

City of Saskatoon

Haultain Neighbourhood Traffic Review



March 9, 2015

Transportation & Utilities Department

Acknowledgements

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

- Haultain residents
- Haultain Community Association
- Saskatoon Police Services
- Saskatoon Light & Power
- City of Saskatoon Fire & Protective Services
- City of Saskatoon Environmental Services
- City of Saskatoon Transit
- City of Saskatoon Transportation
- Great Works Consulting
- Councillor Charlie Clark

Executive Summary

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

A public meeting was held in March of 2014 to identify traffic concerns and potential solutions within the Haultain neighbourhood. As a result of the meeting a number of traffic assessments were completed to confirm and quantify the concerns raised by the residents. Based on the residents input and the completed traffic assessments, a Traffic Management Plan was developed and presented to the community at a follow-up meeting held in December 2014.

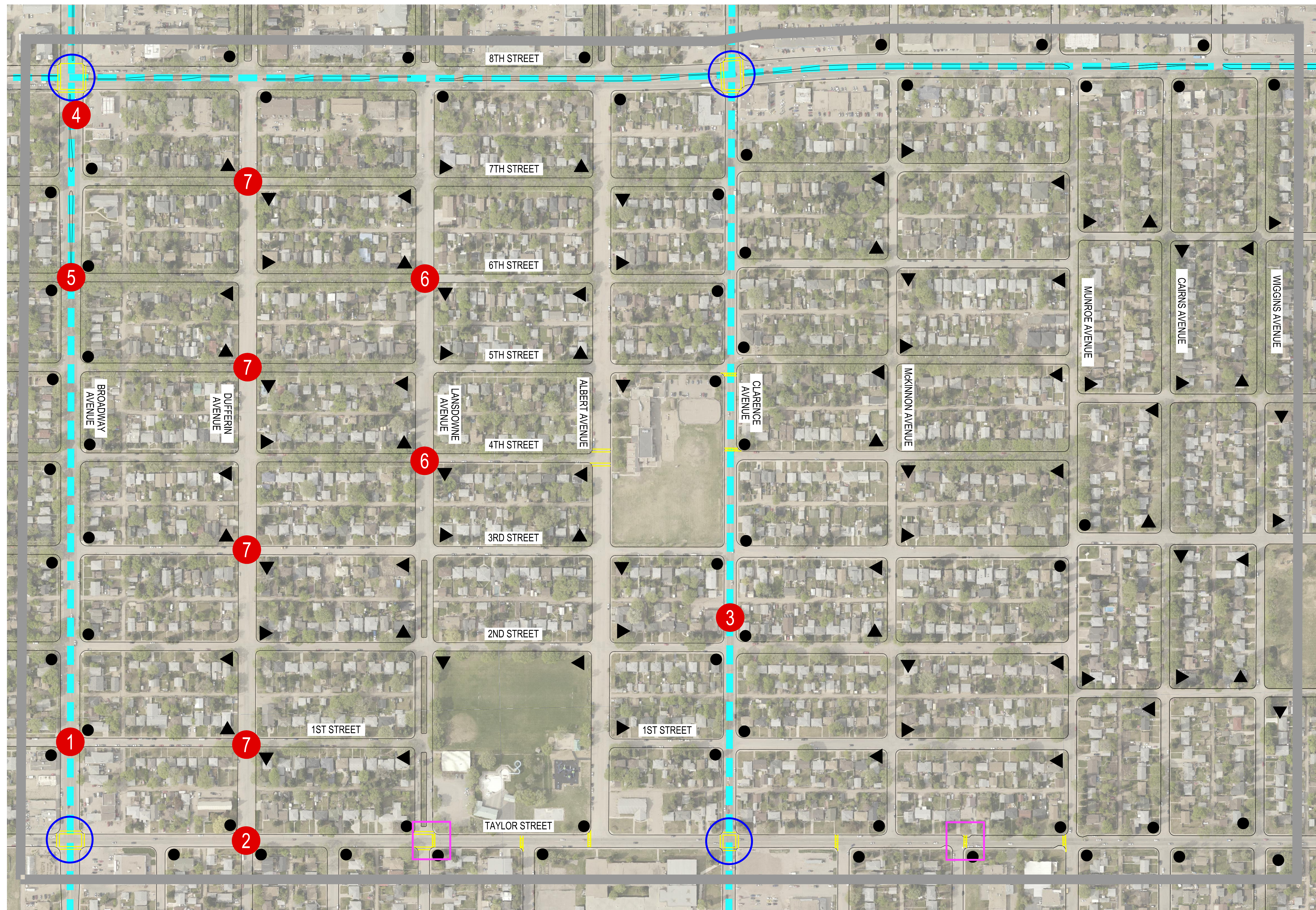
A summary of recommended improvements for the Haultain neighbourhood are included in **Table ES-1**. The summary identifies the locations, the recommended improvement, and a schedule for implementation. The schedule to implement the Traffic Management Plan can vary depending on the complexity of the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

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

Table ES-1: Haultain Neighbourhood Recommended Improvements

Location	Proposed Measure	Time Frame
Broadway Avenue & 1 st Street	Install "no parking" signs - on southeast corner of Broadway Avenue 15m from intersection; and on northeast corner of 1st Street 10m from intersection	1 to 2 years
Taylor Street & Dufferin Avenue	Install "no parking" signs on northeast corner of Taylor St 10m from intersection	
Clarence Avenue between 2 nd Street & alley to north	Install "no parking" signs between bus stop & alley (approximately the length of 2 parking spaces)	
Back lane beside Shell gas station (between 8th Street & 7 th Street near Broadway Avenue)	20kph speed sign	
Broadway Avenue & 6 th Street	Install standard pedestrian crosswalk	
Lansdowne Avenue at 4 th Street & 6 th Street	Install raised median island with additional yield sign	3 to 5 years
Dufferin Avenue at 1 st , 3 rd , 5 th , & 7 th Street	Install raised median island with additional yield sign	
<ul style="list-style-type: none"> • Albert Avenue between Taylor Street & 4th Street (west side) • Lansdowne Avenue between 2nd Street & 8th Street (east side) • Dufferin Avenue between Taylor Street & 1st Street (east side) • Dufferin Avenue between 2nd Street & 8th Street (east side) 	Install sidewalk	5 years plus
Taylor Street & Clarence Avenue	Major intersection review	TBD
8 th Street between Broadway Avenue & Clarence Avenue	Include review in Active Transportation Plan with options to add pedestrian/cyclist crossing.	TBD

