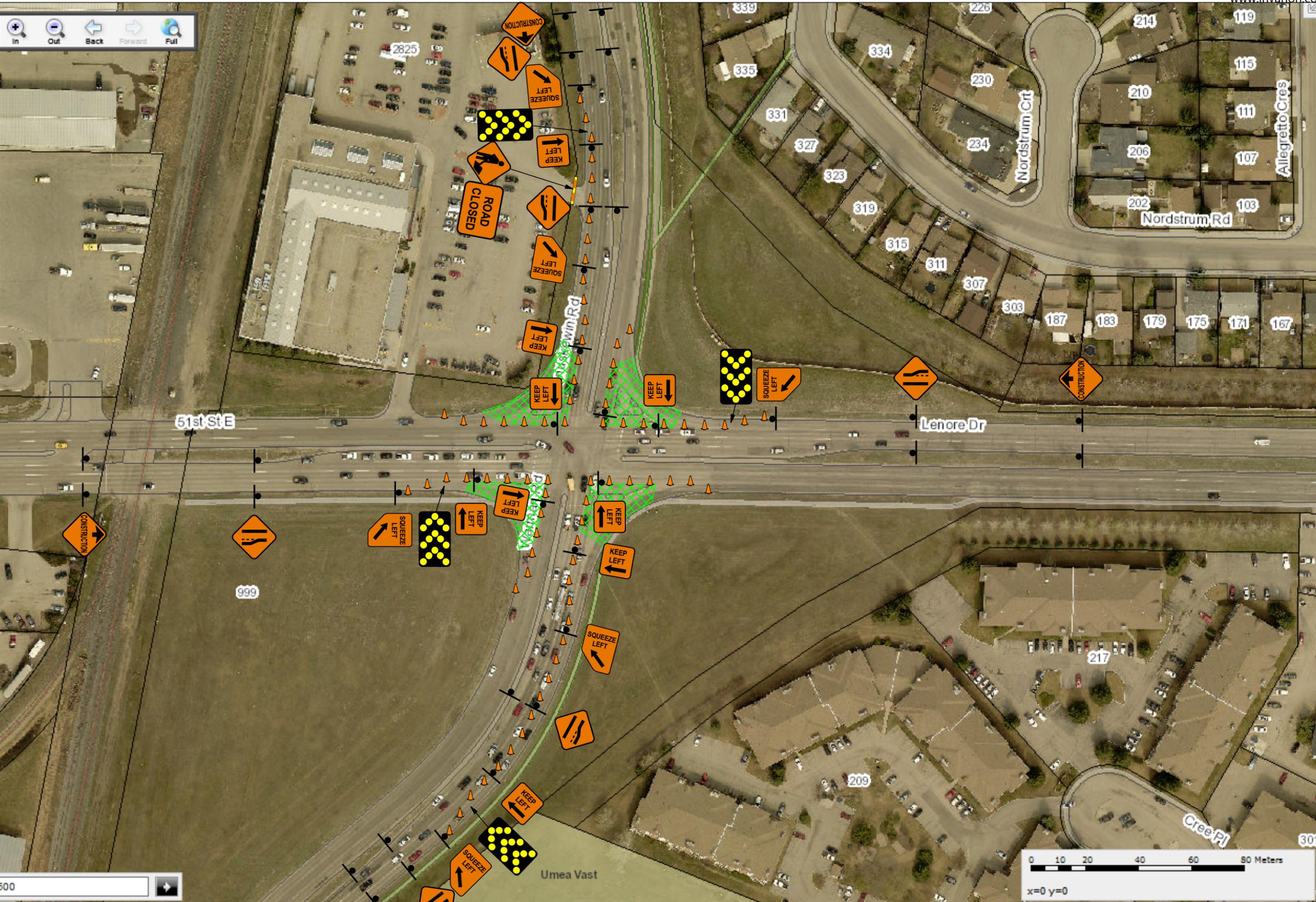
- Intersection of Highway 11 & Wanuskewin Rd directing traffic to use Highway 11 and Idylwyld Dr
- Circle Drive (North) Bridge directing traffic to use Millar and Faithfull Avenues instead of Warman Road northbound

Attachments:

- ASL – 51st St Warman – Phase 1A
- ASL – 51st St Warman – Phase 1B
- ASL – 51st St Warman – Phase 2
- ASL – 51st St Warman – Phase 3
- Table 1: Expected Traffic Operations Analysis

Manifest

-  1 x Barricade
-  4 x Chevron Arrow Board
-  77 x Cone
-  8 x Construction Ahead TC-1
-  9 x Keep Left TC-68L
-  12 x Right Lane Ends TC-5R
-  1 x Road Closed TC-69
-  1 x Road Work TC-2
-  6 x Squeeze Left TC-67L
-  4 x Work Area




City of Saskatoon



TABLE FOR LANE CLOSURE TAPERS AND LONGITUDINAL BUFFER SPACE

| V(km/h) | A(m) | L(m) | B(m) | D(m) | Signs | Barriers |
|---------|------|------|------|------|---|--|
| 50 | 50 | 30 | 35 | 8 |    |   |
| 60 | 50 | 40 | 45 | 12 | | |
| 70 | 75 | 60 | 50 | 15 |  SHORT TERM  LONG TERM |  |
| 80 | 100 | 80 | 60 | 15 | | |
| 90 | 100 | 105 | 65 | 18 | | |
| 100 | 125 | 125 | 70 | 18 | | |

Where:
 V = Posted Speed Limit
 A = Spacing between Signs
 L = Length of Taper
 B = Length of Longitudinal Buffer Space
 D = Spacing between Delineation Devices

ASL
 51ST ST & WORMAN RD
 PHASE 1A
 SASKATOON, SASKATCHEWAN
 ROAD CLOSURE / DETOUR

DATE
08/08/2016

DRAWN BY
CMG

SCALE
NTS

1/1
SHEET

Manifest

-  **3 x** Barricade
-  **1 x** Chevron Arrow Board
-  **35 x** Cone
-  **3 x** Construction Ahead TC-1
-  **2 x** Keep Left TC-68L
-  **1 x** Right Lane Ends TC-5R
-  **1 x** Road Closed TC-69
-  **1 x** Road Work TC-2
-  **1 x** Squeeze Left TC-67L
-  **1 x** Work Area



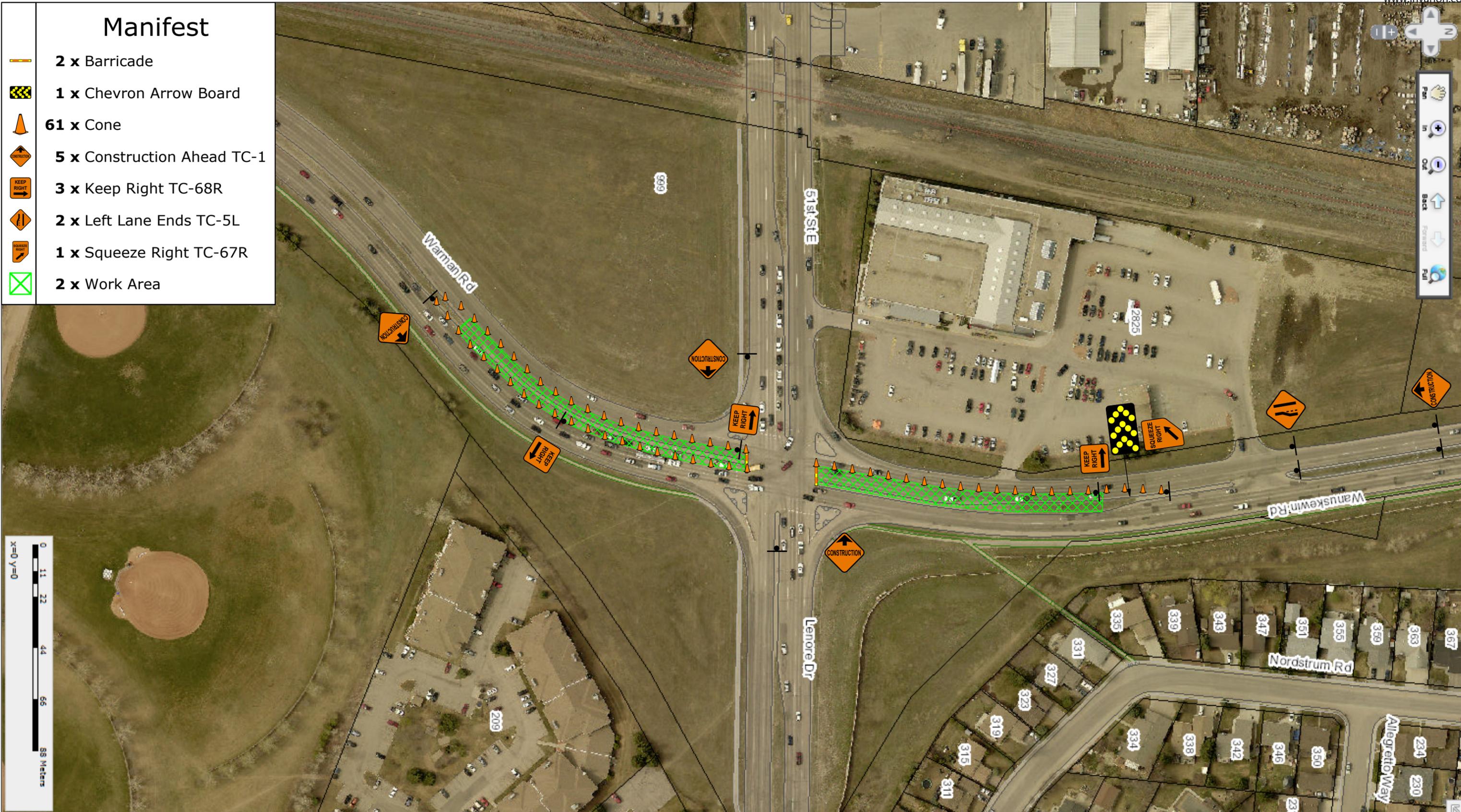
| GUIDELINES FOR LANE CLOSURE TAPERS AND LONGITUDINAL BUFFER SPACE | | | | | |
|--|------|------|------|------|---|
| V(km/h) | A(m) | L(m) | B(m) | D(m) | |
| 50 | 50 | 30 | 35 | 8 |  |
| 60 | 50 | 40 | 45 | 12 | |
| 70 | 75 | 60 | 50 | 15 |  |
| 80 | 100 | 80 | 60 | 15 | |
| 90 | 100 | 105 | 65 | 18 |  |
| 100 | 125 | 125 | 70 | 18 | |

Where:
 V = Posted Speed Limit
 A = Spacing between Signs
 L = Length of Taper
 B = Length of Longitudinal Buffer Space
 D = Spacing between Delineation Devices

| | | | |
|--|----------|-------|-------------|
| ASL 51ST ST & WARMAN RD PHASE 1B SASKATOON, SASKATCHEWAN ROAD CLOSURE / DETOUR | | | 1 / 1 |
| DATE | DRAWN BY | SCALE | SHEET |
| 08/08/2016 | CMG | NTS | |

Manifest

-  2 x Barricade
-  1 x Chevron Arrow Board
-  61 x Cone
-  5 x Construction Ahead TC-1
-  3 x Keep Right TC-68R
-  2 x Left Lane Ends TC-5L
-  1 x Squeeze Right TC-67R
-  2 x Work Area



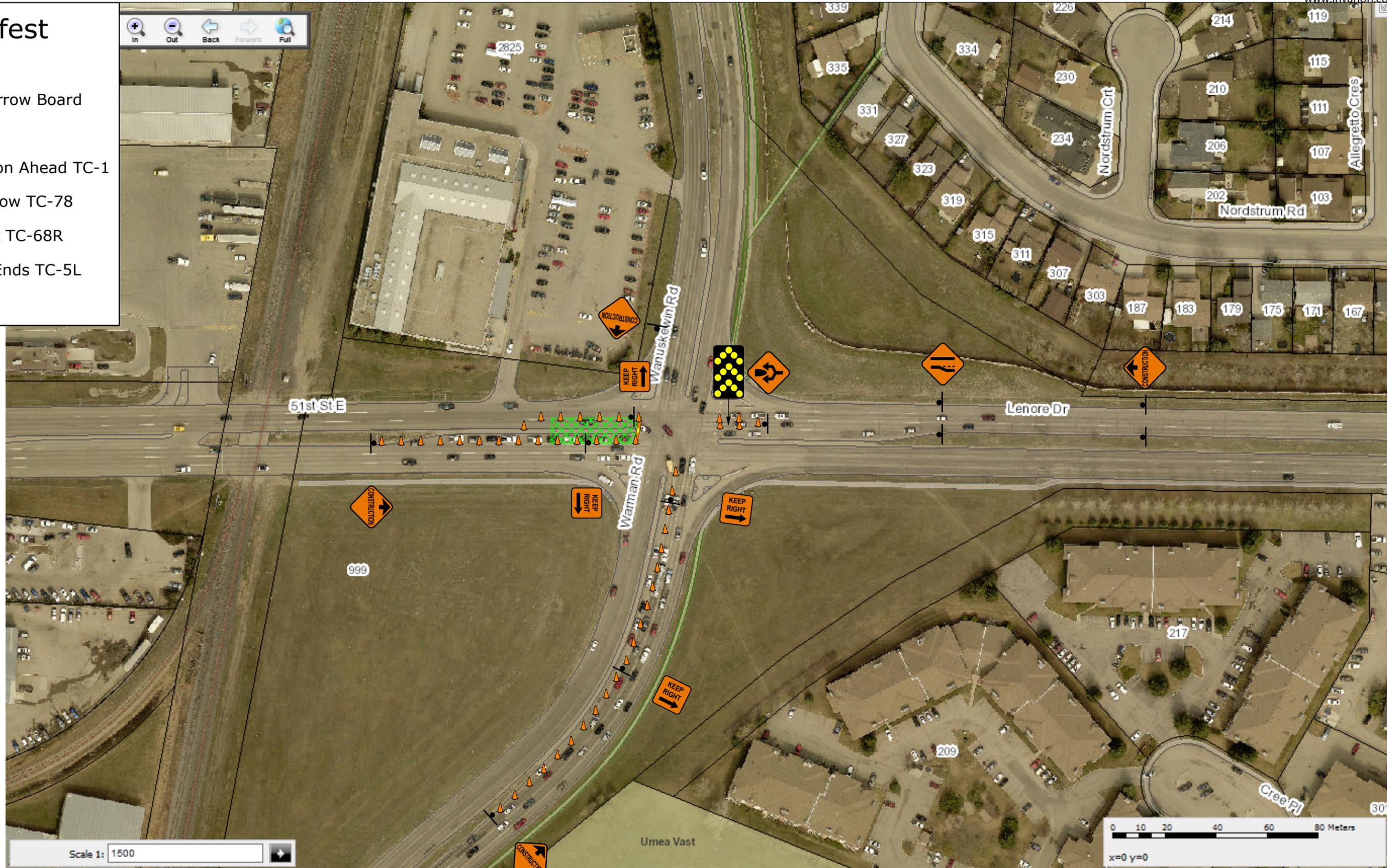
| GUIDELINES FOR LANE CLOSURE TAPERS AND LONGITUDINAL BUFFER SPACE | | | | | |
|--|------|------|------|------|---|
| V(km/h) | A(m) | L(m) | B(m) | D(m) | |
| 50 | 50 | 30 | 35 | 8 |  |
| 60 | 50 | 40 | 45 | 12 | |
| 70 | 75 | 60 | 50 | 15 |  |
| 80 | 100 | 80 | 60 | 15 | |
| 90 | 100 | 105 | 65 | 18 |  |
| 100 | 125 | 125 | 70 | 18 | |

Where:
 V = Posted Speed Limit
 A = Spacing between Signs
 L = Length of Taper
 B = Length of Longitudinal Buffer Space
 D = Spacing between Delineation Devices

| | | | |
|---|----------|-------|----------------|
| ASL 51ST ST & WARMAN RD PHASE 2 SASKATOON, SASKATCHEWAN ROAD CLOSURE / DETOUR | | | 1 / 1 SHEET |
| DATE | DRAWN BY | SCALE | |
| 08/09/2016 | CMG | NTS | |

Manifest

-  1 x Barricade
-  1 x Chevron Arrow Board
-  47 x Cone
-  4 x Construction Ahead TC-1
-  1 x Double Arrow TC-78
-  4 x Keep Right TC-68R
-  1 x Left Lane Ends TC-5L
-  1 x Work Area



GUIDELINES FOR LANE CLOSURE TAPERS AND LONGITUDINAL BUFFER SPACE

| V(km/h) | A(m) | L(m) | B(m) | D(m) | | |
|---------|------|------|------|------|---|---|
| 50 | 50 | 30 | 35 | 8 |  |  |
| 60 | 50 | 40 | 45 | 12 | | |
| 70 | 75 | 60 | 50 | 15 |  |  |
| 80 | 100 | 80 | 60 | 15 | | |
| 90 | 100 | 105 | 65 | 18 |  |  |
| 100 | 125 | 125 | 70 | 18 | | |

Where:
 V = Posted Speed Limit
 A = Spacing between Signs
 L = Length of Taper
 B = Length of Longitudinal Buffer Space
 D = Spacing between Delineation Devices

ASL
 51ST ST & WARMAN RD
 PHASE 3
 SASKATOON, SASKATCHEWAN
 ROAD CLOSURE / DETOUR

1/1
SHEET

| | | |
|------------|----------|-------|
| DATE | DRAWN BY | SCALE |
| 08/11/2016 | CMG | NTS |

Table 1

area models

| | Phase 1A | | Phase 1B | | Phase 2 | | Existing | |
|-------------------|----------|-----|----------|-----|---------|-----|----------|-----|
| | AM | PM | AM | PM | AM | PM | AM | PM |
| Overall | F | F | D | D | E | D | D | D |
| Delay (s) | 110 | 255 | 48 | 40 | 76 | 50 | 51 | 41 |
| Queues (m) | | | | | | | | |
| EB | LT | 36 | 35 | 93 | 37 | 105 | 32 | 29 |
| | Th | 34 | 29 | 123 | 31 | 138 | 42 | 93 |
| | RT | n/a | 19 | 171 | 20 | 232 | 49 | 150 |
| WB | LT | n/a | n/a | n/a | n/a | n/a | 95 | 28 |
| | Th | 153 | 102 | 69 | 123 | 71 | 163 | 72 |
| | RT | 229 | 18 | 23 | 19 | 24 | 2 | 24 |
| NB | LT | 337 | 154 | 128 | 215 | 194 | 155 | 141 |
| | Th | 739 | 128 | 117 | 34 | 106 | 129 | 123 |
| | RT | 207 | 19 | 127 | 278 | 215 | 19 | 192 |
| SB | LT | 111 | 172 | 122 | 63 | 22 | 24 | 51 |
| | Th | 138 | 57 | 71 | 114 | 88 | 116 | 93 |
| | RT | 60 | 71 | 71 | 19 | 13 | 78 | 15 |
| Delay (s) | | | | | | | | |
| EB | LT | 42 | 41 | 38 | 44 | 57 | 48 | 16 |
| | Th | 16 | 32 | 34 | 36 | 43 | 67 | 28 |
| | RT | n/a | 6 | 22 | 7 | 38 | 31 | 14 |
| WB | LT | n/a | n/a | n/a | n/a | n/a | 41 | 30 |
| | Th | 107 | 58 | 55 | 86 | 58 | 75 | 60 |
| | RT | 74 | 9 | 9 | 11 | 10 | 2 | 10 |
| NB | LT | 171 | 66 | 56 | 112 | 77 | 60 | 69 |
| | Th | 659 | 56 | 52 | 14 | 23 | 52 | 62 |
| | RT | 138 | 7 | 29 | 114 | 88 | 7 | 65 |
| SB | LT | 60 | 57 | 71 | 19 | 13 | 40 | 56 |
| | Th | 138 | 57 | 71 | 114 | 88 | 56 | 63 |
| | RT | 60 | 71 | 71 | 19 | 13 | 29 | 8 |

Amendments to Bylaw 7200, The Traffic Bylaw – Right-of-Way Fees and Fines

Recommendation

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

1. That the majority of Bylaw No. 2954, Streets Use Bylaw be repealed;
2. That a section for Construction, Detour and Street Use, including fines, be added to Bylaw No. 7200, The Traffic Bylaw;
3. That the City Solicitor be requested to prepare the appropriate bylaw amendment to Bylaw No. 7200, The Traffic Bylaw; and
4. That the Administration enter into discussions with stakeholders related to the fees for Right-of-Way usage and report to the Standing Policy Committee on Transportation before the end of 2017.

Topic and Purpose

The purpose of this report is to seek approval to amend Bylaw No. 7200, The Traffic Bylaw to address Right-of-Way (ROW) use by providing additional language and modifying fines. Further discussions will be held for the use of ROW fees.

Report Highlights

1. Bylaw No. 2954, Streets Use Bylaw requires a replacement by a new comprehensive streets use bylaw.
2. Amendments to Bylaw No. 7200, The Traffic Bylaw are proposed to enhance clarification of requirements and update fines for non-compliance with respect to the use of ROW.
3. Fees for usage of ROW are being considered and will be brought forward at a later date for approval following stakeholder consultation on implementing the fees.

Strategic Goal

This report supports the Strategic Goal of Moving Around by improving safety for all road users (pedestrians, cyclists, and drivers), and optimizing the flow of people and goods in and around the city.

Background

There are concerns of unsafe conditions and lack of coordination and/or damage resulting from private usage of ROW. Currently, bylaw inspectors have limited and/or inefficient enforcement abilities with respect to private usage of ROW.

Permits are required but not always obtained for private usage. Since 2016, an administrative fee of \$40 has been charged to recover the administration costs of processing and issuing permits.

Currently, the City of Saskatoon does not charge for private use of the public ROW.

The total ROW permits issued in the past three years are as follows:

- 2016 – 415
- 2015 – 947
- 2014 – 890

The drop in permits issued in 2016 is a result of the administrative fees being introduced with limited enforcement abilities under the current bylaw.

Report

A comprehensive review of Bylaw No. 2954, Streets Use Bylaw will be initiated in late 2017. In the meantime, certain portions of the bylaw that are required to effectively enforce ongoing concerns related to private use of ROW have been reviewed and recommendations for amendments are included in this report.

Amendment – Repeal Streets Use Bylaw and Combine into Traffic Bylaw

Bylaw No. 2954, Streets Use Bylaw provides direction for activities on public ROW. These activities need better clarification of requirements as they are outdated and do not reflect the current needs of the city's citizens. In some cases, duplicate sections are already included in Bylaw No. 7200, The Traffic Bylaw.

Many municipalities have provisions with respect to usage of the public ROW combined with the Traffic Bylaw. The Administration is recommending a similar approach for the City of Saskatoon and that Bylaw No. 2954, Streets Use Bylaw sections 1 to 20 be repealed. The portion of Bylaw No. 2954, Streets Use Bylaw dealing with consensual fighting will remain in sections 21 to 27.

The amendments to Bylaw No. 7200, The Traffic Bylaw would address areas such as closing a portion of the ROW and placing a structure and/or material on public ROW without first acquiring a permit from the City. A ROW permit will continue to outline conditions to safely accommodate motorists, pedestrians, and other users. Also this will ensure that closures for private purposes are coordinated with other planned work on the transportation network. The amendments will also allow removal of anything deemed hazardous from the ROW and recover the costs from the offending party.

The bylaw language amendment will support ROW protection to include: tracking of mud or dirt onto the ROW, allowance of material to enter the street and stoppage of damaging trees, parks or roads. Damage to ROW will be prohibited under the bylaw.

The usage of fines is proposed to discourage offenders taking the chance of being caught and/or paying the fine instead of acquiring a permit to conduct their work. A review of fine amounts from other municipalities was undertaken and the recommended fines can be found in Attachment 1.

ROW Usage Fees

The Administration has undertaken a review of other municipalities including Winnipeg, Regina, Calgary and Edmonton to evaluate their current practices for managing the private use of the public ROW.

All four cities charge a rental fee for private use of their public ROW. The purpose of the usage fee is to provide an incentive to minimize space requirements and to complete work as quickly as possible to restore the ROW for public use. The standard is to charge for linear or square meter per day or month. A sample of fees for use of ROW that may be used is shown in Attachment 2.

Further discussion will be held with impacted stakeholders prior to making a recommendation on the fee schedule for private use of ROW.

Stakeholder Involvement

The Administration is planning a discussion with stakeholders on the implementation of fees for the use of ROW.

Communication Plan

Frequently asked questions have also been developed and included as Attachment 3. Bylaw amendments will be shared with stakeholders and on the City website.

Policy Implications

Upon approval by City Council, amendments to Bylaw No. 7200, The Traffic Bylaw will be required.

Financial Implications

Revenues generated from increased fines have not been estimated at this time as it is anticipated that the amount of fines will act as a deterrent to violations.

Once implemented, ROW fees will support the resources for increased bylaw enforcement of ROW usage.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

If approved, the bylaw update will be targeted for May 1, 2017, and there will be a follow-up report submitted for approval of fees for use of ROW provided before the end of 2017.

Public Notice

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

Attachments

1. Proposed Fines
2. Sample Fees for Use of ROW
3. Frequently Asked Questions

Report Approval

Written by: Chris Helt, Special Projects Manager, Transportation
Reviewed by: Jay Magus, Engineering Manager, Transportation
Angela Gardiner, Director of Transportation
Approved by: Angela Gardiner, Acting/General Manager, Transportation &
Utilities Department

TRANS CH – Amendments to Bylaw 7200 – ROW Fees and Fines.docx

Proposed Fines

| Description | Fine Amount |
|---|-------------|
| Unauthorized material on street | \$ 500 |
| Use of street or Right-of-Way without a permit | \$ 500 |
| Walking on newly constructed sidewalks or pavement before being opened by City of Saskatoon | \$ 250 |
| Climbing on light standard, pole, tree, railings or fences unless doing necessary repairs | \$ 250 |
| Pull down or deface any sign or printed or written legal notice legally put up | \$ 250 |
| Unauthorized use of sidewalk or boulevard as access for vehicle or machinery | \$ 500 |
| Tracking mud / gravel / dirt / material on street | \$ 250 |
| Allowing material to enter street | \$ 250 |
| Failure to comply with permit conditions | \$1,000 |
| Failure to produce permit when asked to do so by Peace Officer/GM of T&U | \$ 50 |

Proposed Fees

| Type | A | B |
|---|----------------------------|---|
| | Rental duration < 30 days | Rental Duration >= 30 days |
| Parking Lane, Protected Bike Lane, Sidewalk, Boulevards, Alleys | \$0.15/m ² /day | Total from column A for first 29 days + \$0.10/m ² /day for days 30+ |
| Traffic Lane (Locals, Collectors) | \$0.30/m ² /day | Total from column A for first 29 days + \$0.25/m ² /day for days 30+ |
| Traffic Lane (Arterial, Expressway) | \$0.50/m ² /day | Total from column A for first 29 days + \$0.40/m ² /day for days 30+ |

Scenario A

Street bin for 20 days (in parking lane). Assumed size of bin = 16 x 7 feet (4.8768 x 2.1336 meters) = 112 ft² (10.4 m²)

ROW Rental total = \$0.15 x 10.4 x 20 = \$31.20

TOTAL = \$71.20 (includes \$40 admin fee for ROW permit)

Scenario B

Local / Collector street closure for parking and driving lane five vehicles long. Assumed length of vehicle = 5.2 meters, assumed width of parking lane = 2.5 meters and assumed width of traffic lane = 4.5 meters.

- Parking Lane for 20 days - \$0.15 x 13 x 20 = \$39.00
- Traffic Lane for 20 days - \$0.30 x 23.4 x 20 = \$140.40

ROW Rental Total = \$179.40

TOTAL = \$219.40 (includes \$40 admin fee for ROW permit)

Scenario C

Arterial / Expressway street closure for parking and driving lane five vehicles long. Assumed length of vehicle = 5.2 meters, assumed width of parking lane = 2.5 meters and assumed width of traffic lane = 4.5 meters.

- Parking Lane for 20 days - \$0.15 x 13 x 20 = \$39.00
- Traffic Lane for 20 days - \$0.50 x 23.4 x 20 = \$234

ROW rental total = \$273.00

TOTAL = \$313.00 (includes \$40 admin fee for ROW permit)

Scenario D

Local / Collector street closure for parking and driving lane five vehicles long. Assumed length of vehicle = 5.2 meters, assumed width of parking lane = 2.5 meters and assumed width of traffic lane = 4.5 meters.

- Parking Lane for first 29 days - $\$0.15 \times 13 \times 29 = \56.55
 - Parking Lane for days 30-60 - $\$0.10 \times 13 \times 31 = \40.30
 - Traffic Lane for first 29 days - $\$0.30 \times 23.4 \times 29 = \203.58
 - Traffic Lane for days 30-60 - $\$0.25 \times 23.4 \times 31 = \181.35
- ROW rental total = \$481.78

TOTAL = \$521.78 (includes \$40 admin fee for ROW permit)

City Comparison (using above examples)

| Type | Winnipeg | Regina | Calgary | Saskatoon (Proposed) |
|------------|------------|----------|------------|-------------------------|
| Scenario A | \$ 101.92 | \$ 40.80 | \$ 74.78 | \$ 71.20 |
| Scenario B | \$ 356.72 | \$116.20 | \$1,139.67 | \$219.40 |
| Scenario C | \$ 356.72 | \$116.20 | \$2,240.33 | \$313.00 |
| Scenario D | \$1,070.16 | \$308.60 | \$3,419.00 | \$521.78 |

Frequently Asked Questions

Why is the language of Bylaw No. 7200, The Traffic Bylaw and Bylaw No. 2954, Streets Use Bylaw being updated?

Some of the language and scenarios currently in these bylaws are outdated and don't reflect today's concerns about usage and the safety of the City's Right-of-Way (ROW).

What is an example of this "outdated language"?

"No person shall ride or drive a horse that is not in every respect fit for use and capable for the work in which it is employed, free from lameness or soreness calculated to cause pain and free from any vice or disease likely to cause accident or injury to persons or property."

Why are fines being added?

Adding specific fines for specific offences allow for a more efficient and quicker response by the City to rectify potentially dangerous situations for the public that are using the ROW.

Is this a 'cash grab'?

Absolutely not. The safety of all ROW users is of utmost importance to the City of Saskatoon. If a person or company is creating unsafe situations or damaging the City's ROW, fines are a way to deter repeat behavior and / or a way to recover the costs to repair the damage done.

Where will the fines collected go?

No fine amounts are being budgeted for as in an ideal situation, all users of the ROW are complying and not creating an unsafe environment or causing any damage to the ROW. As with other fines the City of Saskatoon collects, any collected fines go into the General Revenue account.

When will this new language and fines be in place?

The proposed language update and fines will ideally be in place for May 1, 2017 to be effective for the 2017 construction season.

How many Right-of-Way permits were issued in 2016 and how can a permit be applied for?

Transportation's Customer Service group issued 415 permits in 2016 and are always happy to assist with permit applications. They can be reached Monday to Friday 8:30am to 4:30pm by telephone at 306-975-2454 or by email at rowpermits@saskatoon.ca.

Construction Zone Arrow and Message Boards – Award of Contract

Recommendation

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

1. That the City of Saskatoon enter into agreement with ATS Traffic for the supply of Ver-Mac arrow and message boards at an upset limit of \$277,481.38 (including GST and PST) over a three-year period; 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

The purpose of this report is to gain approval to enter into a three-year contract with ATS Traffic for the supply of Ver-Mac arrow and message boards.

Report Highlights

1. Additional arrow and message boards are required to support the increase of activity during construction season.
2. A three-year contract with ATS Traffic is recommended at an upset limit of \$277,481.38 (including GST and PST) over a three-year period.

Strategic Goal

This report supports the Strategic Goal of Asset and Financial Sustainability by providing a long-term strategy of ‘Building Better Roads’ using the most up-to-date and reliable traffic control devices.

Background

The City is responsible for coordinating and maintaining construction zones during the construction season. Ver-Mac message boards help to communicate traffic conditions to provide a safe work environment for both staff and the public.

Report

Inventory of Message and Arrow Boards

The demands of the construction season uses existing boards to full capacity. On average, one-to-two message boards and three-to-five arrow boards are damaged annually in collisions. This contract will ensure that a replacement is readily available in the event a message board was damaged and no other message boards were available in new inventory.

Construction Zone Arrow and Message Boards – Award of Contract

Several types of message boards have been tested and used throughout the years, and the City's inventory has slowly evolved to be comprised of only Ver-Mac boards.

Contract with ATS Traffic

The Administration is recommending a contract for Ver-Mac message boards through ATS Traffic for the following reasons:

- The City's current fleet of message boards consist entirely of Ver-Mac.
- City staff are trained to operate Ver-Mac software and hardware including programming and maintenance of equipment to eliminate site visits.
- Motorists are accustomed to the consistent messaging features of Ver-Mac message boards.
- ATS Traffic carries an extensive inventory of parts in the event repairs are needed.
- ATS Traffic are the sole distributor of Ver-Mac equipment in Western Canada.

As part of the contract, ATS Traffic will hold inventory in Saskatoon or Regina with two arrow boards at any given time, with additional inventory at the ATS Traffic's warehouse in Edmonton. Available inventory would decrease replacement delays while parts would be readily available for maintenance. Also, eliminating additional tenders would allow resources to be at hand when required.

Table 1 shows the annual estimated costs of new message boards and reserve boards over a three-year period:

Table 1: Arrow and Message Board Three Year Estimate

| 2017 | New | Reserve | Unit Cost | Estimated Cost |
|---------------|-----|---------|-------------|----------------|
| Arrow Board | 3 | 3 | \$ 5,928.70 | \$35,572.20 |
| Message Board | 2 | 1 | \$20,969.20 | \$62,907.60 |
| Total | | | | \$98,479.80 |

| 2018 | New | Reserve | Unit Cost | Estimated Cost |
|---------------|-----|---------|-------------|----------------|
| Arrow Board | 3 | 3 | \$ 5,928.70 | \$35,572.20 |
| Message Board | 1 | 1 | \$21,695.30 | \$43,390.60 |
| Total | | | | \$78,962.80 |

| 2019 | New | Reserve | Unit Cost | Estimated Cost |
|---------------|-----|---------|-------------|----------------|
| Arrow Board | 2 | 3 | \$ 6,106.60 | \$30,533.00 |
| Message Board | 1 | 1 | \$22,140.10 | \$44,280.20 |
| Total | | | | \$74,813.20 |

A review of message and arrow boards available in the industry will be undertaken in year three to determine if other options are available at that time.

Options to the Recommendation

Do not accept the recommendation to enter into an agreement with ATS Traffic for the supply of Ver-Mac message and arrow boards and tender as required. This option is not recommended as it delays the delivery and maintenance of message and arrow boards.

Policy Implications

Awarding a contract to ATS Traffic is consistent with Section 4.3(b) of Policy C02-030 – Purchase of Goods, Services and Work as they are the sole distributor of Ver-Mac equipment in Western Canada.

Financial Implications

The estimated cost to the City for a three-year agreement with ATS Traffic is as follows:

| | |
|----------------------|---------------------|
| Total Estimated Cost | \$252,255.80 |
| PST | 12,612.79 |
| GST | <u>12,612.79</u> |
| Total Cost | \$277,481.38 |
| GST rebate (5%) | <u>(12,612.79)</u> |
| Net Cost to the City | <u>\$264,868.59</u> |

There are sufficient funds in the annual operating budget. In addition, costs to replace or repair damaged boards are recovered from insurance claims where possible.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

If approved, the recommended agreement will be initiated immediately. It is anticipated that the agreement will be renewed yearly ending in early 2020, subject to available funding.

Public Notice

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

Report Approval

Written by: Dylan Ramsay, Operations Engineer, Sign Shop, Transportation
Reviewed by: Cory Funk, Traffic Operations and Control Manager, Transportation
Angela Gardiner, Director of Transportation
Approved by: Angela Gardiner, Acting/General Manager, Transportation & Utilities Department

Victoria Avenue Corridor Transportation Improvements

Recommendation

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

1. That the proposed plan for Victoria Avenue between 8th Street and 11th Street be approved;
2. That the amount of \$295,000 be approved for Capital Project #2270 – Paved Roads and Sidewalk Preservation from the Transportation Infrastructure Expansion Reserve; and
3. That the amount of \$30,000 be approved for Capital Project #2270 – Paved Roads and Sidewalk Preservation from the Active Transportation Reserve.

Topic and Purpose

The purpose of this report is to obtain approval to proceed with transportation improvements to Victoria Avenue, between 8th Street and 11th Street, in conjunction with water main replacement and road rehabilitation planned in 2017.

Report Highlights

1. The Victoria Avenue Corridor Review resulted in a plan to address the combination of motor vehicles, pedestrians and cyclists anticipated after the Traffic Bridge is reopened.
2. The proposed plan will reduce the number of lanes in the southbound direction from two to one and introduces a cycle track adjacent to the sidewalk on both sides.
3. The proposed modifications will proceed in conjunction with water main replacement and road rehabilitation of Victoria Avenue in 2017.

Strategic Goals

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

This report also supports the Strategic Goal of Asset and Financial Sustainability, as the Administration is working collaboratively to combine a “Complete Streets” solution with rehabilitation of underground services.

Background

The Traffic Bridge was closed to the public in 2010. As part of the North Commuter Parkway Project, the new Traffic Bridge construction will reconnect Victoria Avenue south of the South Saskatchewan River to 3rd Avenue north of the River. The new Traffic Bridge is scheduled to open in fall of 2018.

A Neighbourhood Traffic Review (NTR) was completed for the Nutana neighbourhood in 2014, and approved by City Council in 2015. In anticipation of vehicular traffic returning to 2010 volumes, a corridor review of Victoria Avenue, between 8th Street and 11th Street, was completed.

The Growth Plan to Half a Million outlines a need for “Complete Streets” – roadways for cars, trucks, pedestrians and bicycles. On June 27, 2016, City Council approved the Active Transportation Plan (ATP) in principle with the next steps identified as developing a five-year implementation plan (2017 to 2021) to include detailed capital and operating costs. The ATP identified Victoria Avenue as a high priority area for expansion of the bicycle network.

Victoria Avenue corridor review between 8th Street and 11th Street was coordinated to align with several rehabilitation initiatives for the 2017 construction season. Water main and lead service line replacement is planned for Victoria Avenue between 8th Street to 11th Street, as part of the water main capacity and lead connection replacement strategy. The Government of Canada is contributing toward this project through the Clean Water and Wastewater Fund (CWWF). The Government of Saskatchewan and the City are each providing matching funds to cover the remaining costs.

Roadway resurfacing and sidewalk rehabilitation is also planned on Victoria Avenue between 8th Street and 11th Street, as part of the Building Better Roads program. This rehabilitation work was coordinated to align with the construction of the new Traffic Bridge to provide a rehabilitated corridor prior to the opening of the bridge, and to also minimize traffic disruptions to the area once the bridge is open.

Report

Victoria Avenue Corridor Review

The purpose of the corridor review between 8th Street and 11th Street is to evaluate all methods of transportation, active and motorized, while maintaining the neighbourhood character of the street.

Once the Traffic Bridge is reopened, 7,000 vehicles per day are expected on this portion of Victoria Avenue, similar to the amount before the Traffic Bridge closed in 2010.

In 2014 during the Nutana NTR, residents identified several traffic safety concerns, mostly pertaining to pedestrian accommodation across Victoria Avenue. These concerns were reiterated during an Open House held March 16, 2017, along with additional comments submitted afterwards. These issues, including previous traffic assessments conducted prior to the closure of the Traffic Bridge in 2010, were considered in the design of a preferred plan for Victoria Avenue.

