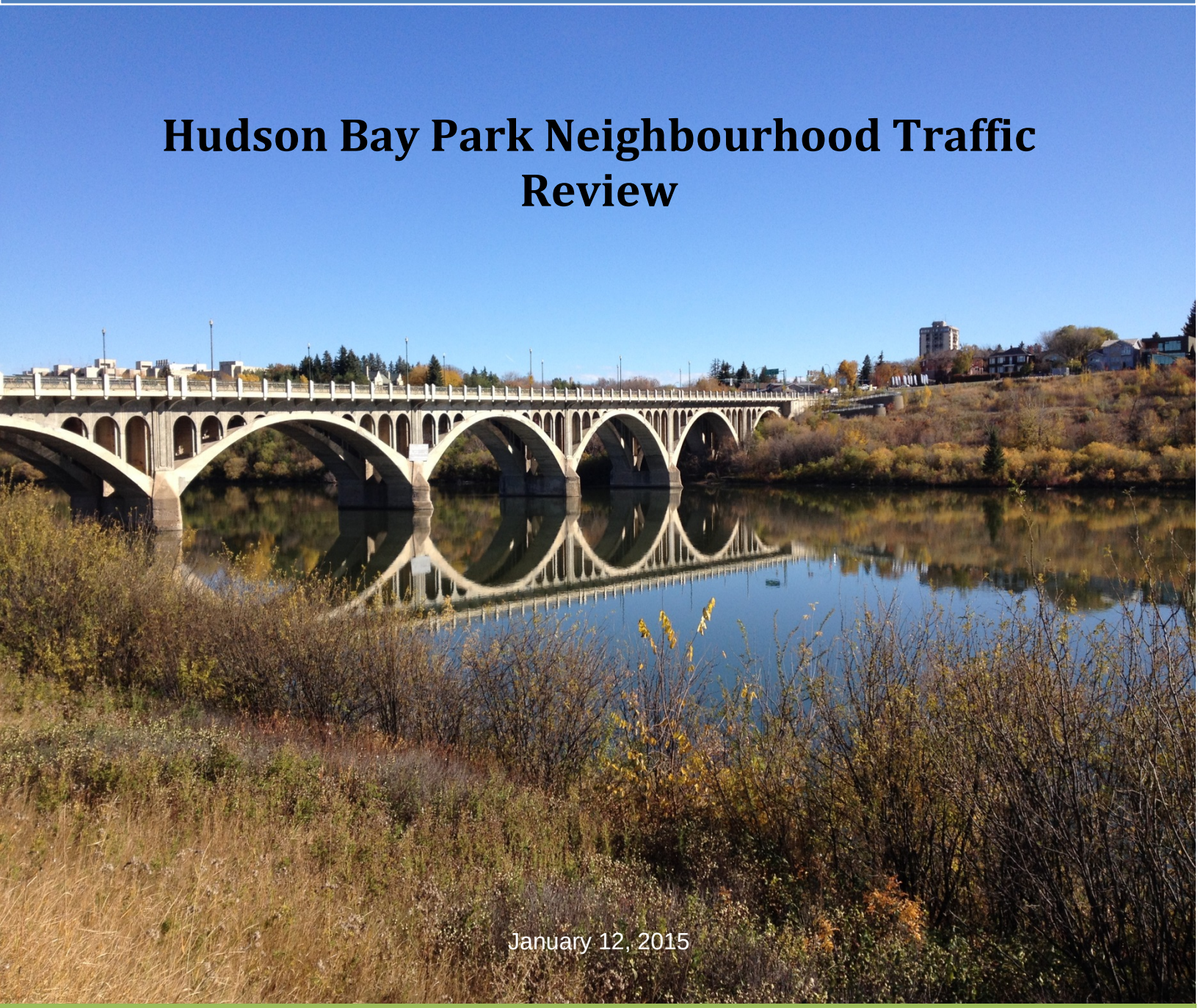
City of Saskatoon

Hudson Bay Park Neighbourhood Traffic Review



January 12, 2015

Transportation & Utilities Department

Acknowledgements

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

- Hudson Bay Park residents
- Hudson Bay Park Community Association
- Saskatoon Police Service
- Saskatoon Light & Power
- City of Saskatoon Fire Department
- City of Saskatoon Environmental Services
- City of Saskatoon Transit
- 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 revised program involves additional community and stakeholder consultation that provides the environment for neighbourhood residents and City staff to work together in developing solutions that address traffic concerns. The process is outlined in the *Traffic Calming Guidelines and Tools*, City of Saskatoon, 2013.