ITEM	LOCATION	PROPOSED MEASURE	TIME FRAME
1	Broadway Avenue & 1st Street	Install "no parking" signs - on the southeast corner of Broadway Avenue 15m from the intersection; and on the northeast corner of 1st Street 10m from the intersection.	1 to 2 years
2	Taylor Street & Dufferin Avenue	Install "no parking" signs on the northeast corner of Taylor Street 10m from the intersection	1 to 2 years
3	Clarence Avenue between 2nd Street & alley to the north	Install "no parking" signs 10m south of alley	1 to 2 years
4	Back lane beside Shell gas station (between 8th Street & 7th Street near Broadway Avenue)	20kph speed sign	1 to 2 years
5	Broadway Avenue & 6th Street	Install standard pedestrian crosswalk	1 to 2 years
6	Lansdowne Avenue at 4th Street & 6th Street	Install raised median island with additional yield sign	1 to 5 years
7	Dufferin Avenue at 1st, 3rd, 5th, & 7th Street	Install raised median island with additional yield sign	1 to 5 years



LEGEND







-  STOP SIGN
-  YIELD SIGN
-  BUS ROUTE
-  TRAFFIC SIGNAL LOCATION
-  PEDESTRIAN ACTUATED SIGNAL LOCATION
-  ACTIVE PEDESTRIAN CORRIDOR LOCATION

TABLE OF CONTENTS

Acknowledgements..... i

Executive Summaryii

1. Introduction 1

2. Identifying Issues, Concerns, & Possible Solutions..... 1

3. Assessment 10

4. Plan Development..... 13

5. Recommended Plan and Cost Estimates..... 18

APPENDICES

- A. Pedestrian Facilities Map
- B. Recommendation Review Matrix

LIST OF TABLES

Table 3-1: City of Saskatoon Street Classifications and Characteristics 11

Table 3-2: Speed Studies and Average Daily Traffic Counts (2014) 12

Table 3-3: Speed Studies and Average Daily Traffic Counts – Error Locations 12

Table 4-1: Recommended Improvements to Reduce Speeding and Shortcutting 14

Table 4-2: Recommended Pedestrian Safety Improvements 15

Table 4-3: Recommended Parking Improvements 16

Table 5-1: Traffic Calming Cost Estimate 19

Table 5-2: Marked Pedestrian Crosswalks Cost Estimate 19

Table 5-3: Traffic Control Signage – Stop & Yield Cost Estimate 20

Table 5-4: Miscellaneous Signage Cost Estimate 20

Table 5-5: Sidewalks Cost Estimate 20

Table 5-6: Total Cost Estimate 21

Table 5-7: Haultain Neighbourhood Recommended Improvements 22

LIST OF EXHIBITS

Exhibit 5-1: Recommended Haultain Traffic Management Plan 23

1. Introduction

The purpose of this project was to develop a Traffic Management Plan for the Haultain neighbourhood following the implementation procedure outlined in the *City of Saskatoon Traffic Calming Guidelines and Tools* adopted by City Council in August 2013.

The Haultain neighbourhood is located on the west side of the South Saskatchewan River and is bound by Wiggins Avenue to the east, Taylor Street to the south, Broadway Avenue to the west, and 8th Street to the north. The area is mostly residential with one school (Ecole Canadienne-Francais on Albert Avenue), the W.W. Ashley Park, and commercial development on 8th Street.

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

- **Stage 1** - Identify existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon Website.
- **Stage 2** - Develop a draft traffic plan based on resident's input and traffic assessments.
- **Stage 3** - Present the draft traffic plan to the neighbourhood at a follow-up meeting; circulate the plan to other civic divisions for feedback; make adjustments as needed; and present the plan to City Council for approval.
- **Stage 4** - Implement the proposed measures in specific time frame, short term (1 to 2 years), medium term (1 to 5 years) or long term (5 years plus).

2. Identifying Issues, Concerns, & Possible Solutions

A public meeting was held in March of 2014 to identify traffic concerns within the neighbourhood. At the meeting, residents were given the opportunity to express their concerns and suggest possible solutions.

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

CONCERN 1 – SPEEDING AND SHORTCUTTING

Shortcutting occurs when non-local traffic passes through the neighbourhood on local streets to a destination outside of the neighbourhood. These streets are designed and intended for low traffic volumes. In the case of Haultain, the bordering arterial streets (33rd Street, Idylwyld Drive, 22nd Street, and Avenue H) are designated to accommodate larger traffic volumes.

