



**PUBLIC AGENDA
STANDING POLICY COMMITTEE
ON TRANSPORTATION**

Monday, May 9, 2016, 9:00 a.m.

Council Chamber, City Hall

Committee Members:

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

Pages

1. CALL TO ORDER

2. CONFIRMATION OF AGENDA

Recommendation

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 April 11, 2016 be adopted.

5. UNFINISHED BUSINESS

6. COMMUNICATIONS (requiring the direction of the Committee)

6.1 Delegated Authority Matters

6.2 Matters Requiring Direction

6.2.1 2015 Annual Report - Traffic Safety Committee [File No. CK. 430-59]

6 - 8

Recommendation

That the 2015 Annual Report of the Traffic Safety Committee be received as information and forwarded to City Council for information.

6.3 Requests to Speak (new matters)

- 6.3.1 **Traffic Bylaw - Parking Restrictions of 36 Hours - Doug Daniels [File No. CK. 5301-1]** 9 - 9

Attached is an email from Mr. Doug Daniels dated April 18, 2016, requesting to speak.

Recommendation

That the information be received and Doug Daniels be heard.

7. REPORTS FROM ADMINISTRATION

7.1 Delegated Authority Matters

- 7.1.1 **Transportation 2015 Annual Report [Files CK. 430-37 and TS. 0430-1]** 10 - 42

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016 be received as information.

- 7.1.2 **Saskatoon Transit 2015 Annual Report [File No. CK. 430-17]** 43 - 66

Recommendation

1. That the report of the General Manager, Transportation & Utilities Department be received as information; and
2. That a copy of the final report be forwarded to the Accessibility Committee.

- 7.1.3 **Comprehensive Downtown Parking Strategy Update [Files CK. 6120-5 and PL. 4130-22-7]** 67 - 214

The consultant will be in attendance to present the report.

Recommendation

That the report of the General Manager, Community Services Department dated May 9, 2016 be received as information.

- 7.1.4 **Capital Project #2407 - North Commuter Parkway and Traffic Bridge - Construction Update [Files CK. 6050-10, x6050-8, CS. 6050-10 and TS. 6050-104-044]** 215 - 217

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016 be received as information.

7.2 Matters Requiring Direction

- 7.2.1 **Montgomery Place Neighbourhood Traffic Review [Files CK. 6320-1 and TS. 6320-1]** 218 - 323

A request to speak from Ms. Barb Biddle, President of Montgomery Place Community Association is attached.

Recommendation

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

1. That the Neighbourhood Traffic Review for the Montgomery Place neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process;
2. That the speed limit on all local roads within the Montgomery Place neighbourhood be reduced from 50 kph to 40 kph; and
3. That the City Solicitor be requested to prepare the appropriate bylaw amendment to Bylaw No. 7200, The Traffic Bylaw.

- 7.2.2 **Inquiry - Councillor A. Iwanchuk (September 29, 2014) Installation of Street Light - Entrance to Crosswalk at Dickey Crescent [Files CK. 6300-1 and TS. 6295-1]** 324 - 356

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016 be forwarded to City Council for information.

- 7.2.3 Inquiry – Councillor Z. Jeffries (Left-Turn Arrows - Attridge Drive, Kenderdine Road, Berini Drive) Northbound and Southbound Traffic [Files CK. 6250-1 and TS. 6250-1]** 357 - 360
- Recommendation**
- That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016 be forwarded to City Council for information.
- 7.2.4 Inquiry - Former Councillor E. Olauson (January 25, 2016) Programming Left-Turn Arrows [Files CK. 6250-1 and TS. 6250-1]** 361 - 364
- Recommendation**
- That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016 be forwarded to City Council for information.
- 7.2.5 Plan for Saskatoon Transit 2016 - 2020 - Update [Files CK. 7300-1 and TS. 7301-04-18-16]** 365 - 386
- Recommendation**
- That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016 be forwarded to City Council for information.
- 7.2.6 Idylwyld Drive Comprehensive Corridor Project and Streetscape Concept [Files CK. 4130-1 and PL. 271-126]** 387 - 394
- Recommendation**
- That the Standing Policy Committee on Transportation recommend to City Council:
- That the General Manager, Community Services Department be authorized to release a Request for Proposal based on the Terms of Reference presented in this report.
- 7.2.7 Highway 16/Boychuk Drive and McOrmond Drive/College Drive Interchanges - Status Update [Files CK. 6000-1 and TS. 6330-1]** 395 - 403
- Recommendation**
- That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016 be forwarded to City Council for information.

7.2.8 Sidewalk Condition and Plan [Files CK. 6220-1 and TS. 6220-01] 404 - 440

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016 be forwarded to City Council for information.

7.2.9 New Pavement Design Guidelines (Warranty Options) [Files CK. 6000-1 and TS. 6000-01] 441 - 447

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016 be forwarded to City Council for information.

8. URGENT BUSINESS

9. MOTIONS (Notice Previously Given)

10. GIVING NOTICE

11. IN CAMERA AGENDA ITEMS

12. ADJOURNMENT



Office of the City Clerk
222 3rd Avenue North
Saskatoon SK S7K 0J5

www.saskatoon.ca
tel (306) 975.3240
fax (306) 975.2784

April 12, 2016

Secretary, SPC on Transportation

**Re: 2015 Annual Report – Traffic Safety Committee
(File No. CK. 430-59)**

The mandate of the Traffic Safety Committee is to provide advice to City Council on policy matters relating to traffic safety. The Committee reports to City Council through the Standing Policy Committee on Transportation. The Committee also provides education and awareness programs relating to traffic safety.

The Traffic Safety Committee membership for 2015 was as follows:

Councillor Ann Iwanchuk
Ms. Shel Bater, representing the Board of Education for Saskatoon Public Schools – School Community Council Assembly
Sergeant Dan Bryden, representing the Saskatoon Police Service – Traffic Division
Mr. Joseph Chan, representing SGI – Traffic Safety Promotion Division
Mr. Ken Claffey, representing the Board of Education for Saskatoon Public Schools – Driver Education
Mr. Brock Girling, representing the Trucking Industry
Mr. Doug Hingston, representing the general public
Ms. Cora Janzen, representing the Saskatoon Health Region
Mr. Carl Kuhnke, representing the general public
Mr. Rod Meier, representing the general public
Mr. Al Reichert, representing the Saskatoon and District Safety Council
Ms. Deb Taylor, representing the general public

REPORT

Summary of Activities for 2015

1. Traffic Safety Education and Awareness

Intersections have proven to be dangerous locations for collisions, injuries, and fatalities. With that in mind, the Traffic Safety Committee produced, with the assistance of Rawlco Transit, a bus tailboard advertisement on intersection safety. The ad, featuring the slogan “Intersections = Danger,” was displayed on four buses during the months of April-June and September-October 2015. This contract was extended by

Rawlco Transit based on feedback gathered by Committee members which determined the number of individuals who saw the bus ad was low.

The Committee was successful in its application for a community grant through the SGI Traffic Safety Promotion/Acquired Brain Injury Partnership Project. With the additional funding, the Committee was able to pursue additional safety initiatives for 2015.

One of the additional initiatives the Committee undertook to promote traffic safety was the purchase of bicycle bells and lights for the Saskatoon Police Service Bike Unit to distribute. This campaign increased awareness about cycling safety and having appropriate lights and reflectors on bikes at night.

In addition, the Committee also provided funding of \$1,250 to the Saskatoon Police Service in support of "Operation Baby Blitz" child car seat/booster seat initiative. The Committee first became aware of this initiative in 2014, and continued its support again this year making it possible for those unable to obtain or afford a car seat to be provided one at no cost.

2. Reports/Presentations from Administration

The Committee received a presentation from the Administration on the flex parking pay stations installed in the city's core business district areas.

The Administration also provided updates on matters raised during the year by Committee members.

3. Workshops

Several Committee members attended the City of Saskatoon's Active Transportation Plan Stakeholder Workshops in June and October, 2015 to provide stakeholder input into the developing Active Transportation Plan. Traffic/transportation safety is a key component of the Plan and the Committee will continue its support and involvement in this area where possible.

4. Issues Identified by Committee Members

Throughout the year, the Committee identified a number of traffic safety concerns that the Administration reviewed and took appropriate action if required, as well as responding to the Committee. The following matters are some of the traffic issues raised by Committee members and reviewed by the Administration:

- The duration of the amber light at Highway 11 and Marquis Drive from east to west is too short. A lead vehicle approaching slowly from the east, due to deep ice ruts, can be caught at the "crosswalk" point by the change from green to amber and be only mid intersection when the light turns red.

- Concern with deer wandering on the south side of Circle Drive west across from the Holiday Park Golf Course and near the train tracks.
- Speeding in parking lots and concern for pedestrians.
- Inquiry regarding possibility of additional signage on Circle Drive informing motorists when to turn onto Idylwyld Drive to go downtown.
- The need to ensure "end of construction" signs are in place in construction zones.
- Inquiry regarding photo radar enforcement in construction zones.
- The need for the concrete jerseys by Tim Hortons on 22nd Street and Confederation Drive to be more visible as they are continually being hit.
- Possibility of mid-block crosswalk on Clarence Avenue in front of Aden Bowman Collegiate.
- Repainting of lane designation signage required at various locations in the city.
- Inquiry regarding signage at the intersection of Marquis Drive and Idylwyld Drive when eastbound on Marquis.
- Inquiry regarding the timing of lights at Warman Road and 51st Street.
- Additional signage along Lorne Avenue overpass needed marking the straight through lanes.

Plans for 2016

The Traffic Safety Committee, in consultation with the Administration, will pursue opportunities for further traffic safety education.

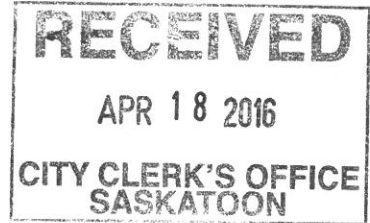
Yours truly,

for 
Cora Janzen, Chair
Traffic Safety Committee

:jf

5301-1

From: doug daniels <doug.daniels@gmail.com>
Sent: April 18, 2016 2:24 PM
To: City Council
Subject: Form submission from: Write a Letter to Council



Submitted on Monday, April 18, 2016 - 14:23
Submitted by anonymous user: 216.174.134.2
Submitted values are:

Date: Monday, April 18, 2016
To: His Worship the Mayor and Members of City Council
First Name: doug
Last Name: daniels
Address: 712 Preston Avenue
City: Saskatoon
Province: Saskatchewan
Postal Code: S7H 2V2
Email: doug.daniels@gmail.com

Comments:

As per my email discussion with Charlie Clark, I would like to appear/present before the Standing Policy Committee on Transportation to propose that changes should be made to, and an associated review of, the parking provisions of Bylaw No. 7200 (The Traffic Bylaw).

As background, on April 11, 2016 I received a parking ticket (23957346) on my vehicle for "park for a period longer than 36 hours" in front of my property house. It is quite concerning as I regularly drive this vehicle and including attending the City of Saskatoon landfill on April 3, 2016 (Transaction No. SL839098).

This ticket contradicts common sense and it punishes people that are trying to adopt a more active lifestyle and drive less frequently. I would also argue that this goes against the spirit of the City of Saskatoon "Growth Plan" and the associated active transportation plan. I recognize that it is challenging to get by without the use of a vehicle but people should not be punished for choosing not to drive a vehicle every 36 hours.

Thank you.

Sincerely,
Doug Daniels

The results of this submission may be viewed at:
<https://www.saskatoon.ca/node/398/submission/85742>

Transportation 2015 Annual Report

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016, be received as information.

Topic and Purpose

This report is to present the Transportation 2015 Annual Report outlining the division's performance in 2015.

Report Highlights

1. Our People – 50% reduction in lost time frequency, 100% reduction in medical aid frequency and 81% reduction in injury severity.
2. Our Finances – operating expenses were slightly higher than budgeted mainly due to additional resources required for Sign Shop operations related to construction activity throughout the city.
3. Our Work – community engagement was a significant focus, with over 140 hours spent attending public meetings throughout the city.
4. Our Statistics – overall increase in inventory of transportation assets and a steady increase in the volume of work continues.
5. Our Performance Measures – continued focus on cycling initiatives, creating more choice for moving around and reducing traffic collisions.
6. Our Future – supporting 4 year priorities and 10 year strategies.

Strategic Goal

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

Background

The City of Saskatoon Transportation division provides services for the safe and efficient movement of people, goods and services within and through the city in a cost-effective manner. The division is responsible for the planning, design, regulation and operation of the city's transportation network; traffic management and right-of-way operations and regulatory control.

Report

Attachment 1 outlines the achievements of the division in 2015.

Our People

In 2015, the division undertook the following initiatives to reach the goal of ZERO incidents:

- Identified and evaluated our critical tasks
- Documented a workplace inspection program
- Provided training for incident investigation to all managers and supervisors
- Conducted job safety analysis of our critical tasks
- Created an emergency response plan for the Sign Shop, Electronics Shop, and Transportation & Utilities area on 3rd floor of City Hall
- Compiled a critical tool list
- Participated in Safety Audit
- Reported and documented near misses

Significant focus was placed on the division's leading indicators to prevent incidents from occurring. As a result, the lagging indicators show a 50% reduction in lost time frequency, a 100% reduction in medical aid frequency and an 81% reduction in injury severity.