Proposed Plan

The proposed plan will reduce the number of lanes in the southbound direction along Victoria Avenue from two to one and introduce a cycle track adjacent to the sidewalk on both sides. The reduction in traffic lanes in the southbound direction will maintain

consistency with the number of lanes on the new Traffic Bridge, and will not have a significant impact on traffic flows.

Attachment 1 is a sketch of the proposed cross-section. Attachment 2 shows the plan of street narrowing and new sidewalks and cycle track. Key modifications to Victoria Avenue are listed in the table below:

Table 1 – Victoria Avenue Key Modifications

| <i>Active Transportation</i> | | |
|--------------------------------|---|---|
| Item | Current | Proposed |
| Sidewalk | Concrete with asphalt overlay | Concrete: <ul style="list-style-type: none"> • 3.6 meters northbound • 1.8 meters southbound |
| Bicycle Facility | None | Asphalt cycle track: <ul style="list-style-type: none"> • 1.7 m wide northbound • 2.0 m wide southbound |
| Sidewalk Accessibility Ramps | Missing at several corners | All intersection corners |
| Curb extensions | None | At enhanced pedestrian crossings, where appropriate |
| Pedestrian Crossing Facilities | 1 – Pedestrian Actuated Corridor 1 – Pedestrian Corridor | 2 – Pedestrian Actuated Corridor 1 – Pedestrian Corridor |
| <i>Motor Vehicles</i> | | |
| Number of traffic lanes | 1 northbound 2 southbound | 1 in both directions |
| Width of traffic lanes | 4.3 meters northbound 3.8 meters southbound | 3.6 meters in both directions |
| Parking | 2.4 meters | 2.2 meters |

Traffic lanes will be reduced to 3.6 meters to be consistent with the travel widths on the new Traffic Bridge, as well as those between the Traffic Bridge and 11th Street. These narrower lanes with curb extensions will reduce traffic speeds and pedestrian crossing distances so the public will feel safe walking and cycling. The centre median will remain unchanged, therefore sidewalk, cycle track and buffer widths are different on each side. Existing access to driveways and quantity of available parking will be maintained.

The cycle track design will be considered an All Ages and Ability (AAA) cycling facility as outlined in the ATP. It consists of an asphalt pathway constructed at the same level as the sidewalk and will provide separation from motor vehicles and pedestrians. Human-scaled signage and other delineation features will reduce the risk of conflicts between pedestrians and cyclists. The proposed cycle track design is consistent with North American design guidance and experience.

The Administration is finalizing a more detailed functional plan that includes signage, pavement markings and enhanced pedestrian crossings at 11th Street and 10th Street, and appropriate transitions between cycling facilities at 8th Street and 11th Street will also be defined.

Construction Timelines

The modifications to the proposed cross-section will proceed in conjunction with the water main replacement and road rehabilitation projects already scheduled for 2017. It is important to tender the rehabilitation work as early as possible to realize competitive pricing under tight timeframes. Under the Clean Water and Wastewater Fund (CWWF), 75% of the costs for the water and sewer portions of this work will be eligible for reimbursement by the provincial and federal governments. In order to take advantage of this funding, the work must be complete by March 31, 2018. In addition, tenders closed later in the year can generate higher bid pricing as local contractor's capacity to take on additional work diminishes and less competition is available.

Public and/or Stakeholder Involvement

A public meeting was held on March 16, 2017 to discuss traffic concerns and present the corridor plan. The feedback was used to further develop the proposed plan and to identify other improvements, such as pedestrian device locations.

Feedback will be sought from internal civic stakeholders of various divisions and departments and incorporated into the detailed design.

Communication Plan

The final plan will be shared with Nutana residents using several methods: City website, the Community Association, communication forums, and by a direct mail-out.

Financial Implications

The initial plan for the water main replacement and road rehabilitation project included replacing what currently exists in terms of sidewalks and pavement along Victoria Avenue between 8th Street and 11th Street, at a cost of \$985,000. The estimated cost to change the cross-section of Victoria Avenue is an additional \$325,000.

If the water main replacement and road rehabilitation project was to proceed this summer, and then be reconstructed to the proposed cross-section in the future, the cost to change the cross-section would be approximately \$1,100,000 (2017 dollars).

Therefore, the opportunity for cost savings in completing this work, in conjunction with the water main, sanitary lining and lead water pipe replacement, is approximately \$775,000.

Additional funding of \$295,000 is available in the Transportation Infrastructure Expansion Reserve and \$30,000 in the Active Transportation Reserve. This funding is available as a result of previously approved capital projects being underspent and funds returned to source.

Maintenance of the cycle track, including snow clearing and pavement markings, will be incorporated into existing operating budgets.

Environmental Implications

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

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

No follow-up is required.

Public Notice

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

Attachments

1. Victoria Avenue Proposed Cross-Section Plan (South View)
2. Victoria Avenue – 8th Street to 11th Street Plan

Report Approval

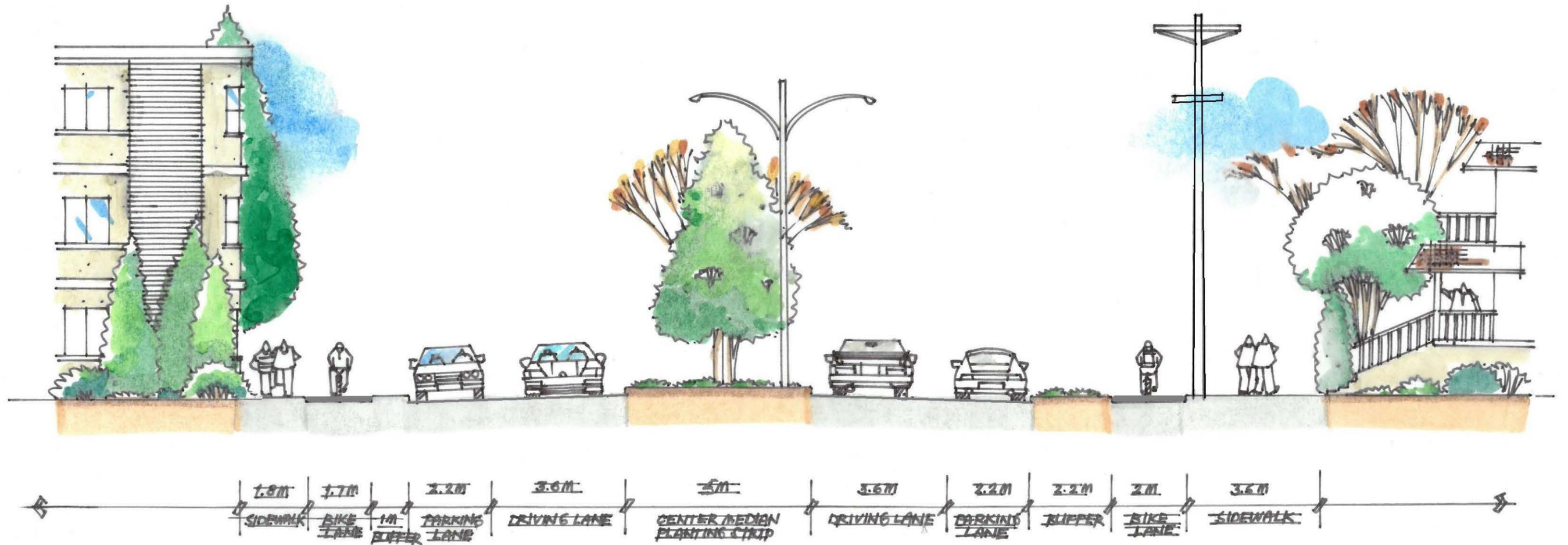
Written by: Marina Melchiorre, Senior Transportation Engineer

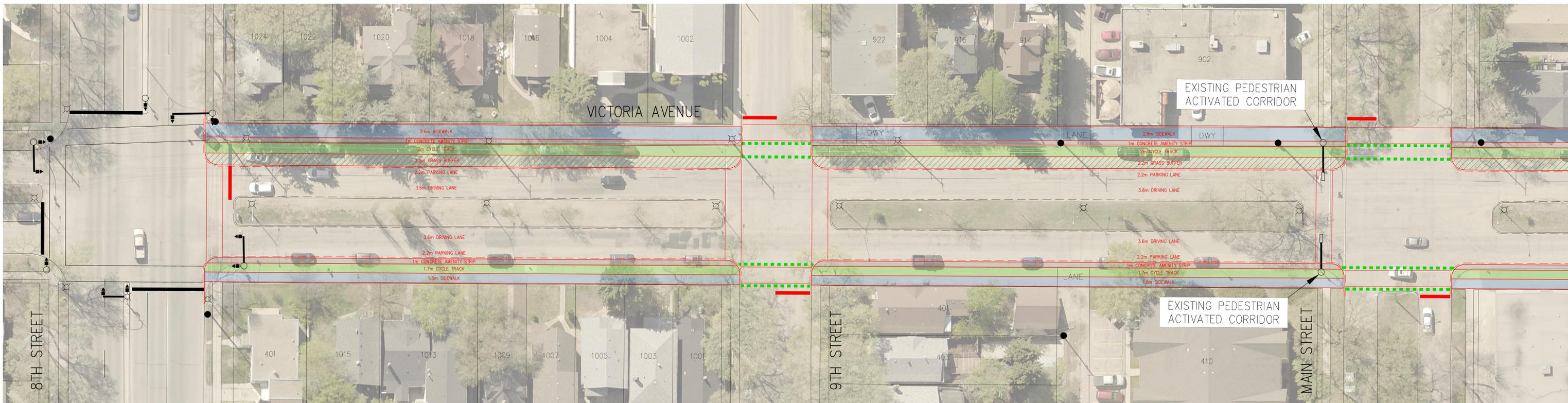
Reviewed by: Jay Magus, Engineering Manager, Transportation
Angela Gardiner, Director of Transportation

Approved by: Angela Gardiner, Acting/General Manager, Transportation &
Utilities Department

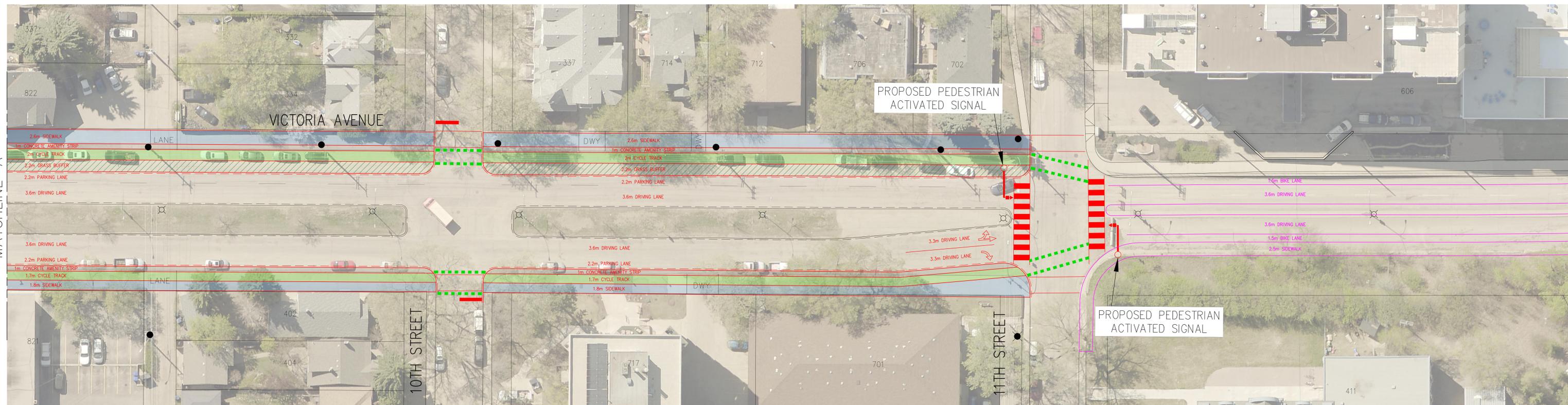
TRANS MM - Victoria Avenue Corridor.docx

Victoria Avenue Proposed Cross-Section Plan (South View)





MATCHLINE 'A'



MATCHLINE 'A'

VICTORIA AVENUE - 8TH STREET TO 11TH STREET

2017 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 ISL Engineering Ltd. for completion of the 2017 Overpass Testing and Inspection Program, at a total estimated cost, on a lump sum basis, to an upset limit of \$103,425 (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 ISL Engineering Ltd.

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 2017 Testing and Inspection Program be awarded to ISL Engineering Ltd.

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 & Preservation, 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.

Typically, the work group consists of a 5 to 8 person team with specialized skills and an average experience of 10-15 years specifically testing, inspecting, and designing

bridges. The consulting team has extensive experience with structures throughout North America.

The work is completed over a short-time frame. The Administration has adopted an approach involving both internal staff and external experts to monitor the condition of the City's bridges and structures. Utilizing both ensures objectivity, and having external experts who observe bridge condition in multiple jurisdictions improves the overall quality of the information thus reducing risk.

In 2017, 6 structures are to be tested and 19 structures are to be inspected.

Report

A Request for Proposal for engineering services for the 2017 Overpass Testing and Inspection Program closed on February 24, 2017. Four proposals were received from the following proponents:

- AECOM Canada Ltd. (Regina, SK)
- CH2M Hill Canada Ltd. (Edmonton, AB)
- ISL Engineering Ltd. (Saskatoon, SK)
- Stantec Consulting Ltd. (Regina, SK)

After a comprehensive review, the proposal from ISL Engineering Ltd. was determined to be the highest scoring proposal, at a total estimated cost, on a lump sum basis, to an upset limit of \$103,425 (including G.S.T. and P.S.T.).

Options to the Recommendation

City Council could choose not to award the proposal. This is not recommended since the commission supports 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 ISL Engineering Ltd. is as follows:

| | |
|----------------------|------------------|
| Base Fees | \$ 98,500 |
| G.S.T. | <u>4,925</u> |
| Sub-Total | \$103,425 |
| G.S.T. Rebate | <u>(4,925)</u> |
| Net Cost to the City | <u>\$ 98,500</u> |

There is sufficient funding available within the 2017 Bridges, Subways, Overpasses 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 & Preservation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities Department

TRANS TG – 2017 Overpass Testing and Inspection Program – Award of Engineering Services.docx

2017 Annual Street Sweeping Work Plan

Recommendation

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

1. That the Administration be directed to implement the pilot program in the seven neighbourhoods outlined in this report; and
2. That following the pilot, the Administration report back on the overall effectiveness of the pilot including, but not limited to, citizen feedback and operational impacts.

Topic and Purpose

The purpose of this report is to provide information on the 2017 annual street sweeping work plan.

Report Highlights

1. The annual sweeping program is divided into four main program groupings: 1) pre-sweeping winter debris pickup, 2) spring sweeping, 3) summer sweeping, and 4) fall leaf and debris removal.
2. The City is piloting a new spring sweeping approach to improve efficiency, reduce costs and alleviate parking concerns in seven neighbourhoods.
3. Factors such as a growing street network; balancing program efficiency with safety and parking convenience for citizens; and an intensive sign/ticket/tow approach continue to put pressure on the sweeping schedule and operating budget.

Strategic Goals

This report supports the Strategic Goal of Quality of Life, as the annual sweeping program preserves air quality and improves overall city cleanliness for Saskatoon residents and visitors. The Strategic Goal of Moving Around is supported by the sweeping programs that ensures roads, streets, bridges, and sidewalks are able to be properly inspected and maintained. This report also supports the long-term strategy to improve the quality of storm water run-off that is going into the river under the Strategic Goal of Environmental Leadership.

Background

Street sweeping is a core function of the City of Saskatoon. Each component of the program is executed to enable mobility, preserve air and water quality, maintain surface drainage, and improve aesthetics of City streets and adjacent infrastructure.

Report

Annual Sweeping Four Main Program Groupings

The pre-sweeping winter debris pickup, often referred to as the Spring Blitz, is scheduled for four weeks starting on April 10, weather permitting. This is a critical

component of the program, as the majority of debris from major roadways is removed, resulting in a noticeable improvement in city cleanliness and air quality early in the season.

The program is intended to remove heavy debris resulting from winter sanding activities that has accumulated on priority streets and in the medians. The pre-sweep quickly improves the condition of arterial roadways and reduces the debris to be removed in the curb-to-curb spring sweeping programs. Both priority streets and medians are cleaned in the pre-sweep employing a blitz approach. During this phase, sweepers move around parked vehicles and there is minimal ticketing and towing. There are a few strategic locations such as Preston Avenue and Main Street that do receive a curb-to-curb sweep during the pre-sweeping program, to allow for parking options in the later programs.

Spring sweeping includes curb-to-curb street sweeping on all paved Saskatoon streets. Spring sweeping is scheduled from May 8 to June 23, which includes a contingency for expected rain delay days. Over this period, extensive no parking zones, ticketing, and towing helps ensure a comprehensive street cleaning. Residential streets, commercial areas, expressways, and business improvement districts are all swept at least once before the end of June.

During the summer, priority streets, Business Improvement Districts, and dedicated bike lanes are swept on a rotating basis to ensure minimal dust and good cycling conditions throughout the summer. The City also performs emergency sweeping and special event sweeping to support local events.

The fall leaf and debris removal program removes leaves from heavily canopied areas after they fall in October. The program duration is two weeks and employs no parking zones, ticketing and towing to ensure a thorough cleaning to keep drainage structures clear for the spring runoff.

New Approach to Priority Street Sweeping

The curb-to-curb spring street sweeping is expected to be complete by June 23, although higher than average rain delays can extend the program. Similarly, fewer than expected rain delays will shorten the program. As a pilot this year, the Priority Streets in seven neighbourhoods will be posted for No Parking and swept curb-to-curb during the pre-sweeping winter debris pickup in April. The neighbourhoods can then be swept as a whole, as opposed to scheduling them over two days, because their Priority Streets can be used for on-street parking. This method will be piloted in the following seven neighbourhoods:

- Hudson Bay Park
- North Park
- Avalon
- Dundonald
- Westview

- Massey Place
- Grosvenor Park

These neighbourhoods were selected based on their availability of off-street parking and the location of their priority streets. Citizen comments and efficiency gains will be tracked and the pilot will be evaluated after the spring sweep season.

Annual Sweeping Budget and Current Level of Service

In 2016, the total street sweeping and cleaning costs exceeded the annual budget by approximately \$500,000. Extensive changes have been made to the program over the past four years in order to improve the service provided to citizens. Examples include changes to improve safety adjacent to schools, the introduction of parking restrictions to improve quality, design changes to reduce parking impacts, and the continued expansion of the roadway network.

The City has taken a conservative approach in school zones. Crews now limit sweeping activities in front of all schools to nights and weekends. The re-mobilization of crews to sweep school zones that were skipped during the day has increased the cost of the program by approximately \$150,000 per year.

Neighbourhood-splitting is a method that allows residents to park on streets while the avenues are being swept, and vice versa. While the program has significantly reduced parking disruption for residents, it has increased the cost of the residential sweep due to lost efficiencies.

In 2014, no-parking zone ticketing and towing was added to the curb-to-curb program to improve the quality of multiple sweeping programs. In prior years, City sweepers had to move around vehicles which left sections of road uncleaned for an entire year. The effort to post no-parking zones and co-ordinate ticketing and towing costs approximately \$400,000 per sweeping season. Ideally, there would be full compliance with the no-parking zones, resulting in no towing costs for the City and no ticket costs for citizens. However, towing costs are typically significant, and ticket revenues go to the City's General Revenue Fund.

Saskatoon's expanding roadway network adds additional pressure on the budget. This year, the City is taking over the maintenance of portions of Stonebridge, Parkridge, Kensington, Aspen Ridge, Evergreen and Rosewood.

Prior to the 2018 Budget, the Administration will bring forward a formal service level document for consideration by the Standing Policy Committee on Transportation and City Council. Continual steps will be taken to reduce program costs, and one positive step is that the 2017 sweeping contractor assistance contract closed lower than the engineer's estimate. Even with the ongoing program improvements being made, the Administration believes that some level of budget increase will be required in 2018 in order to maintain the current levels of service.

Options to the Recommendation

City Council could direct the Administration to not proceed with the pilot project.

Public and/or Stakeholder Involvement

The City of Saskatoon engages with the Business Improvement Districts to ensure that the rotating BID sweeping service meets quality expectations. Sweeping schedules have been posted on the City website to allow small events to co-ordinate around planned sweeping. Requests for schedule changes will be taken into consideration based on the size of the event and availability of contingency in the sweeping schedule.

Crews work with other stakeholder groups at a tactical level to minimize disruption. This includes organizations with peak parking requirements including churches, mosques, markets and other community facilities.

Communication Plan

Street sweeping activities are promoted through Public Service Announcements, social media channels and at saskatoon.ca/sweeping. Additional advertising for street sweeping will be included in the Building Better Roads campaign. Street Sweeping service alerts will be used to inform of any schedule changes for the curb-to-curb spring programs.

Financial Implications

The Administration will continue to provide the current service level and will undertake all opportunities to reduce program costs. The upcoming service level report will link budget with service levels provided.

Environmental Implications

City sweeping programs improve water quality entering the South Saskatchewan River through the storm water system and provide better local air quality due to reduced dust.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

The sweeping program is weather-dependant but typically concludes at the end of October. A program close-out report will be completed after the time of completion.

Public Notice

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

Report Approval

Written by: Louis Carter, Engineering Intern

Reviewed by: Eric Quail, Roadways Manager

Brandon Harris, Director of Roadways & Operations

Approved by: Jeff Jorgenson, General Manager, Transportation and Utilities
Department

TRANS LC – 2017 Annual Street Sweeping Work Plan

Street Sweeping Services in Developing Subdivisions

Recommendation

That the report of the General Manager, Transportation & Utilities Department, dated April 4, 2017, be forwarded to City Council as information.

Topic and Purpose

The purpose of this report is to provide information regarding enhanced street sweeping services in developing residential and industrial subdivisions.

Report Highlights

1. Administration developed service levels for street sweeping services in developing residential and industrial subdivisions.
2. Enforcement strategies were established and implemented to maintain service levels for street sweeping services in developing subdivisions.
3. Improved coordination with internal and external stakeholders to deliver street sweeping service levels has been implemented.
4. Enhanced communication tools such as the street sweeping interactive map and the street sweeping hotline are used to keep citizens informed about the on-going street sweeping services in developing subdivisions.

Strategic Goals

The enhanced street sweeping services in developing subdivisions supports the following Strategic Goals:

- Continuous Improvement, Moving Around and Quality of Life, by providing enhanced street sweeping services to citizens of Saskatoon; and
- Asset and Financial Sustainability, by maintaining infrastructure in its fair state.

Background

The following inquiry was made by former Councillor T. Paulsen at the meeting of City Council held on October 7, 2013:

“Could the Administration please report on the level of service they expect from third parties who are responsible for sweeping city streets, particularly in areas where there is on-going construction (i.e. new areas, industrial zones, infill). Could the Administration please report on the enforcement plan that is undertaken when any of those third parties are not meeting the city-set standards.”

Following the inquiry and concerns from Councillors, significant program changes were made by the City. Although these changes were implemented, the inquiry was not formally addressed by a report until now.

Report

Service level targets for street sweeping services in developing subdivisions were developed to provide more consistent, city-wide street sweeping services to citizens of Saskatoon. The service level targets are designed considering citizen's needs, safety and feasibility of sweeping areas under construction.

Citizens residing in developing subdivisions receive Heavy Debris Blitz style service three times per year. The Heavy Debris Blitz service is designed to collect heavy dirt and debris from the streets fronting the areas under construction. Additional parking restrictions, ticketing and relocation towing is not engaged under blitz service. As a result, the sweepers go around parked vehicles and focus on picking up the majority of debris in the driving lanes. These services begin after the construction of pavement is completed and continue for two consecutive years until the development area is formally handed to the Roadways and Operation division for future maintenance.

Since 2015, the City requires all new servicing agreements with developers to provide a level of service for street sweeping. The street sweeping service requirements for private developers is enforced through the Development Servicing Agreement. Developers are now responsible to provide sweeping services during the two years following construction, and lack of compliance results in a financial penalty to the developer. These requirements came into effect starting November 2015 for the Brighton neighbourhood. The City holds financial securities, totalling \$68.85 per street length meter, as a Heavy Debris Blitz Sweep Charge. The City's internal developer, Saskatoon Land, is also obligated to provide consistent levels of sweeping service to citizens of Saskatoon residing in City managed developing subdivisions.

The Construction and Design division has also developed monitoring strategies to track, monitor and enforce the sweeping services provided by both external and internal developers. When developers fail to comply with sweeping service requirements, the following three-step enforcement approach is applied:

- Verbal notification;
- Written notification; and
- Hire Roadways and Operations for sweeping service, deduct charges incurred from financial securities collected (external developer) and/or invoiced Saskatoon Land (internal developer).

Construction and Design worked collaboratively with Roadways and Operations and Saskatoon Land to establish a coordinated plan to deliver sweeping service levels to citizens residing in developing subdivisions. A coordinated plan was established matching each division's needs and responsibilities while maintaining consistent strategy to meet service level targets requirements. The responsibility of each divisions is listed below:

Construction and Design:

- Each year, Construction & Design provides maps to Saskatoon Land and Roadways and Operations showing the areas that they are responsible to provide sweeping services.
- Each year, Construction & Design provides maps to Roadways and Operations showing the areas private developers are responsible to provide sweeping services.
- Construction & Design monitors, tracks and enforces the sweeping services provided by both external and internal developers.
- Construction & Design attends and provides resolution to inquiries related to sweeping services in all developing areas within the City's jurisdiction.
- Construction & Design provides total street length data to Saskatoon Land and Roadways and Operations for budgetary purposes.

Saskatoon Land:

- Saskatoon Land contracts out the required sweeping services in areas that falls within their responsibilities.

Roadways & Operations:

- Roadways & Operations conducts an annual meeting with Saskatoon Land and Construction and Design to discuss sweeping service level targets for current year as well as plan to address any shortfalls in the upcoming sweeping season.

Public and/or Stakeholder Involvement

The internal stakeholder discussion highlighted the need for better communication with citizens residing in developing subdivisions about the street sweeping program. As a result, enhanced communication tools such as the sweeping interactive map and the sweeping hotline were implemented to address citizen's inquiries. The street sweeping interactive map application provides details about sweeping schedule, boundary of the area to be swept and who to contact in events of services not received. The street sweeping hotline was also used to address citizen's inquiries, provide response and direct them to individual divisions for detail inquiries. Further, frequently asked questions were also posted on the City's website and used by the City's customer service center to ensure consistent message is delivered to citizens inquiring about sweeping program in developing subdivisions.

Environmental Implications

The enhanced street sweeping program will result in greenhouse gas emissions associated with increased consumption of diesel fuel by heavy equipment operation – the overall impact on greenhouse gas emissions has not been quantified. However, the street sweeping program will also contribute to improved local air quality, and improved storm water quality due to less debris entering the storm water collection system.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

There is no further report.

Public Notice

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

Report Approval

Written by: Jankit Patel, Project Engineer, Construction & Design
Reviewed by: Daryl Schmidt, Land Development Manager, Construction & Design
Reviewed by: Celene Anger, Director of Construction & Design
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities Dept.

TRANS JP - Street Sweeping Program for Developing Subdivisions

2018 Fall Sweep Program Design Options

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:
That the Administration be directed to identify street sweeping areas using a risk-based design model, rather than the current neighbourhood design model for the 2018 Fall Sweep Program as outlined in this report.

Topic and Purpose

The purpose of this report is to present the design considerations being proposed for the 2018 Fall Sweep Program and to obtain direction from City Council on final design.

Report Highlights

1. Sweeping in the fall reduces the risk of flooding by removing leaves and debris from roadways before they enter the drainage system.
2. Rather than sweeping full neighbourhoods, each street can be ranked and prioritized individually based on flood risk.
3. The Fall Sweep program can be scaled based on funding as well as the allowable risk.

Strategic Goals

This report supports the Strategic Goal of Continuous Improvement by increasing efficiency in the way that the City monitors and maintains drainage systems. The recommendations also support the long-term goal to reduce the gap in the funding required to rehabilitate and maintain City infrastructure under the Strategic Goal of Asset and Financial Sustainability.

This report supports the Strategic Goal of Environmental Leadership by improving the quality of storm water run-off into the river. The report also supports the long-term strategy to ensure that roads, streets, bridges, and sidewalks are well maintained and in a good state of repair under the Strategic Goal of Moving Around.

Background

During the 2017 Preliminary Business Plan and Budget meeting held on November 30 and December 1, 2016, City Council considered the 2017 Preliminary Business Plan and Budget – Transportation Business Line – Service Lines Review and resolved, in part:

- “2. That the Administration report to the appropriate Committee defining possibilities for expansion and related costs of the fall street sweeping program (Street Cleaning and Sweeping Service Line).”

The current Fall Sweep Program is designed on a neighbourhood basis. Criteria for determining neighbourhoods that will be swept in the fall include proximity to river, density of deciduous trees, and age and quality of surface drainage infrastructure. Due to the neighbourhood boundary approach, there may be streets adjacent to one another with the same proximity to the river and same density of leaves, yet one street is swept and the other is not.

The current Fall Sweep Program has two main constraints, program cost and timing. The program cannot begin until elm leaves drop in mid-October. Sometimes the program is cut short due to early snowfall, and sometimes the program is completed and there is a month without fall sweeping activity before the winter arrives. A more flexible approach would allow sweeping to proceed later in the year when weather allows, providing budget flexibility is in place.

Report

Fall Sweeping Reduces the Risk of Flooding

Leaves and debris can plug catch-basins and increase the risk of flooding during snow melt and heavy rainfall. The primary objective of the Fall Sweep is to pick up the leaves from the streets before they reach the storm-water system. Sweeping in the fall also reduces the amount of work in the Spring Sweep.

Risk Based Sweeping vs Neighbourhood Sweeping

The City has extensive topography and infrastructure information and, as such, can evaluate surface flooding risk. This analysis accounts for the changing design standards that have been utilized over the city's history.

Another important factor in the design of the Fall Sweep is deciduous tree canopy. The City of Saskatoon has information on tree canopy density across the City. This information can be used in conjunction with the flood risk assessment to choose which streets need to be swept in the fall. Rather than sweeping full neighbourhoods, streets can be ranked based on the tree canopy and flood risk and swept in logical groups of streets.

Sweeping groups of streets based on this assessment rather than entire neighbourhoods alleviates on-street parking challenges and improves efficiency by not requiring crews to return to neighbourhoods that are split to accommodate parking.

Program Scaling Considering Funding and Allowable Risk

In 2016, nine neighbourhoods were swept at a cost of approximately \$275,000. Once streets have been prioritized, the program can be scaled based on two factors which are schedule and risk. Should the criteria proposed in this report be endorsed by City Council, the Administration will develop levels of funding and the expected schedule that correlates to different levels of flood risk, and will include those options in the subsequent report.

The 2018 Fall Sweep Program design is proposed to abandon the neighbourhood approach and focus on specific flood risks. Four different flood risk levels will be included for the 2018 budget deliberations: high, moderate, mild, and low. Each level will include estimated program costs and estimated program duration. A map with the different flood level risks will be included.

For the 2017 Fall Sweep Program, the Administration will include in the follow-up report options for an interim implementation of a scaled and risk-based program based on the 2017 approved budget.

Options to the Recommendation

City Council may direct the Administration to continue the Fall Sweep Program design on a neighbourhood basis.

Public and/or Stakeholder Involvement

Following the drainage and tree canopy density studies, and street prioritization, citizen engagement will occur to explain the proposed sweeping areas if there are significant changes.

Communication Plan

A communications plan will be developed to inform citizens in affected neighbourhoods about changes to the program. The type and format for signage may need to be adjusted to manage parking and identify streets for sweeping.

Financial Implications

The 2016 Fall Sweep Program cost was \$275,000, funded by the Drainage Program in the Storm Water Management Utility. In order to expand the program, additional funding would need to be allocated.

Environmental Implications

A revised Fall Sweep program will see a decrease in leaves and debris entering the South Saskatchewan River via the storm water system and a diminished risk of flooding of property and infrastructure. Additionally, street sweeping results in better localized air quality for adjacent land users.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

The follow-up report will be submitted to the Standing Policy Committee on Transportation and City Council by August of 2017.

Public Notice

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

Report Approval

Written by: Louis Carter, Engineering Intern

Reviewed by: Eric Quail, Roadways Manager
Brandon Harris, Director of Roadways & Operations

Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS LC - 2018 Fall Sweep Program Design Options

Dust Mitigation on Gravel Streets and Lanes

Recommendation

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

1. That the information be received; and
2. That the Administration be directed to proceed with a pilot study to evaluate dust mitigation on gravel streets and back lanes.

Topic and Purpose

The purpose of this report is to provide an update on the expansion and optimization of dust mitigation initiatives on gravel streets and back lanes for the City of Saskatoon, and to obtain approval and funding from City Council to proceed with a 2017 dust mitigation pilot study targeting gravel streets and back lanes.

Report Highlights

1. A pilot study is recommended to evaluate different strategies and determine the benefits, feasibility and cost of dust mitigation on gravel streets and back lanes.
2. Dust mitigation chemical application on gravel streets and back lanes requires specialized equipment.
3. Dust mitigation chemicals cause the road surface to harden into a semi-permanent state that restricts future maintenance.
4. Calcium chloride dust mitigation chemicals may have a negative environmental impact on local flora, fauna, and river water quality.

Strategic Goals

This report supports the Strategic Goals of Quality of Life and Environmental Leadership through the betterment of air quality at a local level. This report also supports the Strategic Goal of Continuous Improvement by studying alternative methods to current operations.

Background

On September 19, 2016, City Council considered the Inquiry – Former Councillor C. Clark (May 24, 2016) Calcium Chloride Application Program for High Traffic Gravel Lanes and Public Driveways report, and resolved that the report be received as information.

On November 30, 2016, a report entitled Dust Mitigation on Gravel Streets and Lanes was presented to the Budget Committee informing City Council that the Administration was assembling information for back lane assets in order to present a level of service document to City Council for approval. It was resolved that the report be received as information.

Report

Recommendation for a Pilot Study

The current dust palliation (mitigation) program is designed to minimize dust and improve air quality on high speed rural roads adjacent to homes and businesses. The program treats 5.3 lane kilometers annually with Calcium Chloride with the first treatment in spring and the second treatment in fall. The program does not include gravel streets and back lanes. A pilot study is recommended to evaluate different strategies and determine the benefits, feasibility and cost of dust mitigation on gravel streets and back lanes.

Typical dust mitigation chemicals, such as Calcium Chloride, can be applied at different application rates throughout the life cycle of the road. Initial application rates are higher and can help stabilize the road and reduce maintenance. The vegetable oil pilot study completed in 2016 appears to provide a smoother wear surface, improved drainage and increased ride quality. The vegetable oil technique is more expensive to implement than the traditional calcium chloride strategy; however, the pilot study may identify greater value through alternate dust mitigation strategies when considering maintenance, environmental performance and life cycle costs.

Candidate locations for the pilot study will be selected based on the application parameters of the different products, lanes with high traffic volumes that generate dust, and surrounding land use to mitigate impact to Citizens.

Specialized Equipment is Required

Currently, dust mitigation performed on rural roads is completed with a standard tri-axle tractor trailer. This equipment may not be able to access or apply products appropriately to some gravel streets and back lanes. Other equipment would need to be evaluated for the required work areas and constraints to assess the best delivery method.

Effects of Dust Mitigation Chemicals on Gravel Surfaces

Dust mitigation chemicals are sprayed on a gravel surface immediately after the road has been graded. The chemicals cause the gravel and fine particles to stick together and the surface to harden into a semi-permanent state. This presents a problem when ponding water or localized failures such as potholes occur in the road surface. If the road is re-graded the hard surface is disturbed and the effectiveness of the dust palliation is significantly reduced.

Calcium Chloride Environmental Impacts

Negative environmental impacts may result from the use of chloride based dust mitigation chemicals such as reduced surface water runoff quality, and damage to vegetative species immediately around the application area may occur.

Consideration should be given to residents who may express concerns of chemical damage to vegetables and flowers that they have traditionally planted on City property adjacent to back lanes, which is a violation of City Bylaw No. 2954 – Streets Use Bylaw, but has not been traditionally enforced. In addition, there is a risk of chemical overspray

and drifting of dust mitigation products onto private property and plants, as well as residual odours.

Options to the Recommendation

City Council may consider the following options to the recommendation:

1. The dust mitigation pilot study could be funded from the Earth Streets cost center which was under budget last year due to favorable weather conditions and good overall health of the back lanes. In the event the summer of 2017 is wetter than average, the work will be prioritized accordingly to be on budget.
2. Delay the dust mitigation pilot study until the summer of 2018 if adequate funding can be secured.
3. Continue with current level of service for dust mitigation and only treat high-traffic rural roads adjacent to homes and businesses.

Public and/or Stakeholder Involvement

The pilot study will include feedback from citizens in the immediate area as an important stakeholder. Public and stakeholder engagement will be required prior to a formal recommendation to City Council.

Communication Plan

The pilot will be communicated to affected residents with a flyer supplemented with frequently asked questions. This information will identify the potential risk of contamination for vegetation planted along the right-of-way in back lanes. All inquiries will be directed to the Customer Service Centre who will document inquiries and provide timely and consistent responses. Additional information will be available on the City website.

Financial Implications

The current dust palliation (mitigation) program is designed to target acreages adjacent to rural roads and minimize dust. The program treats 5.3 lane kilometers annually with Calcium Chloride. There is no funding in the dust palliation cost center to fund additional work.

If approved by City Council, Administration will fund a one year pilot study using \$50,000 from the Earth Streets Maintenance programs in the Road Maintenance Service Line to determine the feasibility of expanding the dust mitigation program to gravel streets and back lanes. In addition, the pilot study will develop treatment trigger criteria and recommend appropriate level of services.

Environmental Implications

Increased treatment of calcium chloride on gravel streets and lanes would result in better localized air quality for adjacent land users. However, increased greenhouse gas production would result from increasing the amount of chemicals and equipment required to prepare and apply to the road surface. In addition, the calcium chloride may have a negative impact on local flora, fauna, and river water quality.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

A Pilot Program close-out report and recommendations for Level of Service increases will be brought to the Standing Policy Committee on Transportation in January, 2018.

Public Notice

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

Report Approval

Written by: Barrett Froc, Operations Engineer
Reviewed by: Eric Quail, Roadways Manager
Brandon Harris, Director of Roadways & Operations
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS BF - Dust Mitigation on Gravel Streets and Lanes

Grosvenor Park Neighbourhood Traffic Review

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:
That the Neighbourhood Traffic Review for the Grosvenor 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 Grosvenor Park neighbourhood.

Report Highlights

A Neighbourhood Traffic Plan for the Grosvenor 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 April 2016 to identify traffic concerns and potential solutions within the Grosvenor 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 January 2017.

Report

The development and implementation of the 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).

Grosvenor Park 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 Grosvenor Park neighbourhood:

- Median islands
- Curb extensions
- Speed bumps (in a back lane)
- Active pedestrian corridors
- Standard crosswalks
- Zebra crosswalks
- Parking restrictions
- Miscellaneous signs (i.e. yield signs, 20 kph speed signs etc.)
- Bollards/posts (on median)
- Bollards/posts (removing posts in back lanes)
- Sidewalks
- Speed display boards
- Enforcement (i.e. speeding and parking)
- Paving a back lane

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, roadway paving, sidewalks (in some cases), major intersection reviews |
| Long-term (more than 5 years) | Sidewalks |

The Grosvenor Park NTR is included in Attachment 1.