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

Neighbourhood concerns for speeding and shortcutting included:

- Munroe Avenue - speeding caused by installation of yield signs; since school zones were implemented on Taylor St, everyone uses Munroe Ave to shortcut to 8th St;
- McKinnon Avenue – speeding in the fall
- Back lane beside Shell gas station/Tim Hortons parking lot (between 7th Street & 8th Street) – shortcutting to get onto Broadway Avenue; speeding
- Albert Avenue- speeding in school zone on Clarence Avenue and near W.W. Ashley Park between 1st Street & Taylor Street; parents drop off kids at park and running across the street not paying attention
- 1st Street shortcutting from Clarence Avenue to Albert Avenue when vehicles are backlogged at red light at Clarence Avenue & Taylor Street
- Broadway Avenue – speeding between 8th Street & Taylor Street
- Clarence Avenue – high traffic volumes since opening of Stonebridge; having only one lane on Clarence Avenue causes blockage and disrupts traffic flow
- Taylor Street - high traffic volumes since opening of Stonebridge; speeding
- Wiggins Avenue – speeding on 1300 block
- Lansdowne Avenue – speeding
- Dufferin Avenue – speeding
- 5th Street – speeding/shortcutting to avoid traffic of 8th Street and Taylor Street to get between Cumberland Avenue & Clarence Avenue; many near misses at McKinnon Avenue; daycare in the area
- Speeding in playground zones is rarely enforced

Proposed solutions identified by residents:

- Install speed humps
- Close boulevard on 8th St so drivers can't turn onto Munroe Avenue
- Lower speed limit during summer hours on Albert Avenue between 1st Street & Taylor Street
- Install dedicated left turn lanes on Clarence Avenue
- Implement 40kph speed limit in residential area and single lane streets
- Install flashing light or strong visual clue (not flow restricting) on Clarence Avenue in the school zone
- 8th Street - eliminate left turns from Haultain; access should be limited by use of medians to prohibit crossing or turning left onto 8th Street for all residents. The street is far too busy and dangerous to allow for these movements, traffic should filter to Broadway Avenue and Clarence Avenue instead. Full movements could still be allowed from 8th Street into the communities.

CONCERN 2 - PEDESTRIAN SAFETY

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 included:

- Lack of pedestrian crosswalks throughout neighbourhood
- Back lane beside Shell gas station/Tim Hortons parking lot (between 7th Street & 8th Street) – speeding down back lane towards 7th Street; pedestrian safety at 7th Street access is a concern
- Munroe Avenue, Albert Avenue – missing sidewalks
- Broadway Avenue between Taylor Street & 8th Street – drivers don’t yield to pedestrians; high volume of children living in area
- Drivers are very aggressive towards pedestrians
- Clarence Avenue & 2nd Street – bus stop near intersection; difficult to cross
- Install missing sidewalks: Lansdowne Avenue, Dufferin Avenue

Proposed solutions identified by residents:

- More painted lines on the street and perhaps flashing lights so motorists will stop for pedestrians
- Broadway Avenue between 8th Street & Taylor Street - more enforcement, signage, traffic lights, or speed humps to improve pedestrian safety
- Clarence Avenue & 3rd Street - install pedestrian device
- Clarence Avenue & 2nd Street – install pedestrian sign to mark crossing so that motorists are aware that there may be pedestrians crossing to bus stop

CONCERN 3 - TRAFFIC CONTROL

Traffic control signs are used in order to assign the right-of-way and must meet guidelines in City of Saskatoon Council Policy C07-007 *Traffic Control – Use of Stop and Yield Signs*, January 26, 2009 which states that stop and yield signs are not to be used as speed control devices, to stop priority traffic over minor traffic, on the same approach to an intersection where traffic signals are operational, or as a pedestrian crossing device.

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

The Stop & Yield Retrofit Program was implemented in Haultain in fall 2013. As part of the program, yield signs were installed at all uncontrolled intersections in an alternating pattern so a thoroughfare is prevented.

Neighbourhood concerns regarding traffic controls included:

- Alternating yield sign pattern (part of the Stop & Yield Retrofit Program) is odd. Drivers still need to check both ways before proceeding.

CONCERN 4 – PARKING

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

Neighbourhood concerns regarding parking included:

- Munroe Avenue – parking on both sides makes street too narrow for emergency vehicles (worse in winter); parking makes left turn from 8th Street dangerous because Munroe Avenue is congested; Sundays are worse because churches nearby
- Sight lines obstructed due to parking at:
 - 1st Street & Broadway Avenue (next to medical clinic);
 - Dufferin Avenue & Taylor Street (next to daycare);
 - Clarence Avenue by alley between 2nd Street & 3rd Street on east side (during church service on Tuesday and Sundays);
 - and 5th Street at Clarence Avenue & McKinnon Avenue
- Lansdowne Avenue and Dufferin Avenue between Taylor Street & 8th Street - Alternating yields facing side streets aren't visible due to parked cars
- Overcrowding on side streets especially during street cleaning or snow cleaning. Many cars are not moved and the streets are not cleaned or cleared properly.
- Some houses contain many residents which all own cars, one in particular has 5 cars, one car in a driveway, 4 on the street, far exceeding the lot width of the property.

Proposed solutions identified by residents:

- Munroe Avenue - remove parking on one side
- Install “no parking” signs or enforcement to ensure parked cars are 10m back from intersections; leave space by driveways so drivers can back out safely.
- More public awareness for parking bylaw (10m rule)
- Lansdowne Avenue and Dufferin Avenue between Taylor Street & 8th Street - restrict parking to at least 20m at intersections to improve sight lines on intersections where Lansdowne and Dufferin yield to East/West traffic
- Implement residential parking permit program and change the program to allow only 2 permits per property.

CONCERN 5 – CYCLING

Cycling is a practical mode of transportation in Haultain, as the neighbourhood is in close proximity to the University of Saskatchewan, the downtown core, and other nearby amenities.

Neighbourhood concerns regarding cycling included:

- Drivers are very aggressive towards cyclists
- Crossing 8th St is very difficult particularly at Dufferin Ave

Proposed solutions identified by residents:

- Install cycling lanes on Dufferin Avenue and Lansdowne Avenue (wide streets)
- Link Nutana and Haultain (crossing 8th Street) with a pedestrian bridge via Dufferin Avenue or Lansdowne Avenue

CONCERN 6 – MAINTENANCE

A majority of the residents were concerned about the condition of the streets in Haultain (i.e. snow clearing, potholes, tree trimming, and temporary traffic calming devices).