Our Finances

The division's main source of external revenue is from the Provincial Urban Highway Connector Program, an annual operating grant for the traffic signing and pavement-marking services done on Provincial Connector roadways. Other revenues include road/lane closure application fees, boulevard leases and newspaper vending machine fees. In 2015, revenues were \$0.11 Million, a decrease of 1.22% from 2014. This slight decrease was due to less revenue from newspaper vending machine fees.

The 2015 operating expenses were \$7.82 Million or 3.21% more than 2014 operating expenses of \$7.56 Million. Compared to the 2015 Budget, the operating expenses were 0.78% higher than the budgeted amount of \$7.56 Million, mainly due to additional resources required to support the increased construction activity throughout the city.

Capital Investments accounted for a total of \$73.07 Million for 20 projects.

Our Work

In keeping with our corporate values, the division recognizes the importance of engaging with the community. In 2015, staff attended a total of 21 public meetings throughout the city, accounting for approximately 140 staff hours.

The division brought forward a series of Prioritization Strategies for Road Network Improvements. The strategies clearly outline the criteria used to prioritize investments in the transportation network from five key programs:

- Neighbourhood Traffic Reviews
- Intersection Improvement Reviews
- Corridor Reviews
- Pedestrian Crossing Control Reviews
- Major Infrastructure Reviews

Nine initiatives were undertaken to improve efficiency through Continuous Improvement within the division, and to provide high quality services to meet the dynamic needs and expectations of our citizens.

Our Statistics

The inventory of the division's assets continues to increase in 2015.

- Twelve new traffic signals (including pedestrian signals and corridors) were installed, bringing the total number of signalized intersections to 275.
- Over 42 lane kilometres of durable markings are installed throughout the city and almost 1,000 kilometres of lines are painted each year.
- Work orders for signage installations or modifications increased by 92% over 2014.
- 124 special events were held that impacted the transportation network requiring detour coordination support.
- The number of Right of Way Permits issued increased by 6%, and permits for commercial vehicles increased by 25%.

Our Performance Measures

- In 2015, 1.2 km of cycling infrastructure was added, and the first phase of the pilot project for protected bike lanes implemented along 23rd Street.
- The number of collisions in Saskatoon has reduced by 14% between 2013 and 2014; and are on pace to reduce by an additional 24% based on collision statistics up to the end of September 2015. Traffic collision statistics are received from Saskatchewan Government Insurance and typically lag by approximately 6 months.

Our Future

The division continues to support the Corporate Strategic Plan by focusing on the following initiatives:

- Continue to support the North Commuter Parkway and Traffic Bridge.
- Undertake eight additional Neighbourhood Traffic Reviews.
- Continue to support the Province on the Saskatoon Freeway (formerly known as Perimeter Highway) project.
- Finalize designs for the construction of interchanges at Boychuk Drive & Highway 16 and College Drive & McOrmond Drive.
- Continue to improve traffic flow and enhance safety.

Communication Plan

A copy of the Transportation 2015 Annual Report will be posted on the City website and shared with the staff.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

This report will be provided annually.

Public Notice

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

Attachment

1. Transportation 2015 Annual Report

Report Approval

Written by: Chris Helt, Special Projects Manager, Transportation
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS CH – Transportation 2015 Annual Report

Transportation

2015 Annual Report



Transportation Division 2015 Annual Report

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MESSAGE FROM THE DIRECTOR

Transportation division's management and staff are stewards of Saskatoon's transportation network and are committed to providing safe, reliable, and timely options for travel in the City. The division provides expertise and direction to City Council, colleagues, property and business owners, and other organizations. I am pleased to present our results in the Transportation Division 2015 Annual Report on behalf of our division.

The report describes our contributions to achieving the City's Strategic Plan. We take great pride in providing leadership, education, and engagement on City transportation systems. Several initiatives have been completed and more are underway that will further enhance service to citizens, increase efficiencies and reduce costs.

Our financial statements show responsible stewardship of the resources that Saskatoon citizens have entrusted to us. We continue to provide excellent value to our citizens as we identify opportunities to improve efficiencies, reduce capital costs and minimize impacts to ongoing operating expenditures.

Our key focus has been on proactively managing the performance of the transportation network, the development of a strategy for prioritizing infrastructure investments, and providing more choice to move around the city using alternative modes of transportation.

Our emphasis on safety has also paid off in 2015 through a reduction in lost time frequency, medical aid frequency, and injury severity.

The division will continue to plan for the future and make needed investments to our transportation infrastructure to manage existing demands and address the challenges of growth.



Angela Gardiner
Director of Transportation

1.0 EXECUTIVE SUMMARY

The division contributes to the City's Strategic Goal of Moving Around and Sustainable Growth by providing services for the safe and efficient movement of people, goods and services within and through the city in a cost-effective manner. The division is responsible for the planning, design, regulation and operation of the city's transportation network. The division has 80 to 85 employees during peak season. In 2015, the division's operating budget increased by 3.21% with operating expenses of \$7.82 Million. Capital Investments included 20 funded projects totalling \$73.07 Million, a significant increase over 2014 due to the funding of two major interchange projects.

The division's focus in 2015 was on improving the safety and efficiency of the transportation network through the Neighbourhood Traffic Reviews and developing a strategy for prioritization of improvements on the network. Projects related to supporting active transportation were also undertaken.

2.0 TRANSPORTATION DIVISION

As part of the City of Saskatoon, the division provides services for the safe and efficient movement of people, goods and services within and through the city in a cost-effective manner.

2.1 Our Mission

The division are stewards of Saskatoon's transportation network. We are responsible to citizens and visitors to provide:

- Safe, reliable, and timely options for travel in the city.
- Expertise and direction to City Council, colleagues, property and business owners, and other organizations.
- Leadership, education, and engagement on City transportation systems.
- Injury-free work places.

2.2 Our Guiding Principles

- **Safety:** through due diligence we plan for a safe city. We maintain a safe workplace and environment for workers and the public in everything that we do.
- **Trust & Reliability:** we are competent, reliable, and proven in the service that we provide. To maintain our integrity we have a transparent process. Citizens trust us to make good decisions.
- **Continuous Improvement:** we keep with the growth of the City while improving our processes, education, team work, public input: we identify and improve efficiencies.
- **Accountability:** we honour commitments through public service. We build and maintain public confidence through consistent and timely feedback and delivery.
- **Teamwork:** we work together as a team. We communicate, cooperate, engage and gather input from others when making decisions.

2.3 Our Core Services

- Planning and designing safe, reliable and timely options for travel in the city.
- Installing and maintaining safe, reliable and timely options for travel in the city.
- Providing leadership, education and engagement on City transportation systems.
- Providing oversight and strategies to ensure the City's Transportation network and systems are in alignment with the Corporate Strategic Plan.

2.4 Our Corporate Values

Trust: We build trust with citizens and colleagues by providing accurate technical information, analysis and responses in a timely manner.

Integrity: We lead by example, making the best decisions and striving to work beyond the scope of the position.

Respect: We build on each other's strengths, respectfully acknowledging individual beliefs.

Honesty: We are honest to each other, and encourage frank, honest discussions while being sincere, admitting mistakes and learning from them.

Courage: We take smart risks, thinking through challenges, suggesting new approaches and embracing change to enhance our level of service.

3.0 OUR PEOPLE

3.1 Number of Employees

The division had 50 permanent and 30 seasonal staff in 2015.

3.2 Representative Workforce

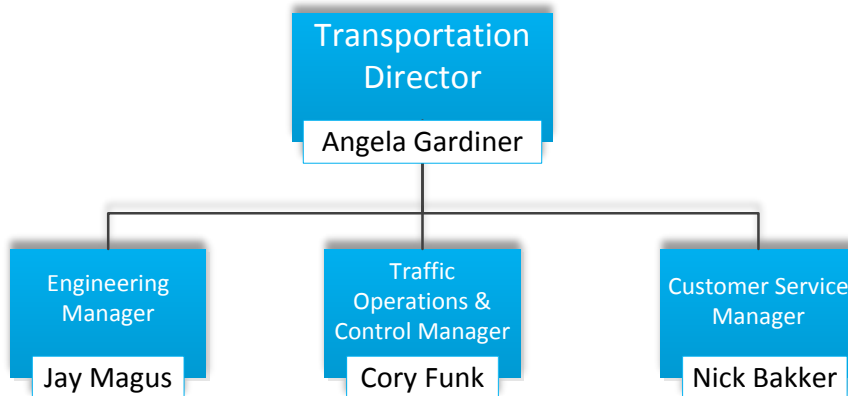
Equity Group	Permanent Staff	All Staff (including seasonal)	Saskatchewan Human Rights Commission
Women	17.5%	19.5%	46%
Aboriginal	1.8%	6.9%	14%
Disability	0.0%	0.0%	12.4%
Visible Minority	10.5%	9.2%	11%

3.3 Staff Education and Certifications

Courses offered internally are relevant and immediately applicable for the majority of City of Saskatoon staff. These courses offer staff an opportunity to build a career with the City of Saskatoon while they learn from experts, share experiences, and develop networks with colleagues across the organization. Some of the education and certifications our staff have acquired are outlined below:

- P. Eng. - Professional Engineer
- A.Sc.T. - Applied Science Technologist
- PTOE - Professional Traffic Operations Engineer
- EIT - Engineer in Training
- B.E. – Bachelor of Science in Engineering degree
- B. Comm. – Bachelor of Commerce degree
- M.Sc. – Master of Science degree
- MBA – Master of Business Administration degree
- Six Sigma Green Belt – American Society for Quality
- Certified Associate in Project Management – Project Management Institute
- IMSA - International Municipal Safety Association – various certifications
- CPTED - Crime Prevention through Environmental Design
- Leadership Development Program

3.4 Organizational Chart



3.5 Employee Safety

In 2015, we undertook the following initiatives to reach a goal of ZERO incidents:

- Identified and evaluated our critical tasks
- Documented a workplace inspection program
- Provided training for incident investigation to all managers and supervisors
- Conducted job safety analysis of our critical tasks
- Created an emergency response plan for the Sign Shop, Electronics Shop, and Transportation & Utilities area on 3rd floor of City Hall
- Compiled a critical tool list
- Participated in Safety Audit
- Reported and documented near misses



Leading Indicators

Topic	2015	2014
Safety Meetings	96%	87%
Tool Box Talks	77%	24%
Work Observations Completed	113	19
Workplace Inspections	91%	0%

Lagging Indicators

- 50% reduction in lost time frequency
- 100% reduction in medical aid frequency
- 81% reduction in injury severity (19% increase in injury severity)



4.0 OUR FINANCES

4.1 Revenues

The division's revenues for external sources in 2015 were \$0.11 Million, a decrease of 1.22% from 2014. This slight decrease was due to less revenue from newspaper vending machine fees.

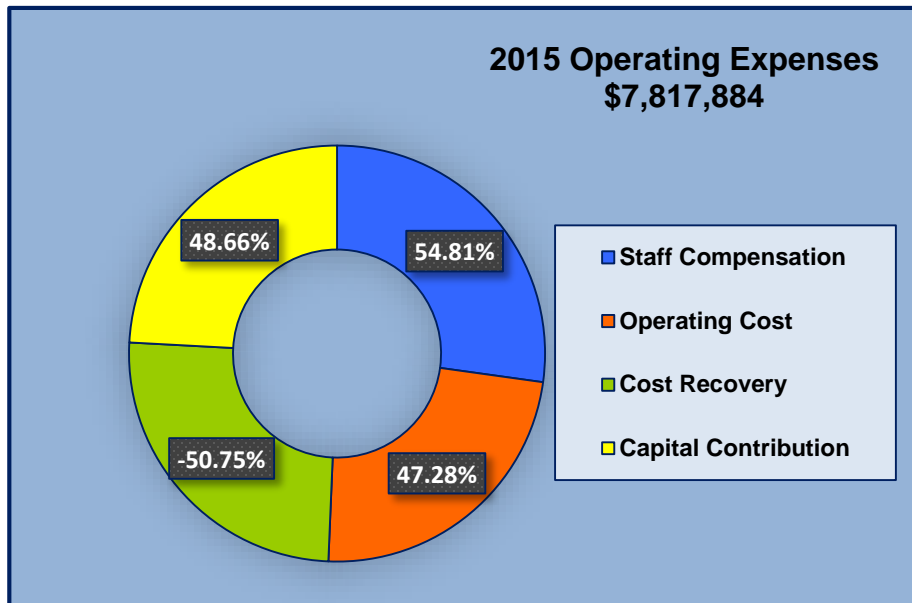
Compared to the 2015 budget, actual revenues were very close to the budgeted amount of \$0.11 Million.

The main source of revenue is from the Urban Highway Connector Program, an annual operating grant for the traffic signing and pavement marking services done on provincial connectors' roadways. Other revenues include road/lane closure application fees, boulevard leases and newspaper vending machine fees.

4.2 Expenses

The division's 2015 operating expenses were \$7.82 Million or 3.21% more than 2014 operating expenses of \$7.56 Million. Compared to the 2015 Operating Budget, expenses were 0.78% higher than the budgeted amount of \$7.56 Million, mainly due to extra staff needed for the increase in Sign & Paint Shop operations.

The distribution of the division's 2015 operating expenses are illustrated in the following chart:



Staff compensation of \$4.29 Million includes total wages and salaries, payroll costs and benefits associated with staff allocated to operations; planning, design and regulations; and permit issuance for the following uses: private use of public right of way, commercial vehicle travel and curb/sidewalk crossing.