If approved by City Council, all of the temporary traffic calming measures will be installed in 2017. 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 2016, 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 January 2017. 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: Roadways & Operations, Saskatoon Transit, Planning & Development, Saskatoon Light & Power, Saskatoon Police Service, Environmental Services, Community Standards, and the Saskatoon Fire Department on the proposed

Grosvenor Park Neighbourhood Traffic Review

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, City website and by a direct mail-out.

Financial Implications

The implementation of the Neighbourhood Traffic Plan will have financial implications. The costs are summarized in the following table.

| Category | 2017 | Beyond 2017 |
|--|---------|-------------|
| Signs, Pavement Markings & Temporary Traffic Calming | \$9,500 | NA |
| Sidewalk Installations | NA | \$156,200 |
| Permanent Traffic Calming | NA | \$173,700 |
| TOTALS | \$9,500 | \$329,900 |

There is sufficient funding within Capital Project #1512 – Neighbourhood Traffic Management to undertake the work in 2017, which includes implementation of all signage, pavement markings and temporary traffic calming measures.

The remainder of the work beyond 2017 includes the construction of permanent traffic calming measures and will be considered alongside all other improvements identified through the NTR program, with the exception of the paved lane. 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. For the paved lane, contributions from adjacent property owners may be pursued at an estimated cost of \$60,000.

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

If adopted by City Council, temporary traffic calming devices and signage will be implemented during the 2017 construction season.

Public Notice

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

Grosvenor Park Neighbourhood Traffic Review

Attachment

1. Grosvenor Park Neighbourhood Traffic Review, March 15, 2017

Report Approval

Written by: Justine Marcoux, 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 JMar – Grosvenor Park Neighbourhood Traffic Review

GROSVENOR PARK

2016 Neighbourhood Traffic Reviews

CITY OF SASKATOON

March 15, 2017

Grosvenor Park Neighbourhood Traffic Review

March 15, 2017

Authorization

Prepared By:



Justine Marcoux, P. Eng.
Transportation Engineer

Checked By:



Jay Magus, P. Eng.
Transportation Engineering Manager

Acknowledgements

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

- Grosvenor Park residents
- Grosvenor 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 Roadways & Operations
- City of Saskatoon Community Standards
- City of Saskatoon Transportation
- Great Works Consulting
- Councillor Cynthia Block

EXECUTIVE SUMMARY

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

A public meeting was held in April 2016 to identify traffic concerns and potential solutions within the Grosvenor 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 Plan was developed and presented to the community at a follow-up meeting held in January 2017.

A summary of recommended improvements for the Grosvenor 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 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 years); medium-term (3 to 5 years) and long-term (more than 5). Accordingly, the specific time frame to implement the improvements ranges from 1 to 5 years.

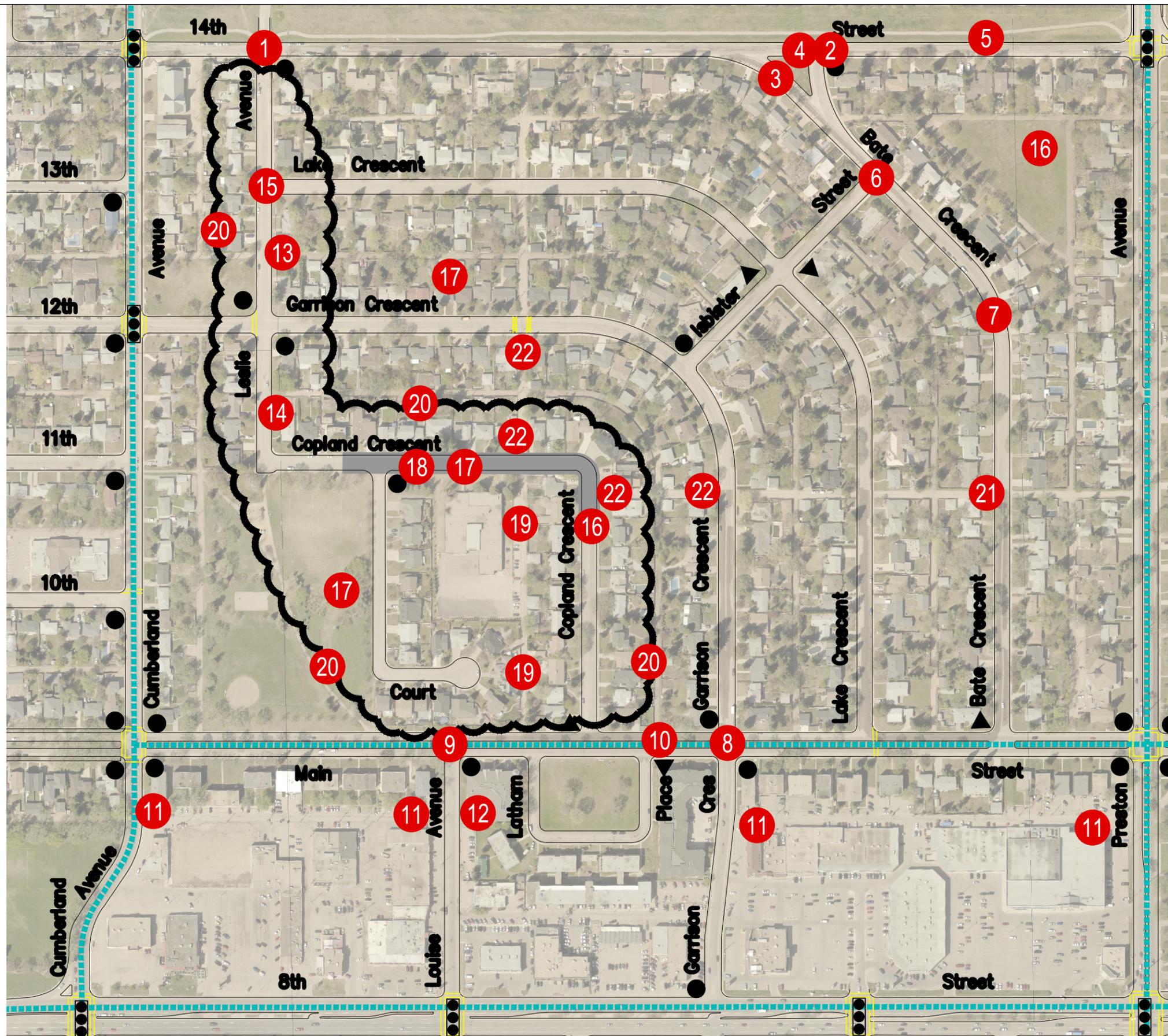
The Grosvenor Park Traffic Plan is illustrated in **Exhibit ES-1**.

Table ES-I: Grosvenor Park Neighbourhood Recommended Improvements

| Item | Location | Recommendation | Reason |
|------|--|--|--|
| 1 | 14 th Street & Leslie Avenue | Median island on west leg, zebra crosswalks, parking restrictions (15m on southeast & southwest corners on 14 th Street) | Improve pedestrian safety & visibility |
| 2 | 14 th Street & Bate Crescent | Median island & zebra crosswalk on east leg, parking restrictions (15m on southeast corner on 14 th Street and entire north side of island) | Improve pedestrian safety & visibility |
| 3 | 14 th Street & Bate Crescent | Southbound Only (i.e. one-way) on the west leg of Bate Crescent | Improve intersection safety (i.e. improved sightlines for northbound left turn from east leg of Bate Crescent) |
| 4 | 14 th Street & Bate Crescent | Sidewalk on south side (north side of island) | Improve pedestrian safety |
| 5 | 14 th Street - west of Preston Avenue | Speed display board facing westbound traffic | Reduce speed |
| 6 | Bate Crescent & Isbister Street | Median island on north leg | Reduce speed |
| 7 | Bate Crescent & curve south of Bate Crescent | Median island | Reduce speed; prevent cutting into opposing traffic lane |
| 8 | Main Street & Garrison Crescent | Standard crosswalk on west leg; larger stop signs; parking restrictions (10 m on southwest & northeast corners on Main Street) | Improve pedestrian safety, ensure stop signs are visible & improve sightlines |
| 9 | Main Street & Louise Avenue | Standard crosswalk on west leg | Improve pedestrian safety |
| 10 | Main Street & Lane east of Latham Place | Additional posts | Prevent drivers from driving over median |
| 11 | Back Lanes south of Main Street | 20 kph speed limit sign | Reduce speed |
| 12 | Louise Avenue between 8 th Street & Main Street | Sidewalk on east side & on west side between Main Street and the back lane (pending approval from Parks with City trees) | Improve pedestrian safety |
| 13 | Leslie Avenue between Garrison Crescent & Lake Crescent | Sidewalk on east side (pending approval from Parks with City trees) | Improve pedestrian safety |
| 14 | Leslie Avenue between Garrison Crescent & Copland Crescent | Permanent median island | Reduce driver speed; ensure school zone sign is visible |
| 15 | Lake Crescent & Leslie Avenue | Yield sign | Improve intersection safety |
| 16 | Copland Crescent (north of Main Street) | Permanent median island | Reduce driver speed; ensure school zone sign is visible |
| 17 | Copland Crescent - midblock in front of Misbah School | Permanent curb extensions | Improve pedestrian safety near school |
| 18 | Copland Crescent (north of the school) | Enforcement during school hours | Reduce speed |

Table ES-I Continued

| Item | Location | Recommendation | Reason |
|-------------|---|---|--|
| 19 | Copland Crescent north / south back lane | Pave lane, speed bumps, 20 kph speed signs, pedestrian warning signs | Dust mitigation, reduce speed & improve safety |
| 20 | Copland Crescent, Leslie Avenue & surrounding lanes | Parking enforcement (blocking driveways, parking too close to intersections etc.) | Improve safety & visibility |
| 21 | Bate Crescent & east / west back lane | Remove "Local Traffic Only" signs and yellow posts | Low traffic volumes indicate signs are not necessary |
| 22 | Back lanes leading near mosque | Remove yellow posts | Posts are not necessary to reduce traffic volumes |



LEGEND

- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- BUS ROUTE
- ▭ SCHOOL ZONE
- ⬮ EXISTING TRAFFIC SIGNAL
- ⬮ PEDESTRIAN ACTUATED SIGNAL LOCATION
- ⬮ ACTIVE PEDESTRIAN CORRIDOR SIGNAL LOCATION

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I INTRODUCTION

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

The Grosvenor Park neighbourhood is located on the east portion of Saskatoon and is bound by Cumberland Avenue to the west, 8th Street the south, 14th Street to the north and Preston Avenue to the east. The land use is mostly residential, with a combined mosque-elementary school on Copland Crescent and some commercial along 8th Street.

The neighbourhood traffic review includes four stages:

- **Stage 1** - Identify issues, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon online discussion.
- **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 (more than 5).

This report presents the study findings and recommendations.

2 STAGE 1: IDENTIFYING ISSUES, CONCERNS, AND POSSIBLE SOLUTIONS

A public meeting was held in April 2016 to identify traffic concerns within the Grosvenor Park neighbourhood. At the meeting, residents were given the opportunity to express 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 (including all correspondence and Shaping Saskatoon discussion comments received prior to the follow-up meeting) with the 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). As speeding often accompanies shortcutting, these concerns have been grouped into one category.

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

- Bate Crescent:
 - Shortcutting from 14th Street (eastbound) to avoid lights at Preston Avenue (especially during am and pm peak hours)
 - Traffic is diverted to Bate Crescent when there's construction on 14th Street
 - Speeding
- Isbister Street:
 - Shortcutting (especially Lake Crescent to Garrison Crescent) due to congestion on Preston Ave (particularly at the four-way stop at Main Street)
 - Speeding
- 14th Street - speeding because there's only one set of lights between Acadia Drive & Cumberland Avenue (at Preston Avenue)
- Main Street - speeding eastbound past Cumberland Avenue near apartments
- Main Street - drivers crossing over median and around posts (at Copland Crescent and back lane)
- Leslie Avenue - shortcutting to avoid traffic signal on Preston Avenue; speeding
- Garrison Crescent – speeding
- Preston Avenue – high traffic
- Cumberland Avenue – speeding (especially Monday to Friday at 9:30pm)

- Copland Crescent / Copland Court - constant traffic; high traffic; speeding on east-west portion (north of school); U-turns in middle of street when dropping off kids for school
- Leslie Avenue to Copland Crescent – needs review; speeding; traffic calming needed
- Back lanes:
 - North / South lane perpendicular to Lake Crescent by 14th Street - too much traffic. Too fast.
 - North / South lane between Copland Crescent & 14th Street – shortcutting; alleyway continues to be abused by non-residents
 - Alley at north entrance between Lake Crescent & Isbister Street – shortcutting
 - Leslie Avenue back lane – shortcutting
 - North / South lane east of the mosque - high traffic volumes; noticeable increase in traffic with school & prayer times (especially Friday afternoons); two-way traffic is dangerous, especially in winter; too narrow and causes drivers to squeeze near fences to fit through; backing out of garages is unsafe as drivers speed by right beside

Proposed solutions identified by residents:

- Enforcement
- Bate Crescent & Isbister Street - tight southbound right turn by adding curb extensions or mini-roundabout
- Main Street & Bate Crescent - close median to prevent left turns & prevent shortcutting on Bate Crescent
- Isbister Street - install some type of restrictive device
- 14th Street - install speed reader board or more signage
- Garrison Crescent & Isbister Street – install mini roundabout
- Copland Crescent - should move mosque driveway to west; install additional lane to the parking lot from the north side of Copland Crescent; expand the school zone
- Places of worship should be on non-local roads only
- Back lanes:
 - Local Traffic Only signs are being ignored; “Local Traffic Only” signs are not effective as members of the mosque are arguably part of local traffic
 - North / South lane perpendicular to Lake Crescent by 14th Street - put in bollards or posts to block traffic from cutting through

- North / South lane between Copland Crescent & 14th Street – restrict North / South through movement; close lanes; installation of temporary bollards at the T-intersection of the alley (on the south end of the intersection).
- East / West lane between Copland Crescent & Preston Avenue – open up median at Main Street & Copland Crescent; close lane.
- Alley at north entrance between Lake Crescent & Isbister Street – block north entrance with metal posts
- Leslie Avenue back lane – shortcutting; install similar restrictions as Garrison Crescent
- North / South lane east of the mosque - only way that cars slowdown is due to bumps & ruts in back lane so do not fill them; block lane at midblock; install temporary fence; make the lane one-way
- Back Lanes - perhaps speed humps would make alleys safer

2.2 Concern 2 – Pedestrian Safety

It is important to address pedestrian safety concerns to support active transportation as encouraging 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.”

Grosvenor Park neighborhood pedestrian safety concerns were noted at the following locations:

- Bate Crescent & Isbister Street
- 14th Street at Leslie Avenue & Bate Crescent- children crossing to schools; drivers not stopping for pedestrians
- Main Street - safety risk for pedestrians crossing at all intersections between Cumberland Avenue & Preston Avenue due to increased traffic and speeding
- Leslie Avenue between Lake Crescent & Garrison Crescent - no sidewalk on east side
- Rod V. Real Park – joyriding through park
- Louise Avenue – no sidewalks
- Back lanes:
 - East / West lane between Main Street & commercial properties on 8th Street – pedestrian safety concerns due to private businesses operating vehicles to and from their property

Proposed solutions identified by residents:

- Bate Crescent & Isbister Street – install pedestrian crosswalk
- 14th Street at Leslie Avenue & Bate Crescent – consider parking restrictions to improve visibility; crosswalk lights maybe needed; install traffic calming for pedestrian safety
- 14th Street & Bate Crescent - island needs sidewalk
- 14th Street & back lane (between Bate Crescent & Leslie Avenue) – needs north-south pedestrian crosswalk because it's heavily used
- Main Street – mark crosswalks between Cumberland Avenue & Preston Avenue due to increased traffic and speeding
- Main Street at Louise Avenue & Garrison Crescent – install crosswalk lights
- Leslie Avenue & Lake Crescent - pedestrian crosswalk & traffic calming
- Rod V. Real Park – install posts
- Preston Avenue & Main Street – crosswalk lines need to be marked

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
- As a pedestrian crossing device

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

Concerns regarding traffic control in the Grosvenor Park neighborhood were identified at the following locations:

- Bate Crescent & Isbister Street
- Bate Cres - difficult to turn left onto 14th Street weekdays 7:30 to 8:30 a.m.
- Leslie Avenue & Lake Crescent - not following right-of-way rules

Proposed solutions identified by residents:

- Install all-way stop (Bate Crescent & Isbister Street, Main Street & Garrison Crescent)
- Leslie Avenue & Lake Crescent – sign review needed; install yield signs
- Garrison Crescent & Isbister Street – reverse direction of 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 within one metre of a driveway or back lane.

Grosvenor Park neighborhood parking concerns were at the following locations:

- University students and employees parking all day (blocking driveways and in front of residential):
 - Isbister Street
 - 14th Street
 - Leslie Avenue
 - Lake Crescent
 - Garrison Crescent
 - Cumberland Avenue
- Leslie Avenue & Cumberland Avenue (and back lane) - parking causes sight restrictions for those leaving back alley along Leslie Avenue; parking in front of church
- Back lane east of mosque – double parked behind mosque; parked vehicles are blocking garages
- Copland Crescent - temporary median islands restrict movements when cars are parked beside; parked cars blocking residents' driveways
- Copland Court – parked cars blocking residents' driveways

Proposed solutions identified by residents:

- Change the Bylaw to allow parking in back yards.
- Leslie Avenue & Cumberland Avenue (and back lane) - put in a 5-min loading zone instead to allow drop off for students to dance
- Back lane east of mosque – organize group of volunteers from mosque to patrol area to provide direction to members on parking
- Places of worship should be on non-local roads only

2.5 Concern 5 – Maintenance

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

Grosvenor Park neighborhood maintenance concerns were at the following locations:

- Bate Crescent & Isbister Street – icy conditions; sanding & grading needed
- Main Street at Copland Crescent & west of Copland Crescent at alley – posts on median are missing
- Lake Crescent near Leslie Avenue – poor snow clearing
- Copland Crescent / Copland Court - high traffic is wearing roadways (potholes etc); potholes & water main break patching creates awful roadways
- Leslie Avenue to Copland Crescent - temporary bulb-outs are ugly and ineffective
- Back lanes:
 - North / South lane perpendicular to Lake Crescent by 14th Street - very dusty
 - North / South lane east of the mosque – dust created by high traffic

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.

Grosvenor Park neighborhood concerns regarding major intersection concerns were identified at the following locations:

- Preston Avenue & 14th Street - review signal timing delays at pm peak and eastbound delays
- Preston Avenue & Main Street - delays for southbound

Proposed solutions identified by residents:

- Preston Avenue & 14th Street – install left-turn arrows for northbound / southbound

3 STAGE 2: DEVELOPMENT OF DRAFT TRAFFIC PLAN

3.1 Methodology

Stage 2 of the Neighborhood Traffic Review included developing a draft Traffic Plan. This was completed through the following actions:

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

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

3.2 Traffic Volume and Speed Assessments

Traffic volumes and travel speeds were measured to assist in determining the need for traffic calming devices. Neighborhood streets are classified typically as either local or collector streets. Traffic volumes (referred to as Average Daily Traffic) on local / collector 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 Grosvenor Park neighbourhood is 50 kph, except for school zones where the speed limit is 30 kph from September and June, Monday to Friday, 8:00 a.m. to 5:00 p.m.

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 (2016)

| Street | Between | Class | Average Daily Traffic (vehicles per day) | Speed (kph) |
|--|--|-----------------|--|-----------------------------|
| North / South Lane | Garrison Crescent to Copland Crescent | Lane | <100 | NA |
| East / West Lane | Bate Crescent to Preston Avenue | | <100 | |
| North / South Lane | 14 th Street to Lake Crescent | | 130 | |
| East / West Lane | Copland Crescent to Garrison Crescent | | 170 (Friday = 210) | |
| North / South Lane (north of parking lot entrance) | Copland Crescent to Main Street | | 140 (Friday = 320) | |
| North / South Lane (south of parking lot entrance) | Copland Crescent to Main Street | | 260 (Friday = 500) | |
| Copland Crescent | Copland Court to bend east of mosque (school zone) | Local | 750 | 47 (46 during school hours) |
| Copland Crescent | Main Street to bend east of mosque | | 500 | 39 |
| Isbister Street | Bate Crescent to Garrison Crescent | | 450 | NA |
| Bate Crescent | Isbister Street to 14 th Street | | 550 | 55 |
| Copland Court | Midblock | | 170 (Friday = 260) | 40 |
| Garrison Crescent | Leslie Avenue to Isbister Street | Collector | 1,250 | 53 |
| 14 th Street | Bate Crescent to Leslie Avenue | Major collector | 5,950 | 60 |

A number of traffic studies were completed in Grosvenor Park prior to the Neighborhood Traffic Review to address speeding and shortcutting concerns. Locations of concern included:

- Copland Crescent
- Leslie Avenue
- Back Lanes connecting to the mosque / school

As a result temporary traffic calming was installed at the following locations:

- Copland Crescent – curb extensions (in front of the mosque / school) and a median island to reduce speed, improve pedestrian safety & enhance visibility of the school zone signs.
- Leslie Avenue – median divider island to reduce speed & enhance visibility of the school zone signs.
- Back lanes – “Local Traffic Only” signs and reflective posts to reduce the volume of traffic.

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;
- An ADT greater than 6,000 vehicles per day; or
- 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 200 m.

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

Table 3-3: All-Way Stop Warrant Criteria

| Location | Criteria 1: Peak Hour Count (greater than 600) | Criteria 2: Average Daily Traffic (greater than 6,000vpd) | Criteria 3: Collisions within most recent 12 months (5 or more) | Results |
|---|--|---|---|----------------------------|
| Main Street & Garrison Crescent | 674 (yes) | 7,010 vpd (yes) | 3 (no) | Continue to Step 2. |
| 14 th Street & Leslie Avenue | 628 (no) | 7,210 vpd (no) | 0 (no) | |
| Bate Crescent & Isbister Street | 98 (no) | 1,030 vpd (no) | 0 (no) | All-Way Stop Not Warranted |
| Main Street & Bate Crescent | 591 (no) | 5,910 vpd (no) | 0 (no) | |
| Leslie Avenue & Lake Crescent | 185 (no) | 1,870 vpd (no) | 0 (no) | |

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

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

| Location | Condition 1: Traffic on minor street is at least 35% | Condition 2: No all-way stop or traffic signals within 200 metres | Results |
|---|--|---|----------------------------|
| Main Street & Garrison Crescent | 24% (no) | 325 m (yes) | All-Way Stop Not Warranted |
| 14 th Street & Leslie Avenue | 10% (no) | 95 m (no) | |

3.4 Pedestrian Assessments

Pedestrian assessments are conducted to determine the need for pedestrian actuated signalized crosswalks which are in adherence to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004. Devices include the pedestrian corridor (flashing yellow lights) or pedestrian-actuated signals. A warrant system assigns points for a variety of conditions 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: 8:00 am to 9:00 a.m., 11:30 a.m. to 1:30 p.m., and 3:00 p.m. to 5:00 p.m.

A standard pedestrian crosswalk or a zebra crosswalk (i.e. striped) may be considered when a signalized crosswalk is not warranted. A summary of the pedestrian studies are provided in **Table 3-5**.

Table 3-5: Pedestrian Assessments

| Location | Number of Pedestrians Crossing During Peak Hours | Results |
|---|--|---------------------------------|
| 14 th Street & Leslie Avenue | 71 | Pedestrian Device Not Warranted |
| 14 th Street & back lane (between Leslie Avenue & Bate Crescent) | 41 | |
| 14 th Street & Bate Crescent | 43 | |
| Main Street & Louise Avenue | 73 | |
| Main Street & Garrison Crescent | 104 | |
| Main Street & Bate Crescent | 43 | |
| Bate Crescent & Isbister Street | 7 | |

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 data (2011 to 2015) was 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 and possible improvements. Locations with two or more collisions per year include the Main Street and Garrison Crescent intersection.

Details of the collision analysis are provided in **Appendix D**.

4 STAGE 3: PRESENTATION OF TRAFFIC PLAN

4.1 Methodology

Stage 3 of the neighbourhood traffic 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 Improvements – Speeding and Shortcutting

| Location | Recommended Improvement | Justification |
|--|--|--|
| 14 th Street – west of Preston Avenue | Speed display board facing westbound traffic | Reduce speed |
| Bate Crescent & Isbister Street | Median island on north leg | Reduce speed |
| Bate Crescent & curve south of Bate Crescent | Median island | Reduce speed; prevent cutting into opposing traffic lane |
| Main Street & Lane east of Latham Place | Additional posts | Prevent drivers from driving over median |
| Back Lanes south of Main Street | 20 kph speed limit sign | Reduce speed |
| Leslie Avenue between Garrison Crescent and Copland Crescent | Permanent median island | Reduce driver speed; ensure school zone sign is visible |
| Lake Crescent & Leslie Avenue | Yield sign | Improve intersection safety |
| Copland Crescent (north of Main Street) | Permanent median island | Reduce driver speed; ensure school zone sign is visible |
| Copland Crescent (north of the school) | Enforcement during school hours | Reduce speed |
| Copland Crescent north / south back lane | Speed bumps & 20 kph speed signs | Reduce speed |
| Bate Crescent & east / west back lane | Remove "Local Traffic Only" signs and yellow posts | Low traffic volumes indicate signs are not necessary |
| Back lanes near to mosque | Remove yellow posts | Posts are not necessary to reduce traffic volumes |

4.3 Pedestrian Safety

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

Table 4-2: Recommended Improvements - Pedestrian Safety

| Location | Recommended Improvement | Justification |
|--|--|---|
| 14 th Street & Leslie Avenue | Median island on west leg & Zebra crosswalks | Improve pedestrian safety |
| 14 th Street & Bate Crescent | Median island on west leg & Zebra crosswalks | Improve pedestrian safety |
| 14 th Street & Bate Crescent | Sidewalk on south side (north side of island) | Improve pedestrian safety |
| Main Street & Garrison Crescent | Standard crosswalk on west leg | Improve pedestrian safety, ensure stop signs are visible & improve sightlines |
| Main Street & Louise Avenue | Standard crosswalk on west leg | Improve pedestrian safety |
| Louise Avenue between 8 th Street & Main Street | Sidewalk on east side & on west side between Main Street and the back lane (pending approval from Parks with City trees) | Improve pedestrian safety |
| Leslie Avenue between Garrison Crescent & Lake Crescent | Sidewalk on east side (pending approval from Parks with City trees) | Improve pedestrian safety |
| Copland Crescent - midblock in front of Misbah School | Permanent curb extensions | Improve pedestrian safety near school |
| Copland Crescent north / south back lane | Pedestrian warning signs | Improve pedestrian safety |

4.4 Intersection Safety

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

Table 4-3: Recommended Improvements – Intersection Safety

| Location | Recommended Improvement | Justification |
|---|---|--|
| 14 th Street & Bate Crescent | Southbound Only (i.e. one-way) on the west leg of Bate Crescent | Improve intersection safety (i.e. improved sightlines for northbound left turn from east leg of Bate Crescent) |
| Main Street & Garrison Crescent | Larger stop signs | Improve pedestrian safety, ensure stop signs are visible & improve sightlines |

4.5 Parking

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

Table 4-4: Recommended Improvements – Parking

| Location | Recommended Improvement | Justification |
|---|--|---|
| 14 th Street & Leslie Avenue | Parking restrictions (15 m on southeast & southwest corners on 14th Street) | Improve visibility |
| 14 th Street & Bate Crescent | Parking restrictions (15 m on southeast corner on 14 th Street and entire north side of island) | Improve visibility |
| Main Street & Garrison Crescent | Parking restrictions (10m on southwest & northeast corners on Main Street) | Improve pedestrian safety, ensure stop signs are visible & improve sightlines |
| Copland Crescent, Leslie Avenue & surrounding lanes | Parking enforcement (blocking driveways, parking too close to intersections etc.) | Improve safety & visibility |

4.6 Maintenance

The recommended improvements to parking that will improve the level of safety are provided in **Table 4-5**.

Table 4-5: Recommended Improvements – Maintenance

| Location | Recommended Improvement | Justification |
|--|-------------------------|-----------------|
| Copland Crescent north / south back lane | Pave lane | Dust mitigation |

4.7 Follow Up Consultation – Presentation of Traffic Plan

The recommended improvements were presented to residents and stakeholders at a follow-up public meeting in November 2016. Meeting minutes are provided in **Appendix E**. Recommended improvements that were not supported were eliminated or altered accordingly.

A decision matrix detailing the list of recommended improvements presented at the follow-up meeting are included in **Appendix F**. Additional issues raised during the follow-up meeting were assessed and outlined in **Appendix G**. Recommendations were added to the list of improvements if necessary.

The revised list of recommendations was then circulated to the civic divisions (including Saskatoon Police Service, Saskatoon Light & Power, Saskatoon Fire Department, Environmental Services, Parking Services, Roadways & Operations and Transit) to gather comments and concerns. General support was received.

5 STAGE 4: IMPLEMENTATION

Stage 4, the final stage of the Neighborhood Traffic Review, is to install the recommended improvements within the specified time frame. The time frame depends upon the complexity and cost of the solution. A short-term time frame is defined by implementing the improvements within short-term (1 to 2 years); medium-term (3 to 5 years); and long-term (more than 5 years).

The placement of signs, pavement markings and temporary traffic calming will be completed short-term (1 to 2 years). Most often the installations take place in spring / summer of the following year. Therefore installations for Grosvenor Park are likely to take place in spring / summer 2017.

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

- **Table 5-1:** Signs, Pavement Markings & Temporary Traffic Calming Cost Estimate
- **Table 5-2:** Enforcement & Speed Display Boards Cost Estimate
- **Table 5-3:** Sidewalks Cost Estimate
- **Table 5-4:** Permanent Traffic Calming Cost Estimate
- **Table 5-5:** Total Cost Estimate

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

| Location | Device (No. of Devices) | Cost Estimate | Time Frame |
|--|---|----------------|---|
| Bate Crescent & Isbister Street | Median island (1) | \$500 | 1 to 5 years (traffic calming devices will be installed temporarily until proven effective) |
| Bate Crescent & curve south of Bate Crescent | Median island (1) | \$500 | |
| 14 th Street & Leslie Avenue | Median island (1) | \$500 | |
| 14 th Street & Bate Crescent | Median island (1) | \$500 | |
| 14 th Street & Leslie Avenue | Zebra crosswalks (2) (upgrade existing standard crosswalk) | \$250 | 1 to 2 years |
| 14 th Street & Bate Crescent | Zebra crosswalks (2) (upgrade existing standard crosswalk) | \$250 | |
| Main Street & Garrison Crescent | Standard crosswalk (1) | \$500 | |
| Main Street & Louise Avenue | Standard crosswalk (1) | \$500 | |
| Main Street & Lane east of Latham Place | Posts (3) | \$250 | |
| Back Lanes south of Main Street | 20 kph speed sign (4) | \$1,000 | |
| Lake Crescent & Leslie Avenue | Yield sign | \$250 | |
| Copland Crescent north / south back lane | 20 kph speed signs (2) | \$500 | |
| Bate Crescent & east / west back lane | Remove "Local Traffic Only" signs and yellow posts | \$0 | |
| Back lanes near to mosque | Remove yellow posts | \$0 | |
| Copland Crescent north / south back lane | Pedestrian warning signs (2) | \$500 | |
| 14 th Street & Bate Crescent | One-way sign (1) & Do Not Enter sign (1) | \$500 | |
| Main Street & Garrison Crescent | Larger stop signs (2) | \$500 | |
| 14 th Street & Leslie Avenue | No Parking sign (2) | \$500 | |
| 14 th Street & Bate Crescent | No Parking sign (3) | \$1,500 | |
| Main Street & Garrison Crescent | No Parking sign (2) | \$500 | |
| Total | | \$9,500 | |

Table 5-2: Enforcement & Speed Display Boards Cost Estimate

| Location | Device | Cost Estimate | Time Frame |
|---|--------------------------------------|--|--------------|
| 14 th Street - west of Preston Avenue | Temporary speed display board | \$0 (funded through Speed Program) | 1 to 2 years |
| Copland Crescent (north of the school) | Saskatoon Police Service enforcement | \$0 (provided by Saskatoon Police Service) | |
| Copland Crescent, Leslie Avenue & surrounding lanes | Parking Enforcement | \$0 (provided by Parking Services) | |
| Total | | \$0 | |

Table 5-3: Sidewalks Cost Estimate

| Location | Length (m) | Cost Estimate | Time Frame |
|---|------------|------------------|-------------|
| 14 th Street & Bate Crescent | 30 | \$13,200 | more than 5 |
| Louise Avenue between 8th Street & Main Street | 230 | \$101,200 | |
| Leslie Avenue between Garrison Crescent & Lake Crescent | 95 | \$41,800 | |
| Total | | \$156,200 | |

Table 5-4: Permanent Traffic Calming Cost Estimate

| Location | Device (# of Devices) | Cost Estimate | Time Frame |
|--|-----------------------|------------------|--------------|
| Leslie Avenue between Garrison Crescent and Copland Crescent | Median island (1) | \$5,000 | 3 to 5 years |
| Copland Crescent (north of Main Street) | Median island (1) | \$5,000 | |
| Copland Crescent - midblock in front of Misbah School | Curb extensions (2) | \$90,000 | |
| Copland Crescent north / south back lane | Pave lane (1) | \$56,700 | |
| Copland Crescent north / south back lane | Speed bumps (4) | \$2,000 | |
| Bate Crescent & Isbister Street | Median island (1) | \$5,000 | |
| Bate Crescent & curve south of Bate Crescent | Median island (1) | \$5,000 | |
| 14 th Street & Leslie Avenue | Median island (1) | \$5,000 | |
| Total | | \$173,700 | |

Table 5-5: Total Cost Estimate

| Category | Time Frame | |
|--|---------------------------|---------------------------------|
| | Short-Term (1 to 2 years) | Medium-Term (3 to 5 years plus) |
| Signs, Pavement Markings & Temporary Traffic Calming | \$9,500 | NA |
| Speed Enforcement & Temporary Speed Display Boards | \$0 | NA |
| Sidewalks | NA | \$156,200 |
| Permanent Traffic Calming | NA | \$173,700 |
| Total | \$9,500 | \$329,900 |

The total cost estimate for short-term improvements (signs, pavement markings and temporary traffic calming) is **\$9,500**. The total cost estimate for long-term improvements (permanent traffic calming and sidewalks) is **\$329,900**.

Resulting from the Neighborhood Traffic Review is a list of recommended improvements, including the location and justification as summarized in **Table 5-6**.

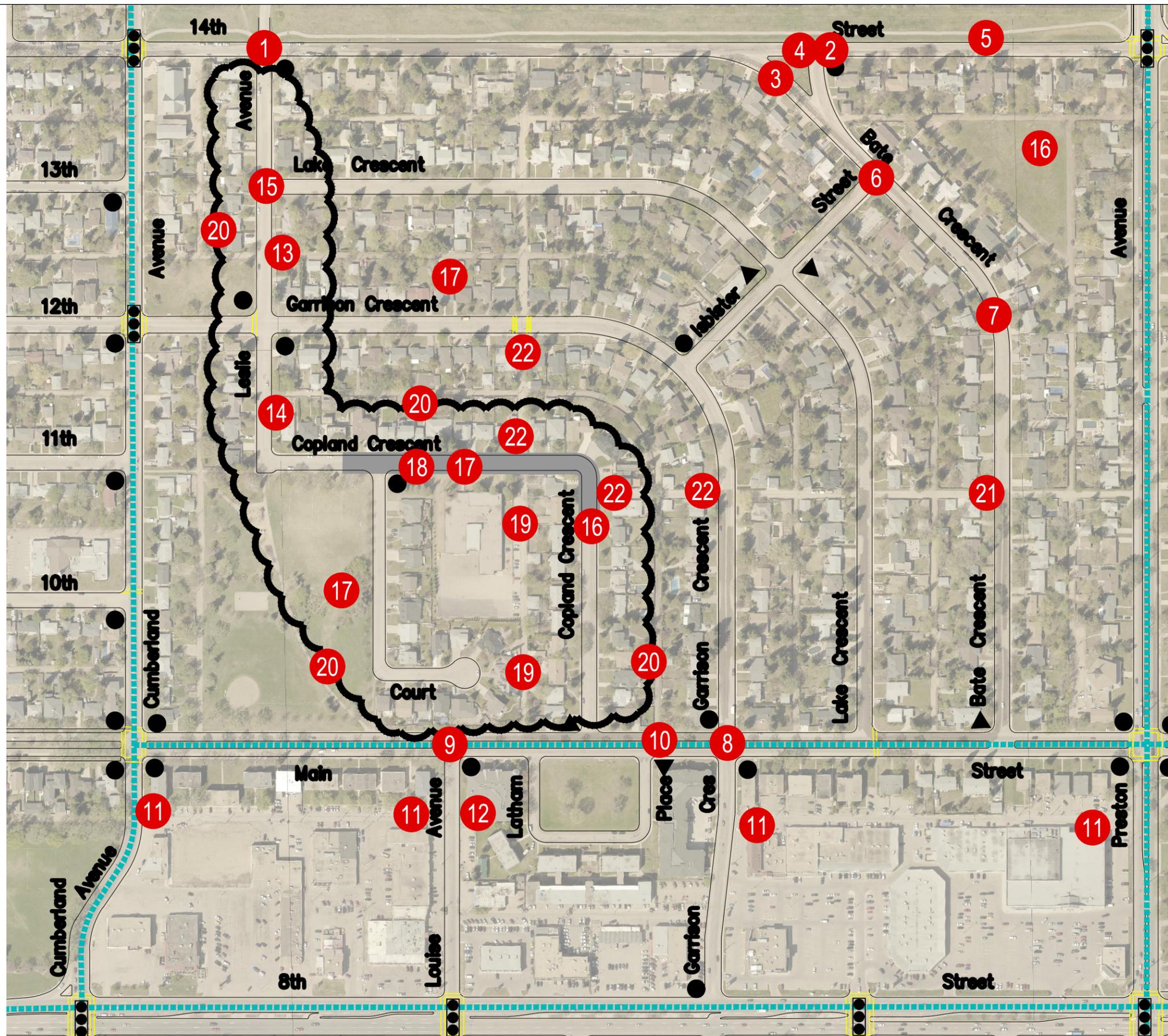
The resulting recommended Grosvenor Park Neighbourhood Traffic Plan is illustrated in **Exhibit 5-1**.