Neighbourhood concerns regarding maintenance were at the following locations:

- Albert Avenue – snow piled in centre of street from 5th Street to 7th Street causes visibility issues.
- East/West roads in very bad condition generally (snow ruts, potholes)
- Back lanes need grading to reduce giant puddles in the spring. Some areas, including the yards are poorly graded, and lakes form in the back lanes, combined with garbage debris.
- The catch basins are not functioning appropriately, lakes develop on road surface and make proper crossing difficult/impossible.
- The quality of the streets (especially Taylor Street) is a concern - sink holes, protruding and sunk in manholes, pot holes, deteriorating asphalt all over the place, repairs below the street that have not actually been repaired but rather filled in with gravel.
- Curbs are down to an inch because of paving over pavement instead of grading the street down and laying new asphalt.

CONCERN 7 – MAJOR INTERSECTIONS

Neighbourhood concerns regarding major intersections were at the following locations:

- **Broadway Avenue & 8th Street:**
 - More crossing time needed for pedestrians
 - Crossing Broadway Ave should be changed in off peak periods to North/South and East/West signalization, 2 phases only, not 3
 - Wait time to cross is very long
 - Visual obstructions at the crossings, especially the northeast corner.
- **Clarence Avenue & 8th Street:**
 - Drivers making left turn into alley behind Scotiabank going southbound hold up traffic into the Clarence Avenue & 8th Street intersection; drivers entering Clarence going south are forced to change lanes on short notice or risk being caught within the intersection
 - Restrict left turns into alley by Scotiabank or make lane one-way
 - Install blockade so drivers cannot enter back lane southbound
 - Scotiabank has parking lot that is accessible from 8th Street or the back lane at McKinnon Avenue
 - Need barrier to prevent turns and make lane one-way (east, so right turn into lane only). Signage alone is not effective.

3. Assessment

Stage 2 of the plan development included developing a draft traffic management plan was completed by the following actions:

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

The following sections provide details on the data collected for traffic volumes (peak hours, daily, and weekly), travel speed, and pedestrian movements.

1. Traffic Volumes and Travel Speeds

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

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

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

Travel speeds were measured to determine the 85th percentile speed, which is the speed at which 85% of vehicles are travelling at or below. The speed limit in the Haultain area is 50kph, except for school zones where the speed limit is 30kph from September and June, 8:00 a.m. to 5:00 p.m., excluding weekends.

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

Table 3-2: Speed Studies and Average Daily Traffic Counts (2014)

Location	Between	Class	Average Daily Traffic (vpd)	Speed (kph)	
Back lane	7 th Street/8 th Street & Broadway Avenue/McKinnon Avenue (by Shell gas station parking lot)	lane	362	20.3	
Munroe Avenue	2 nd Street & 3 rd Street	local	736	42.5	
Munroe Avenue	5 th Street & 6 th Street		859	43.4	
5 th Street	Clarence Avenue & McKinnon Avenue		507	NA	
5 th Street	McKinnon Avenue & Munroe Avenue		455	NA	
Albert Avenue	3 rd Street & 5 th Street		286	regular=42.3, school=33.8	
Albert Avenue	1 st Street & 2 nd Street		365	45.2	
Wiggins Avenue	7 th Street & 8 th Street		193	36.3	
Lansdowne Avenue	1 st Street & 2 nd Street		660	44.8	
Broadway Avenue	5 th Street & 6 th Street		arterial	1368	56.7
Clarence Avenue	3 rd Street & 4 th Street			7809	regular=57.6, school=37.2

The locations shown in **Table 3-3** were measured on multiple attempts but resulted in errors due to vehicles parking over the tubes and errors with the equipment.

Table 3-3: Speed Studies and Average Daily Traffic Counts – Error Locations

Location	Between	Class
McKinnon Avenue	6 th Street & 7 th Street	local
McKinnon Avenue	1 st Street & 2 nd Street	
Dufferin Avenue	2 nd Street & 3 rd Street	
1 st Street	Clarence Avenue & Albert Avenue	

2. Pedestrian Assessments

A pedestrian facilities plan was used to determine the locations with missing sidewalk connections and pedestrian accessibility ramps. Connections to parks and schools were considered as high priority. The pedestrian facilities map is shown in **Appendix A**.

4. Plan Development

Stage 3 of the project 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.

1. Speeding / Shortcutting

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

Table 4-1: Recommended Improvements to Reduce Speeding and Shortcutting

Location	Recommended Improvement	Justification
Back lane beside Shell gas station (between 8 th Street & 7 th Street near Broadway Avenue)	20kph speed sign	Reduce speed in back lane
Lansdowne Avenue at 4 th Street & 6 th Street	Install raised median island with additional yield sign	Reduce speed & enhance visibility of yield signs on wide street
Dufferin Avenue at 1 st , 3 rd , 5 th , & 7 th Street	Install raised median island with additional yield sign	Reduce speed & enhance visibility of yield signs on wide street

¹ For details on these devices refer to the *City of Saskatoon Traffic Calming Guidelines and Tools*

2. Pedestrian Safety

The safety of the pedestrian environment is important to encourage people to walk to school, work, and nearby amenities as opposed to driving. Accordingly, the recommended improvements to increase pedestrian safety are detailed in **Table 4-2**.

Table 4-2: Recommended Pedestrian Safety Improvements

Location	Recommended Improvement	Justification
Broadway Avenue & 6 th Street	Install standard pedestrian crosswalk	Improve pedestrian safety; connects to bus stops (only enhanced crossing on Broadway Avenue between 3rd Street & 8th Street)
Albert Avenue between Taylor Street & 4 th Street (west side); Lansdowne Avenue between 2 nd Street & 8 th Street (east side); Dufferin Avenue between Taylor Street & 1 st Street (east side); and Dufferin Avenue between 2 nd Street & 8 th Street (east side)	Install sidewalk	Complete sidewalk connections to parks and schools; improve pedestrian safety
8 th Street between Broadway Avenue & Clarence Avenue	Include review in Active Transportation Plan with options to add pedestrian/cyclist crossing.	Improve pedestrian (and cyclist) safety

3. Parking Improvements

The recommended improvements to parking that will improve the level of safety at specific intersections is detailed in **Table 4-3**.