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

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

The resulting proposed Hudson Bay Park Traffic Management Plan is illustrated in **Exhibit ES-1**.

Table ES-1: Hudson Bay Park Neighbourhood Recommended Improvements

Location	Recommended Improvement	Time Frame
Avenue P & Bowerman Street	Install stop sign	1 to 2 years
Avenue P & Edmonton Avenue	Install stop sign	
Avenue H & 31st Street	Install zebra crosswalks (north and south legs)	
Faulkner Crescent & McMillan Avenue	Upgrade yield sign to stop sign (northbound)	
32nd Street at Avenue I, Avenue J, Avenue K, & Avenue L	Install yield signs	
McMillan Avenue (curve north of 31st Street)	Install median islands on north & south side of crosswalk/curve	3 to 5 years (devices will be installed temporarily until proven effective)
Avenue I & 37th Street	Install median island & standard crosswalk (north leg)	
Avenue I & 36th Street	Install median island (north leg)	
Valens Drive (in front of Henry Kelsey School)	Install permanent curb extension	5 years plus
Avenue I between Howell Avenue & 36th Street	Install sidewalk (on west side/park side)	

HUDSON BAY PARK TRAFFIC PLAN

City of Saskatoon

LEGEND

- EXISTING STOP SIGN
- EXISTING YIELD SIGN
- BUS ROUTE
- EXISTING TRAFFIC SIGNAL
- PEDESTRIAN ACTUATED SIGNAL LOCATION
- EXISTING TRAFFIC CALMING LOCATION
- PROPOSED TRAFFIC CALMING (MAYFAIR NEIGHBOURHOOD TRAFFIC PLAN)

LOCATION	MEASURE PROPOSED
1	MEDIAN ISLANDS
2	YIELD SIGN
3	CURB EXTENSION (PERMANENT)
4	MEDIAN ISLAND
5	MEDIAN ISLAND
6	STOP SIGN
7	STOP SIGN
8	ZEBRA CROSSWALK
9	SIDEWALK

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1. Introduction

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

The Hudson Bay Park neighbourhood is located on the west side of the South Saskatchewan River and is bound by Circle Drive to the northwest, 31st Street to the south, and Avenue I to the east. The neighbourhood is intersected by 33rd Street, a major arterial which carries high volumes of traffic between the west end and the downtown and core areas of the city. The area use is mostly residential, with an elementary school (Henry Kelsey School) on Valens Drive and 33rd Street West.

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

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

2. Identifying Issues, Concerns, & Possible Solutions

A public meeting was held in April 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 which are designed and intended for low volumes of traffic. In the case of Hudson Bay Park, the nearby arterial streets (33rd St, and Avenue I) are designated to accommodate larger volumes of traffic.

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

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

- Faulkner Crescent: shortcutting to avoid the traffic signals at Avenue P & 33rd Street
- Howell Avenue
- McMillan Avenue: speeding near park; shortcutting between 29th Street & 33rd Street
- Eby Street: school buses speeding
- Avenue P at Bowerman Street & Edmonton Avenue: offset intersections; drivers speeding around corners
- Valens Drive

Proposed solutions identified by residents:

- Install median islands on Faulkner Crescent
- Speed humps
- Roundabouts
- Enforcement
- Extend Edmonton Avenue to reduce shortcutting on Howell Avenue
- 40kph speed limit on residential streets
- Install stop signs (Avenue P at Bowerman Street & Edmonton Avenue)
- Install yield signs at all uncontrolled intersections between Avenue L, Avenue H, 29th Street, & 33rd Street.
- Snow clearing around median islands may be an issue; extend parking restrictions to ensure clearance for graders.

CONCERN 2 - PEDESTRIAN SAFETY

A majority of the residents were concerned about pedestrian safety surrounding the school sites and parks within Hudson Bay Park (Henry Kelsey School, Henry Kelsey Park, Pierre Radisson Park).