The operating cost of \$3.70 Million includes total cost for materials and supplies, equipment, contractual services, utilities/electricity, administration and other miscellaneous expenses. These expenses have been incurred for monitoring the existing transportation network and planning for future expansion; for maintaining and operating the traffic signal system; for manufacturing, installation and maintenance of traffic signs; for marking of street lines, crosswalk and parking stalls; and for the planning and coordination of detours.

Cost recovery of \$3.97 Million is related to charges applied to other divisions and departments, to some external customers, and to certain capital work projects for the following services: construction sign rental; sign and barricades installation; underground infrastructure; traffic counts; signs installation in new neighbourhoods, repairs for damages of City property etc.

Capital contribution of \$3.80 Million includes \$0.06 Million contribution to Departmental Capital Reserve; \$0.05 Million contribution to Transportation Infrastructure Reserve (IR); \$0.33 Million to Active Transportation Reserve; \$1.92 Million to Transportation Infrastructure Expansion Reserve (TIER); and \$1.44 Million to Traffic Noise Attenuation Reserve.

Higher operating cost and cost recovery in 2015 is due to growth and expansion which increased the volume of work for traffic operations and control, customer support as well for planning of future developments.

Transportation Division Statement of Operations For the Year Ended December 31, 2015 (\$000's)			
	2015 Budget	2015 Actuals	2014 Actuals
Revenue	\$(113.9)	\$(113.7)	\$(115.1)
Expenses			
Staff Compensation	3,666.3	4,284.9	3,666.9
Operating Cost	3,079.0	3,696.4	3,708.8
Cost Recovery	\$(2,792.3)	\$(3,967.7)	\$(3,001.3)
Capital Contribution	3,804.2	3,804.2	3,200.4
	7,757.2	7,817.8	7,574.8
Total Operations	7,643.3	7,704.1	7,459.7

4.3 Capital Investments

The division's Capital Investments in 2015 includes 19 funded projects totalling \$73.0 Million. The number of funded projects is similar to 2014 but the investment is higher by \$51.20 Million. This is due to new design and construction of grade separations at both the College Drive and McOrmond Drive intersection, and the Boychuk Drive and Highway 16 intersection for a total of \$70 Million.

A summary of capital investments for 2015 compared to 2014 is presented in the following table:

Transportation Division Capital Investments (\$000's)			
Funded Capital Projects		2015 Budget	2014 Budget
P0631	TU-TRAFFIC SAFETY IMPROVEMENTS	\$60.0	\$90.0
P1036	TU-TRAFFIC CONTROL UPGRADES	100.0	0.0
P1137	TU-BICYCLE FACILITIES	75.0	375.0
P1456	TU-RAILWAY CROSSING SAFETY IMPROVEMENT	75.0	50.0
P1505	TU-TRAFFIC SIGNAL UPGRADE-INFRA	400.0	300.0
P1506	TU-TRAFFIC SIGNING REPLACE-INFRA	400.0	425.0
P1507	TU-GUARDRAILS	240.0	60.0
P1512	TU-NEIGHBOURHOOD TRAFFIC REVIEW	350.0	290.0
P1513	TU-PAVEMENT MARKING PROGRAM	200.0	210.0
P1522	TU-TRAFFIC NOISE ATTENUATION	423.0	550.0
P1556	TU-SYSTEM UPGRADES/REPLACEMENTS	50.0	0.0
P1963	TU- CORP. ACCESSIBILITY IMPLEMENTATION	140.0	220.0
P2233	TU- ADVANCED TRAFFIC MGT SYS ENHANCEMENTS	60.0	0.0
P2234	TU- WALKWAY MANAGEMENT	0.0	50.0
P2016	TU-BOYCHUK DR/HWY 16 GRADE SEPARATION	35,000.0	0.0
P2017	TU-MCORMOND DRIVE/HWY 5 GRADE SEPARATION	35,000.0	415.0
P2235	TU- MAJOR RDWY/INTERSECTION IMPROVEMNTS	0.0	50.0
P2236	TU-STNBRDG DIAMOND INTRCHNG AT HWY 11	0.0	15,800.0
P2428	TU-FUNCTIONAL PLANNING STUDIES	50.0	0.0
P2435	TU-AIRPORT DRIVE ARTERIAL EXPANSION	0.0	2,720.0
P2446	TU-PEDEST'N UPGD'S&ENHANCED PED'N SAFETY	170.0	80.0
P2549	TU-STOP/YIELD INFILL PROGRAM	65.0	65.0
P2550	TU-WEST/CENTRAL MULTI-USE CORRIDOR	150.0	50.0
Total		\$73,008.0	\$21,800.0

5.0 OUR WORK

5.1. Community Engagement/Awareness

In keeping with our corporate values, we recognize the importance of engaging citizens. For this reason, engaging with the community is a priority. In 2015, the division staff attended a total of 21 public meetings throughout the city (approximately 140 staff hours). The majority of engagement was coordinated with the Neighbourhood Traffic Review (NTR) Program.

Meeting	Staff Attending
Sound Attenuation Projects	4
Nutana NTR	2
Meadowgreen NTR	2
Avalon NTR	5
Confederation Park NTR	2
Lakeview NTR	2
Greystone Heights NTR	4
Mount Royal NTR	3
Montgomery NTR	3
Adelaide-Churchill NTR	4
Meadowgreen NTR (2 nd meeting)	3
Avalon NTR (2 nd meeting)	5
Confederation Park NTR (2 nd meeting)	3
Lakeview NTR (2 nd meeting)	3
Greystone Heights NTR (2 nd meeting)	4
Mount Royal NTR (2 nd meeting)	3
Montgomery NTR (2 nd meeting)	5
Adelaide-Churchill NTR (2 nd meeting)	3
11 th Street Corridor Review	4
33 rd Street Corridor Review	4
Varsity View NTR	1

5.1.1 Learn to Ride Safe Program

As a child, our first vehicle is learning to ride a bicycle and how to apply the rules of the road. The Learn to Ride Safe Program is an important step in ensuring that they develop safe and responsible cycling habits. This program was developed in 2009 and aims at presenting effective skills to prevent cycling injuries to grade three children, aged eight and nine. This program introduces children to the proper use of a bicycle, the attitudes, knowledge and skills, which can be applied later in life when learning to use a motor vehicle.

This program is based on principles of the Canadian Cycling Association CAN-BIKE Program and was presented to students by trained and certified CAN-BIKE instructors. Since the program was implemented, 12,391 students have taken part.

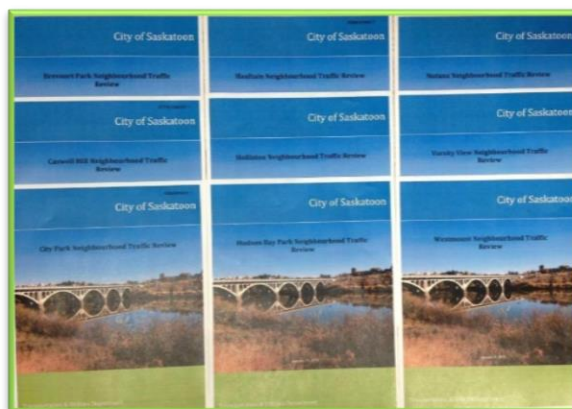
In 2015, this program was delivered to 73 classrooms in 42 schools for a total of 1,596 students. Following the program's delivery, a survey was undertaken of the teachers whose pupil's participated, and they overwhelmingly welcomed the program back in future years.

5.1.2 2015 Neighbourhood Traffic Reviews

The objective of the Neighbourhood Traffic Review Program is to address traffic concerns within residential 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 enhanced 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 Traffic Calming Guidelines and Tools, City of Saskatoon, 2013 outlines the process.

In 2015, traffic plans were developed for the following neighborhoods:

- Avalon
- Confederation Park
- Adelaide-Churchill
- Greystone Heights
- Lakeview
- Meadowgreen
- Montgomery Place
- Mount Royal



Since the program was initiated in late 2013, a number of recommendations have been implemented as shown in the table below:

Neighbourhood	No. of Proposed Recommendations	No. Completed
Brevoort Park	17	15
Caswell Hill	21	13
City Park	11	10
Haultain	17	11
Holliston	14	10
Hudson Bay Park	10	9
Mayfair	37	30
Kelsey-Woodlawn	11	5
Nutana	26	Plans in progress
Varsity View	18	11
Westmount	13	12

5.2 Traffic Safety

5.2.1 Prioritization Strategy for Roadway Network Improvements

Transportation network improvement projects are brought forward as part of the annual budget process. There are many factors that are considered when bringing forward recommended projects. New initiatives, such as the Neighbourhood Traffic Review program, result in additional sources of projects that need to be considered by City Council during budget deliberations. Other identified sources of projects include:

- Intersection Improvement Reviews
- Corridor Reviews
- Pedestrian Crossing Control Reviews
- Major Infrastructure Reviews

Infrastructure improvement projects resulting from the various reviews will be placed in the appropriate Capital Budget program and prioritized largely based on safety, traffic volumes, funding availability, funding sources, and impact of adjacent projects. A formal policy framework will be developed in 2016 that will be used to prioritize projects within each of the categories listed above, and prioritize between categories. Other modes of travel such as walking, cycling and transit in Saskatoon are currently being examined by other significant transportation planning initiatives such as Growth Plan and the Active Transportation Plan.

5.2.2 Red Light Camera Program

In October 2005, the City installed Red Light Cameras (RLC) at the intersection of Avenue C and Circle Drive to improve traffic safety. Since then, RLC's have been installed at three other intersections:

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



We continue to monitor the effectiveness of the RLC program. The collision history shows that overall the RLC program has been effective in reducing right angle collisions, which are considered to be the most serious type of collision. Injury and fatality rates at these locations have also been reduced. It is not uncommon for rear-end collisions to increase with the installation of RLC's which is intended to address the more serious right-angle collisions. The collision rate for an intersection is expressed as 'collisions per million entering vehicles', and is used to factor in the increase in traffic volumes through an intersection.

Since the cameras were installed in 2005:

- Right-angle collisions (most severe) have reduced by 25% on average
- Left-turn opposite collisions have reduced by 4% on average
- Rear-end collisions have increased by 27% on average

There were 15,116 tickets issued in 2015. Revenue from the RLC program is allocated into the Traffic Safety Reserve to fund safety improvement programs on the network for all users.

5.2.3 Automated Speed Enforcement Program (Two-Year SGI Pilot Program)

In 2013, the Provincial Government set up an All Party Special Traffic Safety Committee that conducted extensive public consultation directed at enhancing public safety in Saskatchewan. As part of its recommendations, the committee supported Saskatchewan Government Insurance (SGI) implementing an Automated Speed Enforcement (ASE) pilot project in Saskatchewan.

Subsequently in 2013, the Government of Saskatchewan announced the implementation of a two year ASE pilot project to slow drivers down through high speed, high collision, and high traffic volume areas around the province. In Saskatoon, five locations on Circle Drive and five school zones were selected for the implementation of the two-year provincial pilot project.

The five camera locations on Circle Drive include:

- Airport Drive
- Circle Drive South Bridge
- Preston Avenue
- Taylor Street 108th Street

The five school zone locations selected are:

- St. Michael Community School located on 22 - 33rd Street East
- École Henry Kelsey School located on 16 Valens Drive (the camera will be installed on 33rd Street West)
- Brownell School located on 274 Russell Road
- École Canadienne-Française located on 1407 Albert Avenue (the camera will be installed on Clarence Avenue)
- Mother Teresa School located on 610 Konihowski Road and Silverspring School located on 738 Konihowski Road

The pilot program became operational in March 2015, and 13,839 tickets were issued. Revenue from the ASE program is allocated into the Traffic Safety Reserve to fund programs to improve safety on the network for all users.

5.3 Network Management

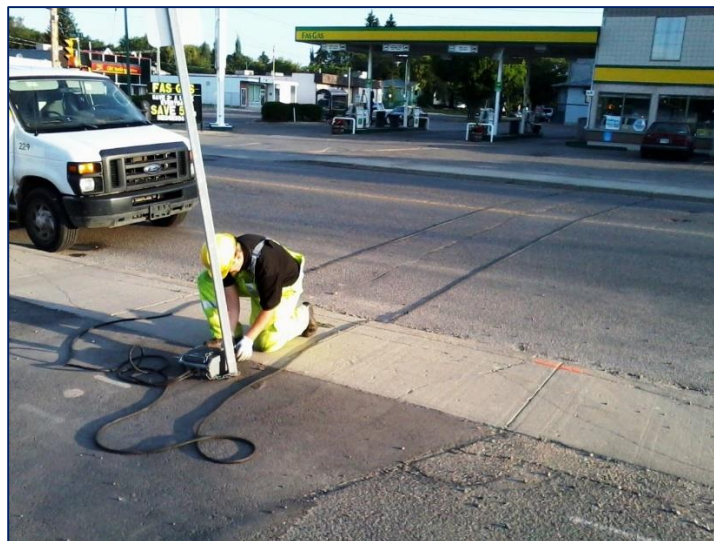
5.3.1 Network Monitoring

The division monitors the operation of the transportation network and has been carrying out traffic volume studies on Saskatoon streets extensively since 1960. This data, besides being used for traffic planning, control, and operations purposes by City staff, has been made available to commercial enterprises, other City departments, safety organizations, research groups, and the general public. It is not feasible to count all streets in Saskatoon daily for an entire year; therefore, a sampling and expansion procedure is used.

Eight permanent locations continually record traffic volumes on an hourly basis throughout the year. In addition to the permanent count stations, short-term count stations have been established at which seven-day counts are carried out with portable counters between April and October. These portable counters record hourly traffic volumes at the various locations including interchange ramps. Attempts are made to undertake counts at each station at least once every three years, with critical areas counted annually. In addition, a number of short-term monitoring activities occur for specific engineering and neighbourhood traffic monitoring purposes.