Table 4-3: Recommended Parking Improvements

Location	Recommended Improvement	Justification
Broadway Avenue & 1 st Street	Install "no parking" signs - on southeast corner of Broadway Avenue 15m from intersection; and on northeast corner of 1 st Street 10m from intersection	Enhance sightlines
Taylor Street & Dufferin Avenue	Install "no parking" signs on northeast corner of Taylor Street 10m from intersection	Enhance sightlines
Clarence Avenue between 2 nd Street & alley to north	Install "no parking" signs between bus stop & alley (approximately the length of 2 parking spaces)	Enhance sightlines

4. Major Intersection Reviews

The mandate for the Neighbourhood Traffic Management Reviews is to focus on neighbourhood streets such as local roads and collector roads. As almost all neighbourhoods are bound by arterial streets, such as Clarence Avenue or Taylor Street, it is not uncommon to have residents raise issues regarding these streets. However, arterial streets are much more complex than local or collector streets due to larger traffic volumes, different types of drivers (commuters), coordinated traffic signals, transit accommodation, and potentially many commercial accesses. To properly address these, the typical transportation engineering approach would require a corridor study or a major intersection review, both of which are expensive and require significant resources. Through the Neighbourhood Traffic Reviews, the City is compiling a list of issues on arterial streets. The Transportation division is working to prioritize the issues, identify the work requirements, and secure funding to complete these types of assessments.

Follow up Consultation – Presentation of Traffic Management Plan

The initial recommended improvements were presented at a follow-up public meeting in December 2014. Recommended improvements that were not supported by the residents were eliminated or altered accordingly. A decision matrix detailing the list of recommended improvements presented at the follow-up meeting, as well as additional comments received, are included in **Appendix B**.

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

5. Recommended Plan and Cost Estimates

Stage 4, the last stage of the process, is to install the recommended improvements for the Haultain neighbourhood within the specified timeframe. The timeframe depends upon the complexity and cost of the solution. A short-term time frame is defined by implementing the improvements within 1 to 2 years; medium-term is 1 to 5 years; and long-term is 5 years plus.

The placement of pedestrian and traffic control signage will be completed short-term (1 to 2 years).

All traffic calming measures will be installed temporarily using rubber curbing until proven effective, and will be implemented short-term (1 to 2 years).

Permanent traffic calming often includes removing the temporary barriers and reconstructing with concrete. The timeline for permanent traffic calming may depend on the complexity of the device and the availability of funding; therefore the timeline is medium-term (1 to 5 years).

Major intersection reviews are based on the number of other locations to be reviewed city-wide and the availability of funding. The timeline for review will be medium-term (1 to 5 years).

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

- **Table 5-1:** Traffic Calming Cost Estimate
- **Table 5-2:** Marked Pedestrian Crosswalks Cost Estimate
- **Table 5-3:** Traffic Control Signage – Stop & Yield Cost Estimate
- **Table 5-4:** Miscellaneous Signage Cost Estimate
- **Table 5-5:** Sidewalks Cost Estimate
- **Table 5-6:** Total Cost Estimate

Table 5-1: Traffic Calming Cost Estimate

Location	Device (s)	Cost Estimate		Time Frame
		Temporary	Permanent	
Lansdowne Avenue at 4 th Street & 6 th Street	8 raised median islands	\$2,000	\$24,000	3 to 5 years
Dufferin Avenue at 1 st , 3 rd , 5 th , & 7 th Street	5 raised median islands	\$4,000	\$48,000	
Total		\$6,000	\$72,000	

Temporary traffic calming will be installed in 2015 and will be monitored to determine its effectiveness. If proven effective, the devices will be made permanent. Until they are made permanent, the devices will remain temporary and maintained on a yearly basis. An estimated cost for maintenance is about \$5,000 dollars per year. The maintenance typically involves the replacement of damage curbs as result of the winter- snow season removal, causing damage from vehicle impact, etc.

Table 5-2: Marked Pedestrian Crosswalks Cost Estimate

Location	Device (s)	Cost Estimate	Time Frame
Broadway Avenue & 6th Street	4 signs & standard crosswalk markings	\$1,000	1 to 2 years
Total		\$1,000	

The operating impact on an annual basis to maintain a painted crosswalk is approximately \$60 each.

Table 5-3: Traffic Control Signage – Stop & Yield Cost Estimate

Location	Device (s)	Number of Signs	Cost Estimate	Time Frame
Lansdowne Avenue at 4 th Street & 6 th Street	Yield signs	4	\$1,000	1 to 2 years
Dufferin Avenue at 1 st , 3 rd , 5 th , & 7 th Street	Yield signs	8	\$2,000	
Total			\$3,000	

Table 5-4: Miscellaneous Signage Cost Estimate

Location	Device (s)	Number of Signs	Cost Estimate	Time Frame
Back lane beside Shell gas station (between 8 th Street & 7 th Street near Broadway Avenue)	20kph speed sign	1	\$250	1 to 2 years
Broadway Avenue & 1 st Street	"No parking" sign	2	\$500	
Taylor Street & Dufferin Avenue	"No parking" sign	1	\$250	
Clarence Avenue between 2 nd Street & alley to north	"No parking" sign	1	\$250	
Total			\$1,250	