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:

- McMillan Avenue: near park
- Valens Drive: parking over crosswalk; U-turns
- Avenue I & 36th Street
- U-turns in school zone

Proposed solutions identified by residents:

- Install sidewalk on Avenue I between Howell Avenue & 36th Street on park side (Henry Kelsey Park)
- Install pedestrian/cyclist crossing on Circle Drive from Avenue P to Glenwood Avenue and/or Henry Kelsey North Park to south end of Cardinal Place; crossing Circle Drive (i.e. tunnel, bridge)
- Place signs to identify parks / playgrounds & areas where kids are playing
- 40kph speed limit all year round at school zones, parks, & playgrounds
- Install cameras or unmarked police cars to address U-turns in school zone
- Public safety blitz
- School provide staff in the morning to help children and tell drivers not to park in crosswalk
- Consideration for effects of traffic calming devices and cyclists

CONCERN 3 – PARKING

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

Neighbourhood concerns regarding parking were at the following locations:

- Buses park in front of Henry Kelsey School on Valens Drive around the curve, limiting visibility.
- Parking over the crosswalk in front of the Henry Kelsey School
- Parking congestion around the Oliver Lodge

Proposed solutions identified by residents:

- Move the school bus loading zone south of the Henry Kelsey School on Valens Drive to improve visibility.

CONCERN 4 – 33rd STREET

Residents identified a number of concerns regarding speeding, shortcutting, and pedestrian safety along 33rd Street. An extensive review of 33rd Street (between Idylwyld Drive and Confederation Drive) will begin in 2015. All concerns were documented and will be included in the review. A list of the 33rd Street concerns are shown in **Appendix A**.

3. Assessment

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

- Create a detailed list of all the issues provided by the residents.
- Collect historical traffic 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 percent of vehicles are travelling at or below. The speed limit in the Hudson Bay Park area is 50kph, except for school zones (33rd Street and Valens Drive) where the speed limit is 30kph from September and June, 8:00am to 5:00pm, excluding weekends.

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

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

Street	Between	Classification	Average Daily Traffic (vpd)	Speed (kph)
McMillan Avenue	29th Street & 30th Street	local	492	46.6
Avenue L	29th Street & 30th Street		568	38.7
Howell Avenue	33rd Street & Avenue I		815	45.6
Faulkner Crescent	33rd Street McMillan Avenue		515	27.3
Avenue I	36th Street & 37th Street	minor collector	1911	55.4
Avenue H	30th Street & 31st Street	arterial	2929	52.2

2. Turning Movement Counts

Turning movement counts were completed to determine the need for an all-way (i.e. 3-way or 4-way) stop control. All-way stop controls need to the meet City of Saskatoon Council Policy C07-007 *Traffic Control – Use of Stop and Yield Signs*, January 26, 2009. Criteria outlined in the policy that may warrant an all-way stop include a peak hour count greater than 600 vehicles or an ADT greater than 6,000 vehicles per day. Results of the studies are shown in **Table 3-3**.

Table 3-3: All-way Stop Assessments

Location	Peak Hour Traffic Count	Average Daily Traffic (vpd)	Results
McMillan Avenue & 31st Street	55	610	All-way stop not warranted
Avenue H & 31st Street	596	5960	

As a result of the assessment there are no an all-way stop controls recommended. Details of the all-way stop assessments are provided in **Appendix B**.

3. Pedestrian Assessments

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

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

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

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

Table 3-4: Pedestrian Assessment

Location	Number of pedestrians crossing	Results
McMillan Avenue & 31st Street	4	Pedestrian Devices Not Warranted
Avenue H & 31st Street	27	

As a result of the assessment, no pedestrian devices are recommended. Details of the pedestrian device assessments are provided in **Appendix C**.

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. Shortcutting and Speeding

The 85th percentile speed was higher than expected on Avenue I. 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 Improvement1	Justification
Avenue I & 36th Street	Raised median island	Reduce speed near park (transit route)
Avenue I & 37th Street	Raised median island	Reduce speed near park (transit route)

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

2. Pedestrian Safety

Hudson Bay Park residents identified pedestrian safety concerns near the Pierre Radisson Park (McMillan Avenue) and the Henry Kelsey School (Valens Drive) as a priority. The safety of the pedestrian environment near schools is important to encourage people to walk to school, as opposed to being dropped off. There a currently no marked crosswalks on Avenue H (arterial) between 29th Street and 33rd Street. Accordingly, the recommended improvements to increase pedestrian safety are detailed in **Table 4-2**.