In 2015, the following counts were undertaken as part of the transportation network modelling program:

- 180 (7-day traffic counts)
- 27 (1-day traffic counts)
- 8 permanent traffic count stations
- 93 speed assessments
- 204 intersection counts
- 14 (7-day bike counts)
- 37 (1-day pathway counts - pedestrians and bikes)



5.4 Functional Planning

Functional planning studies are focused on facility design as they are multi-modal planning studies that try to balance the needs of all users. Some of the elements that are considered in this type of study include:

- The framework for livability, land use, development goals etc.
- The balance of access and mobility needs along the roadways
- The integration of pedestrian, transit and cycling users all the while maintaining sound engineering principles and practices
- The current City and national standards be met to plan a facility that is financially responsible

5.4.1 Interchanges

Functional designs were completed for the following interchanges in 2015:

- McOrmond Drive & College Drive
- Boychuk Drive & Highway 16

5.4.2 Arterials

Functional designs were completed for the following new arterial roadways in 2015:

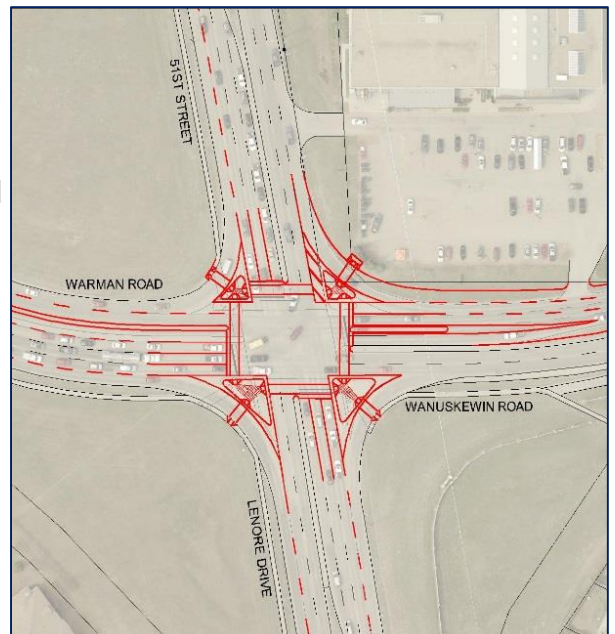
- Zimmerman Road
- McOrmond Drive through Aspen Ridge Neighbourhood
- McOrmond Drive through Brighton Neighbourhood

5.5 Intersection Improvements

Many intersections were constructed to service low-traffic volumes and are no longer capable of meeting the needs of modern traffic demands. The intersection modifications included in this project are operational improvements, such as the addition of turn lanes within right-of-way, curb radius improvements, lane designation, pavement marking changes, access management and construction of traffic islands and pedestrian ramps, where required. Construction of the modifications is undertaken as funding becomes available.

Intersections reviewed and re-designed in 2015 include:

- Warman Road & 51st Street
- Lorne Avenue & 9th Street East
- Brighton & College Drive
- Slimmon Road & Boychuk Drive
- Highway 16 & 71st Street



5.6 Traffic Signal System Upgrades – Maintaining and Upgrading

In 2015, 12 controllers were replaced as part of the traffic signal asset management program including:

- College Drive (11)
- 33rd Street & Quebec Avenue

5.7 New Traffic Signal Installations – Improving Traffic Flows

Traffic signals are used to control traffic and assign the right-of way at high volume intersections. Signals are installed at both existing intersections once sufficient traffic demands are reached or at newly constructed intersections as part of development. In 2015, traffic signals were installed at the following locations:

- Highway 16 & Marquis Drive
- Airport Drive & 45th Street
- McOrmond Drive & Evergreen Boulevard

5.8 New Active Pedestrian Corridors

An Active Pedestrian Corridor utilizes amber flashing Beacons to notify motorists that a pedestrian is at the crosswalk and intending to cross. The device flashes immediately when the pedestrians activate the button.

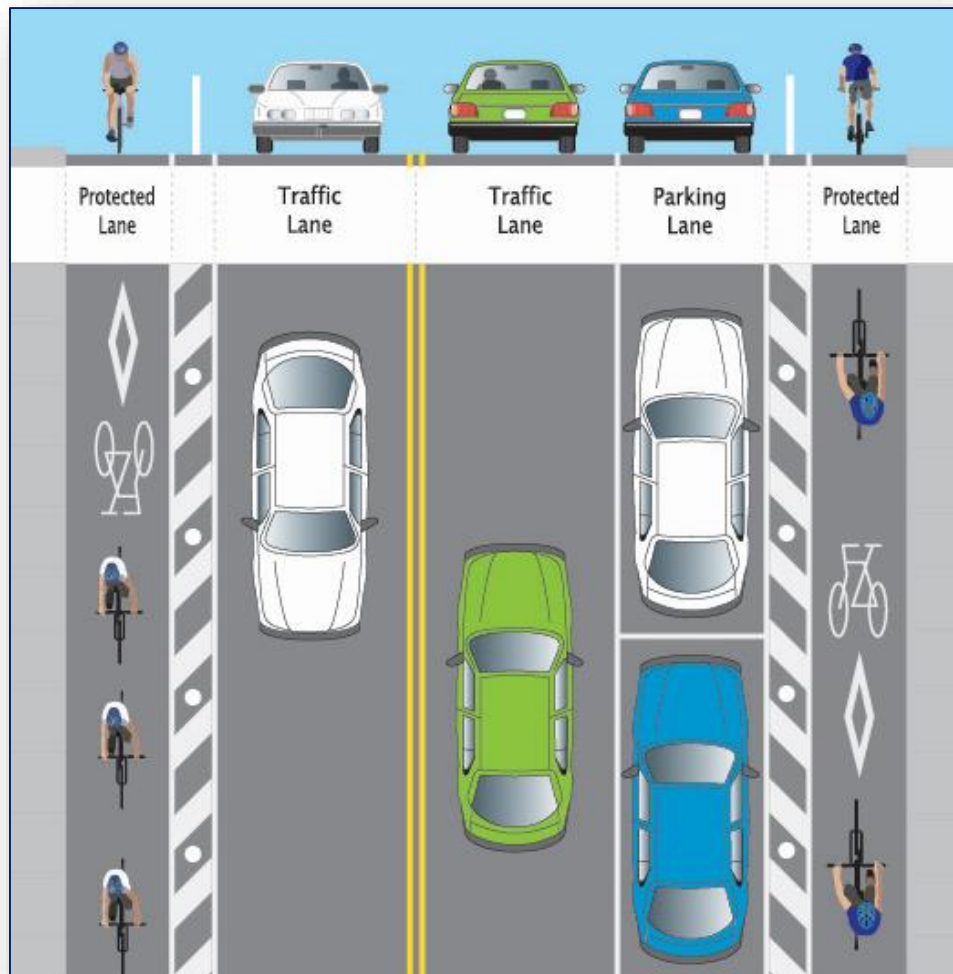
Active pedestrian corridors were installed at the following locations:

- Avenue P & 19th Street
- Avenue N & 20th Street
- Boychuk Drive & Laurentian Drive
- Lenore Drive & La Loche Road
- Clarence Avenue & 11th Street
- 29th Street & Avenue B
- Willowgrove Boulevard & Maguire Crescent
- Stensrud Road & Willowgrove Boulevard
- Kinsmen Park (Spadina Crescent)



5.9 Active Transportation

In 2015, the 'Protected Bike Lane Demonstration Project' kicked off. Lanes were installed on 23rd Street to encourage cyclists to use the roadway by creating a safer environment.



6.0 CONTINUOUS IMPROVEMENT

The division provides high quality services to meet the dynamic needs and high expectations of our citizens. We focus on continuous improvement and providing the best possible services using innovative and creative means. We go beyond conventional approaches to meet the changing needs of our city.

Some of the division's 2015 initiatives for continuous improvement are listed below:

Initiative	Description	Benefit
Intersection Improvement Project Selection Process	Provided a prescribed process for undertaking intersection reviews considering the collision history, capacity of the intersection and coordination with other initiatives.	<ul style="list-style-type: none"> Streamlined process for identifying intersection improvement project selection Saves staff time and costs Transparency to public Improved customer service Provides opportunity to coordinate with other City initiatives
Pedestrian Crossing Control Criteria and Prioritization	Provides a criteria used to systematically determine the appropriate pedestrian crossing control devices	<ul style="list-style-type: none"> Streamlined process for identifying pedestrian crossing control improvements Save staff time and costs Transparency to public Improved customer service
Corridor Study Selection	Provides a criteria and process used to select and prioritize the Arterial street corridors requiring functional planning studies	<ul style="list-style-type: none"> Streamlined process for identifying corridor functional planning studies Save staff time and costs Transparency to public Improved customer service
Employee Satisfaction Survey	Conducted to ascertain employee satisfaction with management	<ul style="list-style-type: none"> Improved staff morale is the goal Identify opportunities for improvement and celebrate successes
Transportation Engineering Section Organizational Chart Revision	Removed the operational silos from the section	<ul style="list-style-type: none"> Improve communication between staff Increase cross training Spreading and sharing of knowledge Increase the ability to succession plan
Simplification of position titles	Renamed all professional engineers to either Senior Transportation Engineer or Transportation Engineer	<ul style="list-style-type: none"> Increase clarity to other City Staff Reduces HR time as titles are simpler
Consolidation of Job Descriptions (Transportation Engineer Position)	Instead of multiple job descriptions for various transportation engineering positions, consolidated to just use one.	<ul style="list-style-type: none"> Increase clarity for the position Reduce HR time for future postings for Transportation Engineers Expands responsibilities of engineers to be more well-versed in all areas
Introduction of Electronic Forms (Sign Shop Memos)	Instead of filling out a multi-page paper form for sign shop memos, an electronic fillable form was created which is then emailed.	<ul style="list-style-type: none"> No longer need to pay for the paper forms Eliminates delays from un-readable printing
Evaluation of Sign Shop operations	Reviewed and modified work shifts to reduce overtime hours and maximize existing resources	<ul style="list-style-type: none"> Reduced overtime by 20% compared to 2014

7.0 OUR STATISTICS

7.1 Signalized Intersections

There are 275 signalized intersections throughout the city (226 full, 49 pedestrian-actuated).



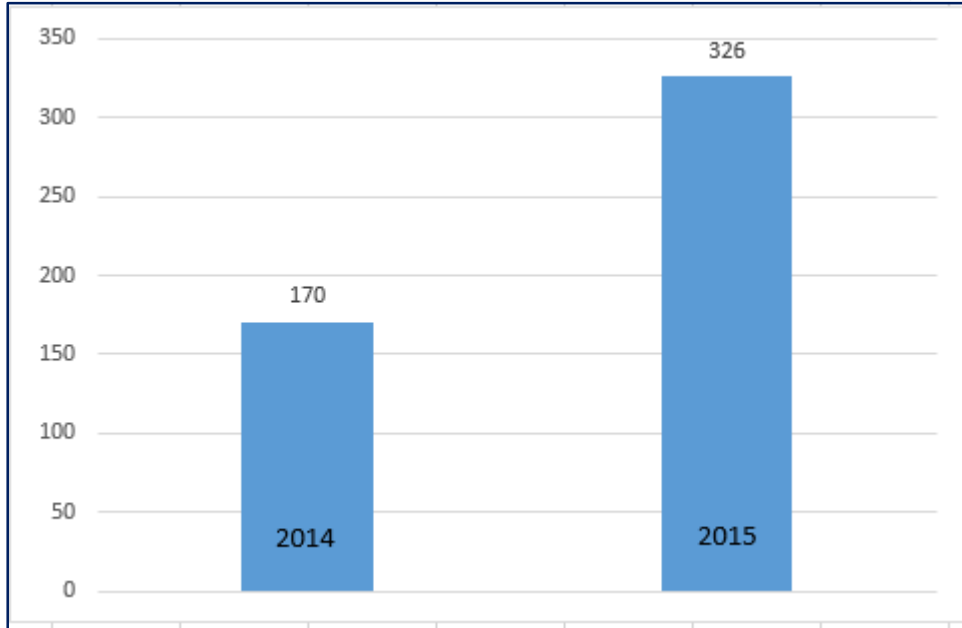
7.2 Pavement Markings

- Durable markings – 42 lane kilometres
- Annual Painting Program – 970 lane kilometres