Table 5-5: Sidewalks Cost Estimate

Location	Distance (m)	Cost Estimate	Time Frame
Albert Avenue between Taylor Street & 4 th Street (west side)	355	\$156,200	5 years plus
Lansdowne Avenue between 2 nd Street & 8 th Street (east side)	500	\$220,000	
Dufferin Avenue between Taylor Street & 1 st Street (east side)	90	\$39,600	
Dufferin Avenue between 2 nd Street & 8 th Street (east side)	540	\$237,600	
Total		\$653,400	

Table 5-6: Total Cost Estimate

Category	Signage & Temporary Traffic Calming	Permanent
Traffic Calming	\$6,000	\$72,000
Marked Pedestrian Crosswalks	\$1,000	NA
Traffic Control Signage	\$3,000	NA
Miscellaneous Signage	\$1,250	NA
Sidewalks	NA	\$653,400
Total	\$11,250	\$725,400

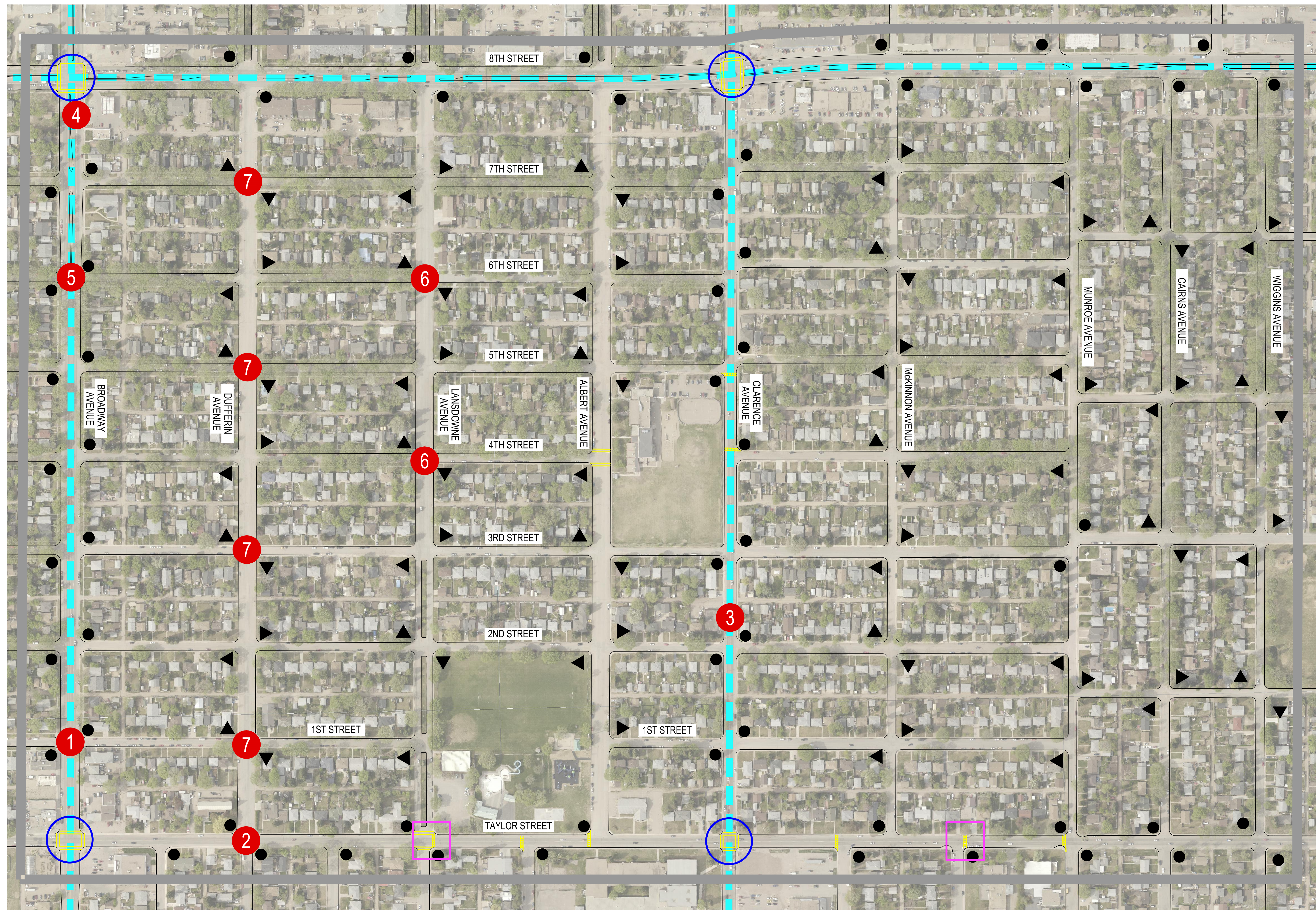
The total cost estimate for signage, pavement markings, and temporary traffic calming devices to be installed in 2015 is **\$11,250**. The total cost estimate for the installation of future permanent devices, including sidewalks, and permanent traffic calming is **\$725,400**.

Resulting from the plan development process, the recommended improvements, including the location, type of improvement, and schedule for implementation are summarized in **Table 5-7**. The resulting recommended Haultain Neighbourhood Traffic Management Plan is illustrated in **Exhibit 5-1**.