Table 5-6: Grosvenor Park Neighbourhood Recommended Improvements

| Item | Location | Recommendation | Reason |
|-------------|--|--|--|
| 1 | 14 th Street & Leslie Avenue | Median island on west leg, zebra crosswalks, parking restrictions (15m on southeast & southwest corners on 14 th Street) | Improve pedestrian safety & visibility |
| 2 | 14 th Street & Bate Crescent | Median island & zebra crosswalk on east leg, parking restrictions (15m on southeast corner on 14 th Street and entire north side of island) | Improve pedestrian safety & visibility |
| 3 | 14 th Street & Bate Crescent | Southbound Only (i.e. one-way) on the west leg of Bate Crescent | Improve intersection safety (i.e. improved sightlines for northbound left turn from east leg of Bate Crescent) |
| 4 | 14 th Street & Bate Crescent | Sidewalk on south side (north side of island) | Improve pedestrian safety |
| 5 | 14 th Street - west of Preston Avenue | Speed display board facing westbound traffic | Reduce speed |
| 6 | Bate Crescent & Isbister Street | Median island on north leg | Reduce speed |
| 7 | Bate Crescent & curve south of Bate Crescent | Median island | Reduce speed; prevent cutting into opposing traffic lane |
| 8 | Main Street & Garrison Crescent | Standard crosswalk on west leg; larger stop signs; parking restrictions (10 m on southwest & northeast corners on Main Street) | Improve pedestrian safety, ensure stop signs are visible & improve sightlines |
| 9 | Main Street & Louise Avenue | Standard crosswalk on west leg | Improve pedestrian safety |
| 10 | Main Street & Lane east of Latham Place | Additional posts | Prevent drivers from driving over median |
| 11 | Back Lanes south of Main Street | 20 kph speed limit sign | Reduce speed |
| 12 | Louise Avenue between 8 th Street & Main Street | Sidewalk on east side & on west side between Main Street and the back lane (pending approval from Parks with City trees) | Improve pedestrian safety |
| 13 | Leslie Avenue between Garrison Crescent & Lake Crescent | Sidewalk on east side (pending approval from Parks with City trees) | Improve pedestrian safety |
| 14 | Leslie Avenue between Garrison Crescent & Copland Crescent | Permanent median island | Reduce driver speed; ensure school zone sign is visible |
| 15 | Lake Crescent & Leslie Avenue | Yield sign | Improve intersection safety |
| 16 | Copland Crescent (north of Main Street) | Permanent median island | Reduce driver speed; ensure school zone sign is visible |
| 17 | Copland Crescent - midblock in front of Misbah School | Permanent curb extensions | Improve pedestrian safety near school |
| 18 | Copland Crescent (north of the school) | Enforcement during school hours | Reduce speed |

Table 5-6 Continued

| Item | Location | Recommendation | Reason |
|-------------|---|---|--|
| 19 | Copland Crescent north / south back lane | Pave lane, speed bumps, 20 kph speed signs, pedestrian warning signs | Dust mitigation, reduce speed & improve safety |
| 20 | Copland Crescent, Leslie Avenue & surrounding lanes | Parking enforcement (blocking driveways, parking too close to intersections etc.) | Improve safety & visibility |
| 21 | Bate Crescent & east / west back lane | Remove "Local Traffic Only" signs and yellow posts | Low traffic volumes indicate signs are not necessary |
| 22 | Back lanes leading near mosque | Remove yellow posts | Posts are not necessary to reduce traffic volumes |



LEGEND

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

GROSVENOR PARK TRAFFIC PLAN

APPENDIX A: PUBLIC MEETING No.1 – APRIL 14, 2016 MINUTES

**Grosvenor Park Neighbourhood
Traffic Review
Thursday, April 14, 2016, 7:00 – 9:00 P.M.
Grosvenor Park United Church**

Facilitators:

- Mitch Riabko & Kathy Dahl (Great Works Consulting)

City of Saskatoon Representatives:

- Angela Gardiner, Justine Nyen, Shirley Matt, Mariniel Flores, Mark Emmons

Councillor Clark attended.

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 – Grosvenor Park Neighbourhood Traffic Review

(Presented by Justine Nyen – Transportation Engineer)

Presentation Outline:

- Neighbourhood Review Process
- Timeline for Grosvenor Park Review
- Sources of Information
- Concerns Received
- Description of Traffic Calming & Pedestrian Safety Devices
- Corridor & Major Intersection Reviews

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** – 11 neighbourhoods
- **2015** – 8 neighbourhoods
- **2016** – Grosvenor Park, Sutherland, Parkridge, Hampton Village, Willowgrove, Stonebridge, Silverspring, Lakeridge

Timeline for Grosvenor Park Review:

- **Stage 1** – Identify issues & possible solutions through community consultation (May to fall 2016)
- **Stage 2** – Develop a draft traffic plan (fall 2016)
- **Stage 3** – Present draft traffic plan to community for feedback (fall 2016)
- **Stage 4** – Implement the changes over time

Sources of Information:

- Past Studies
- Collision Analysis
- Feedback from Public Consultation
- Traffic Counts & Assessments

Concerns Received:

- Bate Cres – shortcutting
- Isbister St/Lake Cres – shortcutting; speeding
- 14th St:
 - Crosswalks (Leslie Ave & Bate Cres) – children crossing to schools; drivers not stopping for pedestrians; parking obstructs driver’s view
 - Speeding
- Main St – pedestrian safety concerns
- E/W lane between Main St & commercial properties on 8th St – pedestrian safety concerns
- Islamic Association of SK (IAS) 222 Copland Cres & area – increased membership at the mosque and school

IAS/Copland Cres/Copland Crt/Garrison Cres/back lanes:

- Illegal parking, loss of available parking, increased traffic volumes, back lane traffic
- Neighbourhood Committee formed by reps from the IAS & residents to resolve issues. City departments worked with group since 2013 to resolve issues:
 - Transportation Division – installed parking restrictions, traffic calming islands on Copland Cres, curb extension & zebra crosswalks in front of school, temporary posts & “Local Traffic Only” signs in back lanes.
 - Parking Services – enforcement, education
 - Public Works – increased snow clearing on Copland Cres and snow removal in front of school

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

Corridor Reviews & Major Intersection Review:

- Created to address issues at intersections along arterial streets as Neighbourhood Traffic Reviews address local and collector streets
- Recommendations will be identified and projects will be prioritized for funding approval

Presentation from Islamic Association of Saskatchewan/Neighbourhood Committee
Members provided information on the history of their group and initiatives.

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 Grosvenor Park and potential solutions

Group 1: Mariniel Flores

1. Shortcutting & speed on Bate Cres (from 14th St to Main St to avoid Preston Ave); install speed bumps or raised median through the intersection at Bate Cres & Main St to restrict movements.
2. Isbister St & Bate Cres – tight southbound turn; install curb extensions, mini roundabout, 3-way stop; icy conditions, sanding and grading needed
3. 100 block of Lake Cres is not a parking lot and block driveways (9am, 10am, 4:30pm); expansion of the Residential Parking Permit Program (8am-5pm) every 2 hours to include this. Build parking lot. Improve bus route to UofS.
4. Poor snow clearing in Lake Cres near Leslie Ave
5. Leslie Ave & Lake Cres – not following right-of-way rules, signage review needed; yield signs
6. No sidewalk on east side of Leslie Ave (Lake Cres to Garrison Cres)
7. Isbister St from Bate Cres to Garrison Cres – shortcutting; install some type of restrictive device
8. North entrance to alley between Lake Cres & Isbister St – shortcutting; block north entrance; metal posts & “Local Traffic Only” perceived not to work
9. Block off middle portion of north-south lane between Main St & Copland Cres; lots of shortcutting.
10. Main St & Louise Ave – pedestrian crosswalk needed; pedestrian lights
11. No sidewalks on west & east sides of Louise Ave
12. Garrison Cres & Main St – pedestrian crosswalk ceded; pedestrian lights

13. Copland Cres & Main St – post on median missing
14. West of Copland Cres (alley) & Main St – post on median missing
15. Traffic count needed in alley west of Copland Cres between Main St & Copland Cres
16. Pedestrian lights needed at 14th St & Leslie Ave, & 14th St & Bate Cres
17. Northbound & Southbound left-arrow for lights at Preston Ave & 14th St needed

Group 2: Justine Nyen

1. North-south back lane between Main St & Copland Cres:
 - a. Grading causes speeding; paving the back lane may cause speeding
 - b. Road is too narrow for 2-way traffic so cars squeeze close to fences to fit by
 - c. Maybe install a fence mid-lane to restrict traffic
 - d. Volunteers from the mosque volunteer during high-prayer times to stand on Copland Cres, Copland Crt etc to direct members finding parking etc.
 - e. Additional lane to parking lot from north side of Copland Cres
 - f. One-way traffic; may cause enforcement issues; don't want to penalize residents by making the lane one-way
 - g. Backing out of garages – drivers speeding right beside, worried about children getting hit
2. UofS students parking:
 - a. 12th St & Cumberland Ave (parking and getting onto bus); blocking resident's driveway
 - b. Garrison Cres
 - c. Leslie Ave
 - d. Lake Cres
 - e. 2-hr parking on Cumberland Ave has pushed student parking further south
 - f. Parking too close to garbage bins so garbage isn't picked up
 - g. Extend Varsity View Residential Parking Permit Zone
3. Traffic counts – Friday PM
4. Cumberland Ave – speeding at 9:30pm Monday-Friday; enforcement needed
5. Main St near apartments past Cumberland Ave – install 4-way stop at Garrison Cres
6. Preston Ave & Main St – pedestrian crosswalks need to be marked
7. Main St – driving over median/boulevard; crossing around posts

Group 3: Shirley Matt

1. Shortcutting issues:
 - a. North-south lane between Copland Cres to 14th St; possible solution is to restrict north-south through movement
 - b. East-west lane between Copland Cres to Preston Ave; possible solution is to open up median at Main St & Copland Cres.
 - c. Leslie Ave – 14th St to 12th St is shortcut to avoid traffic signal
 - d. Leslie Ave back alley shortcutting; install restrictions similar to Garrison Cres
 - e. 8th St between Garrison Cres & Cumberland Ave – solution is to install traffic signal and Main St & Garrison Cres
2. Parking Issues:

- a. Leslie & Cumberland Ave – parking causing sight restrictions for those leaving back alley along Leslie Ave and at Leslie Ave & 14th St
 - b. In front of church – to improve sightlines at Cumberland Ave put in a loading zone & 5min restriction. This would allow someone to drop off students to dance.
 - c. Bylaw change to allow parking in peoples back yards
 - d. 14th St & Leslie Ave – difficult to see
3. Speeding Issues:
- a. Garrison Ave between Main St & Cumberland Ave; solution is to install mini roundabout at Garrison Cres & Isbister St or reverse the direction of the stop signs; another solution is to install traffic controls at Isbister St & Lake Cres
4. Pedestrian Safety Issues:
- a. Leslie Ave & 14th St – needs pedestrian device & traffic calming
 - b. Lake Cres & Leslie Ave - needs pedestrian device & traffic calming

Group 4: Mark Emmons

1. Vehicles double-parked in back lane by mosque
2. Copland & Leslie Ave – temporary bulbouts are ineffective and ugly
3. Lake Cres north-south lane (perpendicular to Lake by 14th St) is very dusty. Too much traffic. Too fast. Should put in bollards or posts to block traffic from cutting all the way through.
4. Read lane traffic is an issue near mosque. Blocks garages.
5. Bulbing at intersections pushes cyclists out into the roadways. Maybe develop them with space for cyclists to travel through.
6. Local traffic only signage as ignored.
7. Mosque traffic parks too close to driveways.
8. Potholes & water main break patching creates awful roadways.
9. Understanding was that east side mosque parking would be primary parking. South parking was only supposed to be used Fridays.
10. Should move mosque driveway to west.
11. Two-way traffic in back lane by mosque is dangerous, especially in winter.
12. Double-parking and U-turns in middle of street when dropping off loads for school.
13. Speeding on 14th St. Need more signage. Needs pedestrian crosswalk from north-south back lane because of heavily travelled lane.
14. Preston is getting busier and busier. Needs more flow and less calming.
15. Rear lanes near mosque are important. Group is split on keeping open or closing them.
16. Ontario has bylaw: 'Places of worship should only be on non-residential non-local roads' and it would be useful here.
17. 'Limit daily parking area by IAS to the old school parking on the east of IAS, except on Fridays.
18. Signs that are currently "Local Traffic Only" should be changed to "Resident Traffic Only". In Ontario they use "non-residential" not just "non-local".

Group 5: Angela Gardiner

1. Bate Cres & Isbister St – speeding; install pedestrian crossing

2. Bate Cres – speeding & shortcutting at 8am and pm peak hours
3. 14th St & Bate Cres – pedestrian crosswalk, cars not stopping for pedestrians
4. 14th St & Leslie Ave – cars parking too close to intersection
5. Park on northeast corner of neighbourhood (bound by alleys adjacent to Preston Ave, 14th St, & Bate Cres) – cars joyriding, garbage dumped, needles, install posts and garbage cans
6. Copland Cres – speeding on east-west stretch (north side of school); install additional signage, expand school zone
7. Parking lot south of IAS – many vehicles in lot, lights
8. Copland Court – install “Not a Thru Street” sign
9. 14th St – the island at Bate Cres needs sidewalk on the north side
10. 14th St – speeding; install a speed reader board
11. North-south lane between 14th St & Copland Cres and east-west lanes between Preston Ave & Copland Cres – close lanes
12. Leslie Ave to Copland Cres (at bend) – needs review; traffic calming needed
13. Main St & Bate Cres – close median
14. Preston Ave & 14th St – signal timing needs review; delays at pm peak and eastbound delays
15. Main St & Preston Ave – delays for southbound at 4-way stop

Next Steps

1. Continue monitoring traffic issues in your neighbourhood
2. Mail-in or email comments no later than May 14/16
3. Additional public input via City on-line Community Engagement webpage no later than May 14/16

<http://shapingsaskatoon.ca/discussions/grosvenor-park-neighbourhood-traffic-review-1>

4. Traffic count data collection – spring/summer 2016
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: Preston Ave & Main St – is there still a roundabout proposed?

City: It's on an outstanding list of city-wide improvements and will be installed when funded. Preston Avenue & Taylor St improvements are getting done this year.

Councillor Clark: Preston Ave between 8th St & College Dr has been identified as future bus rapid transit route so that will have an impact on the plans.

Resident: Thanks to everyone in the community. After the Paris issue there was a lot of support. Appreciate patience and kindness.

Resident: Speed bumps. Why didn't we see any in the recommendations?

City: We try to avoid using speed bumps or speed *humps* due to emergency response times. We've also received mixed opinions from residents due to noise, vibrations, loss of control also causes safety concerns. They're ok for parking lots but typically not for local streets.

Resident: How does a roundabout work for pedestrians?

City: Separates pedestrian-vehicle conflicts. One direction of traffic to cross at a time.

Resident: Why doesn't the city use rumble strips?

City: residents living near them would oppose due to noise. In Blairmore, on the outskirts of the city, we've received complaints from the strips that are 200-300m from their property. It's typically not used in urban settings.

Resident: Copland Cres back lane – what's the process to close it?

City: General support needed from the group. Approval from City Council. Trial for 1-2years. Feedback after trial. Council for approval for permanent closure. Public Hearing.

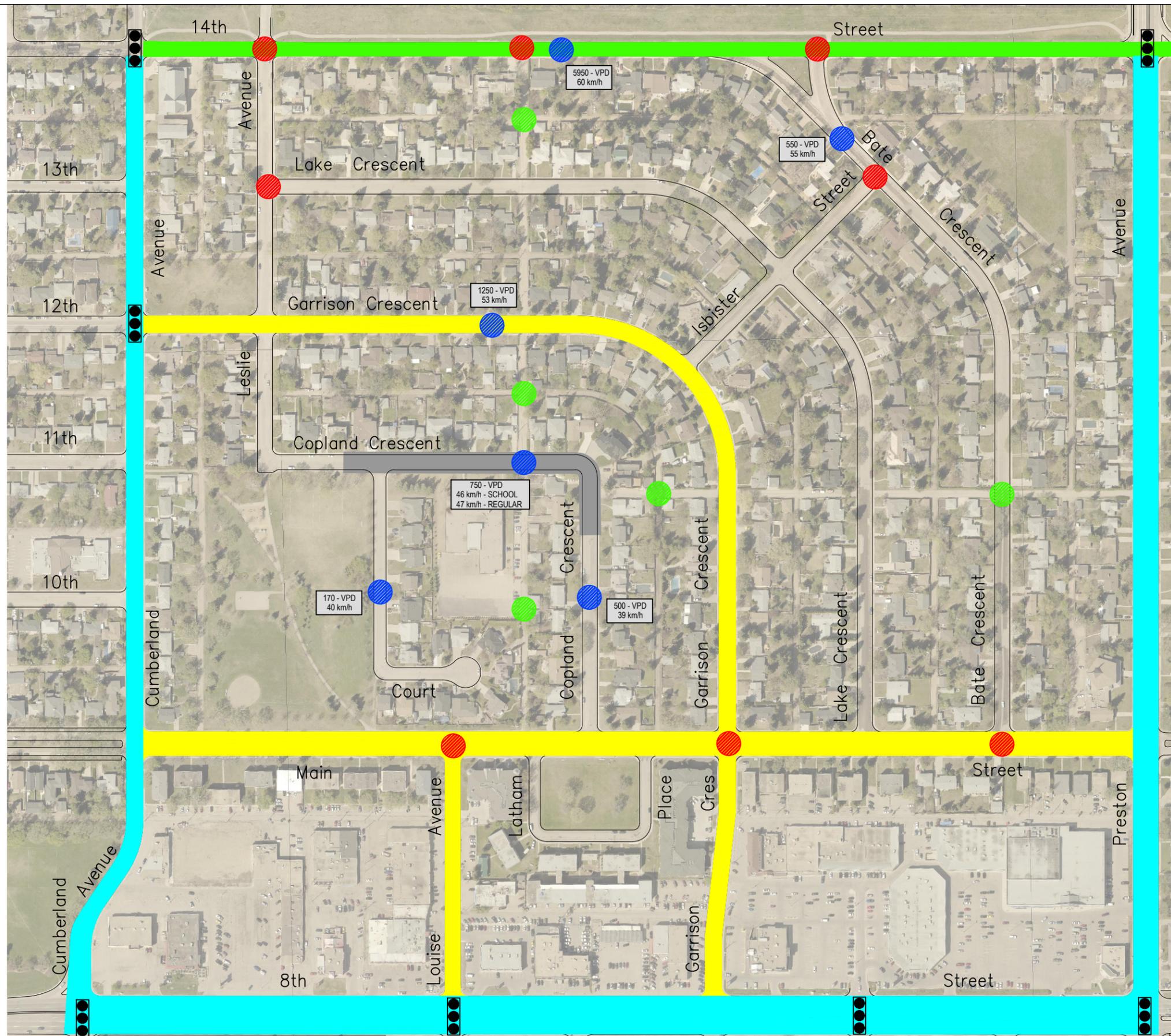
Resident: When will we know our comments have been received?

City: All comments are documented in technical report that goes along with report to Council.

Resident: Back lane restriction will cause more traffic on the Crescent. Need to work together with the Islamic Association. The numbers will be there regardless so we need to work to calm traffic.

Resident: School 25 years ago so didn't have these issues. Don't push traffic into neighbourhood streets.

APPENDIX B: TRAFFIC DATA COLLECTION



LEGEND

- PEAK HOUR TRAFFIC & PEDESTRIAN COUNT
- 7-DAY TRAFFIC VOLUME & SPEED STUDY
- 24-HR WEEKDAY TRAFFIC COUNT
- 500 - VPD
47 km/h NUMBER OF VEHICLES PER DAY
85TH PERCENTILE SPEED
- COLLECTOR
- MAJOR COLLECTOR
- ARTERIAL (TYPICALLY NOT STUDIED AS PART OF NTR)

GROSVENOR PARK TRAFFIC DATA

APPENDIX C: PEDESTRIAN DEVICE ASSESSMENTS

14th Street & Leslie Avenue (Pedestrian Actuated Signal Warrant):

Location & Roadway Classification: 14th St & Leslie Ave - collector
Date of Count: Day of wk: Thurs Mth, Day, Yr: Jun 23/16
Weather: fair
Traffic Control Devices: stop sign
Current Pedestrian Control: standard crosswalks
Other Notes: 95m from Cumberland Ave

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 95 m

Location: Cumberland Ave

Type: Stop sign

Is the orientation of this crosswalk(s) N-S? y (y or n)

Duration of pedestrian count 5 hrs

| | | | | | |
|---|------------|---|------------|-----------|-----------------|
| Elementary: | 45 | Total Warranted PC Points: | | or | / period |
| High School: | | Highest PC point value: | 660 | at | |
| Adult: | | Active Ped Corridor Points: | | | |
| Senior: | | Pedestrian Actuated Signal Points: | 14 | | |
| Vehicles passing through crosswalk(s): | 330 | | | | |

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

14th Street & Leslie Avenue (Pedestrian Corridor Warrant):

| 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 | 7 | 7 | 1 | | | | 1 | 1 | 1 | 7 | | |
| 8:15 | 14 | 21 | 4 | | | | 4 | 4 | 5 | 105 | | |
| 8:30 | 15 | 29 | 7 | | | | 7 | 7 | 11 | 319 | | |
| 8:45 | 8 | 23 | 1 | | | | 1 | 1 | 8 | 184 | | |
| 9:00 | | 8 | | | | | | | 1 | 8 | | |
| 9:15 | | | | | | | | | | | | |
| 9:30 | | | | | | | | | | | | |
| 9:45 | | | | | | | | | | | | |
| AM Totals | 44 | | 13 | | | | 13 | | | | | |
| 11:30 | 17 | | 2 | | | | 2 | 2 | | | | |
| 11:45 | 13 | 30 | 2 | | | | 2 | 2 | 4 | 120 | | |
| 12:00 | 18 | 31 | 2 | | | | 2 | 2 | 4 | 124 | | |
| 12:15 | 18 | 36 | 2 | | | | 2 | 2 | 4 | 144 | | |
| 12:30 | 14 | 32 | | | | | | | 2 | 64 | | |
| 12:45 | 10 | 24 | 3 | | | | 3 | 3 | 3 | 72 | | |
| 13:00 | 14 | 24 | 2 | | | | 2 | 2 | 5 | 120 | | |
| 13:15 | 17 | 31 | | | | | | | 2 | 62 | | |
| Noon Totals | 121 | | 13 | | | | 13 | | | | | |
| 14:00 | | | | | | | | | | | | |
| 14:15 | | | | | | | | | | | | |
| 14:30 | | | | | | | | | | | | |
| 14:45 | | | | | | | | | | | | |
| 15:00 | 17 | 17 | | | | | | | | | | |
| 15:15 | 12 | 29 | 1 | | | | 1 | 1 | 1 | 29 | | |
| 15:30 | 16 | 28 | 1 | | | | 1 | 1 | 2 | 56 | | |
| 15:45 | 22 | 38 | 3 | | | | 3 | 3 | 4 | 152 | | |
| 16:00 | 18 | 40 | 3 | | | | 3 | 3 | 6 | 240 | | |
| 16:15 | 20 | 38 | | | | | | | 3 | 114 | | |
| 16:30 | 27 | 47 | 5 | | | | 5 | 5 | 5 | 235 | | |
| 16:45 | 33 | 60 | 6 | | | | 6 | 6 | 11 | 660 | | |
| 17:00 | | 33 | | | | | | | 6 | 198 | | |
| 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 | 165 | | 19 | | | | 19 | | | | | |
| Totals | 330 | | 45 | | | | 45 | | | | | |
| | | | 100% | | | | 100% | | | | | |
| | | | West Crosswalk = | | | | 34 | <<< install crosswalk on this side of the int. | | | | |
| | | | East Crosswalk = | | | | 11 | | | | | |

SUMMARY

| | | | |
|-----------------------------------|------------|----------|-----------------|
| Total Warranted PC Points: | | o | / period |
| Highest PC point value: | 660 | r | |
| Average PC point value: | 201 | a | |
| No. of periods warranted: | | t | |

14th Street & lane between Bate Crescent & Leslie Avenue (Pedestrian Actuated Signal Warrant):

tion & Roadway Classification: 14th St at lane between Leslie & Bate Cres - collector
Date of Count: Day of wk: Thurs Mth, Day, Yr: Jun 23/16
Weather: fair
Traffic Control Devices: none
Current Pedestrian Control: none (midblock)
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 300 m

Location: Cumberland Ave

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: | 2,511 | at | |
| Adult: | | Active Ped Corridor Points: | | | |
| Senior: | | Pedestrian Actuated Signal Points: | 27 | | |
| Vehicles passing through crosswalk(s): | 2,330 | | | | |

ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

14th Street & lane between Bate Crescent & Leslie Avenue (Pedestrian Corridor Warrant):

| 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 | 114 | 114 | 1 | | | | 1 | 1 | 1 | 114 | | |
| 8:15 | 130 | 244 | | | | | | | 1 | 244 | | |
| 8:30 | 140 | 270 | 6 | | | | 6 | 6 | 6 | 1,620 | | |
| 8:45 | 139 | 279 | 3 | | | | 3 | 3 | 9 | 2,511 | | |
| 9:00 | | 139 | | | | | | | 3 | 417 | | |
| 9:15 | | | | | | | | | | | | |
| 9:30 | | | | | | | | | | | | |
| 9:45 | | | | | | | | | | | | |
| AM Totals | 523 | | 10 | | | | 10 | | | | | |
| 11:30 | 85 | | | | | | | | | | | |
| 11:45 | 104 | 189 | 1 | | | | 1 | 1 | 1 | 189 | | |
| 12:00 | 99 | 203 | | | | | | | 1 | 203 | | |
| 12:15 | 118 | 217 | 1 | | | | 1 | 1 | 1 | 217 | | |
| 12:30 | 100 | 218 | 3 | | | | 3 | 3 | 4 | 872 | | |
| 12:45 | 96 | 196 | | | | | | | 3 | 588 | | |
| 13:00 | 103 | 199 | | | | | | | | | | |
| 13:15 | 88 | 191 | 2 | | | | 2 | 2 | 2 | 382 | | |
| Noon Totals | 793 | | 7 | | | | 7 | | | | | |
| 14:00 | | | | | | | | | | | | |
| 14:15 | | | | | | | | | | | | |
| 14:30 | | | | | | | | | | | | |
| 14:45 | | | | | | | | | | | | |
| 15:00 | 110 | 110 | | | | | | | | | | |
| 15:15 | 105 | 215 | | | | | | | | | | |
| 15:30 | 104 | 209 | | | | | | | | | | |
| 15:45 | 119 | 223 | 1 | | | | 1 | 1 | 1 | 223 | | |
| 16:00 | 119 | 238 | 3 | | | | 3 | 3 | 4 | 952 | | |
| 16:15 | 118 | 237 | 1 | | | | 1 | 1 | 4 | 948 | | |
| 16:30 | 176 | 294 | 1 | | | | 1 | 1 | 2 | 588 | | |
| 16:45 | 163 | 339 | | | | | | | 1 | 339 | | |
| 17:00 | | 163 | | | | | | | | | | |
| 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 | 1,014 | | 6 | | | | 6 | | | | | | |
| Totals | 2,330 | | 23 | | | | 23 | | | | | | |
| | | | 100% | | | | 100% | | | | | | |
| | | | West Crosswalk = | | | | | 14 | <<< install crosswalk on this side of the int. | | | | |
| | | | East Crosswalk = | | | | | 9 | | | | | |

SUMMARY

| | | | |
|---------------------------------------|--------------|-----------|------------|
| Total Warranted PC Points: | | or | / |
| Highest PC point value: | 2,511 | at | per |
| Average PC point value: | 694 | | iod |
| No. of periods warranted: | | | |

14th Street & Bate Crescent (Pedestrian Actuated Signal Warrant):

Location & Roadway Classification: 14th St & Bate Cres - collector
Date of Count: Day of wk: Tues Mth, Day, Yr: Jun 28/16
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 260 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: | 19 | Total Warranted PC Points: | | or | / period |
| High School: | | Highest PC point value: | 1,068 | at | |
| Adult: | | Active Ped Corridor Points: | | | |
| Senior: | | Pedestrian Actuated Signal Points: | 22 | | |
| Vehicles passing through crosswalk(s): | 2,309 | | | | |

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

14th Street & Bate Crescent (Pedestrian Corridor Warrant):

| 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 | 82 | 82 | | | | | | | | | | |
| 8:15 | 99 | 181 | 4 | | | | 4 | 4 | 4 | 724 | | |
| 8:30 | 104 | 203 | | | | | | | 4 | 812 | | |
| 8:45 | 92 | 196 | | | | | | | | | | |
| 9:00 | | 92 | | | | | | | | | | |
| 9:15 | | | | | | | | | | | | |
| 9:30 | | | | | | | | | | | | |
| 9:45 | | | | | | | | | | | | |
| AM Totals | 377 | | 4 | | | | 4 | | | | | |
| 11:30 | 102 | | 1 | | | | 1 | 1 | | | | |
| 11:45 | 98 | 200 | 1 | | | | 1 | 1 | 2 | 400 | | |
| 12:00 | 141 | 239 | | | | | | | 1 | 239 | | |
| 12:15 | 103 | 244 | 3 | | | | 3 | 3 | 3 | 732 | | |
| 12:30 | 88 | 191 | 1 | | | | 1 | 1 | 4 | 764 | | |
| 12:45 | 128 | 216 | | | | | | | 1 | 216 | | |
| 13:00 | 114 | 242 | 1 | | | | 1 | 1 | 1 | 242 | | |
| 13:15 | 99 | 213 | | | | | | | 1 | 213 | | |
| Noon Totals | 873 | | 7 | | | | 7 | | | | | |
| 14:00 | | | | | | | | | | | | |
| 14:15 | | | | | | | | | | | | |
| 14:30 | | | | | | | | | | | | |
| 14:45 | | | | | | | | | | | | |
| 15:00 | 106 | 106 | | | | | | | | | | |
| 15:15 | 119 | 225 | 2 | | | | 2 | 2 | 2 | 450 | | |
| 15:30 | 119 | 238 | 1 | | | | 1 | 1 | 3 | 714 | | |
| 15:45 | 129 | 248 | | | | | | | 1 | 248 | | |
| 16:00 | 135 | 264 | 4 | | | | 4 | 4 | 4 | 1,056 | | |
| 16:15 | 132 | 267 | | | | | | | 4 | 1,068 | | |
| 16:30 | 171 | 303 | 1 | | | | 1 | 1 | 1 | 303 | | |
| 16:45 | 148 | 319 | | | | | | | 1 | 319 | | |
| 17:00 | | 148 | | | | | | | | | | |
| 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 | 1,059 | | 8 | | | | 8 | | | | | | |
| Totals | 2,309 | | 19 | | | | 19 | | | | | | |
| | | 100% | | | | | 100% | | | | | | |
| | | West Crosswalk = | | | | | | | | | | | |
| | | East Crosswalk = | | | | | | 19 | | | | | |

<<< install crosswalk on this side of the int.

SUMMARY

Total Warranted
 PC Points: or /
 Highest PC point value: 1,068 at period
 Average PC point value: 567
 No. of periods warranted:

Main Street & Louise Avenue (Pedestrian Actuated Signal Warrant):

tion & Roadway Classification: Main & Louise - collector/collector
Date of Count: Day of wk: Tues Mth, Day, Yr: Jun 28/16
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)? 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: 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: | 23 | Total Warranted PC Points: | | or | / period |
| High School: | | Highest PC point value: | 1,440 | at | |
| Adult: | | Active Ped Corridor Points: | | | |
| Senior: | | Pedestrian Actuated Signal Points: | 20 | | |
| Vehicles passing through crosswalk(s): | 2,381 | | | | |

ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

Main Street & Louise Avenue (Pedestrian Corridor Warrant):

| 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 | 90 | 90 | 1 | | | | 1 | 1 | 1 | 90 | | |
| 8:15 | 106 | 196 | | | | | | | 1 | 196 | | |
| 8:30 | 108 | 214 | 3 | | | | 3 | 3 | 3 | 642 | | |
| 8:45 | 89 | 197 | | | | | | | 3 | 591 | | |
| 9:00 | | 89 | | | | | | | | | | |
| 9:15 | | | | | | | | | | | | |
| 9:30 | | | | | | | | | | | | |
| 9:45 | | | | | | | | | | | | |
| AM Totals | 393 | | 4 | | | | 4 | | | | | |
| 11:30 | 100 | | | | | | | | | | | |
| 11:45 | 102 | 202 | | | | | | | | | | |
| 12:00 | 125 | 227 | 2 | | | | 2 | 2 | 2 | 454 | | |
| 12:15 | 103 | 228 | 1 | | | | 1 | 1 | 3 | 684 | | |
| 12:30 | 120 | 223 | 3 | | | | 3 | 3 | 4 | 892 | | |
| 12:45 | 143 | 263 | 1 | | | | 1 | 1 | 4 | 1,052 | | |
| 13:00 | 126 | 269 | | | | | | | 1 | 269 | | |
| 13:15 | 95 | 221 | 2 | | | | 2 | 2 | 2 | 442 | | |
| Noon Totals | 914 | | 9 | | | | 9 | | | | | |
| 14:00 | | | | | | | | | | | | |
| 14:15 | | | | | | | | | | | | |
| 14:30 | | | | | | | | | | | | |
| 14:45 | | | | | | | | | | | | |
| 15:00 | 97 | 97 | | | | | | | | | | |
| 15:15 | 137 | 234 | 2 | | | | 2 | 2 | 2 | 468 | | |
| 15:30 | 125 | 262 | 1 | | | | 1 | 1 | 3 | 786 | | |
| 15:45 | 146 | 271 | 1 | | | | 1 | 1 | 2 | 542 | | |
| 16:00 | 142 | 288 | 4 | | | | 4 | 4 | 5 | 1,440 | | |
| 16:15 | 118 | 260 | 1 | | | | 1 | 1 | 5 | 1,300 | | |
| 16:30 | 146 | 264 | | | | | | | 1 | 264 | | |
| 16:45 | 163 | 309 | 1 | | | | 1 | 1 | 1 | 309 | | |
| 17:00 | | 163 | | | | | | | 1 | 163 | | |
| 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 | 1,074 | | 10 | | | | 10 | | | | | | |
| Totals | 2,381 | | 23 | | | | 23 | | | | | | |
| | | | 100% | | | | 100% | | | | | | |
| | | | West Crosswalk = | | | | | 17 | | <<< install crosswalk on this side of the int. | | | |
| | | | East Crosswalk = | | | | | 6 | | | | | |

SUMMARY

| | | | |
|---------------------------------------|--------------|-----------|--------------------------|
| Total Warranted PC Points: | | or | / peri od |
| Highest PC point value: | 1,440 | at | |
| Average PC point value: | 706 | | |
| No. of periods warranted: | | | |

Main Street & Garrison Crescent (Pedestrian Actuated Signal Warrant):

tion & Roadway Classification: Main St & Garrison - collector/collector
Date of Count: Day of wk: Tues Mth, Day, Yr: June-28-16
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)? y (y or n)

Speed limit (or 85th percentile speed) 50 km/h

85th percentile (check one)

Posted Limit

Distance to nearest protected crosswalk 325 m

Location: Preston 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: | 17 | Total Warranted PC Points: | | or | / period |
| High School: | | Highest PC point value: | 1,120 | at | |
| Adult: | | Active Ped Corridor Points: | | | |
| Senior: | | Pedestrian Actuated Signal Points: | 25 | | |
| Vehicles passing through crosswalk(s): | 2,711 | | | | |

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

Main Street & Garrison Crescent (Pedestrian Corridor Warrant):

| 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 | 92 | 92 | 1 | | | | 1 | 1 | 1 | 92 | | |
| 8:15 | 116 | 208 | 2 | | | | 2 | 2 | 3 | 624 | | |
| 8:30 | 122 | 238 | | | | | | | 2 | 476 | | |
| 8:45 | 107 | 229 | | | | | | | | | | |
| 9:00 | | 107 | | | | | | | | | | |
| 9:15 | | | | | | | | | | | | |
| 9:30 | | | | | | | | | | | | |
| 9:45 | | | | | | | | | | | | |
| AM Totals | 437 | | 3 | | | | 3 | | | | | |
| 11:30 | 115 | | | | | | | | | | | |
| 11:45 | 121 | 236 | 1 | | | | 1 | 1 | 1 | 236 | | |
| 12:00 | 160 | 281 | 1 | | | | 1 | 1 | 2 | 562 | | |
| 12:15 | 130 | 290 | 1 | | | | 1 | 1 | 2 | 580 | | |
| 12:30 | 118 | 248 | 2 | | | | 2 | 2 | 3 | 744 | | |
| 12:45 | 155 | 273 | | | | | | | 2 | 546 | | |
| 13:00 | 145 | 300 | | | | | | | | | | |
| 13:15 | 124 | 269 | | | | | | | | | | |
| Noon Totals | 1,068 | | 5 | | | | 5 | | | | | |
| 14:00 | | | | | | | | | | | | |
| 14:15 | | | | | | | | | | | | |
| 14:30 | | | | | | | | | | | | |
| 14:45 | | | | | | | | | | | | |
| 15:00 | 114 | 114 | 1 | | | | 1 | 1 | 1 | 114 | | |
| 15:15 | 146 | 260 | 1 | | | | 1 | 1 | 2 | 520 | | |
| 15:30 | 138 | 284 | 2 | | | | 2 | 2 | 3 | 852 | | |
| 15:45 | 142 | 280 | 2 | | | | 2 | 2 | 4 | 1,120 | | |
| 16:00 | 150 | 292 | 1 | | | | 1 | 1 | 3 | 876 | | |
| 16:15 | 146 | 296 | | | | | | | 1 | 296 | | |
| 16:30 | 192 | 338 | 2 | | | | 2 | 2 | 2 | 676 | | |
| 16:45 | 178 | 370 | | | | | | | 2 | 740 | | |
| 17:00 | | 178 | | | | | | | | | | |
| 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 | 1,206 | | 9 | | | | 9 | | | | | |
| Totals | 2,711 | | 17 | | | | 17 | | | | | |
| | | 100% | | | | | 100% | | | | | |
| | | | West Crosswalk | | | | | 10 | <<< install crosswalk on this side of the int. | | | |
| | | | = | | | | | | | | | |
| | | | East Crosswalk | | | | | 7 | | | | |
| | | | = | | | | | | | | | |

SUMMARY

| | | | |
|-----------------------------------|--------------|-----------|-------------|
| Total Warranted PC Points: | | or | / |
| Highest PC point value: | 1,120 | at | peri |
| Average PC point value: | 604 | | od |
| No. of periods warranted: | | | |

Main Street & Bate Crescent (Pedestrian Actuated Signal Warrant):

Location & Roadway Classification: Main St & Bate Cres - collector/local
Date of Count: Day of wk: Tues Mth, Day, Yr: Jun 28/16
Weather: fair
Traffic Control Devices: stop sign
Current Pedestrian Control: none
Other Notes: U-turns

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 95 m

Location: Preston 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: | 10 | Total Warranted PC Points: | | or | / period |
| High School: | | Highest PC point value: | 812 | at | |
| Adult: | | Active Ped Corridor Points: | | | |
| Senior: | | Pedestrian Actuated Signal Points: | 12 | | |
| Vehicles passing through crosswalk(s): | 2,309 | | | | |

**ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED**

Main Street & Bate Crescent (Pedestrian Corridor Warrant):

| 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 | 82 | 82 | | | | | | | | | | |
| 8:15 | 99 | 181 | 4 | | | | 4 | 4 | 4 | 724 | | |
| 8:30 | 104 | 203 | | | | | | | 4 | 812 | | |
| 8:45 | 92 | 196 | | | | | | | | | | |
| 9:00 | | 92 | | | | | | | | | | |
| 9:15 | | | | | | | | | | | | |
| 9:30 | | | | | | | | | | | | |
| 9:45 | | | | | | | | | | | | |
| AM Totals | 377 | | 4 | | | | 4 | | | | | |
| 11:30 | 102 | | | | | | | | | | | |
| 11:45 | 98 | 200 | | | | | | | | | | |
| 12:00 | 141 | 239 | 1 | | | | 1 | 1 | 1 | 239 | | |
| 12:15 | 103 | 244 | | | | | | | 1 | 244 | | |
| 12:30 | 88 | 191 | 1 | | | | 1 | 1 | 1 | 191 | | |
| 12:45 | 128 | 216 | | | | | | | 1 | 216 | | |
| 13:00 | 114 | 242 | 1 | | | | 1 | 1 | 1 | 242 | | |
| 13:15 | 99 | 213 | | | | | | | 1 | 213 | | |
| Noon Totals | 873 | | 3 | | | | 3 | | | | | |
| 14:00 | | | | | | | | | | | | |
| 14:15 | | | | | | | | | | | | |
| 14:30 | | | | | | | | | | | | |
| 14:45 | | | | | | | | | | | | |
| 15:00 | 106 | 106 | | | | | | | | | | |
| 15:15 | 119 | 225 | | | | | | | | | | |
| 15:30 | 119 | 238 | 3 | | | | 3 | 3 | 3 | 714 | | |
| 15:45 | 129 | 248 | | | | | | | 3 | 744 | | |
| 16:00 | 135 | 264 | | | | | | | | | | |
| 16:15 | 132 | 267 | | | | | | | | | | |
| 16:30 | 171 | 303 | | | | | | | | | | |
| 16:45 | 148 | 319 | | | | | | | | | | |
| 17:00 | | 148 | | | | | | | | | | |
| 17:15 | | | | | | | | | | | | |
| 17:30 | | | | | | | | | | | | |
| 17:45 | | | | | | | | | | | | |
| 18:00 | | | | | | | | | | | | |
| 18:15 | | | | | | | | | | | | |