Table 4-2: Recommended Pedestrian Safety Improvements – School Sites

Location	Recommended Improvement	Purpose
McMillan Avenue (curve north of 31st Street)	Raised median islands (on either side of crosswalk/curve)	Improve pedestrian safety near park/curve
Avenue H & 31st Street	Zebra crosswalk	Improve pedestrian (currently no marked crosswalks on Avenue H between 29th Street & Avenue H)
Valens Drive (in front of Henry Kelsey School)	Permanent curb extension	Improve pedestrian safety (prevents parking within intersection & over crosswalks; prevents U-turns)
Avenue I & 37th Street	Standard pedestrian crosswalk	Improve pedestrian safety near park
Avenue I between Howell Avenue & 36th Street	Install sidewalk (west side only)	Improve pedestrian safety near park

The Active Transportation Plan is a comprehensive city-wide study that will help to provide more choices for moving around Saskatoon by addressing community and infrastructure needs for cycling, walking, and other modes of active transportation.

During the public consultation, residents recommended installation of a pedestrian/cyclist bridge across Circle Drive connecting Hudson Bay Park to the north side of Circle Drive. Possible connections identified were Ave P to Glenwood Ave are and/or Henry Kelsey North Park to the south end of Cardinal Place. These may be reviewed as part of the Active Transportation Plan.

3. Traffic Control

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

Table 4-3: Recommended Traffic Control Improvements

Location	Recommended Improvement	Purpose
Avenue P & Bowerman Street; Avenue P & Edmonton Avenue	Stop sign	Enhance compliance (offset intersection; drivers speeding around corners; currently uncontrolled)
Faulkner Crescent & McMillan Avenue	Upgrade yield sign to stop sign	Enhance compliance (drivers shortcutting; not stopping at T-intersection)
32nd Street at Avenue I, Avenue J, Avenue K, & Avenue L	Yield Signs	Enhance compliance

4. Parking Improvements

The Administration will discuss parking issues in front of the Henry Kelsey School (ie. bus loading zones) with the Public School Board and principal of the Henry Kelsey School.

Follow up Consultation – Presentation of Traffic Management Plan

The initial recommended improvements were presented at a follow-up public meeting in October 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 are included in **Appendix D**. A decision matrix for additional comments received after the draft traffic plan is also included in **Appendix D**.

The following table displays a list of the improvements that were adjusted based on the feedback received at the October 2014 follow up meeting.

Table 4-4: Adjusted Recommended Improvements

Location	Improvement	Reason	Resident feedback	Decision
Avenue I & 37th Street	Median island	Reduce speeding near park	Agreed. Add crosswalk to further enhance pedestrian safety near park.	Carried

The list of the improvements that were added based on the feedback received at the follow up meeting held in October 2014 is shown in **Table 4-5**.

Table 4-5: Added Improvements

Location	Improvement	Reason
Faulkner Crescent & McMillan Avenue	Upgrade yield sign to stop sign (northbound)	Enhance compliance (drivers shortcutting; not stopping at T-intersection)
Avenue I between Howell Avenue & 36th Street	Install sidewalk on west side (near park)	Improve pedestrian safety

All Civic Divisions supported the Traffic Management Plan provided all devices installed will allow transit and emergency vehicles to manoeuvre around them without causing damage to the structure.

Saskatoon Light & Power identified issues with overhead power lines over Circle Drive near the proposed location for the pedestrian/cyclist bridge. As previously mentioned, this will be reviewed as part of the Active Transportation Plan.

5. Recommended Plan and Cost Estimates

Stage 4, the last stage of the process, is to install the recommended improvements for the Hudson Bay Park neighbourhood within the specified timeframe. The timeframe depends upon the complexity and cost of the solution. A short term time frame is defined by implementing the improvements within 1 to 2 years; medium-term is 3 to 5 years; and long-term is 5 years plus.

The placement of 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 (3 to 5 years).

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

- **Table 5-1**: Traffic Calming Cost Estimate
- **Table 5-2**: Marked Pedestrian Crosswalks Cost Estimate
- **Table 5-3**: Traffic Control Cost Estimate
- **Table 5-4**: Sidewalk Cost Estimate

Table 5-1: Traffic Calming Cost Estimate

Location	Device (s)	Temporary	Permanent	Time Frame
McMillan Avenue (curve north of 31st Street)	Raised median islands	$1,000	$12,000	3 to 5 years
Avenue I & 37th Street	Raised median island	$500	$6,000	
Avenue I & 36th Street	Raised median island	$500	$6,000	
Valens Drive (in front of Henry Kelsey School)	Curb extension	NA (installed 2013)	$40,000	
Total		$2,000	$64,000	

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 per year. The maintenance typically

involves the replacement of damage curbs as result of the winter- snow removal, damage from vehicle impact, etc.