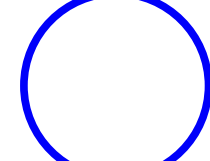
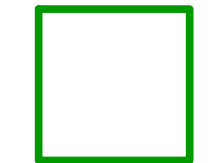

Table 5-7: Haultain Neighbourhood Recommended Improvements

Location	Proposed Measure	Time Frame
Broadway Avenue & 1 st Street	Install "no parking" signs - on southeast corner of Broadway Avenue 15m from intersection; and on northeast corner of 1st Street 10m from intersection	1 to 2 years
Taylor Street & Dufferin Avenue	Install "no parking" signs on northeast corner of Taylor St 10m from intersection	
Clarence Avenue between 2 nd Street & alley to north	Install "no parking" signs between bus stop & alley (approximately the length of 2 parking spaces)	
Back lane beside Shell gas station (between 8th Street & 7 th Street near Broadway Avenue)	20kph speed sign	
Broadway Avenue & 6 th Street	Install standard pedestrian crosswalk	3 to 5 years
Lansdowne Avenue at 4 th Street & 6 th Street	Install raised median island with additional yield sign	
Dufferin Avenue at 1 st , 3 rd , 5 th , & 7 th Street	Install raised median island with additional yield sign	
<ul style="list-style-type: none"> • Albert Avenue between Taylor Street & 4th Street (west side) • Lansdowne Avenue between 2nd Street & 8th Street (east side) • Dufferin Avenue between Taylor Street & 1st Street (east side) • Dufferin Avenue between 2nd Street & 8th Street (east side) 	Install sidewalk	5 years plus
Taylor Street & Clarence Avenue	Major intersection review	TBD
8 th Street between Broadway Avenue & Clarence Avenue	Include review in Active Transportation Plan with options to add pedestrian/cyclist crossing.	TBD

ITEM	LOCATION	PROPOSED MEASURE	TIME FRAME
1	Broadway Avenue & 1st Street	Install "no parking" signs - on the southeast corner of Broadway Avenue 15m from the intersection; and on the northeast corner of 1st Street 10m from the intersection.	1 to 2 years
2	Taylor Street & Dufferin Avenue	Install "no parking" signs on the northeast corner of Taylor Street 10m from the intersection	1 to 2 years
3	Clarence Avenue between 2nd Street & alley to the north	Install "no parking" signs 10m south of alley	1 to 2 years
4	Back lane beside Shell gas station (between 8th Street & 7th Street near Broadway Avenue)	20kph speed sign	1 to 2 years
5	Broadway Avenue & 6th Street	Install standard pedestrian crosswalk	1 to 2 years
6	Lansdowne Avenue at 4th Street & 6th Street	Install raised median island with additional yield sign	1 to 5 years
7	Dufferin Avenue at 1st, 3rd, 5th, & 7th Street	Install raised median island with additional yield sign	1 to 5 years

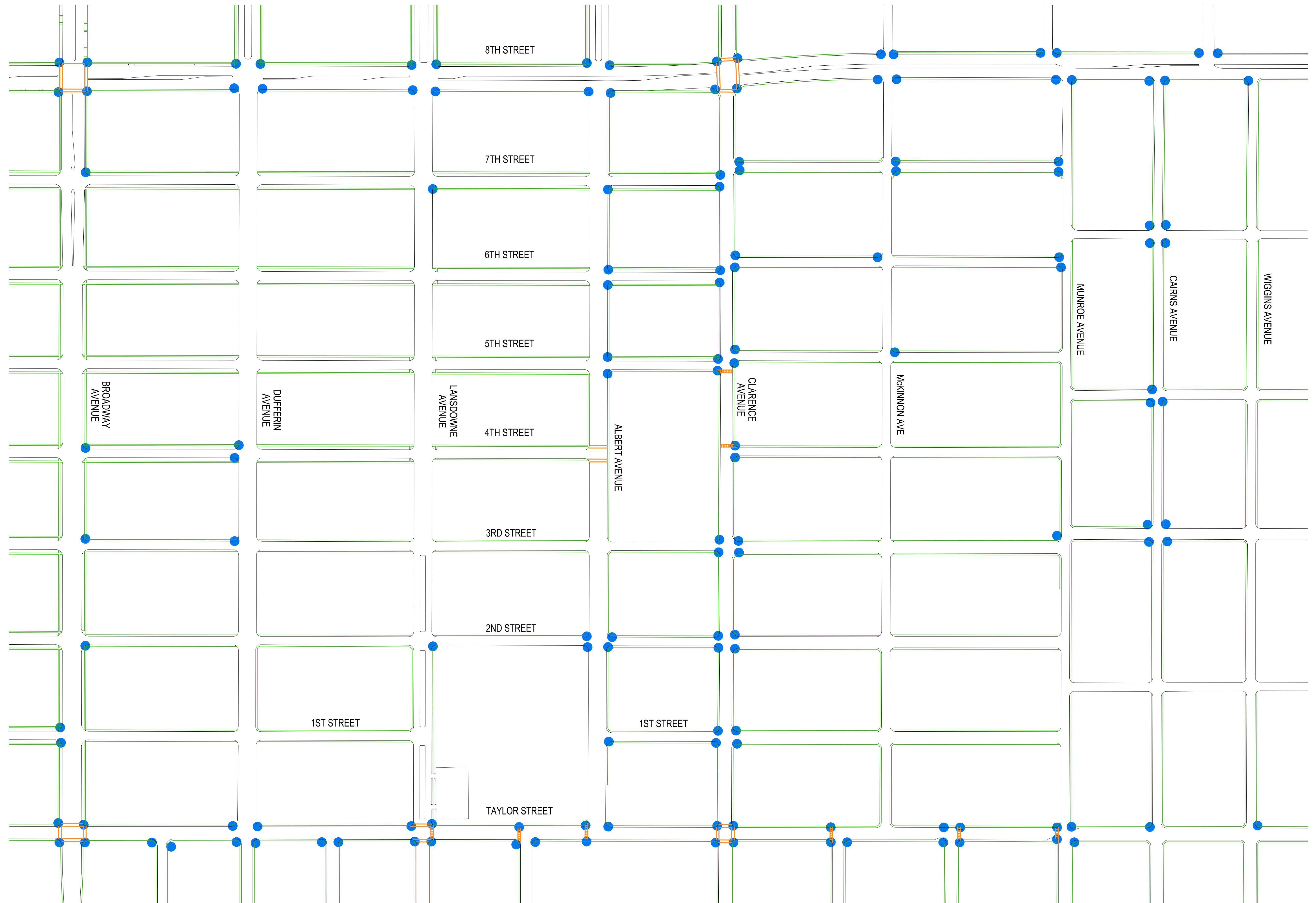


LEGEND

-  STOP SIGN
-  YIELD SIGN
-  BUS ROUTE
-  TRAFFIC SIGNAL LOCATION
-  PEDESTRIAN ACTUATED SIGNAL LOCATION
-  ACTIVE PEDESTRIAN CORRIDOR LOCATION