Bate Crescent & Isbister Street (Pedestrian Actuated Signal Warrant):

Location & Roadway Classification: Bate & Isbister - local/local
Date of Count: Day of wk: Wed Mth, Day, Yr: Jun 29/16
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)? y (y or n)

Speed limit (or 85th percentile speed) 50 km/h

85th percentile (check one)

Posted Limit

Distance to nearest protected crosswalk 130 m

Location: 14th St

Type: stop sign

Is the orientation of this crosswalk(s) N-S? n (y or n)

Duration of pedestrian count 5 hrs

| | | | | | |
|---|------------|---|-----------|-----------|-----------------|
| Elementary: | 1 | Total Warranted PC Points: | | or | / period |
| High School: | | Highest PC point value: | 31 | at | |
| Adult: | | Active Ped Corridor Points: | | | |
| Senior: | | Pedestrian Actuated Signal Points: | 10 | | |
| Vehicles passing through crosswalk(s): | 330 | | | | |

ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

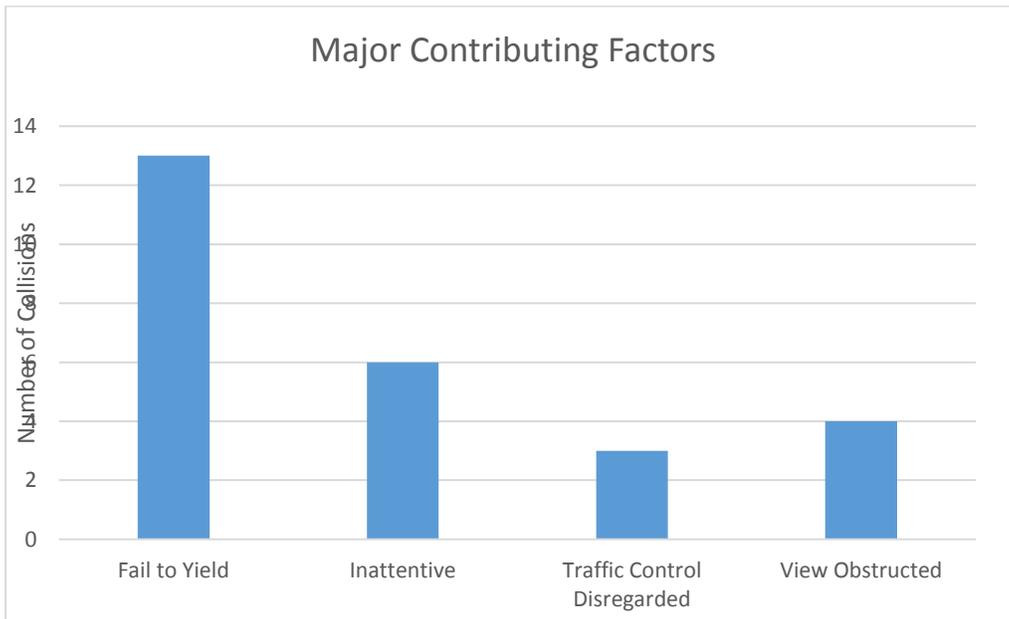
Bate Crescent & Isbister Street (Pedestrian Corridor Warrant):

| 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 | 7 | 7 | | | | | | | | | | |
| 8:15 | 14 | 21 | | | | | | | | | | |
| 8:30 | 15 | 29 | | | | | | | | | | |
| 8:45 | 8 | 23 | | | | | | | | | | |
| 9:00 | | 8 | | | | | | | | | | |
| 9:15 | | | | | | | | | | | | |
| 9:30 | | | | | | | | | | | | |
| 9:45 | | | | | | | | | | | | |
| AM Totals | 44 | | | | | | | | | | | |
| 11:30 | 17 | | | | | | | | | | | |
| 11:45 | 13 | 30 | 1 | | | | 1 | 1 | 1 | 30 | | |
| 12:00 | 18 | 31 | | | | | | | 1 | 31 | | |
| 12:15 | 18 | 36 | | | | | | | | | | |
| 12:30 | 14 | 32 | | | | | | | | | | |
| 12:45 | 10 | 24 | | | | | | | | | | |
| 13:00 | 14 | 24 | | | | | | | | | | |
| 13:15 | 17 | 31 | | | | | | | | | | |
| Noon Totals | 121 | | 1 | | | | 1 | | | | | |
| 14:00 | | | | | | | | | | | | |
| 14:15 | | | | | | | | | | | | |
| 14:30 | | | | | | | | | | | | |
| 14:45 | | | | | | | | | | | | |
| 15:00 | 17 | 17 | | | | | | | | | | |
| 15:15 | 12 | 29 | | | | | | | | | | |
| 15:30 | 16 | 28 | | | | | | | | | | |
| 15:45 | 22 | 38 | | | | | | | | | | |
| 16:00 | 18 | 40 | | | | | | | | | | |
| 16:15 | 20 | 38 | | | | | | | | | | |
| 16:30 | 27 | 47 | | | | | | | | | | |
| 16:45 | 33 | 60 | | | | | | | | | | |
| 17:00 | | 33 | | | | | | | | | | |
| 17:15 | | | | | | | | | | | | |
| 17:30 | | | | | | | | | | | | |
| 17:45 | | | | | | | | | | | | |
| 18:00 | | | | | | | | | | | | |
| 18:15 | | | | | | | | | | | | |

APPENDIX D: COLLISION ANALYSIS

| Street 1 | Street 2 | Ugrid | All collisions (2011 - 2015) | All collisions (2015) | Right Angle, Left Turn & Right Turn Only (2011-2015) | Right Angle, Left Turn & Right Turn Only (2015) | Average # of Collisions Per Year (2011-2015) |
|-------------------|-------------------|-------|------------------------------|-----------------------|--|---|--|
| 14th Street | Leslie Avenue | K9-27 | 7 | 0 | 5 | 0 | 1 |
| 14th Street | Bate Crescent | K9-47 | 3 | 0 | 0 | 0 | 1 |
| Bate Crescent | Isbister Street | K9-12 | 0 | 0 | 0 | 0 | 0 |
| Main Street | Bate Crescent | K9-10 | 2 | 0 | 1 | 0 | 0 |
| Main Street | Lake Crescent | K9-33 | 0 | 0 | 0 | 0 | 0 |
| Main Street | Garrison Crescent | K9-19 | 20 | 1 | 17 | 1 | 4 |
| Main Street | Copland Crescent | K9-51 | 1 | 0 | 0 | 0 | 0 |
| Main Street | Louise Avenue | K9-31 | 0 | 0 | 0 | 0 | 0 |
| Lake Crescent | Leslie Avenue | K9-26 | 0 | 0 | 0 | 0 | 0 |
| Lake Crescent | Isbister Street | K9-15 | 2 | 0 | 2 | 0 | 0 |
| Garrison Crescent | Leslie Avenue | K9-23 | 1 | 0 | 0 | 0 | 0 |
| Garrison Crescent | Isbister Street | K9-21 | 1 | 0 | 0 | 0 | 0 |
| Copland Crescent | Leslie Avenue | K9-45 | 0 | 0 | 0 | 0 | 0 |
| Copland Crescent | At bend | K9-30 | 2 | 0 | 0 | 0 | 0 |

Main Street & Garrison Crescent:



Recommendations:

1. Parking prohibitions on SW & NE corners to ensure sightlines are clear
2. Enhance visibility of stop sign

APPENDIX E: PUBLIC MEETING No. 2 – JANUARY 11, 2017 MINUTES

**Grosvenor Park Neighbourhood
Traffic Review
Wednesday, January 11, 2017, 7:00 – 9:00 P.M.
Albert Community Centre
610 Clarence Avenue South**

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 – Grosvenor Park Neighbourhood Traffic Review
(Presented by Justine Marcoux – Transportation Engineer)

Presentation Outline:

- Neighbourhood Traffic Review Process
- Grosvenor Park Review Schedule
- What We Heard
- What We Did
- What We Propose

Neighbourhood Traffic Review Process:

- August 2013 – changes to program
 - Neighbourhood-wide review rather than street-by-street or intersection-by-intersection
 - More community / stakeholder feedback
 - Efficient use of staff resources
- Mandate: improve safety for all road users within neighbourhoods; reduce traffic volumes where necessary, slow vehicular speeds, improve pedestrian crossings & intersections
- 2014 – 11 neighbourhoods
- 2015 – 8 neighbourhoods
- 2016 – Grosvenor Park, Willowgrove, Hampton Village, Sutherland, Parkridge, Silverspring, Lakeridge, Stonebridge

How We Got Here:

- April 2016 – Initial Traffic Meeting
- April 2016 to January 2017 – gather feedback, conduct traffic studies, collect data, develop traffic plan
- January 2017 – Follow Up Traffic Meeting - present draft traffic plan and gather feedback
- 2017 – Revise draft traffic plan, approval from Council, implement recommendations

What We Heard:

- A. Speeding / Pedestrian Safety / Parking / Shortcutting Traffic:
- Bate Cres
 - Isbister St
 - 14th St
 - Main St
 - Leslie Ave

- Lake Cres
- Garrison Cres

B. Area surrounding the mosque:

- High traffic volumes
- Speeding
- Parking
- Dust
- Noise

What We Did:

- Collected Data:
 - Past studies
 - Comments from initial meeting
 - Resident responses (phone calls, emails, letters)
 - Recorded comments from Shaping Saskatoon discussions
 - 7 Intersection / Pedestrian counts
 - 6 – 7 day traffic count (24 hour) & Average Speed measurements
 - 6 – 48 hour traffic counts
 - Collision history
- Field Reviews
- Assessed the Issues
- Generated proposed recommendations

What We Propose:

- Median Islands
- Speed Display Board
- Crosswalks
- Yield signs
- Parking restrictions near intersections
- Paving & speed bumps in lane near mosque
- Sidewalks
- Enforcement (ie. Speeding & parking)

Q&A

Resident: When were counts taken?

City: A majority of the counts were conducted throughout June (2016) and September (2016). Some locations counted twice for comparison.

Resident: The presentation missed issues that have been raised since 2013. Review didn't include on-street parking.

City: The draft plan includes a few parking recommendations, for example parking restrictions near intersection to improve sight lines and parking enforcement to address the area surrounding the mosque. With regards the UofS parking this can be addressed through the Residential Parking Permit Program (RPPP). Residents are responsible for submitting the request to Parking Services after gathering 70% support for the area.

Resident: My issue is Lake Crescent. Parking enforcement is good for certain areas. There's a problem at the mosque.

- **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 Grosvenor Park and potential solutions

Refer to separate attachments – *Table discussions* and *Additional Comments from Table Discussions*.

Next Steps

1. Send comments no later than Feb 11/17
2. Additional public input via City on-line Community Engagement webpage no later than Feb 11/17

<http://shapingsaskatoon.ca/discussions>

3. Additional consultation if required (survey to residents near back lane to gauge support for speed bumps)
4. Present traffic plan to Transportation Committee
5. Present traffic plan to City Council for approval
6. What happens after City Council approval?
 - Implementation begins. Signs and temporary traffic calming will be installed as early as spring (2017).
7. What if I don't agree?
 - Opportunities to speak to Transportation Committee as well as Council.
 - After Council approval recommendations are installed temporary. Opportunity to provide feedback on how the devices are working. Feedback will help us decide whether to remove or install permanent.

Q&A

Resident: How will we know when the final report is going to the Transportation Committee / Council?

City: We'll notify the Community Association it's also posted online.

Councillor Block: I'll also post it to social media.

Resident: Does paving the back lane effect my taxes? Do you need donations from residents?

City: This is the first time we've recommended paving of a back lane in a Neighbourhood Traffic Review. It will follow a similar process as our traffic calming devices. It will be added to the city-wide priority list of traffic calming locations for funding.

Resident: There were a number of concerns raised that are missing. Can we have the concerns with reasons they were rejected somewhere?

City: All of the information is included in the final report. ***Also refer to the tables provided at the end of these notes.***

Resident: Mosque- were studies not done?

City: We did all of the counts in June and September. Road tubes cannot be used on gravel roads therefore we have no way to collect speed data. We can however count traffic volumes.

Councillor Block: The communications piece is key. Encourage residents to take part in the online discussion (shapingsaskatoon.ca). The City will monitor the conversation, provide feedback, and everyone is able to view. Please get involved. I will also post it in my newsletter.

Resident: Take the ugly posts out of the back alleys (Garrison and Copland etc). They're ugly and clog traffic at a stand-still. Remove them.

Resident: However the posts do work to reduce traffic. They are working and educating to mosque traffic. So keep other neighbours in mind. Might not be a consensus.

Resident: Residents us lane. Posts are ugly but signs could also be changed to say something else. "Residents Only".

Resident: UofS / hospital employees parking is still a concern.

City: Residential Parking Permit Program is an option.

VVCA President: The #1 thing that comes up is parking. It's a concern. We need to put effort in with the City. We have to find out how to make this happen.

Resident: Major problem is the University. It's expanding and getting worse. We need to communicate with UofS.

Resident: As a bus rider, the corner of 14th St & Cumberland Ave is dangerous near the bus stop. It's on a slope and very icy. Need to have a conversation with the UofS about that.

Councillor Block: With the situation around the mosque, there was a good working group established for that. It is my intention to revive that. Please contact me if you're interested. Please email the Administration. Great interaction amongst the residents this evening. Great ideas on cycling. Thank-you to the UofS students for attending tonight's meeting. Thank-you to the staff.

VVCA President: UofS will be coming to Brunskill School on January 18 to discuss College Quarter. Please come out. This is an opportunity to voice your concerns.

List of Representatives

Mitch Riabko, Kathy Dahl – Great Works Consulting, Facilitators
Justine Marcoux, Lanre Akindipe, Yang Li – City of Saskatoon, Transportation & Utilities

Traffic Data Information:

Pedestrian Crossing Assessments

**All counts conducted on a Tuesday, Wednesday or Thursday in June

| Location | Existing Device | Active Pedestrian Corridor - Warrant Points (3 required) | Pedestrian Actuated Signal - Warrant Points (100 required) | Closest protected crossing (metres) | # of pedestrians crossing during 5 peak hours | Date of Count | Assessment |
|--|-----------------|--|--|-------------------------------------|---|---------------|--|
| 14th St & Leslie Ave | standard | 0 | 14 | 95 | 45 | Jun-16 | Zebra crosswalks & median island recommended |
| 14th St & back lane (between Leslie & Bate) | none | 0 | 27 | 300 | 23 | Jun-16 | Midblock crosswalks typically not recommended on collector; improve nearby locations to encourage pedestrians to cross there |
| 14th St & Bate Cres (east side of intersection that connects to pathway on north side) | standard | 0 | 22 | 230 | 19 | Jun-16 | Zebra crosswalks & median island recommended |
| Main St & Louise Ave | none | 0 | 20 | 250 | 23 | Jun-16 | Standard crosswalk recommended |
| Main St & Garrison Cres | none | 0 | 25 | 325 | 17 | Jun-16 | Standard crosswalk recommended |
| Main St & Bate Cres | none | 0 | 12 | 95 | 10 | Jun-16 | No recommendations |
| Bate & Isbister | none | 0 | 10 | 140 | 1 | Jun-16 | No recommendations |

Traffic Volume & Speed Studies

| Location | Classification | 85th Percentile Speed (should be less than 55kph) | Average Daily Traffic (should be less than 500 vehicles per day in lanes, 1,000vpd on locals, 5,000vpd on collectors) | Date of Count | Assessment |
|--|----------------|---|---|-----------------|-------------------------------------|
| Lane - Garrison Cres to Copland north/south | lane | NA | <100 | Jun-16 | No Recommendations |
| Lane - Bate to Preston east-west | lane | NA | <100 | Jun-16 | No Recommendations |
| Lane - Lake Cres & north/south | lane | NA | 130 | Jun-16 | No Recommendations |
| Lane - Copland Cres east/west | lane | NA | 170 (Friday=210) | Sep-15 | No Recommendations |
| Lane - Copland Cres north/south (north of parking lot) | lane | NA | 140 (Friday=320) | Jun-16 & Sep-16 | Pave lane, speed bumps, 20kph signs |
| Lane - Copland Cres north/south (south of parking lot) | lane | NA | 260 (Friday=500) | Jun-16 & Sep-16 | Pave lane, speed bumps, 20kph signs |
| Copland Cres - Copland Crt to bend east of Mosque (SZ) | local | 47kph; 46kph (school hours) | 750 | Jun-16 | Speed enforcement |

| | | | | | |
|---|-----------------|----|------------------|--------|---|
| | | | | | during school hours |
| Copland Cres - Main St to bend east of Mosque | local | 39 | 500 | Jun-16 | No Recommendations |
| Isbister Street | local | NA | 450 | Jun-16 | No Recommendations |
| Bate Cres - Isbister to back lane | local | 55 | 550 | Jun-16 | Median islands (at Isbister St and roadway curve) |
| Copland Crt - midblock | local | 40 | 170 (Friday=260) | Jun-16 | No Recommendations |
| Garrison Cres - Leslie Ave to back lane | collector | 53 | 1,250 | Jun-16 | No Recommendations |
| 14th St - Bate Cres to back lane | major collector | 60 | 5,950 | Jun-16 | Median islands, speed display board, crosswalk upgrades, parking restrictions |

All-Way Stop Studies

**All counts conducted on a Tuesday, Wednesday or Thursday in June

| Location | Criteria 1: Peak Hour Volume Higher than 600 Vehicles | Criteria 2: Average Daily Traffic Greater Than 6,000vpd | Criteria 3: More than 5 Collisions in Most Recent 12 Months | If Any of the Criteria are met, move on to Conditions. | Condition 1: Traffic Volume on Minor Roadway must be at least 25% for 4-way stop or 35% for 3-way stop | Condition 2: There should be no all-way stop / traffic signal within 200m of the location | Date of Count | Notes |
|-------------------------|---|---|---|---|--|---|---------------|--|
| 14th St & Leslie Ave | 4-way stop at Cumberland Avenue is 95m away; therefore a; way stop is not warranted | | | | | | | |
| Bate Cres & Isbister St | 98 (No) | 1,030 (No) | 0 (No) | No Criteria are met therefore an all-way stop is not warranted. | 29% (No) | NA | Jun-16 | All-way stop is not warranted. |
| Main St & Garrison Cres | 674 (Yes) | 7,010 (Yes) | 3 (No) | Check to see if conditions are met. | 24% (No) | 325 | Jun-16 | All-way stop is not warranted. Furthermore a 4-way stop would facilitate movement on Garrison where volumes & speed are already a concern. |
| Main St & Bate Cres | 591 (No) | 5,910 (No) | 0 (No) | No Criteria are met therefore an all-way stop is not warranted. | 7% (No) | 100 | Jun-16 | All-way stop is not warranted. |

APPENDIX F: DECISION MATRIX

Decision Matrix

| Item | Location | Device | Group 1: Mariniel | Group 2: Marina | Group 3: Yang | Decision |
|------|--|--|--|--|---|---|
| 1 | 14th Street & Leslie Avenue | Median island on west leg, zebra crosswalks, parking prohibition (15m on SE & SW corners on 14th Street) | In favour. Extend parking restriction for whole block or to back lane (except on Sundays). Activated walk light for children crossing is needed. Not the active corridor of pedestrian activated signal. Try the Rapid Rectangular Flashing Beacon (ie. RRFB, flashing-light). This crosswalk is most used between Cumberland and Preston. | | In favor but suggested to extend parking restriction from 15m to 25m and apply no parking on the south side as well | Do not recommend further parking restrictions as it will take away entire portion of on-street parking for property owners living near the intersection. Activated crosswalks are not warranted (ie. active pedestrian corridor or pedestrian activated signal). RRFB's will only be implemented on streets with no parking. Recommendations carried. |
| 2 | 14th Street & Bate Crescent | Median island & zebra crosswalk on east leg, parking prohibition (15m on SE corner on 14th Street and entire north side of island) | In favour. Try the RRFB. | | Not like. Hope to move this one to the alley between Leslie Ave and Bate Cres as more people cross street there | RRFB's will only be implemented on streets with no parking. Peak hour counts show 23 pedestrians crossed the back lane and 19 pedestrians crossed at Bate Cres, respectively. Therefore counts are relatively similar between locations. Furthermore counts are not high enough to warrant a midblock crosswalk. Recommendations carried. |
| 3 | 14th Street & Bate Crescent | Southbound Only (ie. one-way) on the west leg of Bate Crescent | In favour. | | In favor. Use do not enter sign | Carried. |
| 4 | 14th Street & Bate Crescent | Sidewalk on south side (north side of island) | In favour. | | In favour. | Carried. |
| 5 | 14th Street - west of Preston Avenue | Speed display board facing westbound traffic | In favour. | | In favor. Move west? Is here the best location? | Carried. Will check for ideal location at the time of install. |
| 6 | Bate Crescent & Isbister Street | Median island on southeast leg | In favour. One group member does not support. | Would like island on southbound leg because people are speeding from 14th St. Need to remove snow regularly (bad for parking). Shortcutting to avoid Preston/Main St: not convinced median islands will help. Close median at Main St & Bate Cres to deter shortcutting. | In favour. | Median island will be moved to north leg (ie. for southbound traffic) to address speeding concerns. Traffic volumes are within the acceptable limits (ie. 550 vehicles per day); therefore median opening at Main St & Bate Cres is not recommended. |
| 7 | Bate Crescent & curve south of Bate Crescent | Median island | In favour. | Same as above. | In favour. | Carried. |
| 8 | Main Street & Garrison Crescent | Standard crosswalk on west leg | In favour. Consider active pedestrian crossing or RRFB. | | In favour. | Carried. The RRFB's, if trialed in Saskatoon, will only be implemented on streets with no parking. |
| 9 | Main Street & Louise Avenue | Standard crosswalk on west leg | In favour. Lots of dog walkers cross. | Need posts on median at back lane/Main St; people are jumping the curb | In favour. | Carried. Tracks noted at back lane east of Louise Ave (north of Latham Place) during site observation; install additional posts, rocks or landscaping to prevent drivers from driving over median. |
| 10 | Back Lanes south of Main Street | 20kph speed limit sign | In favour. | | In favour. | Carried. |

| Item | Location | Device | Group 1: Mariniel | Group 2: Marina | Group 3: Yang | Decision |
|------|---|--|---|---|---|--|
| 11 | Louise Avenue between 8th Street & Main Street | Sidewalk on east side | In favour but would like both sides. | | In favour. | Carried. Install sidewalk on west side between Main Street and the back lane (pending approval from Parks with City trees). All remaining west side is already asphalt. |
| 12 | Leslie Avenue between Garrison Crescent & Lake Crescent | Sidewalk on east side | Not priority because half block is useless. | | In favour. | Carried (pending approval from Parks with City trees). |
| 13 | Lake Crescent & Leslie Avenue | Yield sign | Traffic counts on Leslie Ave (Garrison Cres to Lake Cres); 3-way stop suggested. | wrong-way; need stop or something for NB/SB | In favour. | Carried. 3-way stop is not warranted. Average Daily Traffic measured to be within acceptable range (ie. 1,000 vehicles per day). No further recommendations. |
| 14 | Rod V Real Park | Posts surrounding park | In favour. Post a "Park" sign anywhere; good spot for community garden or playground | | In favour. | Recommendation removed from plan. Parks has a program to install bollards around greenspace therefore comments were forwarded for their consideration. |
| 15 | Copland Crescent (north of the school) | Enforcement during school hours | In favour. | | In favour. | Carried. |
| 16 | Copland Crescent back lane | Pave lane, speed bumps, 20kph speed signs, pedestrian warning signs | In favour. | change to one-way (during certain times); school bus park in alley; open median at Copland Cres & Main St; pave first before speed bumps go in; not all residents backing the lane want speed bumps | In favour. Change to one way may help? Source of the funding? Will affect the tax here? | Carried. One-way signs will create enforcement issues and has the potential to create speeding. School determines areas for bus parking; do not support median opening at Copland & Main as this will promote shortcutting on Copland. |
| 17 | Copland Crescent & surrounding lanes | Parking enforcement (blocking driveways, parking too close to intersections etc) | In favour. City / Police are doing a good job in alley south of Main St (Cumberland to Louise). | | In favour. Would like to expand the clouded area to cover entire Leslie Ave. Any way can reduce the non-local residents parking in this area? | Carried. Will expand the zone to include Leslie Ave. The Residential Parking Permit Program is used to address non-local residents parking in the area. Suggestion is for residents to apply for the program. 70% support is required and submitted to Community Standards via petition. Information was provided during the meeting and discussions with the Administration and the VVCA will take place outside of the Grosvenor Park Neighbourhood Traffic Review to resolve. |

APPENDIX G: ADDITIONAL CONCERNS RECEIVED AFTER PRESENTATION OF DRAFT
PLAN

Additional Concerns Received After Presentation of Draft Plan

| Location | Comments | Decision | Added to Recommendations |
|---|---|---|--------------------------|
| Leslie Ave & Garrison Cres | Install 4-way stop | Four-way stop does not meet warrant criteria. | |
| Back lanes (1. 403 / 501 Copland Cres 2. 223 / 301 Copland Cres 3. 224 / 302 Garrison Cres 4. 502 / 408 Garrison Cres 5. 432 / 502 Bate Cres) | Remove ugly yellow signs and posts; Change "Local Traffic Only" signs to "Residential Only" signs | The Manual on Uniform Traffic Control Devices suggests "Local Traffic Only" signs. We do not use "Residential Only" signs in Saskatoon. Remove signage and posts on Bate Cres; remove posts from all other locations; keep all remaining signage. | X |
| General | Speed bumps are friendly for cyclists | Comments documented for consideration as part of the Active Transportation Plan. | |
| Alley south of Main St between Cumberland & Louise | Parking obstruction | As stated in Traffic Bylaw 7200, vehicles are not to park within one metre of a back lane. Residents are encouraged to contact Parking Services to report parking that is obstructing a lane. | |
| Main St to Louise Ave | No easy access from park pathway to Main Street to Louise Ave (ramp needed) and by park (two ramps needed) | Midblock crosswalks are not recommended for safety reasons unless pedestrian / cyclist volumes are high. The Bike Bylaw also states that cyclists are not to ride on sidewalks. These issues will be addressed through the Active Transportation Plan. | |
| Main St & lane east of Latham Pl | Unsafe; extend posts with reflective tape | Tracks noted during site observation; install additional posts, rocks or landscaping to prevent drivers from driving over median. | X |
| 14th St & Cumberland Ave | Dangerous intersection, west leg is narrow, big slope on east leg, install sidewalk on east side Cumberland from here towards north | Comments will be documented for further consideration as part of the major intersection improvements. Cumberland Ave is on the 2017 sidewalk installation list. | |
| All of Grosvenor Park | Parking issues; need something like Varsity View (Residential Parking Permit Program) | The Residential Parking Permit Program is used to address non-local residents parking in the area. Suggestion is for residents to apply for the program. 70% support is required and submitted to Community Standards via petition. Information was provided during the meeting and discussions with the Administration and the VVCA will take place outside of the Grosvenor Park Neighbourhood Traffic Review to resolve. | |
| Cumberland Ave & 14th St | Gravel path is hard to access bus stop | Location is on the 2017 sidewalk installation list. | |
| General | Need meeting with mosque | There was a committee created with the mosque and stakeholders to address issues prior to the Grosvenor Park Neighbourhood Traffic Review. Councillor Block discussed the potential to restart committee meetings after the NTR. | |
| 11th St & Cumberland Ave | Install crosswalk here. Lots of pedestrians cross street here | Crosswalk is not recommended at this time as it is only 95m from a protected crosswalk at Garrison Crescent. Comments will be documented and considered as part of review for the entire corridor of Cumberland Ave. | |
| South end of the Pathway in Grosvenor Park | It doesn't connect with any crosswalk, so cyclist has to walk bike on the sidewalk until reaching the legal crossing. Poor connectivity. | Comments documented for consideration as part of the Active Transportation Plan. | |
| Garrison Crescent where it turns the corner past Isbister St | Why is there a 30kph speed sign placed in existing location? When I first saw the sign, I actually thought it was for the alley as there used to be a fair bit of traffic through to Copland Crescent. | The 30kph school zone sign has been installed in accordance with the school zone plan which was approved by City Council. | |
| Main St | There should be stop signs on Main Street at Cumberland and Preston. At busy times, like when people are driving home from work, the traffic gets backed up on Cumberland and Preston for blocks. These should not be 4-way stops as it slows the traffic too much. | Comments documented for consideration as part of the Main Street Corridor Review. | |
| Leslie Ave between Garrison Cres and Copland Cres | The existing island impedes the regular traffic as street is too narrow | No other negative correspondence received to date; therefore a permanent median island will be added to recommendations to reduce speed. | X |
| Copland Cres | NA | Temporary median island was installed prior to the Grosvenor Park NTR. No negative feedback received; therefore a permanent median island will be added to recommendations to reduce speed. | X |

| Location | Comments | Decision | Added to Recommendations |
|---|----------|---|--------------------------|
| Copland Crescent - midblock in front of Misbah School | NA | Temporary curb extensions were installed prior to the Grosvenor Park NTR. No negative feedback received; therefore permanent curb extensions will be added to recommendations to improve pedestrian safety and reduce speed in front of the school. | X |
| Main Street & Garrison Crescent | NA | Collision analysis indicated the major contributing factors were "View obstructed" and "Fail to Yield"; therefore implement parking restrictions to improve sightlines & install larger stop signs to ensure drivers see the sign | X |

Comments to Forward to Other Departments

| Location | Comments | Decision |
|--|---|---|
| 14th St & Cumberland Ave | Dangerous intersection, west leg is narrow, big slope on east leg, install sidewalk on east side Cumberland from here towards north | Comments will be documented for further consideration as part of the major intersection improvements. Cumberland Ave is on the 2017 sidewalk installation list. |
| Main St | There should be stop signs on Main Street at Cumberland and Preston. At busy times, like when people are driving home from work, the traffic gets backed up on Cumberland and Preston for blocks. These should not be 4-way stops as it slows the traffic too much. | Comments documented for consideration as part of the Main Street Corridor Review. |
| South end of the Pathway in Grosvenor Park | It doesn't connect with any crosswalk, so cyclist has to walk bike on the sidewalk until reaching the legal crossing. Poor connectivity. | Comments documented for consideration as part of the Active Transportation Plan. |
| General | Speed bumps are friendly for cyclists | Comments documented for consideration as part of the Active Transportation Plan. |
| Cumberland Ave | Speeding M-F 9:30pm; enforcement needed | Send Peak Hour data to Saskatoon Police Service for consideration |
| Main St | Drivers crossing over median and around posts | Forward to Saskatoon Police Service for consideration |
| Lake Crescent near Leslie Avenue | Poor snow clearing | Forward to Public Works for consideration |
| General | Bulbouts at intersections pushes cyclists out into roadway. Maybe develop them with space for cyclists to travel through. | Forward to Active Transportation Coordinator for consideration |

Sutherland Neighbourhood Traffic Review

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:
That the Neighbourhood Traffic Review for the Sutherland 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 Sutherland neighbourhood.

Report Highlights

A Neighbourhood Traffic Plan for the Sutherland 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 level of safety of pedestrians, cyclists, and motorists.

Background

A public meeting was held in January 2016 to identify traffic concerns and potential solutions within the Sutherland neighbourhood. 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 January 2017.

Report

The development and implementation of the 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 received during the consultation included speeding, shortcutting, and pedestrian safety as well as safety at the intersection of 108th Street and Egbert Avenue.

The Administration is recommending the following modifications to improve traffic safety in the Sutherland neighbourhood:

- Standard crosswalks
- Stop sign
- “No Parking” signs
- Lane designation sign
- Active Pedestrian Corridor
- Pavement markings
- Median islands

Installation of each proposed improvement will be implemented in two specific time frames as follows:

| | |
|----------------------------|--|
| Short-term (1 to 2 years) | Signage, pavement markings, temporary traffic calming measures, pedestrian safety device |
| Medium-term (3 to 5 years) | Permanent traffic calming devices |

The Sutherland NTR is included in Attachment 1.

If approved by City Council, all of the temporary traffic calming measures will be installed in 2017. 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 January 2016, a public meeting was held to discuss traffic concerns and identify potential solutions. The feedback received was used to develop the Neighbourhood Traffic Plan which was presented at a follow-up public meeting in January 2017. Additional feedback received at the follow-up public meeting was also incorporated into the NTR.

The proposed improvements were circulated to internal civic stakeholders of various divisions and departments: Saskatoon Police Service, Saskatoon Light & Power, Saskatoon Fire Department, Parking Services, Roadways & Operations, and Saskatoon Transit. Feedback 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, City website and by a direct mail-out.

Financial Implications

The implementation of the Neighbourhood Traffic Plan will have significant financial implications. The costs are summarized in the following table:

| Item | 2017 | Beyond 2017 |
|---|----------|-------------|
| Signs, Pavement Markings, & Temporary Traffic Calming | \$ 4,750 | - |
| Permanent Traffic Calming | - | \$25,000 |
| Pedestrian Device | \$20,000 | - |
| TOTAL | \$24,750 | \$25,000 |

There is sufficient funding within Capital Project #1512 – Neighbourhood Traffic Management to undertake the work in 2017, which includes implementation of all signage, pavement markings, temporary traffic calming measures and pedestrian device.

The remainder of the work beyond 2017 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.

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 considerations or implications.

Due Date for Follow-up and/or Project Completion

If adopted by City Council, signage, pavement markings and temporary traffic calming devices will be implemented during the 2017 construction season.

Public Notice

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

Attachment

1. Sutherland Neighbourhood Traffic Review, March 15, 2017

Report Approval

Written by: Mariniel Flores, 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

SUTHERLAND

2016 Neighbourhood Traffic Reviews

CITY OF SASKATOON

March 15, 2017

Sutherland Neighbourhood Traffic Review

March 15, 2017

Authorization

Prepared By:



Mariniel Flores, P.Eng.

Transportation Engineer

Checked By:



Jay Magus, P.Eng.

Transportation Engineering Manager

Acknowledgements

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

- Sutherland residents
- Sutherland 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 Roadways & Operations
- City of Saskatoon Community Standards
- City of Saskatoon Transportation
- Great Works Consulting
- Councillor Darren Hill

EXECUTIVE SUMMARY

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

A public meeting was held in January 2016 to identify traffic concerns and potential solutions within the Sutherland 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 Plan was developed and presented to the community at a follow-up meeting held in January 2017.

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

The Sutherland Traffic Plan is illustrated in **Exhibit ES-1**.

Table ES-I: Sutherland Neighbourhood Recommended Improvements

| Item | Location | Recommendation | Reason |
|-------------|---|--|--|
| 1 | Reid Road & Adolph Way | Standard crosswalk on north leg of Reid Road | Improve pedestrian safety |
| 2 | Reid Road & 117 th Street | Standard crosswalk on east leg of Reid Road | |
| 3 | Rutherford Crescent / Lanyon Avenue & Rutherford Way | Replace yield sign with stop sign | Improve safety |
| 4 | 108 th Street & Sutherland House Back Lane | “No Parking” signs on south side of 108 th Street six metres from each side of back lane | Improve safety and sight lines |
| 5 | Central Avenue & 115 th Street | Overhead “Right Turn Only Lane” sign and tab & overhead “Except Buses” tab in northbound direction; add this location to the intersection improvement list for an assessment | Improve safety |
| 6 | Central Avenue & 104 th Street / Central Place | Active Pedestrian Corridor on north leg of Central Avenue | Improve pedestrian safety |
| 7 | 108 th Street near on-ramp | Dashed eastbound merging bicycle line | Improve transition from bicycle lane to traffic lane |
| 8 | Reid Road & Reid Road | Standard crosswalk on east leg | Improve pedestrian safety |
| | | Median island on east leg | |
| 9 | Lanyon Avenue & 112 th Street | Median island on north leg of Lanyon Avenue | Reduce speed |
| 10 | Bryans Avenue & 112 th Street | Median island on west leg of 112 th Street | |
| 11 | Rita Avenue & 110 th Street | Median island on north leg of Rita Avenue | |
| 12 | 105 th Street & Moran Avenue | Median island on west leg of 105 th Street | |

LEGEND

- # RECOMMENDATION
- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- EXISTING BUS ROUTE
- ▬ EXISTING SCHOOL ZONE
- 🚦 EXISTING TRAFFIC SIGNAL
- 🚶 EXISTING PEDESTRIAN ACTUATED SIGNAL
- 🚶 EXISTING ACTIVE PEDESTRIAN CORRIDOR SIGNAL

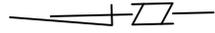
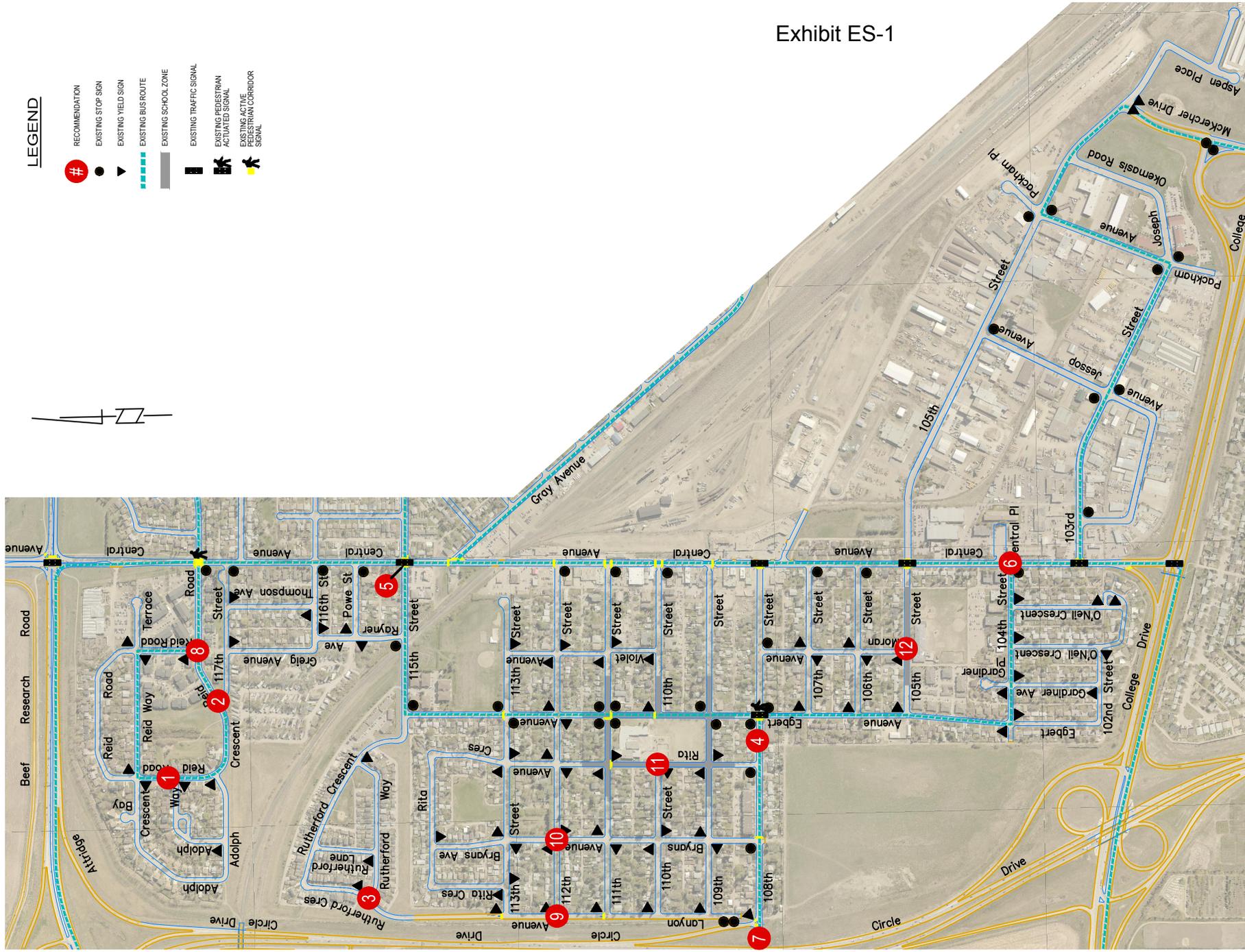


Exhibit ES-1



SUTHERLAND TRAFFIC PLAN



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I INTRODUCTION

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

The Sutherland neighbourhood is located in the east portion of Saskatoon and is south of Attridge Drive, west of Central Avenue and Gray Avenue, north of College Drive and east of Circle Drive. The land use is mostly residential with elementary schools on Egbert Avenue (Sutherland School) and 105th Street (Bishop Filevich Ukrainian Bilingual School).