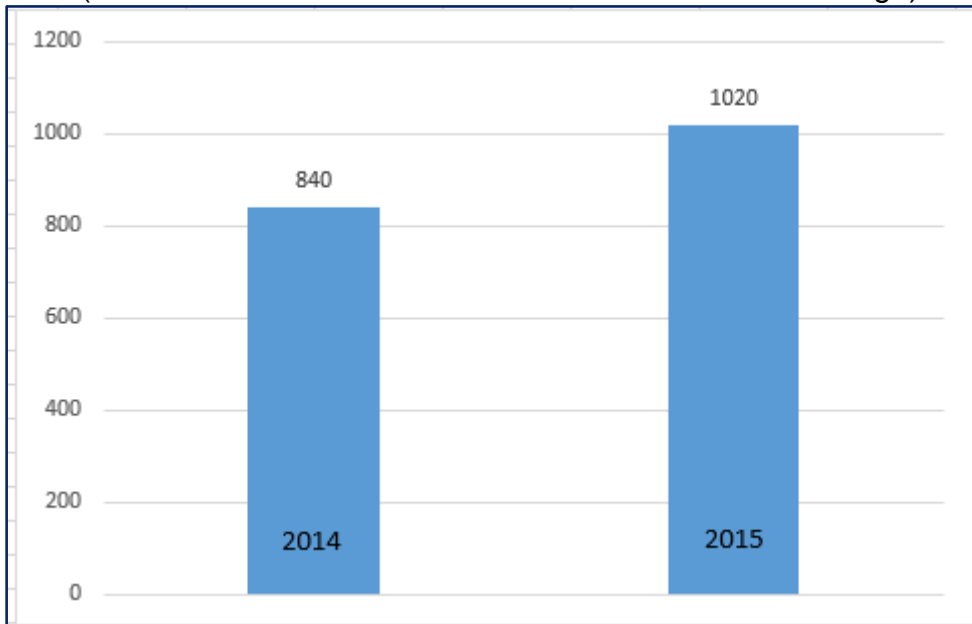
7.3 New Sign Installation Work Orders

*(note: some work orders would involve more than one new sign)



7.4 Sign Repair Work Orders

*(note: some work orders would involve more than one sign)



7.5 Crash Cushion Repairs

Crash cushions are used along high speed roadways to protect infrastructure and minimize the impact of a collision. There are currently 25 crash cushions throughout the city. The following repairs were made to crash attenuators throughout the city:

- 2014 – 3 repairs completed
- 2015 – 6 repairs completed



7.6 Electronics Shop after Hours Emergency Call-Outs

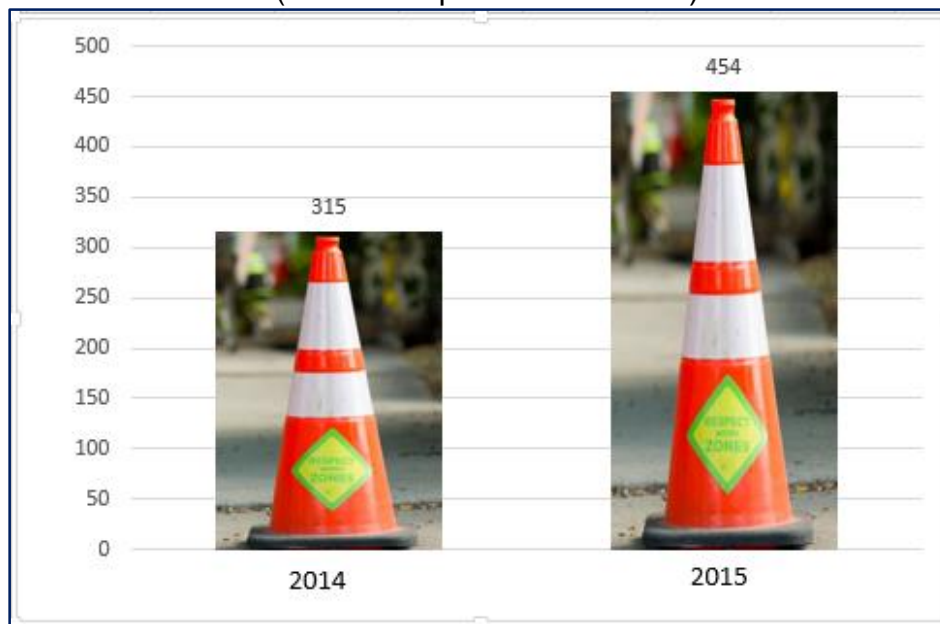
The Electronics Shop has a technician on stand-by to address emergency situations with the traffic signal infrastructure. The following call-outs occurred in 2014 and 2015:

- 2014 – 700 (maintenance/repair)
- 2015 – 750 (maintenance/repair)

7.7 Detour Coordination - External Lane Restriction Requests

Lane restrictions, or detours, are requested by third parties requiring the use of right-of-way to support construction work. The number of requests increased by 44% over 2014.

*(internal requests not tracked)



7.8 Special Events Coordination

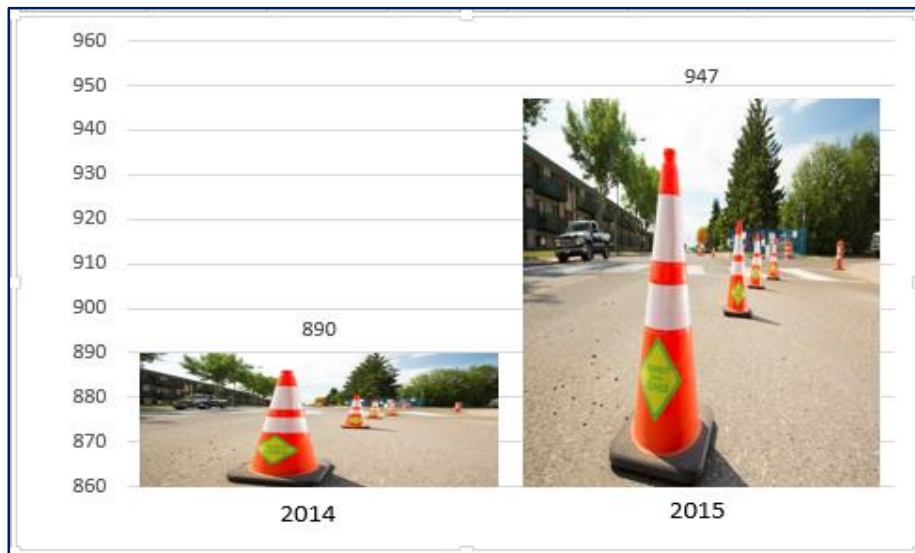
Many special events require closure of portions of the public right-of-way. These closures require a traffic accommodation plan and are coordinated with all other restrictions throughout the city. The following number of special events requiring lane closures occurred throughout the city:

- 2014 – 117 special events
- 2015 – 124 special events

7.9 Number of Permits Issued

7.9.1 Right of Way Permits

Right-of-way permits are required when the public right-of-way is closed by a third party for construction or development and/or used for a specific purpose, such as for accommodating a waste disposal bin. The number of permits issued increased by 6% from 2014.



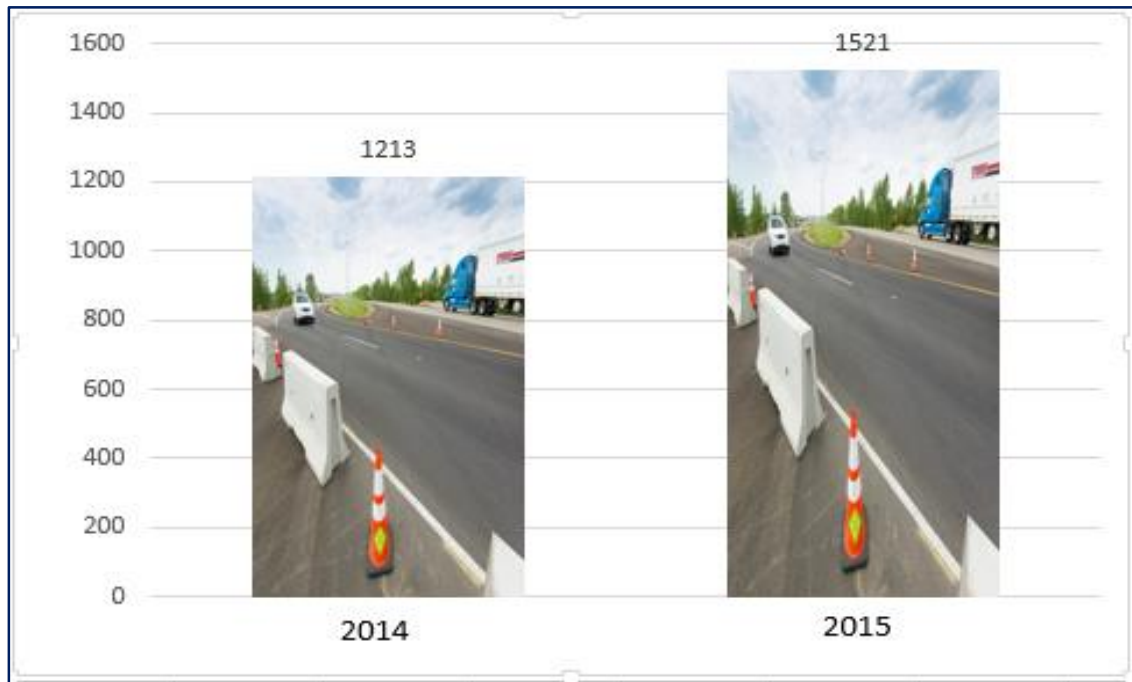
7.9.2 Curb Crossing Permits

Curb crossing permits are required by both commercial and residential property owners intending to construct a curb crossing (driveway) on a sidewalk containing vertical curbs. The number of permits issued decreased by 3% from 2014.



7.9.3 Vehicle Permits

Vehicle permits are issued to commercial vehicles that are over dimension or overweight, or intending to travel off a truck route. The number of permits issued increase by 25% from 2014.



8.0 OUR PERFORMANCE MEASURES

8.1 Kilometers of Cycling-Specific Infrastructure

Goal: 10-year target to increase the amount of cycling-specific infrastructure by 10%

- In 2015, 1.2 km of bike lanes and paths were added
- Some cycling infrastructure was upgraded
- First phase of protected bike lane on 23rd Street was implemented

8.2 Transportation Choices

Goal: Long-term target is to have 20% of people use cycling, walking, or transit to get to work

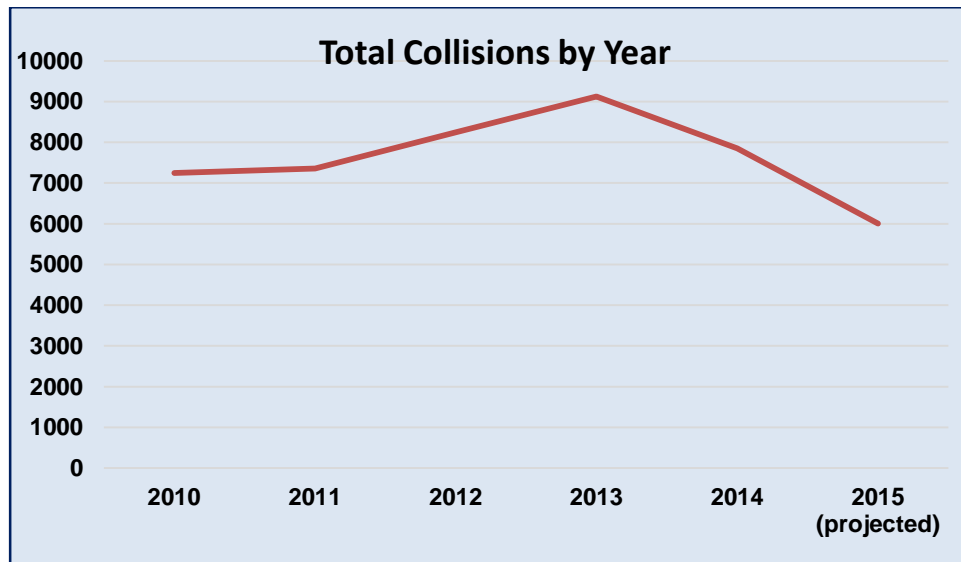
- In 2011, 11.5% used cycling, walking or transit to get to work (based on Census data)

8.3 Traffic Collisions

Goal: Decrease traffic collisions by 5% annually

Accident Severity	2010	2011	2012	2013	2014	2015*
Fatal	10	8	5	7	5	3
Personal Injury	1161	1275	1544	1382	1211	770
Property Damage	6074	6071	6697	7737	6635	3731
TOTAL	7245	7354	8246	9126	7851	4504

*2015 to September inclusive, based on data from Saskatchewan Government Insurance



9.0 OUR FUTURE

9.1 Major Initiatives to Support the Corporate Strategic Plan

- Build the North Commuter Parkway & Traffic Bridge
- Continue with Neighbourhood Traffic Review Process
- Continue to support Province on the Saskatoon Freeway (formerly known as Perimeter Highway) project
- Plan and build interchanges at Boychuk Drive & Highway 16, and at College Drive & McOrmond Drive
- Improve traffic flows and enhance safety as these areas continue to develop



Saskatoon Transit 2015 Annual Report

Recommendation

1. That the report of the General Manager, Transportation & Utilities Department be received as information; and
2. That a copy of the final report be forwarded to the Accessibility Committee.

Topic and Purpose

The purpose of this report is to present the Saskatoon Transit 2015 Annual Report that outlines the performance of Saskatoon Transit in 2015 and includes a comparative analysis to previous years.

Report Highlights

1. Total Rides in 2015 were 8,573,054 (electronic) which was an increase of 4.4% compared to 2014.
2. Annual Access Transit Revenue trips in 2015 were 127,258 which was 2.8% less than the Revenue Trips provided in 2014.
3. The denial rate for Access Transit was 9.16% in 2015 which was an increase of 0.96% over 2014.

Strategic Goals

This report supports the Strategic Goal of Asset and Financial Sustainability through continued fiscal responsibility, and a focused effort in meeting business needs in a cost-effective manner.

The report also supports the Strategic Goal of Quality of Life and Moving Around. Saskatoon Transit, including Access Transit, maintains a high quality of service that has a significant positive impact on the quality of life for customers and their families.