Table 5-2: Marked Pedestrian Crosswalks Cost Estimate

Location	Device (s)	Cost Estimate	Time Frame
Avenue H & 31st Street	4 signs & zebra markings crosswalks	$1,200	1 to 2 years
Avenue I & 37th Street	2 signs & standard markings	$1,400	
Total		$2,600	

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

Table 5-3: Traffic Control Cost Estimate

Location	Device (s)	Number of Signs	Cost Estimate	Time Frame
Avenue P & Bowerman Street	Stop sign	1	$250	1 to 2 years
Avenue P & Edmonton Avenue	Stop sign	1	$250	
Faulkner Crescent & McMillan Avenue	Stop sign	1	$250	
32nd Street at Avenue I, Avenue J, Avenue K, & Avenue L	Yield signs	8	$2,000	
Total			$2,750	

Table 5-4: Sidewalk Cost Estimate

Location	Device (s)	Cost Estimate	Time Frame
Avenue I between Howell Avenue & 36th Street	Sidewalk	$77,000	5 years plus

The total cost estimate for the signage, pavement markings, and temporary traffic calming devices to be installed in 2015 is **$7,350**. The total cost estimate, including the installation of permanent traffic calming and sidewalk installations is **$148,350**.

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

Table 5-5: Hudson Bay Park Neighbourhood Recommended Improvements

Location	Recommended Improvement	Time Frame
Avenue P & Bowerman Street	Install stop sign	1 to 2 years
Avenue P & Edmonton Avenue	Install stop sign	
Avenue H & 31st Street	Install zebra crosswalks (north and south legs)	
Faulkner Crescent & McMillan Avenue	Upgrade yield sign to stop sign (northbound)	
32nd Street at Avenue I, Avenue J, Avenue K, & Avenue L	Install yield signs	
McMillan Avenue (curve north of 31st Street)	Install median islands on north & south side of crosswalk/curve	3 to 5 years (devices will be installed temporarily until proven effective)
Avenue I & 37th Street	Install median island & standard crosswalk (north leg)	
Avenue I & 36th Street	Install median island (north leg)	
Valens Drive (in front of Henry Kelsey School)	Install permanent curb extension	5 years plus
Avenue I between Howell Avenue & 36th Street	Install sidewalk (on west side/park side)	

HUDSON BAY PARK TRAFFIC PLAN

City of Saskatoon

LEGEND

- EXISTING STOP SIGN
- EXISTING YIELD SIGN
- BUS ROUTE
- EXISTING TRAFFIC SIGNAL
- PEDESTRIAN ACTUATED SIGNAL LOCATION
- EXISTING TRAFFIC CALMING LOCATION
- PROPOSED TRAFFIC CALMING (MAYFAIR NEIGHBOURHOOD TRAFFIC PLAN)

LOCATION	MEASURE PROPOSED
1	MEDIAN ISLANDS
2	YIELD SIGN
3	CURB EXTENSION (PERMANENT)
4	MEDIAN ISLAND
5	MEDIAN ISLAND
6	STOP SIGN
7	STOP SIGN
8	ZEBRA CROSSWALK
9	SIDEWALK