The neighbourhood traffic review includes four stages:

- **Stage 1** - Identify issues, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon online discussion.
- **Stage 2** - Develop a draft traffic plan based on residents' input and traffic assessments.
- **Stage 3** - Present the draft traffic plan to the neighbourhood at a follow-up meeting; circulate the plan to other civic divisions for feedback; make adjustments as needed; and present the plan to City Council for approval.
- **Stage 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).

This report presents the study findings and recommendations.

2 STAGE 1: IDENTIFYING ISSUES, CONCERNS, AND POSSIBLE SOLUTIONS

A public meeting was held in January 2016 to identify traffic concerns within the Sutherland 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 (including all correspondence and Shaping Saskatoon discussion comments received prior to the follow-up meeting) with the residents. Concerns and suggested solutions identified during a meeting with the Sutherland House residents in August 2016 are also included.

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

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

- 105th Street:
 - Speeding (near Bishop Filevich Ukrainian Bilingual School and in industrial area)
 - Concrete trucks are using Egbert Avenue to 105th Street to get across Central Avenue and are beating up 105th Street
- 107th Street: speeding (east of Central Avenue)
- 108th Street:
 - Speeding (eastbound west of Egbert Avenue)
 - High volume of traffic (gravel trucks and delivery trucks are shortcutting from industrial area to Preston Avenue)
 - Parked vehicles are being sideswiped by speeding vehicles
- 112th Street: speeding
- 113th Street: speeding (Egbert Avenue to Bryans Avenue)
- 117th Street: speeding in between Greig Avenue and Central Avenue
- Back Lanes behind Central Avenue: too much traffic
- Bryans Avenue:
 - Speeding
 - High volume of traffic at 113th Street

- Central Avenue & 103rd Street: shortcutting near Husky service station
- Egbert Avenue:
 - Speeding (103rd Street to 108th Street, north of Sutherland School, south of 108th Street by transit drivers, and at Sutherland School)
 - Concrete trucks are using Egbert Avenue to 105th Street to get across Central Avenue
 - Race track from 111th Street north to 115th Street
 - Speeding in back lane west of Egbert Avenue
 - Speeding at 104th Street
- Egbert Avenue & 108th Street:
 - Speeding (4:30pm to 5pm)
 - Congestion near 108th Street due to shortcutting
 - Vehicles shortcutting from 105th Street
 - Eastbound vehicles sometimes cut through the Sutherland House driveway onto Egbert Avenue
- Egbert Avenue & 111th Street
 - Speeding at the four-way stop
 - Speeding through the school zone
- Egbert Avenue & 115th Street
 - Speeding northbound on Egbert Avenue
 - Vehicles cut through southeast Condominium Complex at 115th Street and exit on Egbert Avenue or vice versa
 - High volume of traffic
 - Little enforcement to monitor speed
 - Low compliance at stop signs
 - Shortcutting to get to Circle Drive to avoid Attridge Drive & Central Avenue
- Lanyon Avenue
 - Vehicles are not slowing down at crosswalks with medians from 111th Street to 113th Street
 - Feels wide so drivers want to drive faster
 - Speeding especially in the summer
 - High volume of traffic

- Laura Avenue: speeding
- O'Neil Crescent: speeding
- Reid Road: speeding
- Rita Avenue: speeding (past Sutherland School)
- Rutherford Crescent/Way/Lane: speeding
- General
 - Motorcycles are loud and often speeding
 - Shortcutting from 115th Street to 113th Street to 108th Street to avoid school zones
 - Traffic from Silverspring shortcutting on 108th Street, McKercher Drive, College Drive, Attridge Drive, and 109th Street

The following solutions were proposed by residents:

- 108th Street:
 - Implement speed restrictions
 - Install speed display boards
 - Limit gross vehicle weight of trucks
 - Install speed display boards in both direction on Friday or Saturday nights
 - Install “Slow Down” signs
- 110th Street: install speed humps
- 112th Street: install speed humps
- 115th Street
 - Open 115th Street to reduce shortcutting on 108th Street to 113th Street
 - Restrict southbound rightturns into 108th Street to 113th Street
- 117th Street: install speed bumps
- 105th Street & Moran Avenue: install a median island
- Bryans Avenue & 112th Street
 - Install traffic calming (i.e., speed bumps)
 - Ensure traffic calming is visible
- Egbert Avenue
 - Install photo radar at Sutherland School
 - Install speed display boards in both direction on Friday or Saturday nights

- Install 20 kph signage in back lane west of Egbert Avenue
- Egbert Avenue & 108th Street
 - Install traffic calming
 - Install curb extensions on Egbert Avenue
- Egbert Avenue & 111th Street
 - Install portable signs by school
 - Install speed bumps
- Lanyon Avenue: install curb extensions from 111th Street to 113th Street
- O'Neil Crescent: install speed bumps
- Reid Road: install traffic, pedestrian, speed or warning signs
- Rutherford Crescent:
 - Install traffic calming
 - Install speed tables
- General:
 - Install speed display boards (at entrance of the neighbourhood)
 - Implement reduced speed limits
 - Install speed bumps in school zones
 - Increase enforcement at school crossings by 8:30 a.m. and between 3:15 p.m. to 3:45 p.m.
 - Install graduated speed bumps

2.2 Concern 2 – Pedestrian Safety

It is important to address pedestrian safety concerns to support active transportation as encouraging 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:

- 108th Street: dangerous for pedestrians
- Central Avenue:
 - Improve crossing from 108th Street to 112th Street
 - Difficult to cross
 - Crossing as a pedestrian feels unsafe at 112th Street
 - Short pedestrian walk light at 108th Street
 - Improve crossing at 111th Street
 - Vehicles are not slowing down for pedestrians at 104th Street / Central Place
- Egbert Avenue:
 - Pedestrian safety issues from 103rd Street to 108th Street
 - Pedestrian safety issues at 111th Street
- Egbert Avenue & 108th Street:
 - Inconsistent sidewalk on east and west sides
 - Improve crossing for children
 - Missing sidewalk on north side
 - Short walk light
 - Vehicles are passing on the right
 - Pedestrians are often cut off by turning vehicles
- Lanyon Avenue:
 - Multi-use pathway is not being used
 - No sidewalks
- Reid Road: missing crosswalks
- Rita Avenue & 108th Street:
 - Missing crosswalks
 - Improve crossing
 - Walkway is on the wrong side of the street on the east side

The following solutions were proposed by residents:

- 108th Street:
 - Install crosswalk at Sutherland House access or back lane
 - Enhance visibility of crosswalks
 - Install sidewalk on north side at Egbert Avenue
- Central Avenue:
 - Install markings
 - Install Pedestrian Actuated Signals
 - Install a pedestrian traffic light at 104th Street / Central Place
- Central Avenue & 112th Street:
 - Install flashing lights
 - Install an activated pedestrian device
- Egbert Avenue: construct more sidewalks
- Lanyon Avenue: install sidewalks
- Lanyon Avenue & Rutherford Crescent / Way: install a pedestrian device
- Reid Road: install crosswalks (near the park)
- Rita Avenue & 108th Street:
 - Install crosswalks (on Rita Avenue)
 - Install a walkway on the west side

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*, January 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
- As a pedestrian crossing device

Neighbourhood concerns regarding traffic controls were at the following locations:

- 105th Street & ACT Arena Exit: vehicles are entering through the exit
- Central Avenue:
 - No left-turn from Gray Avenue onto Central Avenue
 - Vehicles are using the right turn only lane to proceed straight through the intersection at 115th Street
 - Difficult to make a left-turn onto Central Avenue from Reid Road
- Central Avenue & 111th Street:
 - No room for vehicles making eastbound left-turns or right-turns
 - Radius is too tight in northbound lane
 - Sight distance is blocked by poster fixture
- Central Avenue & 112th Street:
 - No room for vehicles making eastbound left-turns or right-turns
 - Radius is too tight in northbound lane
 - Sight distance is blocked by poster fixture
- Egbert Avenue:
 - Vehicles are not yielding at 104th Street
 - Vehicles are not stopping at the stop signs at 115th Street
 - Accidents at 109th Street
- Egbert Avenue & 108th Street:
 - Northbound / southbound vehicles are not yielding to eastbound / westbound vehicles
 - Difficult to turn off Egbert Avenue in the morning
 - Traffic backs up as vehicles try to get onto 108th Street
 - People will activate the Pedestrian Actuated Signal to allow vehicles to turn onto 108th Street
- Lanyon Avenue & 111th Street:
 - Vehicles are not yielding from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 6:00 p.m.
 - Vehicles do not have enough time to complete their turns into the intersection from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 6:00 p.m.

- Lanyon Avenue & Rutherford Crescent / Way: cannot see into Rutherford Way off Lanyon Avenue
- General: vehicles are not yielding at uncontrolled intersections

The following solutions were proposed by residents:

- 105th Street & ACT Arena Exit:
 - Improve signage
 - Narrow the exit
- 108th Street: paint lane markings for eastbound traffic
- Central Avenue:
 - Install traffic signals at Reid Road
 - Install an overhead “right turn only except for buses” sign at 115th Street
- Egbert Avenue & 104th Street: install stop signs
- Egbert Avenue & 108th Street:
 - Install traffic signals
 - Install protected left-turns
 - Install a four-way stop
 - Install activated light for Egbert Avenue in the morning and afternoon peak hours
 - Install properly defined lanes
 - Install turning lanes

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 or back lane.

Neighbourhood concerns regarding parking were at the following locations:

- 108th Street:
 - Eastbound vehicles are parking too close to the bridge
 - Difficult to turn out of the access or back lane due to parking obstructions at the Sutherland House access or back lane
- 108th Street & Rita Avenue:
 - Vehicles are parking too close to this intersection on Rita Avenue
- 110th Street: cars are blocking visibility for vehicles turning onto Rita Avenue at the 300 block near the back lane
- Egbert Avenue & 108th Street:
 - Parking on sidewalk and parking across boulevard interfering with pedestrians' path
 - Many vehicles are parked near this intersection due to a lack of parking at Sutherland House
 - Residents at Sutherland House use street parking during events
- Lanyon Avenue: parking is too difficult
- Rutherford Crescent / Way / Lane
 - Accidents between moving vehicles and parked vehicles because vehicles are parked on both sides of Rutherford Crescent which funnels traffic
 - Streets are narrow due to parking on both sides
 - Difficult to pass in the winter
 - Vehicles are sliding in and out of ruts
- General:
 - Congestion due to parking on all adjacent streets at Community Centre / Sutherland Hall
 - Overflow commercial parking from Central Avenue
 - Poor back lane visibility for traffic turning onto streets due to vehicles parking too close to the lane (particularly south of Sutherland House)

The following solutions were proposed by residents:

- 108th Street:
 - Restrict parking at the Sutherland House access or back lane (Egbert Avenue to half block west of the entrance)
 - Relocate power pole in Sutherland House parking lot to create more parking space
- Egbert Avenue & 108th Street:
 - Enforce “No Parking” signs 10 metres from intersection
 - Restrict parking on southeast corner on Egbert Avenue by one or two parking spaces or by a block to 107th Street
- Rutherford Crescent / Way / Lane:
 - Implement visitor parking only
 - Implement one-way traffic flow
 - Implement parking restrictions by time of day
- General: turn wasted space into a community garden or parking

2.5 Concern 5 – Maintenance

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

The following neighbourhood concerns regarding maintenance were received:

- Overgrown vines on telephone pole cause visibility issues at Lanyon Avenue & 110th Street
- Poor sight distance due to Evergreen trees at Lanyon Avenue & 113th Street
- Poor visibility due to bush at Egbert Avenue & 105th Street
- Trees on median and overhanging trees causing visibility issues along Central Avenue from Birch Crescent to Rossmo Road and at Central Avenue & 115th Street
- Trees obstruct visibility at back lane along Egbert Avenue & 107th Street
- Overgrown trees in private lots
- Branches hanging down along sidewalks
- Sidewalk on Egbert Avenue to St. Paul’s United Church is unlevelled and needs maintenance

- Roots are damaging sidewalks
- Weeds are growing through sidewalks
- Increase in parking are causing ruts on the side streets off Central Avenue
- Poor road condition along Central Avenue north to south
- Potholes along Lanyon Avenue
- Asphalt is broken and trails are in poor condition along Lanyon Avenue
- Icy intersections
- Work at hydrant and utility cuts are not complete at 115th Street
- Lanes are full of water due to spring pooling
- Issues with garbage bin locations on the side streets off Central Avenue

The following neighbourhood solutions identified by residents were received:

- Trim trees and bushes
- Inspect sidewalks for tripping hazards
- Resurface Central Avenue north to south
- Repave 108th Street
- Maintain back lane south of 108th Street
- Improve drainage on Lanyon Avenue
- Haul snow windrows quickly before it turns into ice

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 were at the following locations:

- 108th Street:
 - Re-painted every year
 - Left-turn is unclear
 - There is no transition for eastbound bicyclists when the bike lanes end after the bridge
- 108th Street & Lanyon Avenue: No access into Lanyon Avenue from 108th Street

- **Attridge Drive & Central Avenue:**
 - Issues with southbound turning light
 - Weaving issues west of this intersection after lane improvements
 - Congestion

- **Central Avenue:**
 - Speeding
 - Vehicles are racing through railway tracks and racing from stop sign to the next set of lights
 - Big trucks are using Central Avenue
 - Bigger and faster buses are using Central Avenue
 - Difficult to make northbound left-turns
 - Difficult to turn right onto Central Avenue from minor streets
 - Signs obstruct view of vehicles turning onto Central Avenue
 - Bidirectional turn lanes are not used properly
 - Concerned about parking pay stations
 - Too much parking on side streets as residents and staff moved from Central Avenue since parking pay stations were introduced
 - Paid parking hurts businesses
 - Bulb-outs decreased parking
 - Train sits at the intersection
 - Difficult for people with limited mobility to get across the tracks
 - Issues with rail crossing
 - Feels unsafe riding a bike along Central Avenue
 - Too much traffic
 - Increased traffic since Circle Drive South, Evergreen and Willowgrove were constructed
 - Increased traffic since Attridge Drive has opened
 - Sidewalk is too close to street traffic
 - Pedestrians jaywalk

- Central Avenue & 115th Street:
 - Protected left-turn arrow for southbound and westbound vehicles but not for northbound vehicles
 - Westbound vehicles cannot go straight through on the right side
 - Bus stop locations limit the ability to swing around a left-turning vehicle
- Circle Drive:
 - Speeding on Circle Drive ramp onto Attridge Drive
 - Difficult to weave over from eastbound Circle Drive to College Drive left-turn lane
 - Shoulder is used as an extra lane
- Circle Drive & 108th Street:
 - Cement from walkway obscures sight lines at ramp onto 108th Street
 - Steep
 - Congestion
 - Install photo radar
- Lanyon Avenue: traffic noise from Circle Drive especially around bridge
- General:
 - Train delays
 - Shunting of the trains
 - Present long lengths of the trains
 - Truck route issues
 - Big trucks rev their motors late at night

The following solutions were proposed by residents:

- 108th Street & Lanyon Avenue: there should be access into Lanyon Avenue from 108th Street
- Attridge Drive & Central Avenue: construct an extra lane

- Central Avenue:
 - Train crossing needs grade separation
 - Construct a boulevard
 - Install bidirectional turn lane signs
 - Remove bulb at the end of the median on Central Avenue across the Dutch Growers entrance
- Central Avenue & 115th Street: install northbound and eastbound protected left-turn arrow
- Circle Drive:
 - Create extra lane to connect northbound ramp off 108th Street to ramp onto Attridge Drive
 - Create extra lane to connect southbound ramp off Attridge Drive to ramp onto 108th Street
 - Install warning “Reduce Speed Ahead” sign
- Circle Drive & 108th Street: construct a southbound ramp onto Circle Drive from 108th Street
- Lanyon Avenue: construct sound barriers to reduce traffic noise from Circle Drive especially around bridge
- General: increased enforcement and police presence

3 STAGE 2: DEVELOPMENT OF DRAFT TRAFFIC PLAN

3.1 Methodology

Stage 2 of the neighbourhood traffic review 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:
 - Daily and weekly traffic counts
 - Speed measurements
 - Intersection turning movement counts
 - Pedestrian counts
 - Site observations
 - Collision analysis
- Assess the issues by using the information in reference with City policies, bylaws, and guidelines, transportation engineering design guidelines and technical documents, and professional engineering judgment.

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

3.2 Traffic Volume and Speed Assessments

Traffic volumes and travel speeds were measured to assist in determining the need for traffic calming devices. Neighbourhood streets are classified typically as either local or collector streets. Traffic volumes [referred to as Average Daily Traffic (ADT)] 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 Sutherland neighbourhood is 50 kph, except for school zones where the speed limit is 30 kph from September to June, Monday to Friday, 8:00 a.m. to 5:00 p.m.

The speed studies and 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 (2016)

| Street | Between | Class | Average Daily Traffic (vehicles per day) | Speed (kph) |
|-----------------------------------|--|----------------|--|-----------------------------|
| South of 108 th Street | 108 th Street to Egbert Avenue | Back Lane | 100 | 23 |
| 110 th Street | Bryans Avenue to Rita Avenue | Local | 100 | 37 |
| 112 th Street | Bryans Avenue to Rita Avenue | | 300 | 55 |
| 113 th Street | Bryans Avenue to Rita Crescent / Avenue | | 700 | 44 |
| 117 th Street | Thompson Avenue to Greig Avenue | | 500 | 47 |
| Bryans Avenue | 111 th Street to 112 th Street | | 550 | 44 |
| Lanyon Avenue | 111 th Street to 112 th Street | | 1,500 | 56 |
| O'Neil Crescent | 104 th Street to 104 th Street | | 200 | 43 |
| Reid Road | Central Avenue to Reid Road | | 2,000 | 49 |
| Rita Avenue | 109 th Street to 110 th Street | | 550 | School = 39 Regular = 46 |
| Rita Avenue | 112 th Street to 113 th Street | | 250 | 43 |
| Rutherford Crescent | Rutherford Way to Rutherford Lane | | 550 | 46 |
| 105 th Street | Moran Avenue to Central Avenue | | 700 | School = 39 Regular = 44 |
| 105 th Street | Central Avenue to Jessop Avenue | | Minor Collector | 5,400 |
| Egbert Avenue | 106 th Street to 107 th Street | 1,350 | | 48 |
| Egbert Avenue | 112 th Street to 113 th Street | 3,600 | | 49 |
| 108 th Street | Bryans Avenue to Rita Avenue | Minor Arterial | 12,100 | 54 |

3.3 Traffic Control Assessments

Yield, stop, and all-way stop controls need to meet the 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
- 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 signal within 200 metres.

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

Table 3-3: All-Way Stop Warrant Criteria

| Location | Criteria 1: Peak Hour Count (greater than 600 vehicles) | Criteria 2: Average Daily Traffic (greater than 6,000 vpd) | Criteria 3: Collisions within most recent 12 months (5 or more) | Result |
|--|---|--|---|--------------------|
| 108 th Street & Egbert Avenue | 1,171 vehicles (yes) | 14,370 vpd (yes) | 5 (yes) | Continue to Step 2 |

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

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

| Location | Condition 1: Traffic on minor street is at least 35% | Condition 2: No all-way stop or traffic signals within 200 metres | Result |
|--|--|---|----------------------------|
| 108 th Street & Egbert Avenue | 20% (no) | 350 metres (yes) | All-Way Stop Not Warranted |

3.4 Pedestrian Assessments

Pedestrian assessments are conducted to determine the need for pedestrian actuated signalized crosswalks which are in adherence to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004. Devices include an activated pedestrian corridor (flashing yellow lights) or pedestrian actuated signals. A warrant system assigns points for a variety of conditions 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 pedestrians and vehicles at the location.

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

A standard pedestrian crosswalk or a zebra crosswalk (i.e., striped) may be considered when a signalized crosswalk is not warranted. A summary of the pedestrian studies are provided in **Table 3-5**.

Table 3-5: Pedestrian Assessments

| Location | Number of Pedestrians Crossing During Peak Hours | Result |
|---|--|---------------------------------|
| Rutherford Crescent & Rutherford Way | 9 | Pedestrian Device Not Warranted |
| Rita Avenue & 108 th Street | 4 | |
| Central Avenue & 111 th Street | 47 | |
| Central Avenue & 112 th Street | 52 | |

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

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 traffic signal; and,
- Number of pedestrians and vehicles at the location.

Pedestrian and traffic data is collected during the six peak hours of: 7:00 a.m. to 9:00 a.m., 11:30 a.m. to 1:30 p.m., and 4:00 p.m. to 6:00 p.m.

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 assessments is provided in **Table 3-6**.

Table 3-6: Traffic Signal Assessments

| Location | Traffic Signal Warrant Points | Result |
|--|-------------------------------|------------------------------|
| 108 th Street & Egbert Avenue | 55 | Traffic Signal Not Warranted |
| Central Avenue & Reid Road | 38 | |

Details of the traffic signal assessment are provided in **Appendix D**.

3.6 Collision Analysis

The most recently available five year collision data (2011 to 2015) was 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 and possible improvements. Locations with two or more collisions per year include:

- 115th Street & Central Avenue
- Central Avenue & College Drive
- 105th Street & Central Avenue
- Central Avenue & Reid Road / Rossmo Road
- 108th Street & Egbert Avenue
- 108th Street & Central Avenue
- 105th Street & McKercher Drive

- 109th Street & Central Avenue
- Central Avenue & Gray Avenue
- Central Avenue (900 block of 109th Street to 110th Street)
- Central Avenue (112th Street to Gray Avenue)
- 103rd Street & Central Avenue
- 400 block of Rutherford Crescent
- 800 block of Rutherford Way
- 109th Street (Central Avenue to Egbert Avenue)
- 112th Street & Central Avenue
- 112th Street & Egbert Avenue
- Central Avenue (300 to 400 block of Central Place to 105th Street)
- 105th Street East (Central Avenue to Jessop Avenue)
- 111th Street (Central Avenue to Violet Avenue)
- Central Avenue (800 block of 108th Street to 109th Street)
- Central Avenue (1100 block of 111th Street to 112th Street)
- Central Avenue (Attridge Drive to Rossmo Road)
- Central Avenue (1000 block of 110th Street to 111th Street)
- Central Avenue (200 block of 103rd Street to 104th Street)

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

4 STAGE 3: PRESENTATION OF TRAFFIC PLAN

4.1 Methodology

Stage 3 of the neighbourhood traffic 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 improvements
- Present the draft plan to the residents at a follow-up public meeting
- Circulate the draft plan to the civic divisions for comment
- Revise the draft plan based on feedback from the stakeholders
- Prepare a technical document summarizing the recommended plan and project process

The tables in the following sections provide the details of the recommended traffic management plan, including the location, recommended improvement, and reason for 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 Improvements – Speeding and Shortcutting

| Location | Recommended Improvement | Reason |
|--|---|--------------|
| Lanyon Avenue & 112 th Street | Median island on north leg of Lanyon Avenue | Reduce speed |
| Bryans Avenue & 112 th Street | Median island on west leg of 112 th Street | |
| Rita Avenue & 110 th Street | Median island on north leg of Rita Avenue | |
| 105 th Street & Moran Avenue | Median island on west leg of 105 th Street | |

4.3 Pedestrian Safety

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

Table 4-2: Recommended Improvements - Pedestrian Safety

| Location | Recommended Improvement | Reason |
|---|---|---------------------------|
| Reid Road & Adolph Way | Standard crosswalk on north leg of Reid Road | Improve pedestrian safety |
| Reid Road & 117 th Street | Standard crosswalk on east leg of Reid Road | |
| Reid Road & Reid Road | Standard crosswalk and median island on east leg | |
| Central Avenue & 104 th Street / Central Place | Active Pedestrian Corridor on north leg of Central Avenue | |

4.4 Cyclist Safety

The recommended improvement to increase cyclist safety is listed in **Table 4-3**.

Table 4-3: Recommended Improvement - Cyclist Safety

| Location | Recommended Improvement | Reason |
|---------------------------------------|---------------------------------------|--|
| 108 th Street near on-ramp | Dashed eastbound merging bicycle line | Improve transition from bicycle lane to traffic lane |

4.5 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 4-4**.

Table 4-4: Recommended Improvements – Intersection Safety

| Location | Recommended Improvement | Reason |
|--|--|----------------|
| Rutherford Crescent / Lanyon Avenue & Rutherford Way | Replace yield sign with stop sign | Improve safety |
| Central Avenue & 115 th Street | Overhead “Right Turn Only Lane” sign and tab & overhead “Except Buses” tab in northbound direction | Improve safety |

4.6 Parking

The recommended improvement to parking that will improve the level of safety is provided in **Table 4-5**.

Table 4-5: Recommended Improvement – Parking

| Location | Recommended Improvement | Reason |
|---|---|--------------------------------|
| 108 th Street & Sutherland House Back Lane | “No Parking” signs on south side of 108 th Street six metres from each side of back lane | Improve safety and sight lines |

4.7 Follow Up Consultation – Presentation of Traffic Plan

The recommended improvements were presented to residents and stakeholders at a follow-up public meeting in January 2017. Meeting minutes are provided in **Appendix F**. Recommended improvements that were not supported were eliminated or altered accordingly.

A decision matrix detailing the list of recommended improvements presented at the follow-up meeting are included in **Appendix G**. Additional issues raised after the presentation of the draft traffic plan were considered and outlined in **Appendix H**. Recommendations were added to the list of improvements if necessary.

The revised list of recommendations was then circulated to the civic divisions (including Saskatoon Police Service, Saskatoon Light & Power, Saskatoon Fire Department, Parking Services, Roadways & Operations and Transit) to gather comments and concerns. General support was received.

5 STAGE 4: IMPLEMENTATION

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

The placement of signs, pavement markings and temporary traffic calming will be completed short-term (1 to 2 years). Most often the installations take place in spring / summer of the following year. Therefore, installations for Sutherland are likely to take place in spring / summer 2017.

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

- **Table 5-1:** Signs, Pavement Markings & Temporary Traffic Calming Cost Estimate
- **Table 5-2:** Permanent Traffic Calming Cost Estimate
- **Table 5-3:** Pedestrian Safety Device Cost Estimate
- **Table 5-4:** Total Cost Estimate

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

| Location | Device (# of Devices) | Cost Estimate | Time Frame |
|---|---|----------------|---|
| Reid Road & Adolph Way | Standard crosswalk (1) | \$250 | 1 to 2 years |
| Reid Road & 117 th Street | Standard crosswalk (1) | \$250 | |
| Reid Road & Reid Road | Standard crosswalk (1) | \$250 | |
| Rutherford Crescent / Lanyon Avenue & Rutherford Way | Stop sign (1) | \$250 | |
| 108 th Street & Sutherland House Back lane | “No Parking” sign (2) | \$500 | |
| Central Avenue & 115 th Street | “Right Turn Only Lane” sign and tab (1) | \$250 | |
| | “Except Buses” tab (1) | \$250 | |
| 108 th Street near on-ramp | Dashed eastbound merging bicycle line (1) | \$250 | |
| Reid Road & Reid Road | Median island (1) | \$500 | 1 to 5 years (traffic calming devices will be installed temporarily until proven effective) |
| Lanyon Avenue & 112 th Street | Median island (1) | \$500 | |
| Bryans Avenue & 112 th Street | Median island (1) | \$500 | |
| Rita Avenue & 110 th Street | Median island (1) | \$500 | |
| 105 th Street & Moran Avenue | Median island (1) | \$500 | |
| Total | | \$4,750 | |

Table 5-2: Permanent Traffic Calming Cost Estimate

| Location | Device (# of Devices) | Cost Estimate | Time Frame |
|--|-----------------------|-----------------|--------------|
| Reid Road & Reid Road | Median island (1) | \$ 5,000 | 3 to 5 years |
| Lanyon Avenue & 112 th Street | Median island (1) | \$ 5,000 | |
| Bryans Avenue & 112 th Street | Median island (1) | \$ 5,000 | |
| Rita Avenue & 110 th Street | Median island (1) | \$ 5,000 | |
| 105 th Street & Moran Avenue | Median island (1) | \$ 5,000 | |
| Total | | \$25,000 | |

Table 5-3: Pedestrian Safety Device Cost Estimate

| Location | Device (# of Devices) | Cost Estimate | Time Frame |
|---|--------------------------------|-----------------|--------------|
| Central Avenue & 104 th Street / Central Place | Active Pedestrian Corridor (1) | \$20,000 | 1 to 2 years |
| Total | | \$20,000 | |

Table 5-4: Total Cost Estimate

| Category | Time Frame | |
|--|---------------------------|----------------------------|
| | Short-Term (1 to 2 years) | Medium-Term (3 to 5 years) |
| Signs, Pavement Markings & Temporary Traffic Calming | \$ 4,750 | NA |
| Permanent Traffic Calming | NA | \$25,000 |
| Pedestrian Safety Device | \$20,000 | NA |
| Total | \$24,750 | \$25,000 |

The total cost estimate for short-term improvements (signs, pavement markings, temporary traffic calming, and pedestrian safety device) is **\$24,750**. The total cost estimate for medium-term improvements (permanent traffic calming) is **\$25,000**.

Resulting from the Neighbourhood Traffic Review is a list of recommended improvements, including the location, reason and time frame as summarized in **Table 5-5**.

The resulting recommended Sutherland Neighbourhood Traffic Plan is illustrated in **Exhibit 5-1**.

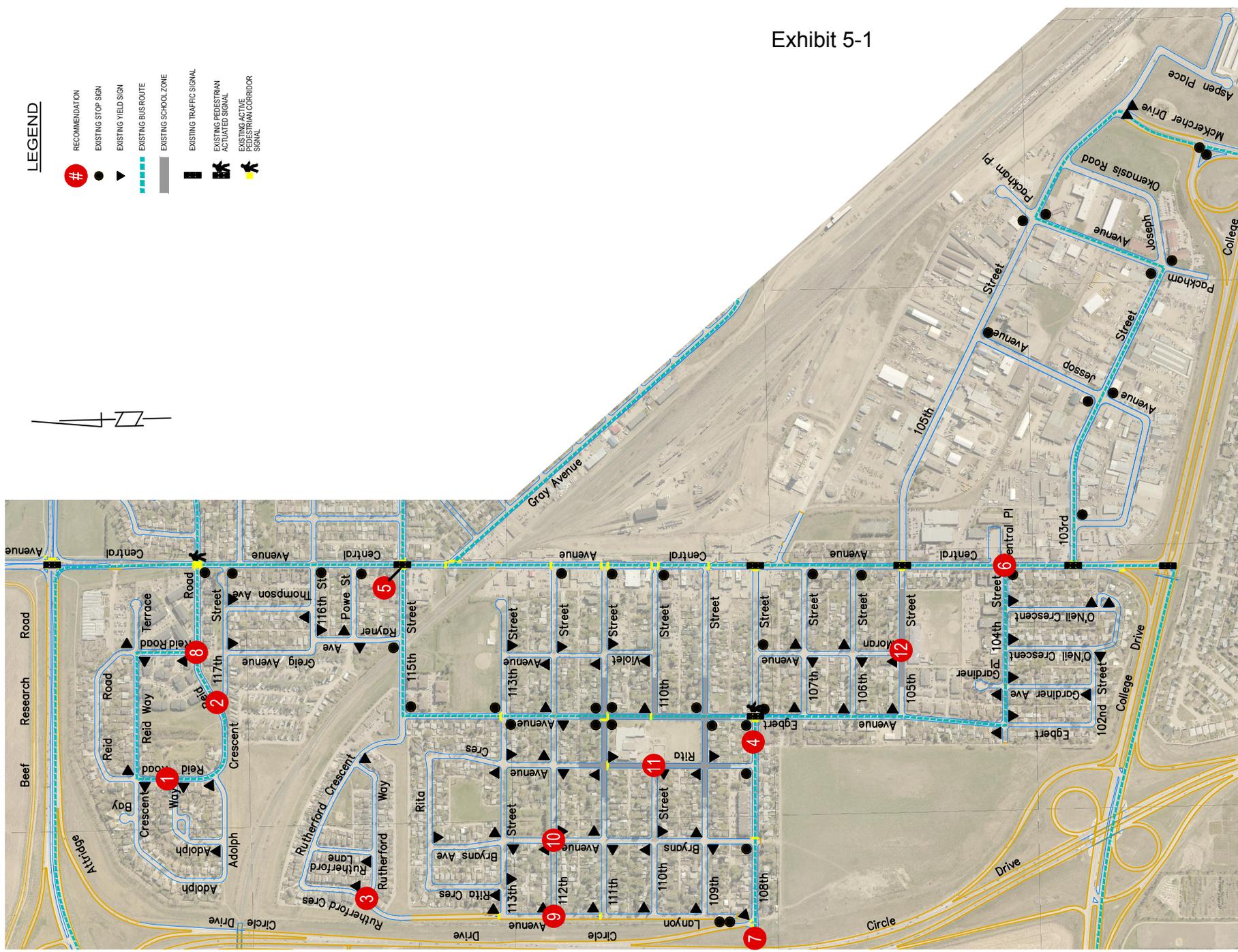
Table 5-5: Sutherland Neighbourhood Recommended Improvements

| Item | Location | Recommendation | Reason |
|-------------|---|--|--|
| 1 | Reid Road & Adolph Way | Standard crosswalk on north leg of Reid Road | Improve pedestrian safety |
| 2 | Reid Road & 117 th Street | Standard crosswalk on east leg of Reid Road | |
| 3 | Rutherford Crescent / Lanyon Avenue & Rutherford Way | Replace yield sign with stop sign | Improve safety |
| 4 | 108 th Street & Sutherland House Back Lane | “No Parking” signs on south side of 108 th Street six metres from each side of back lane | Improve safety and sight lines |
| 5 | Central Avenue & 115 th Street | Overhead “Right Turn Only Lane” sign and tab & overhead “Except Buses” tab in northbound direction; add this location to the intersection improvement list for an assessment | Improve safety |
| 6 | Central Avenue & 104 th Street / Central Place | Active Pedestrian Corridor on north leg of Central Avenue | Improve pedestrian safety |
| 7 | 108 th Street near on-ramp | Dashed eastbound merging bicycle line | Improve transition from bicycle lane to traffic lane |
| 8 | Reid Road & Reid Road | Standard crosswalk on east leg | Improve pedestrian safety |
| | | Median island on east leg | |
| 9 | Lanyon Avenue & 112 th Street | Median island on north leg of Lanyon Avenue | Reduce speed |
| 10 | Bryans Avenue & 112 th Street | Median island on west leg of 112 th Street | |
| 11 | Rita Avenue & 110 th Street | Median island on north leg of Rita Avenue | |
| 12 | 105 th Street & Moran Avenue | Median island on west leg of 105 th Street | |

Exhibit 5-1

LEGEND

- # RECOMMENDATION
- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- EXISTING BUS ROUTE
- ▬ EXISTING SCHOOL ZONE
- ⚡ EXISTING TRAFFIC SIGNAL
- ⚡ EXISTING PEDESTRIAN ACTUATED SIGNAL
- ⚡ EXISTING ACTIVE PEDESTRIAN CORRIDOR SIGNAL



APPENDIX A: PUBLIC MEETING #1 – JANUARY 17, 2016 MINUTES

Sutherland Neighbourhood Traffic Review
Tuesday, January 19, 2016, 7:00 PM – 9:00 PM
Sutherland School Library

Agenda

1. Welcome & Introductions
2. Presentation from Transportation Division
3. Small Group Discussions & Report Back to Large Group
4. Next Steps
5. Large Group Discussion – Questions & Answers

1. Welcome & Introductions

(Presented by Mitch Riabko and Kathy Dahl, Facilitators)

2. Presentation from Transportation Division – Sutherland Neighbourhood Traffic Review

(Presented by Mariniel Flores, EIT, Transportation Engineer)

- Presentation Outline
 - Neighbourhood Traffic Review Process
 - Sutherland Review Schedule
 - Sources of Information
 - Past Concerns Received
 - Description of Traffic Calming & Pedestrian Safety Devices
 - Attridge Drive & Central Avenue Intersection Improvements
 - Corridor Reviews & Major Intersection Reviews
- Neighbourhood Traffic Review Process
 - August 2013 – New process
 - Mandate – Reduce and calm traffic, and improve safety within neighbourhoods
 - 2014 – Reviewed 11 neighbourhoods
 - 2015 – Reviewed 8 neighbourhoods
 - 2016 – Sutherland, Willowgrove, Stonebridge, Hampton Village, Grosvenor Park, Parkridge, Silverspring, Lakeridge
- Sutherland Review Schedule
 - Stage 1 – Identify issues & possible solutions through community consultation (January to Fall 2016)
 - Stage 2 – Develop a draft traffic plan
 - Stage 3 – Present draft traffic plan to community for feedback (Fall 2016)
 - Stage 4 – Implement changes over time (Beginning Spring 2017)
- Sources of Information
 - Past studies
 - Collision analysis

- Feedback from public consultation
- Traffic counts & assessments
- Past Concerns Received
 - Speeding – 108th Street, 112th Street, Rita Avenue, Laura Avenue, Egbert Avenue, Reid Road, O’Neil Crescent, Rutherford Crescent/Way/Lane
 - Missing crosswalks – Rita Avenue & 108th Street, Reid Road
 - High volume of traffic – Bryans Avenue & 113th Street, 108th Street
 - Egbert Avenue & 108th Street
 - Rutherford Crescent/Way/Lane
 - Central Avenue
- Traffic Calming Devices
 - Speed Display Board
 - Curb Extension
 - Raised Median Island
 - Roundabout
 - Diverter
 - Right-In/Right-Out Island
 - Directional Closure
 - Raised Median Through Intersection
 - Full Closure
- Pedestrian Devices
 - Standard Crosswalk
 - Zebra Crosswalk
 - Active Pedestrian Corridor
 - Pedestrian Actuated Signal
- Attridge Drive & Central Avenue Intersection Improvements
 - Intersection improvements are being conducted as part of the North Commuter Parkway and Traffic Bridge Project
 - Intersection improvements include relocating the northbound to eastbound off-ramp from Circle Drive further west to alleviate weaving issues, addition of an eastbound to northbound dual left-turn bay, and revised signal timing. This work is scheduled to be completed in the upcoming construction season.
 - Sound attenuation walls will be constructed and will be in place by October 2018.
- Corridor Reviews & Major Intersection Reviews
 - Created to address issues at intersections along arterial streets as Neighbourhood Traffic Reviews addresses local and collector streets within neighbourhoods
 - Recommendations will be identified and projects will be prioritized for funding approval