Appendix A

Pedestrian Facilities Map



HAULTAIN PEDESTRIAN FACILITIES

Appendix B

Recommendation Review Matrix

Decision Matrix – Recommendations proposed at initial meeting

Item	Location	Recommendation	Group 1	Group 2	Additional Comments	Decision
1	Munroe Ave between Taylor St & 2nd St, and between 6th St & 8th St	Install sidewalk on the west side		not high priority		Removed. Location is low priority.
2	Broadway Ave & 8th	Major intersection review		do not want crossing Broadway Ave changed in off peak hours to north-south/east-west signalization phases		Removed. Location is low priority.
3	Clarence Ave - school zone between 5th St & 3 St	Flashing lights for school zone	if flashing lights are going back use bigger ones	not in favour; install pedestrian-activated signal at 5th & Clarence instead		Removed. Location selected for photo radar.
4	Albert Ave between Taylor St & 4th St	Install sidewalk on west side				Carried.
5	Lansdowne Ave between 2nd St & 8th St	Install sidewalk on east side				Carried.
6	Lansdowne Ave at 4th St & 6th St	Install median island with additional yield sign	snow clearing concerns at median islands			Carried.
7	Dufferin Ave between Taylor St & 1st St, and between 2nd St & 8th St	Install sidewalk on east side				Carried.
8	Dufferin Ave at 1st, 3rd, 5th, & 7th St	Install median island with additional yield sign	not in favour; yield signs should be on side streets		Waste of tax payers money. Median island signs always get hit and are laying on the street, twisted from an obvious collision. Instead install stop signs on all streets (1st St to 7th St) which intersect Dufferin Ave.	Carried.
9	Broadway Ave & 1st St	Install "no parking" signs - on southeast corner of Broadway Ave 15m from intersection; on northeast corner of 1st St 10m from intersection				Carried.
10	Taylor St & Dufferin Ave	Install "no parking" signs on northeast corner of Taylor St 15m from intersection	5 minute loading zone instead; talk to daycare	talk to daycare to find out what they need before restrictions		Install "No Parking" sign on the northeast corner of Taylor St 10m from intersection. "5 minute loading zone" must be requested by daycare.
11	Clarence Ave between 2nd St & alley to north	Install "no parking" signs between bus stop & alley (approximately 2 parking spaces)		review all alleys not just the one; specifically along Clarence Ave		Carried. High priority due to high traffic volumes on Clarence Avenue and church parking.
12	8th St between Broadway Ave & Clarence Ave	Include review in Active Transportation Plan with options to add pedestrian/cyclist crossing.		Lansdowne & 8th St is preferred location		Carried.

Decision Matrix – Additional comments

Item	Location	Concern	Decision
1	Back lane beside Shell gas station (between 8th Street & 7th Street near Broadway Avenue)	Speeding/shortcutting down back lane from gas station/Tim Hortons parking lot to get to Broadway Avenue; lots of pedestrians near back lane access at 7th Street; install 20kph speed sign of 'entrance only' sign	Average daily traffic and 85th percentile speed were measured in Aug/14 and found to be within an acceptable range (362 vehicles per day and 20kph). Due to concerns a 20kph will be added to the recommendations.
2	8th St at Munroe Ave and Wiggins Ave	Use concrete blocks to restrict left turns onto 8th St with 'Right-Turn Only' sign; recommend left turn restriction on 8th St/extend median	Comments will be included in 8th St Review.
3	Broadway Ave between Taylor St & 8th St	Install crosswalks (ie. 4th St and 6th St) to slow vehicles. Reduce speeds with additional signage, speed board program, or APC	85th percentile speed was measured to be 56.7kph. Since Broadway Avenue is a minor arterial traffic calming is not recommended. Peak hours for speeding will be reviewed and forwarded to Police to consider enforcement. There's currently only one standard crossing on Broadway Avenue between 8th Street and Taylor Street, at 3rd Street. A review of the bus stops indicated stops at 2nd St, 3rd St, 4th St, & 6th St. An additional standard crosswalk on the south side of 6th St is recommended to provide a safer connection to the bus stop, and allow adequate spacing between bus stops (traffic signals at Broadway Ave is 200m to the north, standard crosswalk at 3rd St is 290m to the south).
4	Taylor St & Clarence Ave	North-south traffic backed up due to left turning vehicles; add protected left turn; add westbound left turn & southbound left turn	Major intersection Review.
5	8th St	Missing sidewalks	Site check confirmed no missing sidewalk connections on 8th st bordering Haultain (Broadway Ave to Wiggins Ave).
6	8th St & Clarence Ave	No parking to increase storage for right turning vehicles; review original timing	Comments will be forwarded to Traffic Signal Operations Tech to review timing. No changes recommended to parking.
7	Broadway Ave	Add cycling lanes	Comments will be forwarded for further consideration.
8	Various locations	Off-street parking should be required for new buildings (ie. garage suites, basement suites, granny suites etc)	Issues will be addressed through Infill recommendations.
9	Various locations	Coordination between City & Canada Post for new mail delivery service	???
10	Taylor St to Lorne Ave	Paving needed	Roadway resurfacing scheduled for 2015.
11	5th St between McKinnon & Munroe	speeding/shortcutting	Traffic count indicated 455 vehicles per day. This is within acceptable range for a local roadway (ie. less than 1,000vpd)