Appendix A

33rd Street Concerns

1. Ave P - congestion; running red lights; speeding; needs left turn signal from 33rd to Ave P; not yielding to pedestrians when turning right on red; needs left turn northbound/southbound to improve traffic flow.
2. Keep parking on 33rd St; parking cannot be removed without it becoming a freeway.
3. Ave K - Drivers not stopping at active pedestrian corridor; more traffic calming devices are needed on to improve pedestrian safety on 33rd St from Ave I to Valens Drive.
4. New neighbourhoods being developed will increase traffic volumes.
5. Supportive of keeping parking on 33rd Street: removal of parking will create higher traffic speeds.
6. Installing parking meters favored for the business commercial areas.
7. Discourage traffic - prioritize east/west traffic by improving signal timing at Idylwyld and 33rd Street westbound.
8. Restriction is supported - difficult to back out from a driveway; do not allow two lanes.
9. Sidewalk be marked more clearly to improve pedestrian safety.
10. Consider sidewalk clearing/snow removal with traffic calming – narrow road cause issues for snow equipment.
11. Sidewalk maintenance on south side – improve pedestrian safety.
12. Enforcement – speeding – safety for crosswalks, school zones and do not allow semi's (big trucks).
13. General support of left turns – allows residential access.
14. Divert 33rd Street commuter traffic at Circle Drive with additional lanes may improve traffic flow.
15. Garbage and recycle carts – keep as front pickup.
16. Avenue D – keep lights - reduces left turn difficulties and restricts speeding.
17. Circle Drive – reduce lights – may improve the congestion on 33rd Street.
18. Residents on 33rd St will have to back their vehicles out of the driveways directly into a traffic lane.
19. Traffic moves in orderly and efficient manner right now. Additional lane will increase speed and you get people trying to get into the pole position.
20. Addition of another lane will make it difficult to cross the street, especially kids on their way to school.
21. Shortcutting from 33rd St to avoid Ave P intersection (33rd St to Faulkner Cres to McMillan Ave near park to 29th St).
22. Valens Avenue – shorter light cycle needed; improve traffic flow.
23. Ave K – pedestrian-activated crossing on 33rd St placed too high to see

Ave P & 33rd St - needs turning signals to turn onto Ave P; left turn signal may reduce shortcutting on Faulkner Crescent.

Appendix B

All Way Stop Assessments

All-way Stop Assessment (Policy C07-007 – Traffic Control – Use of Stop & Yield Signs)

The following conditions, singly or in combination, may warrant the installation of all-way stop signs:

i) When five or more collisions are reported in the last twelve month period and are of a type susceptible to correction by an all-way stop control.

ii) When the total number of vehicles entering the intersection from all approaches averages at least 600 per hour for the peak hour or the total intersection entering volume exceeds 6,000 vehicles per day.

iii) The average delay per vehicle to the minor street traffic must be 30 seconds or greater during the peak hour.

iv) As an interim measure to control traffic while arrangements are being made for the installation of traffic signals.

Location	**Criteria 1: 5 or more collisions in last twelve months**	**Criteria 2: at least 600 vehicles per peak hour OR 6,000 vehicles per day**	**Criteria 3: average delay per vehicle greater than 30sec during peak hour**	**Criteria 4: Interim for traffic signals**	**Results**
McMillan Avenue & 31st Street	0 collisions – Criteria NOT met	55 peak hour, 610 – Criteria NOT met	Below 30sec – Criteria NOT met	No plans for traffic signals – Criteria NOT met	All-way stop NOT warranted
Avenue H & 31st Street	0 collisions – Criteria NOT met	596 peak hour, 5,960 – Criteria NOT met	Below 30sec – Criteria NOT met	No plans for traffic signals – Criteria NOT met	All-way stop NOT warranted

Appendix C

Pedestrian Device Assessments

Pedestrian device assessment (Traffic Controls at Pedestrian Crossing, 2004)

McMillan Avenue & 31st Street:

1. Lanes Priority Points:			
L =	2	lanes	= number of lanes.
LANF =	0.0	points	= (L-2) x 3.6 to a max of 15 points, urban x-section only.
2. Median Priority Points:			
MEDF =	6.0	points	= indicating there is no physical median here.
3. Speed Priority Points:			
S =	50	kph	= speed limit or 85th percentile speed.
SPDF =	6.7	points	= (S-30) / 3 to a maximum of 10 points.
4. Pedestrian Protection Location:			
D =	300	m	= distance from study location to nearest protected crosswalk.
LOCF =	7.5	points	= (D-200) / 13.3 to a maximum of 15 points.
5. Pedestrian/Vehicle Volume Priority Points:			
H =	5.0		= (hours) duration of counting period.
Ps =	4.0		= total number of children, teenagers, seniors and/or impaired counted.
Pa =	0.0		= total number of adults counted.
Pw =	6.0		= weighted average of pedestrians crossing the main street.
Pcm =	1.2		= weighted average hourly pedestrian volume crossing the main street.
V =	211.0		= volume of traffic passing through the crossing(s).
Vam =	42.2		= average hourly volume of traffic passing through the crossing(s).
VOLF =	0.1	points	= Vam x Pcm / 500
6. Satisfaction of Installation Criteria:			
SUMF =	(LANF + MEDF + SPDF + LOCF + VOLF)		
=	**20**	**points**	
(P.A. Signal Warrant Points)			

The total of the warrant points is less than 100 indicating that a pedestrian actuated signal is NOT warranted.