- Report will be presented to City Council

3. **Small Group Discussions**

- Residents were divided into small groups to discuss traffic concerns in Sutherland and potential solutions
- Group 1: Mark Emmons (City Facilitator)
 - Egbert Avenue – Speeding and pedestrian safety issues on Egbert Avenue from 103rd Street to 108th Street; Speeding on Egbert Avenue north of Sutherland School; Speeding, especially transit drivers on Egbert Avenue south of 108th Street; Concrete trucks are using Egbert Avenue to 105th Street to get across Central Avenue; Heavy trucks are beating up 105th Street
 - Egbert Avenue Side Streets – Stop signs along these streets are good
 - Rita Avenue past Sutherland School – Speeding
 - 105th Street near Bishop Filevich School – Speeding; It's good that Bishop Filevich School is using drag-out speed signs on street
 - Egbert Avenue & 108th Street – Need full set of traffic lights and protected left-turns arrows
 - 108th Street & Rita Avenue – Need pedestrian crossing improvements for kids going to school; Vehicles are parking too close to this intersection on Rita Avenue
 - 110th Street & Lanyon Avenue (400 block of Lanyon Avenue) – Overgrown vines on telephone pole cause visibility issues
 - Central Avenue – Train crossing needs grade separation; Boulevard on Central Avenue would be nice; Streetscape improvements have been very nice to see
 - Central Avenue & 112th Street – Crossing as a pedestrian feels unsafe; Suggests flashing lights for pedestrians
 - 105th Street in Industrial Area – Speeding issues
 - 108th Street & Lanyon Avenue – Pavement markings for lanes are needed for eastbound traffic on 108th Street; Is there supposed to be access into Lanyon from 108th Street? If not, there should be access.
 - 300 Block on 110th Street in Back Lane – Cars are blocking visibility for vehicles turning onto Rita Avenue
 - Back Lane west of Egbert Avenue – Speeding in back lane; Perhaps 20kph signage could be installed
 - 107th Street east of Central Avenue – Speeding
 - General – Motorcycles are loud and often speeding; Speed board signs are great and effective
- Group 2: Marina Melchoirre (City Facilitator)
 - Central Avenue at 111th Street and at 112th Street – No room for vehicles making eastbound left-turns or right-turns; Radius is too tight in northbound lane; Sight distance is blocked by poster fixture; Too much stuff on corners

- Central Avenue from 108th Street to 112th Street – There are no markings or Pedestrian Actuated Signals
- Central Avenue – Hard to cross; Speeding; Big trucks; Bigger and faster buses; Difficult to make northbound left-turns; Bidirectional turn lanes are not used properly, suggests signs
- Lanyon Avenue from 111th Street to 113th Street – Vehicles are not slowing down at crosswalks with medians, curb extensions would be better; Parking is too difficult; Need sidewalks; Multi-use pathway is not being used
- Lanyon Avenue & 113th Street – Poor sight distance due to Evergreen trees
- 113th Street from Egbert Avenue to Bryans Avenue – Speeding
- Egbert Avenue & 108th Street – Northbound/southbound vehicles are not yielding to eastbound/westbound vehicles; Parking on sidewalk and parking across boulevard interfering with pedestrians; Need to enforce no parking signs 10 metres from intersection
- 108th Street – Eastbound vehicles parking too close to bridge; Re-painted every year; Left-turn is unclear; There is no transition where the eastbound bike lanes end after bridge. Where do the bikes go?
- Central Avenue Side Streets - Since parking pay stations were introduced, too much parking on side streets as residents and staff moved from Central Avenue; The increase in parking are causing ruts on the side streets off Central Avenue; Issues with garbage bin locations
- Paved Back Lanes behind Central Avenue – More traffic; Too much traffic
- General – Shortcutting from 115th Street to 113th Street to 108th Street to avoid school zones; Lanes are full of water, spring pooling; Traffic from Silverspring shortcutting on 108th Street, McKercher Drive, College Drive, Attridge Drive, and 109th Street
- Group 3: Mariniel Flores (City Facilitator)
 - 115th Street from Egbert Avenue to Lanyon Avenue – Investigate possibility of opening 115th Street to reduce shortcutting on 108th Street to 113th Street; Look into restricting southbound right-turns into 108th Street to 113th Street
 - Circle Drive – Create extra lane to connect northbound ramp off 108th Street to ramp onto Attridge Drive; Create extra lane to connect southbound ramp off Attridge Drive to ramp onto 108th Street
 - Egbert Avenue & 108th Street – Difficult to turn off Egbert Avenue; Restrict parking on the southeast corner on Egbert Avenue by one or two parking spaces or by a block to 107th Street; Need a traffic signal; Many vehicles are parked near this intersection due to a lack of parking at the Sutherland House; Liked the temporary four-way stop that was installed before
 - Sutherland House Access or Back Lane at 108th Street – Difficult to turn out of the access or back lane due to parking obstructions; Parking restriction needed; Request crosswalk; Speeding issues; Request speed restrictions or speed display boards
 - 108th Street – Enhance visibility of crosswalk
 - Egbert Avenue & 107th Street – Check ownership of pathway to turn pathway into roadway

- Attridge Drive & Central Avenue – Issues with southbound turning light
 - Sutherland House – Power pole should be relocated to create more parking space
 - Egbert Avenue & 104th Street – Vehicles are speeding and are not yielding; Unsafe intersection; Stop signs need to be installed
 - Husky Service Station south of 103rd Street & Central Avenue – Shortcutting; Jersey barriers will be installed to prevent shortcutting
 - Egbert Avenue & 105th Street – Poor visibility due to bush, bush needs to be trimmed
 - Central Avenue from Birch Crescent to Rossmo Road – Visibility issues; Trees on medians and overhanging trees need to be trimmed
 - Central Avenue & 115th Street – Visibility issues; Trees on medians and overhanging trees need to be trimmed; No eastbound protected left-turn arrow
 - Central Avenue – Signs obstructs view of vehicles turning onto Central Avenue
 - Back lane south of 108th Street – Needs to be maintained
 - General – There are issues with temporary rubber curbing but they are aware that it will be installed for one year on a temporary basis and might become permanent; The temporary devices are helping; Concerns about parking pay stations
- Group 4: Vicky Reaney (City Facilitator)
 - Central Avenue & Attridge Drive – Extra lane needed
 - 108th Street & Rita Avenue – Walkway is on the wrong side of the street (east side of intersection not west side)
 - Central Avenue – Paid parking hurts businesses; Decrease in parking with bulb-outs; It's good that the streetscaping eliminated double parking; Not fan of turning lanes; Train crossing perception time is 25 minutes; Train sits at intersection
 - 112th Street & Bryan Avenue – Traffic calming needed (e.g., speed bumps) (temporary water lines acted like speed bumps and slowed traffic down); Yield signs are better but do not completely solve speeding issues so they are not effective; Speed bumps are obstruction to graters; Traffic calming needs to be more visible
 - Bryans Avenue – Speedway
 - 112th Street – Not a speedway
 - Rutherford Crescent – Speeding
 - Lanyon Avenue – Sound barriers needed due to traffic noise from Circle Drive especially around bridge
 - Egbert Avenue & 108th Street – Speeding; Inconsistent sidewalk on east and west sides; More traffic calming is needed; Traffic signal needed; Current traffic justifies signal; No sidewalk on east side but there is a signal on east side on that block; Four-way stop or traffic light preferred
 - Egbert Avenue & 111th Street – Speeding at four-way stop; Speeding through school zone; Portable signs by school would help; Concerns that

children will get hit here; Does City verify when new safety measures are installed, and monitor new devices or changes in traffic flow or driver behaviour?

- Egbert Avenue & 115th Street – Speeding concerns northbound on Egbert Avenue; Vehicles blow through stop signs; Vehicles cut through southeast Condominium Complex at 115th Street and exit on Egbert Avenue or vice versa
 - Lanyon Avenue & Rutherford Crescent/Way – Safety concern; Numerous accidents; Cannot see into Rutherford Way off Lanyon Avenue; Accidents between moving vehicles because vehicles are parked on both sides of Rutherford Crescent (creates funnel); Need traffic calming at Rutherford Crescent; Speeding; Difficult to see license plate to report to police; Pedestrian device needed
 - Lanyon Crescent & 115th Street – Trail access to Canadian Tire
 - 108th Street – Two major ways for cyclists to enter & leave Sutherland
 - Lanyon Avenue – Feels wide; No sidewalks; Drivers want to drive faster; Better with barriers on the road; Feels like drivers are speeding even if they are not (consider perception of speeding versus actual speeding); What does the City do to verify perception of speeding versus actual speeding?; City does a good job clearing walkways in the winter; Asphalt's broken; Trails are in poor condition; Lanyon Avenue has lots of cycling traffic, especially at Circle Drive crossing
 - Circle Drive southbound onto 108th Street – Blind corner; Cement from walkway obscures sightlines
 - Circle Drive onto Attridge Drive – Suggests 'Warning Reduce Speed Ahead' sign similar to Warman Road; Speeding on this ramp
 - Community Centre/Sutherland Hall - Car congestion, parking on all adjacent streets
 - General – Corner residents have cars on their lawns due to speeding/sliding; Speed bumps are hard on fire truck apparatus; Saskatoon Fire prefers no speed bumps due to decrease in speeds but Saskatoon Fire does not outright oppose speed bumps; Balance between speed and convenience for residents' safety; Concrete blocks often broken by graters; Speed bumps slow down traffic but affects fire trucks; Are speed display boards effective in changing driver behaviour?
- Group 5: Jay Magus (City Facilitator)
 - Egbert Avenue & 108th Street – Residents at Sutherland House use street parking during events; Traffic backs up as vehicles try to get onto 108th Street; Suggests curb extensions on Egbert Avenue
 - Circle Drive – Difficult to weave over from eastbound Circle Drive to College Drive left-turn lane; Shoulder is used as an extra lane
 - Rutherford Crescent/Way/Lane – Streets are horribly narrow due to parking on both sides; Difficult to pass in winter; Suggests visitor parking only; Suggests one-way traffic flow; Illegal suites generate more parking (at least

- eight vehicles per suite); Two houses turned their front yards into parking lots; Suggests parking restrictions by time of day; Suggests speed tables
- Lanyon Avenue – Speeding, especially in summer; Potholes; No sidewalk
- Gray Avenue & Central Avenue – No left turn from Gray Avenue onto Central Avenue (have to go to 115th Street); Southbound and westbound vehicles gets a protected arrow and northbound vehicles do not; Westbound vehicles on 115th Street cannot go straight through on the right side; Bus stop locations limit the ability to swing around a left-turning vehicle
- Central Avenue – Feels unsafe riding a bike along Central Avenue; Traffic has grown since Circle Drive South, Evergreen, and Willowgrove were constructed; Difficult to turn right onto Central Avenue from minor streets; Speeding
- Attridge Drive & Central Avenue – Weaving issues west of this intersection after lane improvements
- Central Avenue & Reid Road – Requesting traffic lights
- 112th Street – Suggests speed humps
- 110th Street – Speeding; Even if vehicles are travelling at 50kph, it feels fast
- Sutherland School – Speeding
- 115th Street – Work at hydrant is not complete; Utility cuts are not complete
- General – Overflow commercial parking from Central Avenue; Suggests wasted space be turned into a community garden or parking; New business opening up will compound issue between 112th Street & 115th Street; Train delays; Suggests reduced speed limits

4. Next Steps

(Presented by Jay Magus, Transportation Engineering Manager)

1. Continue monitoring traffic issues in your neighbourhood
2. Mail-in or email comments no later than February 19, 2016
3. Additional public input via City on-line Community Engagement webpage no later than February 19, 2016 at <http://shapingsaskatoon.ca/discussions/sutherland-neighbourhood-traffic-review>
4. Traffic & pedestrian data collection, analysis
5. Develop recommendations and prepare draft Traffic Plan
6. Follow-up public input meeting to provide input on draft Traffic Plan
7. Determine revisions and finalize Traffic Plan
8. Present Traffic Plan to City Council for approval

5. Large Group Discussion – Questions & Answers

- Question/Comment 1:
 - Resident: Will data be collected over the winter? Winter counts will capture wintertime issues with crosswalks and snow removal. Summer counts will not capture University students. Winter and summer counts both need to be considered. Consider quality and quantity.

- City: Some types of counts cannot be collected over the winter. There are more vehicles in the winter but speed counts are not recommended over the winter as traffic moves slower. Intersection counts can be collected in the winter and summer. There are typically higher volume of pedestrians in the summer. Pedestrian counts will be collected before the University term is over. Winter operations can be observed.
- Councillor Hill mentioned a winter budget to expand winter operations to improve snow removal.
- Question/Comment 2:
 - Resident: What role does the Community Association play in the Sutherland Neighbourhood Traffic Review?
 - City: We have seen Community Associations in other neighbourhoods take different approaches. Some attend the meetings and some do not. The Sutherland Community Association can determine how involved they would like to be. Please help advertise issues and the process through social media.
- Question/Comment 3:
 - Resident: There are truck route issues in Sutherland. The City needs to look, address and examine this issue. Trucks are travelling through senior and pedestrian routes creating unsafe conditions.
 - City: City Council approved the truck routes in The Traffic Bylaw. If there are enforcement-related issues, provide specifics of the violations.
 - Councillor Hill: Call enforcement to correct the issue. Include the name of the company, time of day etc.
- Question/Comment 4:
 - Resident: With regards to the slide about the Attridge Drive & Central Avenue Intersection Improvements, what benefits does realigning the northbound to eastbound ramp have? The problem is that the speed limit is 90kph travelling northbound then drops to 60kph travelling eastbound on Attridge Drive. There is an identical issue on Central Drive.
 - City: Realigning the northbound to eastbound ramp will alleviate insufficient weaving distance. This will tighten the ramp radius to slow vehicles down.
 - Councillor Hill: Councillor Jeffries and I will coordinate a meeting regarding issues at this intersection.
- Question/Comment 5:

- Resident: Rutherford Crescent/Way/Lane did not receive any flyers.
- City: We will ensure that Rutherford Crescent/Way/Lane receives flyers for the next meeting.

List of Representatives

- Mitch Riabko, Kathy Dahl – Great Works Consulting, Facilitators
- Jay Magus – City of Saskatoon, Transportation & Utilities, Transportation Engineering Manager
- Mariniel Flores – City of Saskatoon, Transportation & Utilities, EIT, Transportation Engineer
- Marina Melchoirre – City of Saskatoon, Transportation & Utilities, Senior Transportation Engineer
- Mark Emmons – City of Saskatoon, Community Services, Neighbourhood Planning, Senior Planner
- Vicky Reaney – City of Saskatoon, Community Services, Neighbourhood Planning, Senior Planner

APPENDIX B: TRAFFIC DATA COLLECTION MAP

APPENDIX C: PEDESTRIAN DEVICE ASSESSMENTS

Pedestrian Actuated Signal Warrants

Rutherford Crescent & Rutherford Way

Prepared By: Mariniel Flores **Date:** Wednesday, January 4, 2017

Location & Roadway Classification: Rutherford Cres (Local) & Rutherford Way (Local)
Date of Count: Day of wk: Tuesday Mth, Day, Yr: Tuesday, October 04, 2016
Weather: 5.1°C
Traffic Control Devices: Yield sign on Rutherford Way assigning right-of-way to Rutherford Cres
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 320 m

Location: Lanyon Ave & 113th St
Type: Yield sign, zebra crosswalk & median island

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: | 81 | at | |
| Adult: | | Active Ped Corridor Points: | | | |
| Senior: | | Pedestrian Actuated Signal Points: | 22 | | |
| Vehicles passing through crosswalk(s): | 201 | | | | |

**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 | 13 | 1 | 1 | | | | | | | | | | |
| 8:15 | 12 | | 1 | | 1 | | | | | | | | |
| 8:30 | 5 | | 2 | | | | | | | | | | |
| 8:45 | 6 | | 1 | | | | | | | | | | |
| 9:00 | | | | | | | | | | | | | |
| 9:15 | | | | | | | | | | | | | |
| 9:30 | | | | | | | | | | | | | |
| 9:45 | | | | | | | | | | | | | |
| AM Totals | 36 | 1 | 5 | | 1 | | | | | | | | |
| 11:30 | 2 | 1 | 3 | | 1 | | | | | | | | |
| 11:45 | 3 | | 5 | | | | | | | | | | |
| 12:00 | 3 | 1 | 1 | | 2 | | | | | | | | |
| 12:15 | 4 | | 4 | | | | | | | | | | |
| 12:30 | 9 | | 1 | | | | | | | | | | |
| 12:45 | 7 | | 3 | | | | | | | | | | |
| 13:00 | 4 | | 1 | | | | | | | | | | |
| 13:15 | 4 | | 2 | | | | | | | | | | |
| Noon Totals | 36 | 2 | 20 | | 3 | | | | | | | | |
| 14:00 | | | | | | | | | | | | | |
| 14:15 | | | | | | | | | | | | | |
| 14:30 | | | | | | | | | | | | | |
| 14:45 | | | | | | | | | | | | | |
| 15:00 | 10 | | 4 | | | | | | | | | | |
| 15:15 | 2 | | 5 | | | | | | | | | | |
| 15:30 | 3 | | 6 | | | | | | | | | | |
| 15:45 | 7 | | 6 | | 3 | | | | | | | | |
| 16:00 | 5 | 2 | 7 | | | | | | | | | | |
| 16:15 | 6 | 1 | 7 | | 2 | | | | | | | | |
| 16:30 | 5 | | 6 | | | | | | | | | | |
| 16:45 | 5 | 1 | 13 | | | | | | | | | | |
| 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 | 43 | 4 | 54 | | 5 | | | | | | | | |
| Totals | 115 | 7 | 79 | | 9 | | | | | | | | |
| North Crosswalk = | | | | | | | | | 9 | South Crosswalk = | | | |

108th Street & Rita Avenue

Prepared By: Mariniel Flores **Date:** Thursday, January 5, 2017

Location & Roadway Classification: 108th St (Minor Arterial) & Rita Ave (Local)
Date of Count: Day of wk: Monday Mth, Day, Yr: Monday, October 03, 2016
Weather: 8.9°C
Traffic Control Devices: Stop sign on Rita Avenue assigning right-of-way to 108th St
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 130 m
Location: 108th St & Egbert Ave
Type: Pedestrian Actuated Signal, two-way stops, standard crosswalks
Is the orientation of this crosswalk(s) N-S? y (y or n)
Duration of pedestrian count 5 hrs

| | | | | | |
|---|--------------|---|------------|-----------|-----------------|
| Elementary: | 4 | Total Warranted PC Points: | | or | / period |
| High School: | | Highest PC point value: | 600 | at | |
| Adult: | | Active Ped Corridor Points: | | | |
| Senior: | | Pedestrian Actuated Signal Points: | 15 | | |
| Vehicles passing through crosswalk(s): | 4,126 | | | | |

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 | 8 | 174 | | 69 | | | | | | | | | | |
| 8:15 | 5 | 141 | | 85 | | | | | | | | | | |
| 8:30 | 4 | 92 | | 92 | | | | | | | | | | |
| 8:45 | 8 | 97 | | 100 | | | | | | | | | | |
| 9:00 | | | | | | | | | | | | | | |
| 9:15 | | | | | | | | | | | | | | |
| 9:30 | | | | | | | | | | | | | | |
| 9:45 | | | | | | | | | | | | | | |
| AM Totals | 25 | 504 | | 346 | | | | | | | | | | |
| 11:30 | | 51 | | 101 | | | | | | | | | | |
| 11:45 | 4 | 60 | | 86 | 1 | | | | | | | | | |
| 12:00 | 4 | 65 | | 96 | | | | | | | | | | |
| 12:15 | 4 | 59 | | 73 | | | | | | | | | | |
| 12:30 | 2 | 83 | | 86 | | | | | | | | | | |
| 12:45 | 4 | 89 | | 99 | | | | | | | | | 1 | |
| 13:00 | 4 | 79 | | 90 | | | | | | | | | | |
| 13:15 | 2 | 64 | | 89 | | | | | | | | | | |
| Noon Totals | 24 | 550 | | 720 | 1 | | | | | | | | 1 | |
| 14:00 | | | | | | | | | | | | | | |
| 14:15 | | | | | | | | | | | | | | |
| 14:30 | | | | | | | | | | | | | | |
| 14:45 | | | | | | | | | | | | | | |
| 15:00 | 7 | 66 | | 95 | | | | | | | | | | |
| 15:15 | 5 | 71 | | 128 | | | | | | | | | | |
| 15:30 | 5 | 66 | | 147 | | | | | | | | | | |
| 15:45 | 9 | 82 | | 155 | 1 | | | | | | | | | |
| 16:00 | 4 | 83 | | 169 | | | | | | | | | | |
| 16:15 | 9 | 89 | | 167 | | | | | | | | | | |
| 16:30 | 7 | 86 | | 210 | 1 | | | | | | | | | |
| 16:45 | 4 | 85 | | 208 | | | | | | | | | | |
| 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 | 50 | 628 | | 1,279 | 2 | | | | | | | | | |
| Totals | 99 | 1,682 | | 2,345 | 3 | | | | | | | | 1 | |
| | | | | | West Crosswalk = | | | | 3 | East Crosswalk = | | | | 1 |

Central Avenue & 111th Street

Prepared By: Mariniel Flores Date: Friday, January 6, 2017

Location & Roadway Classification: Central Ave (Major Arterial) & 111th St (Local)

Date of Count: Day of wk: Tuesday Mth, Day, Yr: Tuesday, November 22, 2016

Weather: -2.8°C

Traffic Control Devices: Stop sign on 111th St assigning right-of-way to Central Ave

Current Pedestrian Control: Zebra crosswalks

Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 3 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 100 m

Location: Central Ave & 112th St

Type: Stop, zebra crosswalks

Is the orientation of this crosswalk(s) N-S? n (y or n)

Duration of pedestrian count 5 hrs

| | | | | | |
|--|-------|------------------------------------|-------|----|----------|
| Elementary: | 47 | Total Warranted PC Points: | | or | / period |
| High School: | | Highest PC point value: | 5,607 | at | |
| Adult: | | Active Ped Corridor Points: | | | |
| Senior: | | Pedestrian Actuated Signal Points: | 44 | | |
| Vehicles passing through crosswalk(s): | 4,929 | | | | |

**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 | 157 | | 71 | 7 | | | | | | | | | 1 |
| 8:15 | 118 | | 72 | 7 | | | | | | | | | 2 |
| 8:30 | 117 | | 78 | 10 | | | | | | | | | |
| 8:45 | 101 | | 86 | 9 | 1 | | | | | | | | |
| 9:00 | 1 | | | | | | | | | | | | |
| 9:15 | | | | | | | | | | | | | |
| 9:30 | | | | | | | | | | | | | |
| 9:45 | | | | | | | | | | | | | |
| AM Totals | 494 | | 307 | 33 | 1 | | | | | | | | 3 |
| 11:30 | 35 | | 74 | 12 | | | | | | | | | 1 |
| 11:45 | 89 | | 126 | 8 | 1 | | | | | | | | 1 |
| 12:00 | 88 | | 134 | 10 | 5 | | | | | | | | |
| 12:15 | 83 | | 99 | 7 | | | | | | | | | 3 |
| 12:30 | 98 | | 95 | 6 | 6 | | | | | | | | |
| 12:45 | 109 | | 124 | 7 | 1 | | | | | | | | 2 |
| 13:00 | 103 | | 108 | 7 | | | | | | | | | 3 |
| 13:15 | 100 | | 89 | 6 | 1 | | | | | | | | |
| Noon Totals | 705 | | 849 | 63 | 14 | | | | | | | | 10 |
| 14:00 | | | | | | | | | | | | | |
| 14:15 | | | | | | | | | | | | | |
| 14:30 | | | | | | | | | | | | | |
| 14:45 | | | | | | | | | | | | | |
| 15:00 | 96 | | 145 | 10 | | | | | | | | | |
| 15:15 | 101 | | 158 | 12 | 3 | | | | | | | | 3 |
| 15:30 | 115 | | 183 | 10 | | | | | | | | | |
| 15:45 | 108 | | 186 | 18 | 1 | | | | | | | | 8 |
| 16:00 | 96 | | 203 | 12 | | | | | | | | | |
| 16:15 | 103 | | 178 | 8 | 2 | | | | | | | | |
| 16:30 | 114 | | 230 | 10 | 2 | | | | | | | | |
| 16:45 | 107 | | 268 | 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 | 840 | | 1,551 | 87 | 8 | | | | | | | | 11 |
| Totals | 2,039 | | 2,707 | 183 | 23 | | | | | | | | 24 |
| North Crosswalk = | | | | | | | | | 23 | South Crosswalk = | | | 24 |

Central Avenue & 112th Street

Prepared By: Mariniel Flores **Date:** Friday, January 6, 2017

Location & Roadway Classification: Central Ave (Major Arterial) & 112th St (Local)

Date of Count: Day of wk: Thursday Mth, Day, Yr: Thursday, November 24, 2016

Weather: -1.2°C

Traffic Control Devices: Stop sign on 112th St assigning right-of-way to Central Ave

Current Pedestrian Control: Zebra crosswalks

Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 3 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 100 m

Location: Central Ave & 111th St

Type: Stop, zebra crosswalks

Is the orientation of this crosswalk(s) N-S? n (y or n)

Duration of pedestrian count 5 hrs

| | | | | | |
|---|--------------|---|--------------|-----------|-----------------|
| Elementary: | 52 | Total Warranted PC Points: | | or | / period |
| High School: | | Highest PC point value: | 5,364 | at | |
| Adult: | | Active Ped Corridor Points: | | | |
| Senior: | | Pedestrian Actuated Signal Points: | 46 | | |
| Vehicles passing through crosswalk(s): | 4,824 | | | | |

**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 | 175 | | 80 | 5 | 1 | | | | | | | | 1 |
| 8:15 | 133 | | 81 | 8 | | | | | | | | | |
| 8:30 | 122 | | 69 | 5 | 2 | | | | | | | | |
| 8:45 | 83 | | 66 | 5 | | | | | | | | | |
| 9:00 | | | 1 | | | | | | | | | | |
| 9:15 | | | | | | | | | | | | | |
| 9:30 | | | | | | | | | | | | | |
| 9:45 | | | | | | | | | | | | | |
| AM Totals | 513 | | 297 | 23 | 3 | | | | | | | | 1 |
| 11:30 | 53 | | 67 | 3 | 5 | | | | | | | | 1 |
| 11:45 | 58 | | 68 | 8 | | | | | | | | | |
| 12:00 | 105 | | 142 | 7 | | | | | | | | | 2 |
| 12:15 | 93 | | 93 | 8 | | | | | | | | | 3 |
| 12:30 | 95 | | 93 | 5 | | | | | | | | | |
| 12:45 | 144 | | 115 | 11 | | | | | | | | | |
| 13:00 | 113 | | 117 | 5 | | | | | | | | | 4 |
| 13:15 | 85 | | 103 | 7 | 2 | | | | | | | | 2 |
| Noon Totals | 746 | | 798 | 54 | 7 | | | | | | | | 12 |
| 14:00 | | | | | | | | | | | | | |
| 14:15 | | | | | | | | | | | | | |
| 14:30 | | | | | | | | | | | | | |
| 14:45 | | | | | | | | | | | | | |
| 15:00 | 90 | | 100 | 6 | 4 | | | | | | | | 1 |
| 15:15 | 103 | | 150 | 9 | 3 | | | | | | | | 2 |
| 15:30 | 117 | | 180 | 7 | 3 | | | | | | | | 1 |
| 15:45 | 110 | | 172 | 10 | 4 | | | | | | | | 1 |
| 16:00 | 109 | | 185 | 10 | 1 | | | | | | | | 3 |
| 16:15 | 116 | | 198 | 14 | 2 | | | | | | | | 1 |
| 16:30 | 101 | | 220 | 6 | 2 | | | | | | | | 1 |
| 16:45 | 134 | | 234 | 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 | 880 | | 1,439 | 74 | 19 | | | | | | | | 10 |
| Totals | 2,139 | | 2,534 | 151 | 29 | | | | | | | | 23 |
| North Crosswalk = | | | | | | | | | 29 | South Crosswalk = | | | 23 |

APPENDIX D: TRAFFIC SIGNAL ASSESSMENTS

Traffic Signal Warrants

108th Street West & Egbert Avenue

| | | | |
|--------------------|------------|----------------------|----|
| Main Street (name) | 108th St W | Direction (EW or NS) | EW |
| Side Street (name) | Egbert Ave | Direction (EW or NS) | NS |
| Quadrant / Int # | | Comments | |

| | |
|--------------------|-------------------|
| Road Authority: | City of Saskatoon |
| City: | Saskatoon |
| Analysis Date: | 2017 Jan 3, Tues |
| Count Date: | 2016 Oct 4, Tues |
| Date Entry Format: | (yyyy-mm-dd) |

| Lane Configuration | | Excl LT | Th & LT | Through | Th+RT+LT | Th & RT | Excl RT | UpStreet Signal (m) | # of Thru Lanes |
|--------------------|----|---------|---------|---------|----------|---------|---------|---------------------|-----------------|
| 108th St W | WB | | | | 1 | | | 340 | 1 |
| 108th St W | EB | | | | 1 | | | 1,340 | 1 |
| Egbert Ave | NB | | | | 1 | | | | |
| Egbert Ave | SB | | | | 1 | | | | |

Are the Egbert Ave NB right turns significantly impeded by through movements? (y/n) **n**

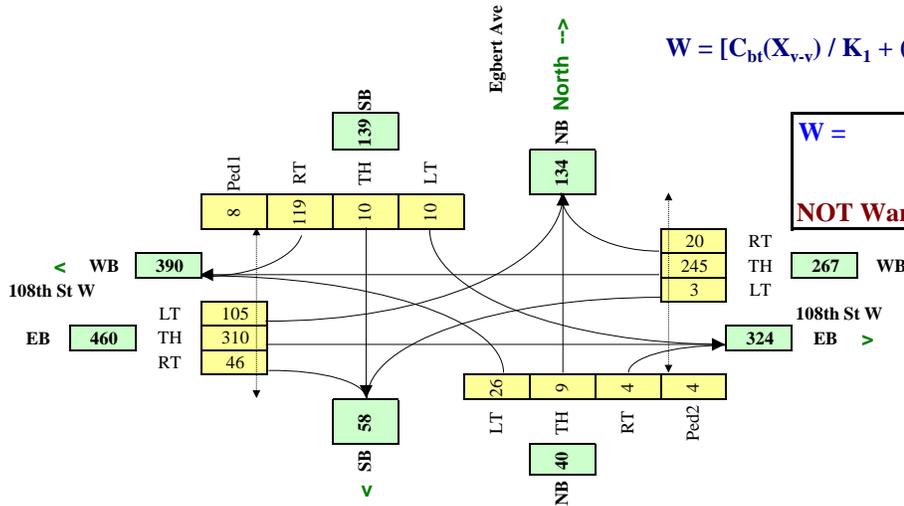
Are the Egbert Ave SB right turns significantly impeded by through movements? (y/n) **n**

| Demographics | | |
|----------------------------------|-------|---------|
| Elem. School/Mobility Challenged | (y/n) | y |
| Senior's Complex | (y/n) | y |
| Pathway to School | (y/n) | y |
| Metro Area Population | (#) | 265,000 |
| Central Business District | (y/n) | n |

| Other input | | Speed (Km/h) | Truck % | Bus Rt (y/n) | Median (m) |
|-------------|----|--------------|---------|--------------|------------|
| 108th St W | EW | 50 | 2.0% | y | 0.0 |
| Egbert Ave | NS | | 2.0% | y | |

| Traffic Input | 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 | 30 | 1 | 1 | 4 | 5 | 184 | 1 | 393 | 4 | 18 | 153 | 20 | 9 | 5 | 0 | 5 |
| 8:00 - 9:00 | 41 | 14 | 5 | 10 | 12 | 180 | 4 | 291 | 14 | 55 | 242 | 35 | 6 | 6 | 0 | 28 |
| 11:30 - 12:30 | 25 | 5 | 5 | 10 | 12 | 56 | 3 | 174 | 15 | 80 | 238 | 31 | 14 | 6 | 4 | 16 |
| 12:30 - 13:30 | 20 | 13 | 7 | 14 | 9 | 94 | 2 | 212 | 13 | 74 | 253 | 33 | 1 | 1 | 1 | 4 |
| 16:00 - 17:00 | 24 | 9 | 3 | 10 | 12 | 98 | 1 | 209 | 34 | 196 | 491 | 65 | 6 | 4 | 0 | 8 |
| 17:00 - 18:00 | 17 | 14 | 5 | 12 | 11 | 101 | 4 | 192 | 38 | 204 | 483 | 90 | 9 | 2 | 0 | 6 |
| Total (6-hour peak) | 157 | 56 | 26 | 60 | 61 | 713 | 15 | 1,471 | 118 | 627 | 1,860 | 274 | 45 | 24 | 5 | 67 |
| Average (6-hour peak) | 26 | 9 | 4 | 10 | 10 | 119 | 3 | 245 | 20 | 105 | 310 | 46 | 8 | 4 | 1 | 11 |

Average 6-hour Peak Turning Movements



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

| | | | |
|----------------------|----|-----|-----|
| W = | 55 | 45 | 10 |
| | | Veh | Ped |
| NOT Warranted | | | |

| | | |
|---------------|-----|----|
| RT | 20 | WB |
| TH | 245 | WB |
| LT | 3 | WB |
| 108th St W EB | | |
| | 324 | |

Central Avenue & Reid Road

| | | | |
|--------------------|-------------|----------------------|----|
| Main Street (name) | Central Ave | Direction (EW or NS) | NS |
| Side Street (name) | Reid Rd | Direction (EW or NS) | EW |
| Quadrant / Int # | | Comments | |

| | |
|--------------------|-------------------|
| Road Authority: | City of Saskatoon |
| City: | Saskatoon |
| Analysis Date: | 2017 Jan 9, Mon |
| Count Date: | 2016 Nov 22, Tues |
| Date Entry Format: | (yyyy-mm-dd) |

| Lane Configuration | | Excl LT | Th & LT | Through | Th+RT+LT | Th & RT | Excl RT | UpStrea m Signal (m) | # of Thru Lanes |
|--------------------|----|---------|---------|---------|----------|---------|---------|----------------------------|--------------------|
| Central Ave | NB | | 1 | | | | 1 | 460 | 1 |
| Central Ave | SB | | 1 | | | 1 | | 330 | 2 |
| Reid Rd | WB | | | | 1 | | | | |
| Reid Rd | EB | | | | 1 | | | | |

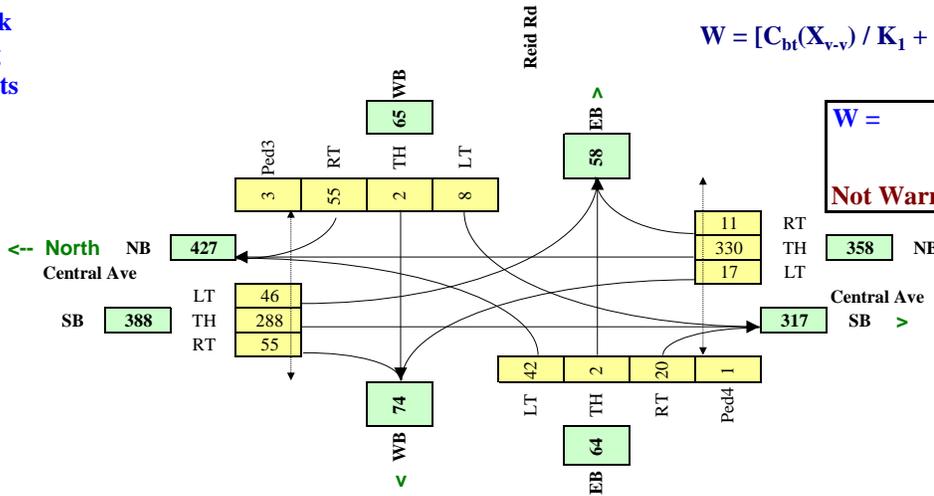
Are the Reid Rd WB right turns significantly impeded by through movements? (y/n) **n**
 Are the Reid Rd EB right turns significantly impeded by through movements? (y/n) **n**

| Demographics | | |
|----------------------------------|-------|---------|
| Elem. School/Mobility Challenged | (y/n) | n |
| Senior's Complex | (y/n) | n |
| Pathway to School | (y/n) | n |
| Metro Area Population | (#) | 265,000 |
| Central Business District | (y/n) | n |

| Other input | | Speed (Km/h) | Truck % | Bus Rt (y/n) | Median (m) |
|-------------|----|-----------------|------------|-----------------|---------------|
| Central Ave | NS | 50 | 2.0% | y | 0.0 |
| Reid Rd | EW | | | y | |

| Traffic Input | NB | | | SB | | | WB | | | EB | | | Ped1 | Ped2 | Ped3 | Ped4 |
|------------------------------|------------|--------------|-----------|------------|--------------|------------|-----------|-----------|------------|------------|----------|------------|--------------|--------------|--------------|--------------|
| | LT | Th | RT | LT | Th | RT | LT | Th | RT | LT | Th | RT | NS W Side | NS E Side | EW N Side | EW S Side |
| 7:00 - 8:00 | 10 | 364 | 5 | 12 | 125 | 19 | 7 | 1 | 85 | 54 | 2 | 30 | 8 | 0 | 0 | 0 |
| 8:00 - 9:00 | 11 | 376 | 1 | 22 | 203 | 31 | 14 | 6 | 105 | 63 | 4 | 25 | 9 | 0 | 3 | 2 |
| 11:30 - 12:30 | 22 | 302 | 8 | 0 | 223 | 43 | 6 | 2 | 32 | 25 | 0 | 15 | 4 | 0 | 2 | 0 |
| 12:30 - 13:30 | 11 | 275 | 11 | 27 | 236 | 45 | 7 | 1 | 35 | 31 | 1 | 12 | 1 | 0 | 0 | 1 |
| 16:00 - 17:00 | 28 | 346 | 23 | 101 | 455 | 91 | 7 | 0 | 35 | 34 | 2 | 19 | 11 | 0 | 7 | 4 |
| 17:00 - 18:00 | 22 | 315 | 16 | 112 | 486 | 99 | 9 | 1 | 37 | 45 | 0 | 21 | 4 | 0 | 3 | 1 |
| Total (6-hour peak) | 104 | 1,978 | 64 | 274 | 1,728 | 328 | 50 | 11 | 329 | 252 | 9 | 122 | 37 | 0 | 15 | 8 |
| Average (6-hour peak) | 17 | 330 | 11 | 46 | 288 | 55 | 8 | 2 | 55 | 42 | 2 | 20 | 6 | 0 | 3 | 1 |