Report

A summary of the 2015 Annual Report is as follows:

Conventional Transit

Saskatoon Transit received 982 complaints in 2015, which is 247 less than both 2013 and 2014. Overall complaints were primarily about operators and the buses arriving early, late or driving by without stopping. The majority of transit drivers provide excellent customer service, and complaints are dealt with directly with the individuals affected.

Total Rides in 2015 were 8,573,054 (electronic) which was an increase of 4.4% compared to 2014. Transit's formula based (calculated) ridership for 2015 was 12,216,188. Since not all systems across the country have automated fareboxes the

calculated rate is still used for ridership statistics. It is this statistic that will be used as the basis for Federal funding under the newly announced program.

Even though the fleet renewal strategy was approved in June 2015, an aging fleet and the additional maintenance requirements needed to maintain that fleet resulted in increased operating costs. Fuel prices provided significant savings that resulted in the Conventional Transit average cost per passenger decreasing from \$3.22 in 2014 to \$3.15 for 2015. As a comparison the cost per passenger for Regina Transit in 2014 was \$4.50.

Access Transit – Revenue Trips

A Revenue Trip is defined as a one-way trip from point A to point B. In 2015, the total service demand for Access Transit decreased by 2.5% (3515 trips). There was a 12% decrease in the number of registered active customers in 2015 over 2014. Some of this decrease is being attributed to a new registration process in conjunction with the recently established Ride Trainer Program. Regardless, Saskatoon Transit will conduct a complete review of Access Transit in 2017 in order to prepare for a 100% accessible Conventional Transit fleet in 2018.

Customer trip categories in 2015 were relatively the same as previous years, staying within a percentage or two, with the exception of day program trips which increased from 4% in 2014 to 7% in 2015.

Access Transit – Denial Trips

A Denial is a trip request by a customer that cannot be accommodated. The Denial rate for 2015 was 9.16%, which is an increase of 0.96% over 2014.

Access Transit – Productivity

Revenue Trips per Hour is another key performance indicator. Revenue Trips per Hour total 2.54, which is higher than the Canadian average of 2.5. Despite the various challenges Access Transit operators face on the road, they were still able to maintain an average of 91% on time performance for 2015.

Public and/or Stakeholder Involvement

This report will be shared with the Transit Assistance for People with Disabilities (TAPD) Fund (Government of Saskatchewan) which provides partial funding for Access Transit.

Communication Plan

A copy of the Saskatoon Transit 2015 Annual Report will be posted on the City website and shared with the staff.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

This report is provided on an annual basis and no further follow-up is required at this time.

Public Notice

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

Attachment

1. Saskatoon Transit 2015 Annual Report

Report Approval

Written by: Christine Gillis, Accounting Coordinator, Saskatoon Transit
Bob Howe, Manager Access Transit
Michael Moellenbeck, Manager Conventional Transit
Colin Stinson, Marketing Consultant, Communications

Reviewed by: Jim McDonald, Director of Saskatoon Transit

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

TRANS JM - Saskatoon Transit 2015 Annual Report

Saskatoon Transit

2015 Annual Report



INTRODUCTION

Public Transit services in Saskatoon began on January 1, 1913 with the establishment of the Saskatoon Municipal Railway. Approximately 5,200 people used streetcars that first day of service. Over the years, the types of vehicles changed as did the name, eventually becoming Saskatoon Transit. In July 2004, the next big chapter started when Access Transit was established as the Demand Response section of Saskatoon Transit. Access Transit is meant to provide service to those who are unable to use regular transit with safety and dignity. In 2013, Saskatoon Transit celebrated 100 years of making connections within the community and continues to do so today.

In 2015, ridership was approximately 8.5 Million Fixed Route or Conventional Transit riders and 132,000 Demand Response or Access Transit trips. To provide that level of service, Saskatoon Transit used the following:

Terminals located at:

- Confederation Mall;
- Lawson Heights Mall;
- Centre Mall;
- Place Riel at the University of Saskatchewan;
- 23rd Street Transit Mall; and
- Market Mall.

A fleet of 184 buses:

- 158 Serving Fixed Route demands:
 - 142 conventional 40-foot diesel buses, of which there are still 39 High floor;
 - 10 articulating low floor 62-foot diesel buses;
 - 6 mid-sized low floor 26-foot diesel buses; and
- 26 mid-sized para transit diesel buses providing Access Transit Demand Response services.

A staff complement of 399 employees, working 365 days to provide service to the City of Saskatoon.

Conventional Transit is a Fixed Route service that operates 22 bus routes along approximately 276 kilometers of streets with 1,668 bus stops. During peak hours there are 100 buses on various routes throughout the city resulting in a spare ratio of 58%.

In 2015, Saskatoon Transit contracted MTB Transit solutions to perform structural refurbishments to 4 buses in its articulating fleet. 2016 will see the implementation of a component of the Fleet Renewal Strategy, that component being the refurbishment plan. Saskatoon Transit will begin the process of refurbishing ten buses in its conventional 40 foot fleet every year, with an expectation of extending the life of a bus by 6 to 9 years.



Access Transit is an accessible door-to-door Demand Response service operated for citizens who, by reason of a disability, are unable to use Conventional Transit with safety and/or dignity. Unlike Conventional Transit, Access Transit does not have predetermined routes so trip booking and scheduling decisions are strategically made to allow as many trips as possible, while staying within trip time and resource availability parameters. Trip booking requests are on a first-come-first-served basis and dependent on the present limited fleet size. Access Transit is equipped with 26 wheel chair lift buses. During peak hours there are 19 on the road resulting in a spare ratio of 36%.



OUR CUSTOMER

Customer Satisfaction and Complaints:

Our goal is to provide consistent, timely, friendly, and professional services to customers where they feel they have received valuable service that is fair and equitable.

The City of Saskatoon's 2015 Civic Services Survey results demonstrate that public transportation is important to residents of Saskatoon. A score of 10 means "excellent" and 5 means "average". The following chart tracks customer satisfaction for public transportation, buses and routes. Public satisfaction decreased by 0.4% between 2014 and 2015. Saskatoon Transit believes the underlying issues are increased traffic congestion and higher passenger loads during peak operating periods.

Customer Satisfaction

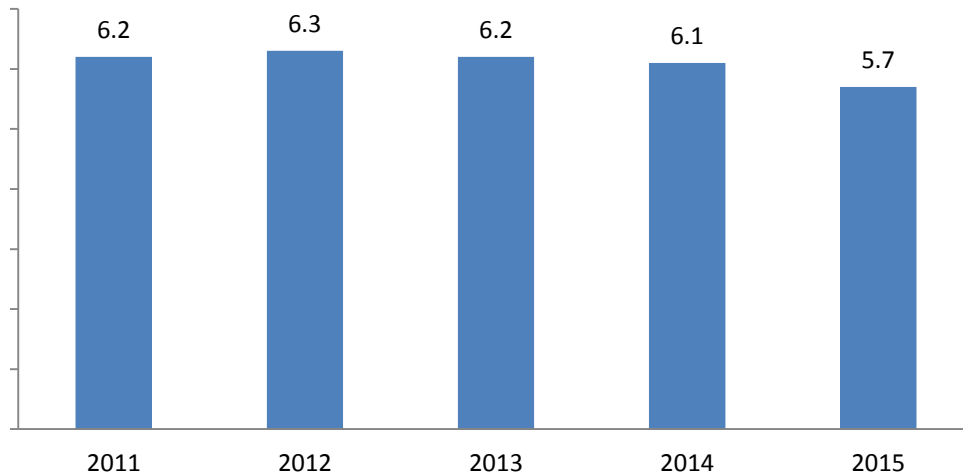


Figure 1: Customer Satisfaction

Saskatoon Transit received 982 complaints in 2015, which is 247 less than both 2013 and 2014. Overall complaints were primarily about operators and the buses arriving early, late, or driving by without stopping.

Transit Customer Complaints

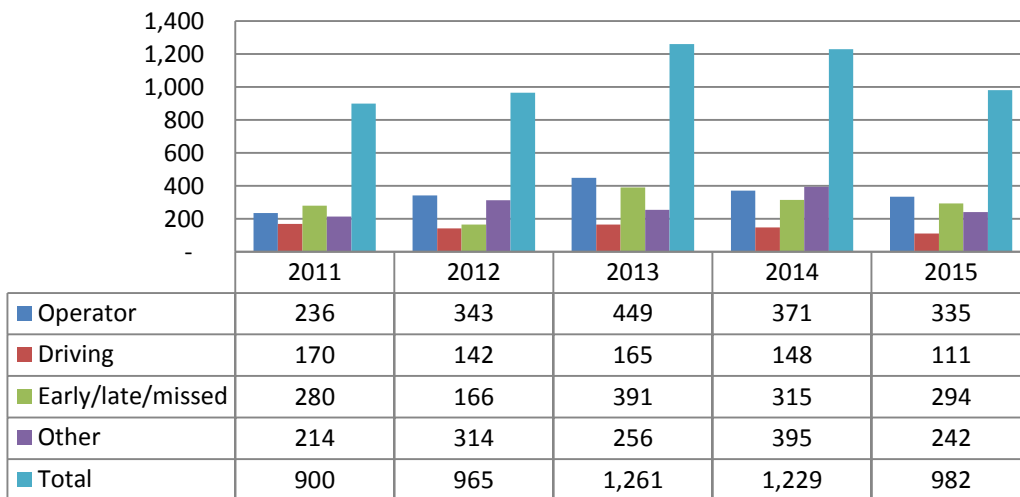


Figure 2: Transit Customer Complaints

In 2015, Saskatoon Transit received 52 commendations from the citizens which is 1 more than in 2014. The majority of Transit drivers provide excellent customer service, and complaints are dealt with directly with the individuals affected.

Transit Commendations

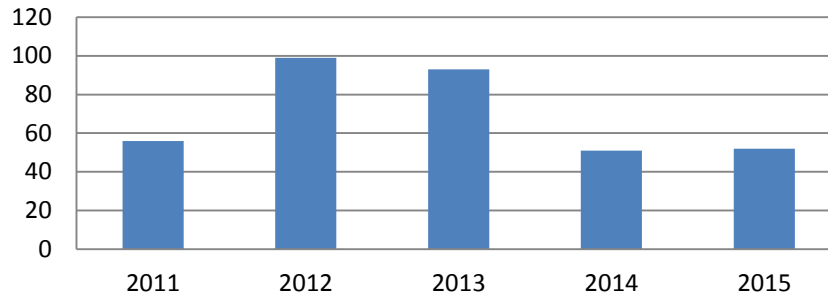


Figure 3: Transit Commendations

Competitive Fares:

Saskatoon Transit offers discounted fares for low-income residents, seniors, elementary, high school and post-secondary students. Fares accepted include cash, tickets or one of several passes that allow unlimited monthly rides (i.e. Adult Pass and High School Student Pass). Senior citizens may purchase passes for periods of one month, three months, six months and one year. Post-secondary students may purchase a semester pass that allows unlimited rides. All fare types are accepted on both Access Transit and Conventional Transit buses.

Adult fares on Saskatoon Transit are compared to other similar sized cities in the following charts. Of note - Regina does not have a senior monthly fare; they currently only offer semi-annual and annual senior passes.

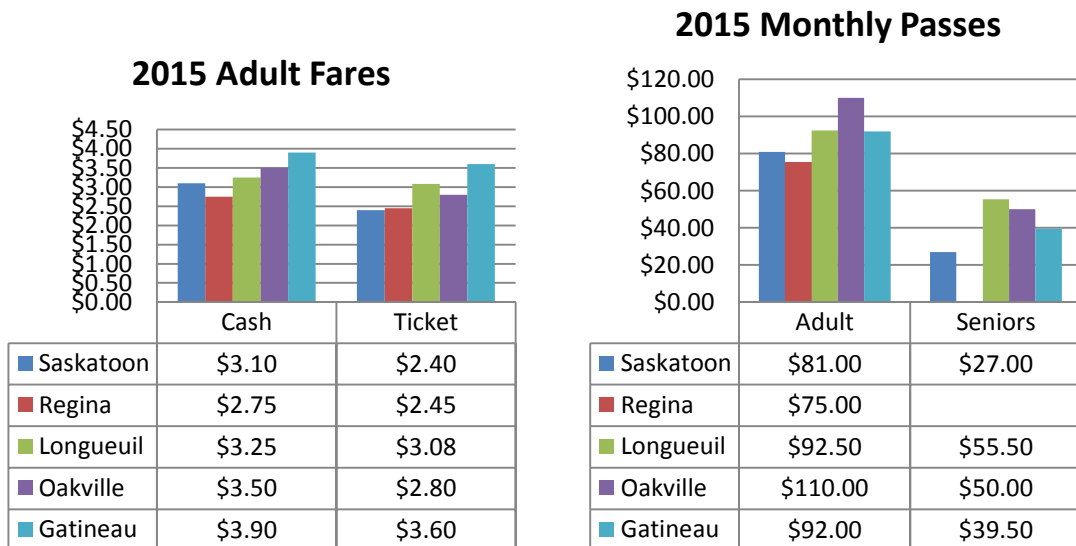


Figure 4: 2015 Adult Fares and Monthly Passes

Conventional Transit:

Between 2014 and 2015, ridership increased by 5.3% (using formula-based ridership) and 4.4% (using electronic ridership). Transit ridership is distributed between the following categories: seniors, cash/ticket, month/day pass, discounted pass, and post-secondary pass. Currently the top three categories of transit users include monthly/day pass (29%), post-secondary (22%), and discounted pass (16%).