Avenue H & 31st Street:

1. Lanes Priority Points:			
L =	2	lanes	= number of lanes.
LANF =	0.0	points	= (L-2) x 3.6 to a max of 15 points, urban x-section only.
2. Median Priority Points:			
MEDF =	6.0	points	= indicating there is no physical median here.
3. Speed Priority Points:			
S =	50	kph	= speed limit or 85th percentile speed.
SPDF =	6.7	points	= (S-30) / 3 to a maximum of 10 points.
4. Pedestrian Protection Location:			
D =	400	m	= distance from study location to nearest protected crosswalk.
LOCF =	15.0	points	= (D-200) / 13.3 to a maximum of 15 points.
Actual value=	15.03759	Points	
5. Pedestrian/Vehicle Volume Priority Points:			
H =	5.0		= (hours) duration of counting period.
Ps =	27.0		= total number of children, teenagers, seniors and/or impaired counted.
Pa =	0.0		= total number of adults counted.
Pw =	40.5		= weighted average of pedestrians crossing the main street.
Pcm =	8.1		= weighted average hourly pedestrian volume crossing the main street.
V =	2008.0		= volume of traffic passing through the crossing(s).
Vam =	401.6		= average hourly volume of traffic passing through the crossing(s).
VOLF =	6.5	points	= Vam x Pcm / 500
6. Satisfaction of Installation Criteria:			
SUMF =	(LANF + MEDF + SPDF + LOCF + VOLF)		
=	**34**	**points**	
(P.A. Signal Warrant Points)			

The total of the warrant points is less than 100 indicating that a pedestrian actuated signal is NOT warranted.

Appendix D

Recommendation Review Matrix

Decision Matrix – Recommendations proposed at initial meeting

Item	Location	Proposed Measure	Decision
1	McMillan Ave (curve north of 31st St)	Install median islands on north & south side of crosswalk/curve	Carried.
2	McMillan Ave (near park)	Install median island & playground sign (southbound)	Removed. Sign not necessary. Issues with emergency vehicles entering back lane.
3	Valens Dr (in front of Henry Kelsey School)	Install permanent curb extension	Carried.
4	Ave I & 37th St	Install median island (north leg)	Carried. Add crosswalk.
5	Ave I & 36th St	Install median island (north leg)	Carried. Ensure bus turning movements or move to south leg.
6	Ave P & Bowerman St	Install stop sign	Carried.
7	Ave P & Edmonton Ave	Install stop sign	Carried.
8	Circle Dr near end of Ave P	Include in Active Transportation Plan - Install pedestrian/cyclist bridge across Circle Dr to connect Ave P to Glenwood Ave are and/or Henry Kelsey North Park to the south end of Cardinal Place	Removed. To be reviewed as part of the Active Transportation Plan. Change to pedestrian/cyclist bridge, not tunnel. Ensure location does not interfere with overhead power lines.
9	Ave H & 31st St	Install zebra crosswalks (north and south legs)	Carried.

Decision Matrix – Additional comments

Item	Location	Recommendation / Concern	Decision
1	Faulkner Cres & McMillan Ave	Upgrade yield sign to stop sign (northbound)	Carried. Driver's shortcutting down McMillan Ave/Faulkner Cres to 33rd St. Enhance compliance at intersection.
2	Circle Dr	Install sound walls	Noted.
3	Ave P & 33rd St	Protected left turn phase at traffic signals (to reduce shortcutting on McMillane Ave & Faulkner Cres)	Comments will be included in 33rd St Review.
4	Faulkner Cres	Install median islands	Rejected. Speed study indicated speeds and traffic volumes were within acceptable range. Shortcutting may be reduced through 33rd St improvements.
5	Eby St	Speeding concerns.	Noted. No recommendations at this time. Not a through street.
6	Ave I between Howell Ave & 36th St	Install sidewalk (on west side/park side)	Carried.
7	Ave I, Ave J, Ave K, & Ave L between 29th St & 33rd St	Install yield signs at uncontrolled intersections.	30th St & 31st St will be is inlcuded in the list of neighbourhoods for the Stop & Yield Retrofit Program (Wesmount) and will be installed in spring 2015. Intersections along 32nd St (at Ave I, Ave, J, Ave, K, & Ave L) will be added.
8	38th St & Ave D	Snow maintenance around islands may be an issue - extend "no Parking" zone	Noted. Parking restrictions will be added if snow clearing is an issue.