Average 6-hour Peak Turning Movements



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

$W =$ **38** **35** **3**
 Veh *Ped*
Not Warranted - Vs < 75

APPENDIX E: COLLISION ANALYSIS

| Street 1 | Street 2 | UGRID | 2011 | 2012 | 2013 | 2014 | 2015 | Total Number of Collisions (2011 - 2015) | Total Number of Collisions (2015) | Right Angle, Left Turn & Right Turn Collisions Only (2011 - 2015) | Right Angle, Left Turn & Right Turn Collisions Only (2015) | Average Number of Collisions (2011 - 2015) |
|-----------------|---------------------------------------|---------|------|------|------|------|------|--|-----------------------------------|---|--|--|
| 115th St | Central Ave | SKN5-8 | 19 | 19 | 14 | 11 | 10 | 73 | 10 | 34 | 5 | 15 |
| Central Ave | College Dr | SKN8-2 | 17 | 7 | 10 | 15 | 14 | 63 | 14 | 8 | 2 | 13 |
| 105th St | Central Ave | SKN7-4 | 8 | 10 | 8 | 5 | 5 | 36 | 5 | 13 | 3 | 7 |
| Central Ave | Reid Rd / Rossmo Rd | SKN5-36 | 3 | 5 | 6 | 6 | 7 | 27 | 7 | 15 | 4 | 5 |
| 108th St | Egbert Ave | SKM6-3 | 5 | 4 | 5 | 2 | 8 | 24 | 8 | 15 | 5 | 5 |
| 108th St | Central Ave | SKN6-1 | 1 | 5 | 6 | 6 | 2 | 20 | 2 | 4 | 1 | 4 |
| 105th St | McKercher Dr | SKO8-45 | 6 | 3 | 3 | 2 | 6 | 20 | 6 | 2 | 0 | 4 |
| 109th St | Central Ave | SKN6-2 | 5 | 3 | 5 | 3 | 3 | 19 | 3 | 1 | 0 | 4 |
| Central Ave | Gray Ave | SKN6-9 | 4 | 2 | 6 | 2 | 5 | 19 | 5 | 5 | 2 | 4 |
| Central Ave | 900 109th St - 110th St | SKN6-3 | 3 | 4 | 4 | 4 | 1 | 16 | 1 | 0 | 0 | 3 |
| Central Ave | 112th St - Gray Ave | SKN6-8 | 3 | 2 | 7 | 2 | 1 | 15 | 1 | 0 | 0 | 3 |
| 103rd St | Central Ave | SKN7-11 | 2 | 3 | 2 | 4 | 4 | 15 | 4 | 7 | 2 | 3 |
| Rutherford Cr | 400 | SKM5-45 | 5 | 3 | 3 | 2 | 1 | 14 | 1 | 0 | 0 | 3 |
| Rutherford Way | 800 | SKM5-46 | 2 | 0 | 2 | 6 | 2 | 12 | 2 | 2 | 0 | 2 |
| 109th St | Central Ave - Egbert Ave | SKM6-4 | 3 | 3 | 3 | 1 | 2 | 12 | 2 | 2 | 1 | 2 |
| 112th St | Central Ave | SKN6-12 | 6 | 2 | 1 | 2 | 1 | 12 | 1 | 2 | 0 | 2 |
| 112th St | Egbert Ave | SKM6-10 | 3 | 3 | 3 | 0 | 2 | 11 | 2 | 10 | 1 | 2 |
| Central Ave | 300 - 400 Central Pl - 105th St | SKN7-5 | 3 | 1 | 2 | 4 | 1 | 11 | 1 | 1 | 0 | 2 |
| 105th St E | Central Ave - Jessop Ave (East Of RR) | SKN7-6 | 0 | 1 | 6 | 1 | 3 | 11 | 3 | 0 | 0 | 2 |
| 111th St | Central Ave - Violet Ave | SKM6-38 | 1 | 3 | 1 | 2 | 3 | 10 | 3 | 0 | 0 | 2 |
| Central Ave | 800 108th St - 109th St | SKN6-7 | 1 | 1 | 3 | 4 | 1 | 10 | 1 | 0 | 0 | 2 |
| Central Ave | 1100 111th St - 112th St | SKN6-13 | 2 | 2 | 3 | 1 | 1 | 9 | 1 | 3 | 0 | 2 |
| Central Ave | Attridge Dr - Rossmo Rd | SKN5-27 | 1 | 1 | 3 | 0 | 3 | 8 | 3 | 3 | 2 | 2 |
| Central Ave | 1000 110th St - 111th St | SKN6-5 | 1 | 3 | 1 | 1 | 2 | 8 | 2 | 2 | 0 | 2 |
| Central Ave | 200 103rd St - 104th St | SKN7-7 | 1 | 2 | 2 | 1 | 2 | 8 | 2 | 1 | 0 | 2 |
| 108th St | Bryans Ave | SKM6-17 | 3 | 1 | 1 | 0 | 2 | 7 | 2 | 4 | 2 | 1 |
| Egbert Ave | 104th St - 105th St | SKM7-5 | 1 | 1 | 1 | 4 | 0 | 7 | 0 | 0 | 0 | 1 |
| 116th St | Central Ave | SKN5-23 | 1 | 0 | 1 | 3 | 2 | 7 | 2 | 3 | 1 | 1 |
| 110th St | Central Ave | SKN6-4 | 1 | 2 | 0 | 4 | 0 | 7 | 0 | 2 | 0 | 1 |
| 104th St | Central Ave | SKN7-10 | 1 | 1 | 3 | 1 | 1 | 7 | 1 | 1 | 0 | 1 |
| 103rd St E | Central Ave - Jessop Ave | SKN7-18 | 2 | 3 | 1 | 1 | 0 | 7 | 0 | 2 | 0 | 1 |
| 105th St E | Central Ave - Jessop Ave (West Of RR) | SKN7-22 | 0 | 0 | 2 | 5 | 0 | 7 | 0 | 1 | 0 | 1 |
| 107th St | Central Ave | SKN7-25 | 2 | 3 | 2 | 0 | 0 | 7 | 0 | 6 | 0 | 1 |
| 108th St | Circle Dr Overpass | SKL6-10 | 1 | 1 | 0 | 2 | 2 | 6 | 2 | 0 | 0 | 1 |
| 108th St | Egbert Ave - Rita Ave | SKM6-11 | 0 | 2 | 1 | 1 | 2 | 6 | 2 | 0 | 0 | 1 |
| 109th St | Bryans Ave - Rita Ave | SKM6-42 | 0 | 0 | 2 | 3 | 1 | 6 | 1 | 0 | 0 | 1 |
| 112th St | Egbert Ave - Violet Ave | SKM6-9 | 1 | 1 | 1 | 0 | 3 | 6 | 3 | 0 | 0 | 1 |
| Central Ave | Powe St | SKN5-13 | 0 | 3 | 2 | 1 | 0 | 6 | 0 | 2 | 0 | 1 |
| Central Ave | 116th St - Birch Cr | SKN5-20 | 0 | 2 | 1 | 0 | 3 | 6 | 3 | 0 | 0 | 1 |
| Central Ave | 500 105th St - 106th St | SKN7-3 | 0 | 1 | 1 | 2 | 2 | 6 | 2 | 0 | 0 | 1 |
| 108th St | Exit Ramp Onto Circle Dr | SKL6-8 | 2 | 3 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 1 |
| 115th St | Central Ave - Rayner Ave | SKM5-1 | 1 | 0 | 2 | 1 | 1 | 5 | 1 | 2 | 0 | 1 |
| Reid Rd | Reid Rd 100 E Leg | SKM5-19 | 1 | 0 | 2 | 1 | 1 | 5 | 1 | 2 | 1 | 1 |
| 115th St | Rayner Ave | SKM5-2 | 2 | 1 | 0 | 1 | 1 | 5 | 1 | 0 | 0 | 1 |
| Reid Rd | 800 Reid Terr - Reid Rd | SKM5-24 | 3 | 2 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 1 |
| 108th St | Central Ave - Egbert Ave | SKM6-28 | 1 | 2 | 0 | 0 | 2 | 5 | 2 | 2 | 1 | 1 |
| 109th St | Egbert Ave | SKM6-5 | 0 | 3 | 0 | 0 | 2 | 5 | 2 | 4 | 1 | 1 |
| Central Ave | 115th St - Powe St | SKN5-14 | 0 | 1 | 0 | 2 | 2 | 5 | 2 | 1 | 0 | 1 |
| 111th St | Central Ave | SKN6-6 | 2 | 0 | 1 | 0 | 2 | 5 | 2 | 1 | 0 | 1 |
| Packham Ave | 103rd St - 105th St | SKN7-24 | 0 | 3 | 0 | 2 | 0 | 5 | 0 | 1 | 0 | 1 |
| 105th St E | Jessop Ave - Packham Ave | SKN7-32 | 0 | 2 | 1 | 0 | 2 | 5 | 2 | 1 | 0 | 1 |
| 103rd St E | Jessop Ave - Packham Ave | SKN8-47 | 0 | 2 | 0 | 2 | 1 | 5 | 1 | 2 | 0 | 1 |
| 108th St | To Circle Ramp | SKL6-12 | 4 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 1 |
| 108th St | Circle Off Ramp W Int | SKL6-8 | 0 | 1 | 1 | 1 | 1 | 4 | 1 | 0 | 0 | 1 |
| Reid Rd | Reid Terr | SKM5-16 | 2 | 0 | 1 | 1 | 0 | 4 | 0 | 1 | 0 | 1 |
| 115th St | Rutherford Cr | SKM5-42 | 1 | 2 | 0 | 0 | 1 | 4 | 1 | 1 | 0 | 1 |
| Rutherford Lane | Mid Block | SKM5-43 | 3 | 0 | 0 | 0 | 1 | 4 | 1 | 1 | 0 | 1 |
| Rutherford Cr | 100 | SKM5-44 | 2 | 1 | 1 | 0 | 0 | 4 | 0 | 1 | 0 | 1 |
| 108th St | Rita Ave | SKM6-12 | 1 | 0 | 1 | 1 | 1 | 4 | 1 | 0 | 0 | 1 |
| 108th St | Bryans Ave - Rita Ave | SKM6-16 | 1 | 2 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 1 |
| 111th St | Bryans Ave | SKM6-19 | 0 | 2 | 1 | 0 | 1 | 4 | 1 | 3 | 0 | 1 |
| 110th St | Central Ave - Violet Ave | SKM6-32 | 0 | 0 | 3 | 1 | 0 | 4 | 0 | 1 | 0 | 1 |
| 112th St | Central Ave - Violet Ave | SKM6-34 | 1 | 0 | 1 | 0 | 2 | 4 | 2 | 0 | 0 | 1 |
| 110th St | 100 Egbert Ave - Violet Ave | SKM6-54 | 0 | 1 | 0 | 1 | 2 | 4 | 2 | 0 | 0 | 1 |
| 109th St | Rita Ave | SKM6-66 | 2 | 1 | 1 | 0 | 0 | 4 | 0 | 4 | 0 | 1 |
| 108th St | Central Ave - Moran Ave | SKM6-83 | 0 | 3 | 0 | 0 | 1 | 4 | 1 | 2 | 0 | 1 |
| 107th St W | Central Ave - Moran Ave | SKM7-16 | 0 | 1 | 0 | 0 | 3 | 4 | 3 | 0 | 0 | 1 |
| Egbert Ave | 102nd St - 104th St | SKM7-26 | 0 | 1 | 2 | 1 | 0 | 4 | 0 | 0 | 0 | 1 |
| Central Ave | 116th St - Powe St | SKN5-30 | 1 | 2 | 0 | 0 | 1 | 4 | 1 | 0 | 0 | 1 |
| Central Ave | 600 106th St - 107th St | SKN7-1 | 1 | 0 | 2 | 1 | 0 | 4 | 0 | 0 | 0 | 1 |
| 105th St | Jessop Ave | SKN7-15 | 2 | 1 | 0 | 0 | 1 | 4 | 1 | 1 | 0 | 1 |
| Central Ave | 700 107th St - 108th St | SKN7-2 | 1 | 1 | 1 | 0 | 1 | 4 | 1 | 0 | 0 | 1 |

| Street 1 | Street 2 | UGRID | 2011 | 2012 | 2013 | 2014 | 2015 | Total Number of Collisions (2011 - 2015) | Total Number of Collisions (2015) | Right Angle, Left Turn & Right Turn Collisions Only (2011 - 2015) | Right Angle, Left Turn & Right Turn Collisions Only (2015) | Average Number of Collisions (2011 - 2015) |
|----------------------|---------------------------------|----------|------|------|------|------|------|--|-----------------------------------|---|--|--|
| 105th St | Packham Ave | SKN7-26 | 1 | 0 | 1 | 2 | 0 | 4 | 0 | 2 | 0 | 1 |
| 106th St | Central Ave | SKN7-9 | 1 | 0 | 2 | 0 | 1 | 4 | 1 | 1 | 1 | 1 |
| 103rd St | Packham Ave | SKN8-48 | 0 | 1 | 0 | 0 | 3 | 4 | 3 | 4 | 3 | 1 |
| 105th St E | 500 McKercher Dr - Packham Ave | SKO8-49 | 0 | 0 | 2 | 1 | 1 | 4 | 1 | 0 | 0 | 1 |
| 115th St | Preston Ave | SKL5-3 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 1 |
| 115th St | Egbert Ave | SKM5-10 | 0 | 2 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 1 |
| Reid Way | 500 Reid Rd - Reid Rd | SKM5-29 | 1 | 0 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 1 |
| 111th St | Rita Ave | SKM6-14 | 0 | 0 | 2 | 1 | 0 | 3 | 0 | 2 | 0 | 1 |
| 112th St | Rita Ave | SKM6-15 | 0 | 2 | 0 | 1 | 0 | 3 | 0 | 3 | 0 | 1 |
| 108th St | 100 W Egbert Ave - Moran Ave | SKM6-2 | 0 | 0 | 0 | 1 | 2 | 3 | 2 | 0 | 0 | 1 |
| 109th St | Bryans Ave | SKM6-26 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 1 | 0 | 1 |
| 113th St | Egbert Ave | SKM6-27 | 2 | 1 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 1 |
| 111th St | Violet Ave | SKM6-31 | 0 | 0 | 1 | 2 | 0 | 3 | 0 | 0 | 0 | 1 |
| Egbert Ave | 1300 - 1400 113th St - 115th St | SKM6-71 | 0 | 1 | 2 | 0 | 0 | 3 | 0 | 1 | 0 | 1 |
| 109th St | Bryans Ave - Lanyon Ave | SKM6-88 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 1 | 0 | 1 |
| 105th St W | Central Ave - Egbert Ave | SKM7-10 | 0 | 0 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 1 |
| 104th St W | O'Neil Cr - O'Neil Cr | SKM7-15 | 0 | 1 | 1 | 0 | 1 | 3 | 1 | 1 | 1 | 1 |
| 117th St / Birch Cr | Central Ave | SKN5-9 | 0 | 0 | 1 | 2 | 0 | 3 | 0 | 1 | 0 | 1 |
| Central Ave | 1200 112th St - 113th St | SKN6-32 | 2 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 1 |
| Central Ave | Gray Ave - Tracks | SKN6-67 | 1 | 1 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 1 |
| Jessop Ave | 103rd St - 105th St | SKN7-8 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 1 |
| Aspen Pl | Midblock | SKO8-52 | 0 | 0 | 1 | 1 | 1 | 3 | 1 | 0 | 0 | 1 |
| 108th St | Circle Dr Off Ramp | SKL6-7 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 |
| 108th St | Circle On Ramp E Int | SKL6-9 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 |
| Thompson Ave | 116th St - 117th St | SKM5-12 | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Adolph Cr / Reid Way | Reid Rd | SKM5-14 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 2 | 1 | 0 |
| Reid Terr | 700 | SKM5-23 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Reid Rd 100 | Central Pl - Reid Rd 800 | SKM5-25 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 |
| Adolf Cr S | Reid Rd | SKM5-30 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| 115th St | Egbert Ave - Rayner Ave | SKM5-4 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Powe St | Central Ave - Rayner Ave | SKM5-5 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 2 | 0 | 0 |
| 112th St | Violet Ave | SKM6-1 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 |
| 108th St | Bryans Ave - Lanyon Ave | SKM6-20 | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 108th St | Lanyon Ave | SKM6-21 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 111th St | Lanyon Ave | SKM6-22 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 |
| 113th St | Bryans Ave - Rita Ave | SKM6-39 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Lanyon Ave | 108th St - 109th St | SKM6-45 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 113th St | Rita Cr | SKM6-64 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 |
| 113th St | Egbert Ave - Rita Ave | SKM6-68 | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 113th St | Rita Ave | SKM6-69 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 109th St | Lanyon Ave | SKM6-80 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 |
| Lanyon Ave | 111th St - 112th St | SKM6-87 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 |
| 110th St | Violet Ave | SKM6-89 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 |
| 104th St | Egbert Ave | SKM7-14 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 0 |
| 107th St | Moran Ave | SKM7-2 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 |
| O'Neil Cr | 102nd St - 104th St | SKM7-22 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 |
| 104th St W | Egbert Ave - Gardiner Ave | SKM7-38 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 |
| 102nd St | Gardiner Ave | SKM7-48 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Central Ave | 115th St - Gray Ave | SKN6-22 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 |
| Central Ave | 1200 112th St - Tracks | SKN6-32 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 |
| 103rd St E | Jessop Ave | SKN7-13 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 0 |
| Central Ave | 100 103rd St - College Dr | SKN7-16 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Central Ave | Central Pl | SKN7-20 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 115th St | Circle Dr to Preston Ave | SKL5-2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 108th St | Circle Dr On Ramp | SKL6-12 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 108th St | Circle Dr On Ramp | SKL6-9 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 117th St | Greig Ave | SKM5-17 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| Reid Rd | 117th St to Reid Rd 800 | SKM5-18 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Reid Rd | 300 Reid Rd - Adolph Way | SKM5-26 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Reid Rd | 600 Adolph Cr - Reid Terr | SKM5-28 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| Adolph Cr | 300 | SKM5-33 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Adolph Cr | Adolph Cr | SKM5-36 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 117th St W | Reid Rd | SKM5-37 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Adolph Cr | 100 Adolph Way - Reid Rd | SKM5-38 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| Reid Rd | Adolph Cr - 117th St | SKM5-39 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| Bryans Ave | 1300 113th St - Rita Cr | SKM6-104 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 110th St | Bryans Ave - Lanyon Ave | SKM6-107 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 111th St | 200 W Rita - Egbert Ave | SKM6-29 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 112th St | Bryans Ave - Rita Ave | SKM6-35 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 111th St | Bryans Ave - Lanyon Ave | SKM6-37 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| Egbert Ave | 800 108th St - 109th St | SKM6-40 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 110th St | Lanyon Ave | SKM6-44 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Street 1 | Street 2 | UGRID | 2011 | 2012 | 2013 | 2014 | 2015 | Total Number of Collisions (2011 - 2015) | Total Number of Collisions (2015) | Right Angle, Left Turn & Right Turn Collisions Only (2011 - 2015) | Right Angle, Left Turn & Right Turn Collisions Only (2015) | Average Number of Collisions (2011 - 2015) |
|-------------|-------------------------------|---------|------|------|------|------|------|--|-----------------------------------|---|--|--|
| 111th St | Bryans Ave - Rita Ave | SKM6-47 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Egbert Ave | 900 109th St - 110th St | SKM6-58 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 111th St | Egbert Ave - Violet Ave | SKM6-6 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 113th St | Lanyon Ave | SKM6-60 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 112th St | Bryans Ave | SKM6-63 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 111th St | Egbert Ave | SKM6-7 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 113th St | Bryans Ave | SKM6-72 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 110th St | Bryans Ave - Rita Ave | SKM6-74 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Egbert Ave | 1200 112th St - 113th St | SKM6-75 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Rita Cr | 0 - 50 | SKM6-78 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Rita Cr | 108th St - Bryans Ave | SKM6-79 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Bryans Ave | 109th St - 110th St | SKM6-93 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 106th St | Moran Ave | SKM7-1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 104th St | O'Neil Cr E | SKM7-12 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 104th St | Gardiner Ave | SKM7-21 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| 106th St W | 100 W Egbert Ave - Moran Ave | SKM7-27 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 105th St W | Egbert Ave - Moran Ave | SKM7-3 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 105th St | Egbert Ave | SKM7-36 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Gardiner Pl | 400 | SKM7-42 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 105th St | Moran Ave | SKM7-47 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Moran Ave | 107th St W - 108th St W | SKM7-49 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| O'Neil Cr | 63 - 95 | SKM7-7 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 104th St W | Central Ave - O'Neil Cr E Leg | SKM7-8 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| Central Ave | 115th St - 116th St | SKN5-14 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Jessop Ave | 103rd St - Jessop Ave | SKN7-19 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 107th St | Jessop Ave | SKN7-29 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Packham Pl | Mid Block | SKN7-33 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| Central Ave | College Dr Off Ramp | SKN8-54 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

APPENDIX F: PUBLIC MEETING #2 – JANUARY 19, 2017 MINUTES

Sutherland Neighbourhood Traffic Review
Tuesday, January 17, 2017, 7:00 PM – 9:00 PM
Sutherland School Library

Agenda

1. Welcome & Introductions
2. Traffic Management Presentation
3. Draft Plan (Table Group) Discussion – Seeking Your Input
4. Next Steps – Where From Here?
5. Questions & Answers

1. Welcome & Introductions

(Presented by Mitch Riabko and Kathy Dahl, Facilitators)

2. Traffic Management Presentation – Sutherland Neighbourhood Traffic Review

(Presented by Mariniel Flores, P.Eng., Transportation Engineer)

- Presentation Outline
 - Neighbourhood Traffic Review Process
 - Sutherland Review Schedule
 - What We Heard
 - What We Did
 - What We Propose
- Neighbourhood Traffic Review Process
 - August 2013 – New process
 - Mandate – Improve safety for all road users within neighbourhoods, reduce traffic volumes, slow vehicular speeds, improve pedestrian crossings & intersections where necessary
 - 2014 – Reviewed 11 neighbourhoods
 - 2015 – Reviewed 8 neighbourhoods
 - 2016 – Sutherland, Willowgrove, Stonebridge, Hampton Village, Grosvenor Park, Parkridge, Silverspring, Lakeridge
- Sutherland Review Schedule
 - Stage 1 – Identify issues & possible solutions through community consultation (January 2016 to January 2017)
 - Stage 2 – Develop a draft traffic plan
 - Stage 3 – Present draft traffic plan to community for feedback (January 2017)
 - Stage 4 – Implement changes over time (Beginning Spring 2017)
- What We Heard
 - Speeding Concerns
 - Egbert Ave
 - Rutherford Cres/Way/Lane

- Rita Ave
 - Bryans Ave
 - Lanyon Ave
 - O'Neil Cres
 - Reid Rd
 - 105th St
 - 108th St
 - 109th St
 - 110th St
 - 112th St
 - 113th St
- Shortcutting Concerns
 - Bryans Ave
 - 105th St
 - 108th St
 - 113th St
 - 115th St
- Pedestrian Safety & Intersection Concerns
 - 108th St & Egbert Ave
 - Rutherford Way & Rutherford Cres
 - 105th St & Moran Ave
 - 108th St & Rita Ave
 - Egbert Ave & 111th St
 - Rita Ave & 110th St
 - Intersections along Central Ave (108th St, 109th St, 110th St, 111th St, 112th St, Gray Ave, 115th St, Reid Rd)
- Other Concerns
 - Parking
 - Trees / bushes / portable signs obstructing visibility
 - Sidewalks (missing, repair, maintenance)
 - Road condition
 - Snow removal
 - Excessive vehicle noise
 - Garbage bin locations
 - Attridge Dr & Central Ave
- What We Did
 - Compiled Information Received
 - Past studies
 - Comments from initial meeting
 - Resident responses (phone calls, emails, letters)
 - Comments from Shaping Saskatoon
 - Collected Data
 - 11 intersection/pedestrian counts
 - 17 – 3-day/7-day traffic counts (24 hour) & speed measurements
 - Collision data

- Site Visits / Field Reviews
- Assessed Concerns
- Generated Proposed Recommendations
- What We Propose
 - Standard Crosswalks
 - Stop Sign
 - Raised Median Islands
 - Parking Restrictions
 - Lane Designation Sign
 - Active Pedestrian Corridor

3. Draft Plan (Table Group) Discussion

- Residents were divided into small groups to discuss the proposed recommendations

Refer to separate attachment for small group comments

4. Next Steps

(Presented by Mariniel Flores, P.Eng., Transportation Engineer)

1. Send comments no later than February 17, 2017
2. Additional public input via City on-line Community Engagement webpage no later than February 17, 2017 at <http://shapingsaskatoon.ca/discussions/sutherland-neighbourhood-traffic-review>
3. Additional consultation if required
4. Present Traffic Plan to Transportation Committee
5. Present Traffic Plan to City Council for approval
 - If at any point throughout the process you don't agree with the recommendations, there are opportunities to voice your opinion. You can reserve five minutes to speak during the Transportation Committee or City Council meetings.
6. What happens after City Council approval?
 - Recommendations are implemented. Traffic calming devices are installed on a temporary basis using rubber curbs for a trial period of at least one year so we can determine if they are effective. Please let us know if something is not working or needs to be changed or removed.

5. Questions & Answers

Q: When will recommendations 4, 5 and 6 be implemented?

A: As early as the spring but the information will be available on Shaping Saskatoon.

Comment: Traffic lights at 108th St and Egbert Ave have been requested a lot and we've always been told there is no money. I hope it will finally be installed. Lighting and pedestrian safety is a big concern at Central Avenue. Lanyon Ave onto 108th St is a concern.

Response: Traffic lights at 108th St and Egbert Ave are not warranted but we can take another look. If you do not agree with the recommendations, you can reserve up to five minutes to speak during the Transportation Committee and City Council meetings.

Comment: Sutherland is a large bar district. An overpass from McKercher Dr to Berini Dr would help alleviate traffic in Sutherland. I don't necessarily support 108th St and Egbert Ave stop because of the carbon footprint. Consider infill.

Comment: We want more pedestrian countdown timers.

Comment: School on 105th St currently has one access only. We should keep that in mind moving forward.

Comment: Drivers are parking too close to center medians specifically on Lanyon Ave.

Response: We'll review the locations to ensure there is enough space before installing median islands.

Comment: Traffic signals at 108th St and Egbert Ave should be timed to be primarily east-west especially at night. Lanyon Ave has drainage issues. People are parking too close to traffic calming devices.

List of Representatives

- Mitch Riabko, Kathy Dahl – Great Works Consulting
- Mariniel Flores, Lanre Akindipe, Chelsea Lanning, Goran Lazic, Marina Melchiorre – City of Saskatoon, Transportation & Utilities
- Mark Emmons – City of Saskatoon, Community Services

Sutherland Neighbourhood Traffic Review: Table Group Discussions

| Item | Location | Recommendation | Reason | Group 1: Lanre Akindipe | Group 2: Mark Emmons | Group 3: Chelsea Lanning | Group 4: Goran Lasic | Group 5: Marina Melchiorre | Group 6: Mariniel Flores |
|------|---|---|---|---|---|---|---|--|---|
| 1 | Reid Rd & Adolph Way | Install standard crosswalk on north leg of Reid Rd | Improve pedestrian safety near park | Don't see a need for the recommendation; Less pedestrians | Want curb cuts / rolled curb for accessibility; Group doesn't live in area but sees value in a crosswalk | No problems with any of the recommendations | | In favour | 60% in favour, 40% not in favour |
| 2 | Reid Rd & 117th St | Install standard crosswalk on east leg of Reid Rd | Improve pedestrian safety near park | In favour | Want curb cuts / rolled curb for accessibility; Group doesn't live in area but sees value in a crosswalk | | | In favour | In favour |
| 3 | Reid Rd & Reid Rd | Install standard crosswalk on east leg; Install median island on east leg | Improve pedestrian safety; Reduce shortcutting | Don't understand why or how this will reduce shortcutting; Where is the shortcutting coming from? | Do traffic volumes / speeds warrant a median? Should it be a four-way stop? A stop or a "Do Not Enter" sign is needed coming out of apartments if a sign is not there | | | In favour | In favour |
| 4 | Rutherford Cres / Lanyon Ave & Rutherford Way | Replace yield sign with stop sign | Improve safety | In favour | Should have pedestrian crossing too; Need traffic calming for northbound traffic to protect pedestrians and cyclists (and for getting to the mailboxes) | | | Need more median islands to calm and slow down northbound traffic before intersection; Shortcutting on Rutherford Way from 108th St to Central Ave; Blind corner | In favour |
| 5 | Lanyon Ave & 112th St | Install median island on north leg of Lanyon Ave | Reduce driver speed and shortcutting | In favour | In support; Need parking restrictions near intersections all the way along Lanyon Ave | | | In favour | In favour |
| 6 | 108th St near on-ramp | Paint dashed merging bicycle line | Improve transition from bicycle lane to traffic lane for eastbound bicyclists | There is a need for a bicycle path on the overpass (south side) | Need to keep traffic from illegally coming onto 108th St; Maybe jersey barriers; Identify one-way traffic | | Issue with multi-use pathway ending on north side | In favour | In favour; Lots of sidewalk riding |
| 7 | Bryans Ave & 112th St | Install median island on west leg of 112th St | Reduce driver speed | In favour | Not sure if it is warranted | | | In favour | In favour |
| 8 | Rita Ave & 110th St | Install median island on north leg of Rita Ave | Reduce driver speed | In favour | Narrow access point; Snow removal is an issue (median might be torn out); Important for kids' safety; Maybe should be a crossing light | | | In favour | In favour; Would like 40 km/hr speed limit |
| 9 | 108th St & Sutherland House Back Lane | Install "No Parking" signs on south side of 108th St six metres from each side of back lane | Improve safety and sightlines | In favour | In support | | Upgrade 108th St & Egbert Ave to full signal | In favour | Speeding; Consult with resident on the west of the back lane; Extend parking restrictions; Car mirrors are side-swiped; Need a "Slow Down" sign |
| 10 | 105th St & Moran Ave | Install median island on west leg of 105th St | Reduce driver speed | In favour | Same situation as Item 8; Deserves same solution; It is wider though | | | In favour; Shortcut when train is crossing; Need enforcement; Not sure if median will do anything; Missing sidewalks; Control | In favour |
| 11 | Central Ave & 115th St | Install overhead "Right Turn Only Lane" sign and tab; Install overhead "Except Buses" tab in the northbound direction | Improve safety | In favour | Enforcement will be needed; Concerned about traffic backing up; Would rather have a through lane | | | In favour | In favour; There should be a northbound left-turn arrow onto 115th St |
| 12 | Central Ave & 104th St / Central Pt | Install Active Pedestrian Corridor on north leg of Central Ave | Improve pedestrian safety | In favour | In support | | | In favour | In favour |

Additional Comments

| Item | Location | Comments |
|------|-------------------------------------|--|
| 1 | 108th St & Egbert Ave | Parking too close to the intersection; Need a set of full lights; Traffic signals wanted |
| 2 | 111th St (Central Ave & Egbert Ave) | Speed issues; Lots of speeding |
| 3 | Lanyon Ave | Needs sidewalks and better drainage; Road needs to be rebuilt (curb & storm) |
| 4 | 108th St & Bryans Ave | Difficulty crossing; Zebra crosswalk suggested |
| 5 | Central Ave & Reid Rd | Difficulty entering with vehicle; Propose lights; Using 117th St as a shortcut / alternate route; Nobody stops; Should be a pedestrian actuated signal; So many accidents |
| 6 | Egbert Ave (115th St to 104th St) | Speeding (City buses mostly) more so from 108th St to 104th St |
| 7 | Central Ave (108th St to 113th St) | Poor road lighting; Hard to see pedestrians |
| 8 | 116th St | Want southbound bus stop on near-side |
| 9 | Central Ave & 108th St | Intersection safety; Too tight on southwest corner and for eastbound right-turning vehicles; Sign shows "3" lanes - parking introduced two signs |
| 10 | Central Ave & 111th St | Pedestrian issues; Needs pedestrian actuated signals; Bruce's Cycle Works moving across the street so pedestrian corridor/signal is wanted; Dangerous; Potential kids and seniors crossing |
| 11 | Central Ave & 112th St | Pedestrian issues; Needs pedestrian actuated signals; Bruce's Cycle Works moving across the street so pedestrian corridor/signal is wanted; Dangerous; Potential kids and seniors crossing |
| 12 | Circle Dr (108th St to Attridge Dr) | Continue right lane |
| 13 | Attridge Dr & Central Ave | Don't see improvements for eastbound; Worse for the eastbound right lane; Continue lane like 22nd St (Circle Dr by Superstore) |
| 14 | Central Ave & Gray Ave | Put a sign; Put in a steel bollard instead of a concrete curb |
| 15 | Circle Dr & Attridge Dr | Install posts around the curve |
| 16 | Central Ave & Birch Cres | Install parking restrictions on south side; "No Parking" is needed |
| 17 | 100 block of Birch Cres | Speeding; There are younger families with kids |
| 18 | 108th St | Excessive speeding; Collision on 300 block in the past; Speed display board suggested |
| 19 | Attridge Dr | Speed display board suggested |
| 20 | General | Concern with 108th St access to/from south leg of Circle Dr; Transit on Central Ave sits and blocks traffic; Bus should be on Reid Rd |

APPENDIX G: DECISION MATRIX

| Item | Location | Recommendation | Reason | Group 1: Lanre Akindipe | Group 2: Mark Emmons | Group 3: Chelsea Lanning | Group 4: Goran Lazić | Group 5: Marina Melchiorre | Group 6: Mariniet Flores | Decision | |
|------|---|---|---|---|---|---|---|----------------------------|--|---|---------|
| 1 | Reid Rd & Adolph Way | Install standard crosswalk on north leg of Reid Rd | Improve pedestrian safety near park | Don't see a need for the recommendation; Less pedestrians | Want curb cuts / rolled curb for accessibility; Group doesn't live in area but sees value in a crosswalk | No problems with any of the recommendations | | In favour | 60% in favour, 40% not in favour | Carried | |
| 2 | Reid Rd & 117th St | Install standard crosswalk on east leg of Reid Rd | Improve pedestrian safety near park | In favour | Want curb cuts / rolled curb for accessibility; Group doesn't live in area but sees value in a crosswalk | | | | In favour | In favour | Carried |
| 3 | Reid Rd & Reid Rd | Install standard crosswalk on east leg; Install median island on east leg | Improve pedestrian safety; Reduce shortcutting | Don't understand why or how this will reduce shortcutting; Where is the shortcutting coming from? | Do traffic volumes / speeds warrant a median? Should it be a four-way stop? A stop or a "Do Not Enter" sign is needed coming out of apartments if a sign is not there | | | | In favour | In favour | Carried |
| 4 | Rutherford Cres / Lanyon Ave & Rutherford Way | Replace yield sign with stop sign | Improve safety | In favour | Should have pedestrian crossing too; Need traffic calming for northbound traffic to protect pedestrians and cyclists (and for getting to the mailboxes) | | | | Need more median islands to calm and slow down northbound traffic before intersection; Shortcutting on Rutherford Way from 108th St to Central Ave; Blind corner | In favour | Carried |
| 5 | Lanyon Ave & 112th St | Install median island on north leg of Lanyon Ave | Reduce driver speed and shortcutting | In favour | In support; Need parking restrictions near intersections all the way along Lanyon Ave | | | | In favour | In favour | Carried |
| 6 | 108th St near on-ramp | Paint dashed merging bicycle line | Improve transition from bicycle lane to traffic lane for eastbound bicyclists | There is a need for a bicycle path on the overpass (south side) | Need to keep traffic from illegally coming onto 108th St; Maybe jersey barriers; Identify one-way traffic | | Issue with multi-use pathway ending on north side | | In favour | In favour; Lots of sidewalk riding | Carried |
| 7 | Bryans Ave & 112th St | Install median island on west leg of 112th St | Reduce driver speed | In favour | Not sure if it is warranted | | | | In favour | In favour | Carried |
| 8 | Rita Ave & 110th St | Install median island on north leg of Rita Ave | Reduce driver speed | In favour | Narrow access point; Snow removal is an issue (median might be torn out); Important for kids' safety; Maybe should be a crossing light | | | | In favour | In favour; Would like 40 km/hr speed limit | Carried |
| 9 | 108th St & Sutherland House Back Lane | Install "No Parking" signs on south side of 108th St six metres from each side of back lane | Improve safety and sightlines | In favour | In support | | Upgrade 108th St & Egbert Ave to full signal | | In favour | Speeding; Consult with resident on the west of the back lane; Extend parking restrictions; Car mirrors are side-swiped; Need a "Slow Down" sign | Carried |
| 10 | 105th St & Moran Ave | Install median island on west leg of 105th St | Reduce driver speed | In favour | Same situation as Item 8; Deserves same solution; It is wider though | | | | In favour; Shortcut when train is crossing; Need enforcement; Not sure if median will do anything; Missing sidewalks; Control | In favour | Carried |
| 11 | Central Ave & 115th St | Install overhead "Right Turn Only Lane" sign and tab; Install overhead "Except Buses" tab in the northbound direction | Improve safety | In favour | Enforcement will be needed; Concerned about traffic backing up; Would rather have a through lane | | | | In favour | In favour; There should be a northbound left-turn arrow onto 115th St | Carried |
| 12 | Central Ave & 104th St / Central Pl | Install Active Pedestrian Corridor on north leg of Central Ave | Improve pedestrian safety | In favour | In support | | | | In favour | In favour | Carried |

APPENDIX H: ADDITIONAL CONCERNS RECEIVED AFTER PRESENTATION OF DRAFT
TRAFFIC PLAN

| Item | Location | Comments |
|------|-------------------------------------|---|
| 1 | 108th St & Egbert Ave | Parking too close to the intersection; Need a set of full lights; Traffic signals wanted |
| 2 | 111th St (Central Ave & Egbert Ave) | Speed issues; Lots of speeding |
| 3 | Lanyon Ave | Needs sidewalks and better drainage; Road needs to be rebuilt (curb & storm) |
| 4 | 108th St & Bryans Ave | Difficulty crossing; Zebra crosswalk suggested |
| 5 | Central Ave & Reid Rd | Difficulty entering with vehicle; Propose lights; Using 117th St as a shortcut / alternate route; Nobody stops; Should be a pedestrian actuated signal; So many accidents |
| 6 | Egbert Ave (115th St to 104th St) | Speeding (City buses mostly) more so from 108th St to 104th St |
| 7 | Central Ave (108th St to 113th St) | Poor road lighting; Hard to see pedestrians |
| 8 | 116th St | Want southbound bus stop on near-side |
| 9 | Central Ave & 108th St | Intersection safety; Too tight on southwest corner and for eastbound right-turning vehicles; Sign shows "3" lanes - parking introduced two signs |
| 10 | Central Ave & 111th St | Pedestrian issues; Needs pedestrian actuated signals; Bruce's Cycle Works moving across the street so pedestrian corridor/signal is wanted; Dangerous; Potential kids and seniors crossing; Want a pedestrian controlled walk light |
| 11 | Central Ave & 112th St | Pedestrian issues; Needs pedestrian actuated signals; Bruce's Cycle Works moving across the street so pedestrian corridor/signal is wanted; Dangerous; Potential kids and seniors crossing |
| 12 | Circle Dr (108th St to Attridge Dr) | Continue right lane |
| 13 | Attridge Dr & Central Ave | Don't see improvements for eastbound; Worse for the eastbound right lane; Continue lane like 22nd St (Circle Dr by Superstore) |
| 14 | Central Ave & Gray Ave | Put a sign; Put in a steel bollard instead of a concrete curb |
| 15 | Circle Dr & Attridge Dr | Install posts around the curve |
| 16 | Central Ave & Birch Cres | Install parking restrictions on south side; "No Parking" is needed |
| 17 | 100 block of Birch Cres | Speeding; There are younger families with kids |
| 18 | 108th St | Excessive speeding; Collision on 300 block in the past; Speed display board suggested |
| 19 | Attridge Dr | Speed display board suggested |
| 20 | General | Concern with 108th St access to/from south leg of Circle Dr; Transit on Central Ave sits and blocks traffic; Bus should be on Reid Rd |