2015 Ridership Distribution - Electronic Ridership

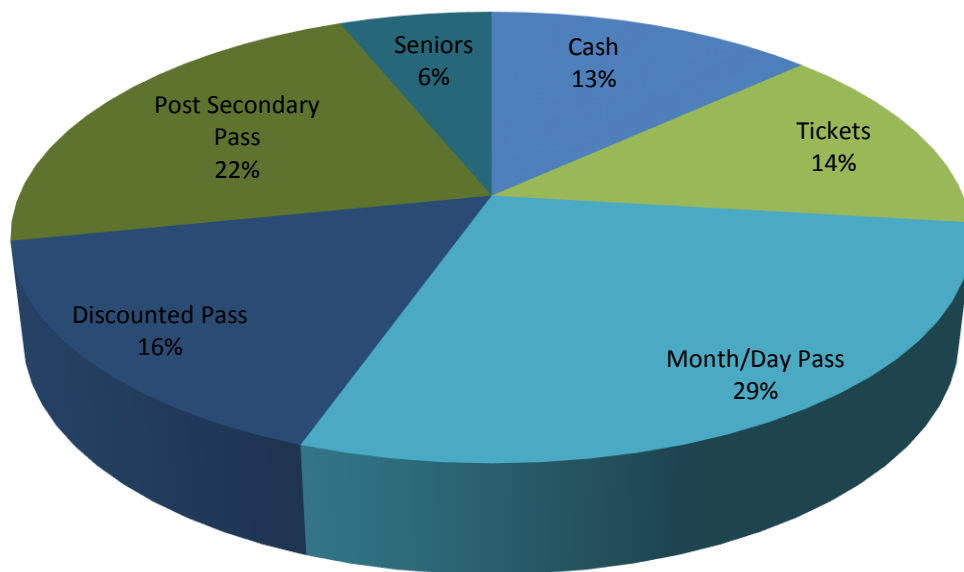


Figure 5: 2015 Ridership Distribution

Total Rides for 2015 are 8,573,054 which is an increase of 4.4% compared to 2014. Transit’s formula based (calculated) ridership for 2015 was 12,216,188 which is 3,643,134 rides more than actual ridership information provided by the automated fare box system.

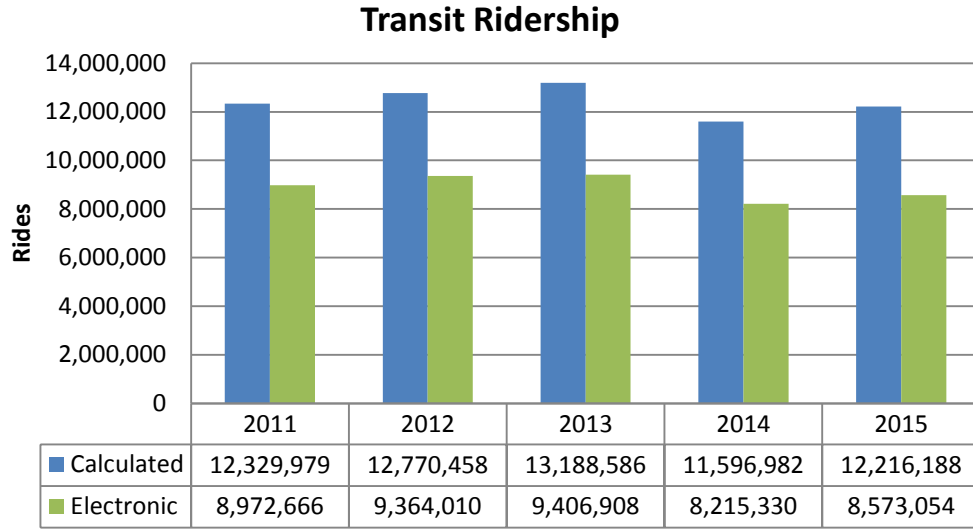


Figure 6: 5 Year Transit Ridership Trend

A recent report from the Canadian Urban Transit Association (CUTA) showed 2014 passengers per service hour of 41.50, 18.43, 34.49 and 15.12 respectively for Longueuil, Regina, Gatineau and Oakville (peer communities). Saskatoon Transit’s passenger per service hour numbers for the 5 year period ending 2015 is shown below:

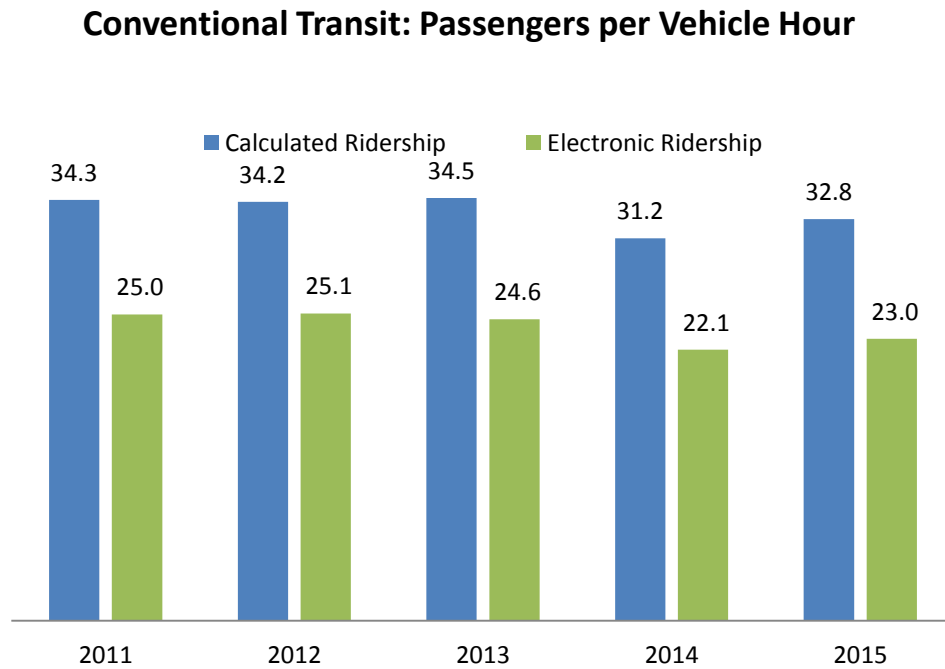
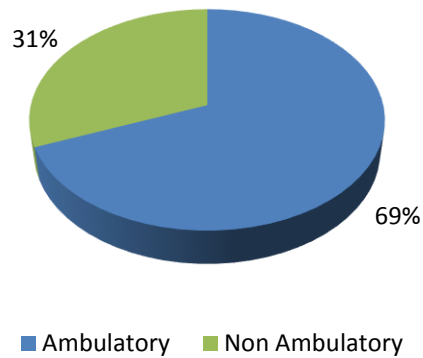


Figure 7: Passengers per Vehicle Hour

Transit will continue to focus on increasing ridership by providing strong customer service and providing a service that is safe, convenient, efficient and affordable. These initiatives support the Strategic Goal of Moving Around and the Growth Plan to 500,000. The intention is to provide Transit that is considered a viable option as part of the overall transportation network.



Access Transit:

There was an approximate 12% decrease in the number of registered active customers in 2015 over 2014. Some of this decrease could be attributed to a new registration process in conjunction with the new ride trainer program. This program allows for citizens that don't qualify for Access Transit to receive detailed instructions, and sometimes personal demonstrations, on how to use Conventional Transit. The goal is to ensure that Access Transit capacity is being utilized by the citizens who require the service while still promoting Conventional Transit service.

Access Transit categorizes its bookings into two groups: Ambulatory (customers who do not require a wheelchair or scooter for mobility), and Non-Ambulatory (customers who require a mobility device such as a wheelchair or scooter). The number of Ambulatory customer trips has been slowly increasing over the years and in 2015 we observed a 2% increase in Non-Ambulatory customer trips.

Access Transit Administration tracks the purpose for which customers use the service. Customer trip categories in 2015

Figure 8: Ambulatory vs Non-Ambulatory Ridership

were relatively the same as previous years, with the exception of day program trips. That number increased to 7% in 2015 from 4% in 2014, which is both significant and alarming. Access Transit attributes this mostly to Sherbrooke Nursing Home and the Saskatchewan Abilities Council relying on Access Transit for an increasing number of their Day Programs.

With current Capital and operating resources, Access Transit will not be able to continue absorbing increases of this type. This is one of the main reasons we are conducting a complete review of Access Transit to determine the best way forward when there is a 100% accessible fleet in 2018. The forecasted requirements for Access Transit services are increasing across the country as the population continues to age and rural users are increasingly relocating to the urban setting.

Trip By Purpose

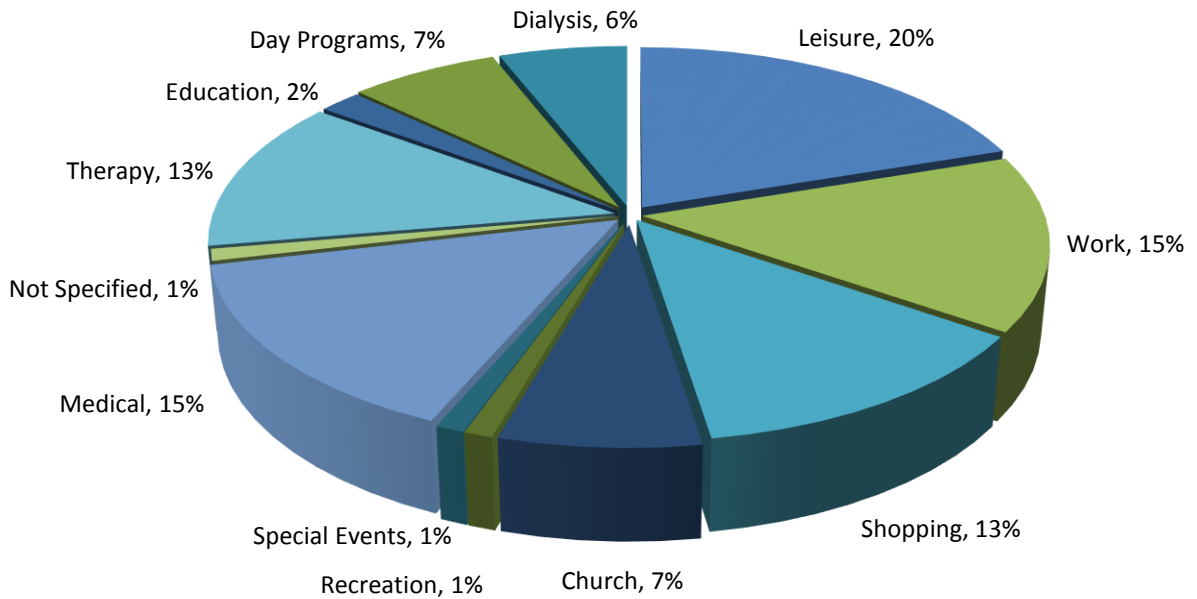


Figure 9: Access Trip by Purpose

A denial is a trip requested by a customer that cannot be accommodated. There are two types of denials: Customer Denials and Dispatch Denials. A Customer Denial is when a customer refuses the alternate trip time offered to them by a dispatcher, regardless of the proximity of time to the original request. A Dispatch Denial is a trip request that cannot be accommodated due to insufficient resources (insufficient run time or bus availability for that trip).

Trip Denials: Customer vs. Dispatch

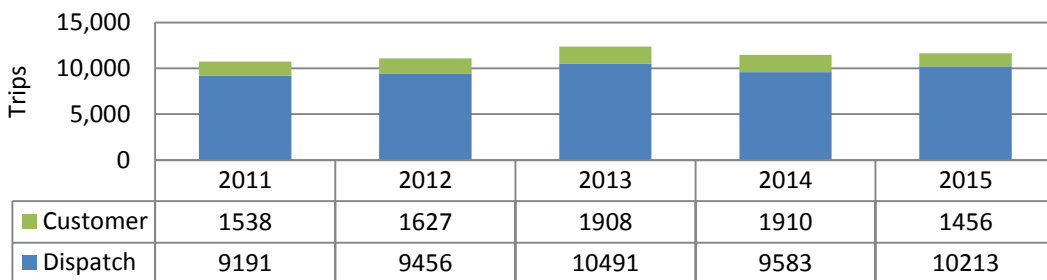


Figure 10: Access Trip Denials

The denial rate for 2015 was 9.16%, which is an increase of 0.96% over 2014. When comparing the average time frames for denials, there are subtle differences to be noted in the 9:00 am to 7:00 pm time frame. These fluctuations occur annually, however comparatively speaking; the 2015 denial time pattern is quite similar to 2014. To reduce denials, Access Transit will schedule and book the budgeted number of service hours according to the demand of the customers.

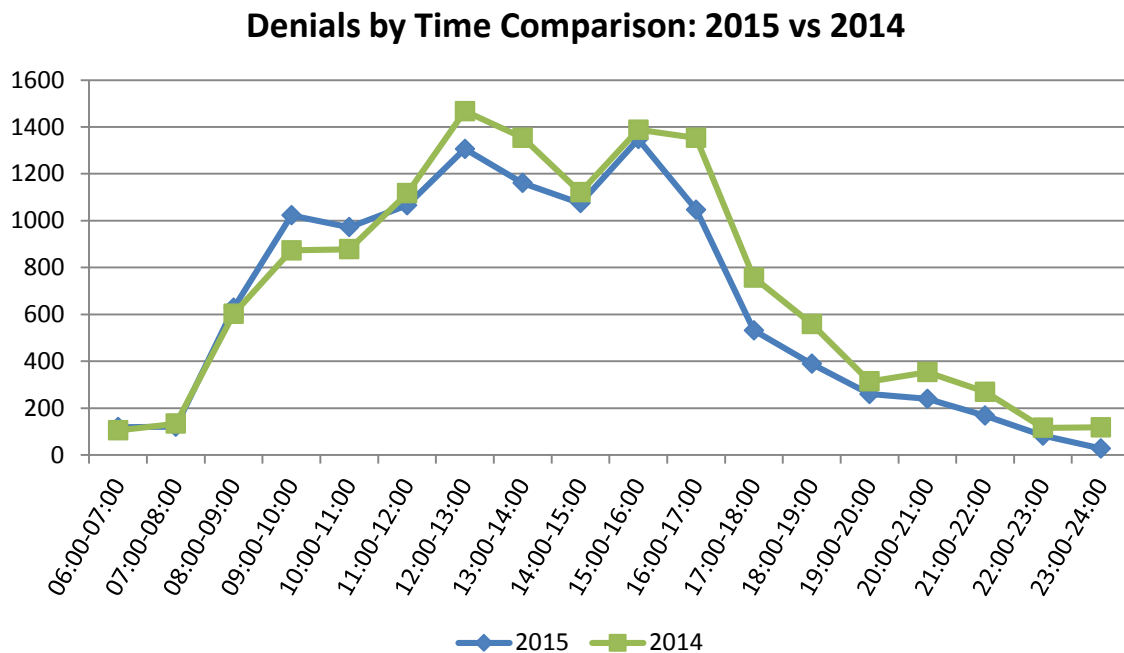


Figure 11: Denials by Time - 2014 vs 2015

Access Transit service demand is calculated by taking the sum of revenue trips (one-way trips from point A to B), plus the number of no-shows (customers who are absent at the pickup location when the bus arrives, thus wasting a trip). Therefore demand for service is the total amount of trips that could have been provided had all variables been optimal.

In 2015, the total service demand for Access Transit decreased by 2.5% (3,515 trips). Changes to the registration process as well as the relatively mild winter of 2015 are contributing factors in this demand decrease. Previously, Access Transit Annual Reports have shown that there is a direct correlation between harsh weather conditions and increased service demand.

Annual Demand

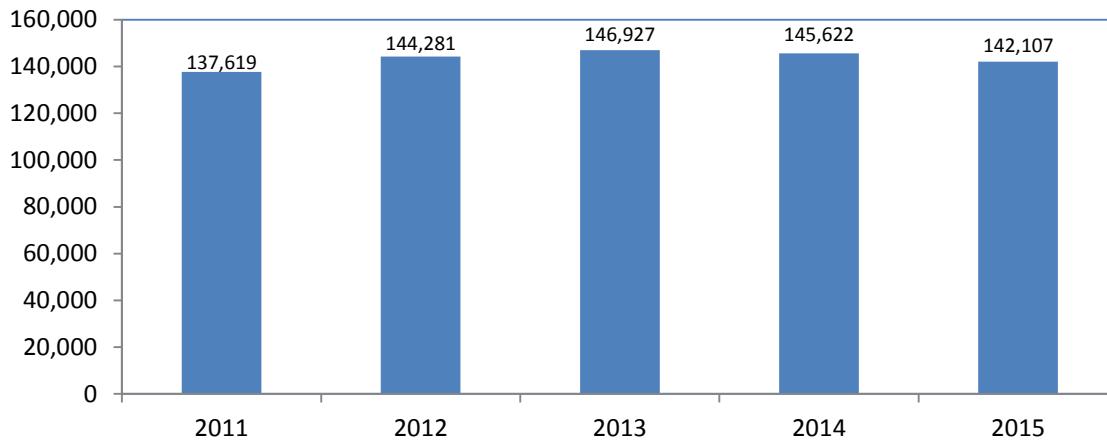


Figure 12: 5 Year Annual Demand Trends

Access Transit experienced a 2.8% decrease in revenue trips compared to 2014. As boundaries for the City of Saskatoon continue to increase so does the area Access Transit provides service to. This service area increase, an increase in traffic congestion and the static size of the fleet contribute negatively to the total amount of revenue trips that Access Transit is able to provide. This year Access Transit Administration has had to take the step of slowing down the travel speed of the scheduling and booking software system to make the travel times and schedule more realistic, based on the actual road experience.

Although productivity is still high, averaging 2.54 revenue trips per hour, this adjustment had the effect of reducing the revenue trips completed in 2015 by approximately 2.8% (3,659 trips) over 2014 numbers. Despite the various challenges Access Transit operators face on the road, they were still able to maintain an average of 91% on-time performance for 2015.

Revenue Trips vs Denials: 5 Year Comparison

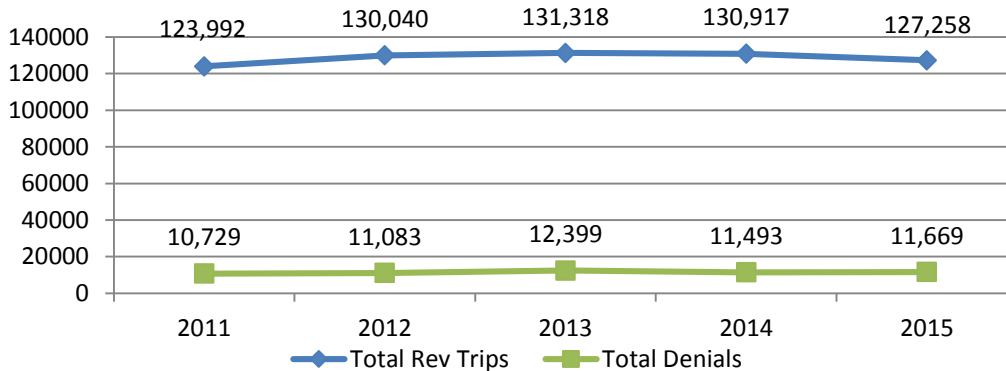


Figure 13: 5 Year Revenue Trips Vs Denials Comparison

Access Transit also provides service using an alternate delivery model. This alternate model calls upon the local Saskatoon taxi industry to assist with the provision of service, especially in the winter months when the demand for Access Transit service is the highest. Due to the finite capacity of the bus service the alternate service delivery model provides a flexible, cost effective tool to assist with seasonal demand fluctuations. There are however, limitations associated with this model. On occasion, when the demand for taxi service is also high, it can be just as challenging for Access Transit to acquire a taxi as it is for members of the general public. Access Transit used more taxis in 2015 than in the last 5 years in an effort to keep denials low and provide service for customers.

Monthly Taxi Use Comparison: 2015 vs 2014

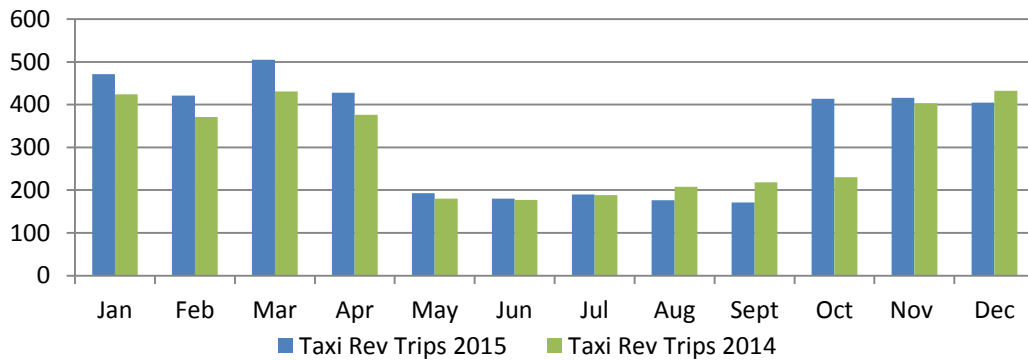


Figure 14: Monthly Taxi Use Comparison 2014 Vs 2015

OUR PEOPLE

Transit services are provided to the residents of Saskatoon 365 days per year. The Transit team is made up of a diverse and skilled group of people including operators, customer service staff, administration staff, dispatchers, booking and scheduling clerks, planners, payroll employees, mechanics, utility and servicemen, accountants, driver trainers, supervisors and managers. Transit’s team also includes support from Human Resources to assist in administering collective bargaining/labour related issues, recruitment and health and safety programs in the workplace. Administration and Finance, Facilities division provides support with building maintenance and repairs. All levels and classifications of employees are passionate about delivering a quality transit service to the community on a daily basis.

Transit’s employee complement increased by 0.76% or 3.0 employees between 2011 and 2015. In comparison, Conventional Transit service hours increased by 1,170 or 0.3% in that same time period and the population has increased by 12%. Access transit had no change to service hours.

Saskatoon Transit Employees (FTEs)

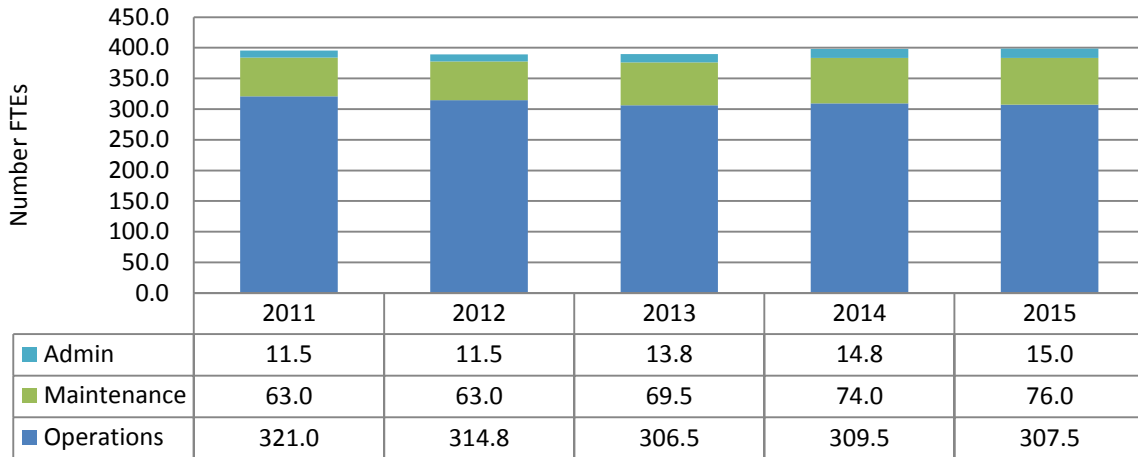


Figure 15: Saskatoon Transit FTEs

In 2015, Saskatoon Transit experienced 35 lost time incidents for a total of 800 lost time days. Lost time incident and lost time days have increased this year. Safety statistics are presented in the following charts, which show the lost time incidents and days by year as well as frequency rates (number of incidents or days per 200,000 hours worked).

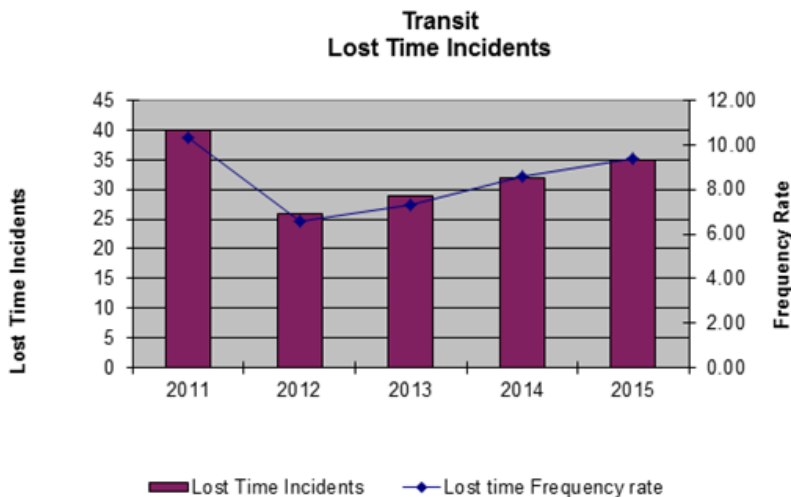


Figure 16: Lost Time Incidents

OUR FINANCES

In 2015, Saskatoon Transit’s service line operating budget was \$44.8 million made up of \$40.1 million for Conventional Transit and \$4.7 million for Access Transit. The actual operating expenses for 2015 came in under budget at \$43.2 million. The savings of \$1.6 million (3.6%) on the operating expense were primarily related to a low fuel price and reduced fuel consumption due to a warmer winter.

The budgeted funding sources for Saskatoon Transit’s service line were \$1.9 million through provincial funding for DCR Passes and Accessible Transit Grant and \$14.9 million from Fares and other revenue sources with the remainder made up through the city contribution. The 2015 actual funding received was under budget by \$1.6 million. The graphs below show a breakdown of Transit’s 2015 funding sources:

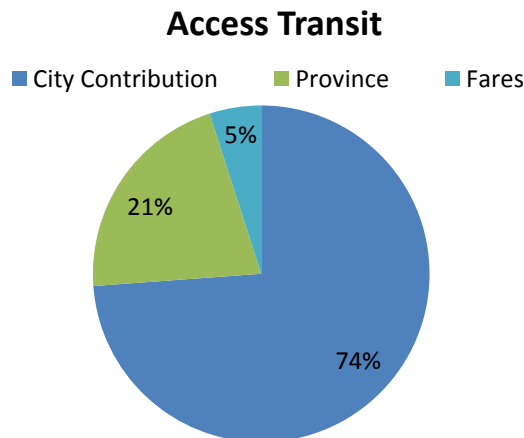
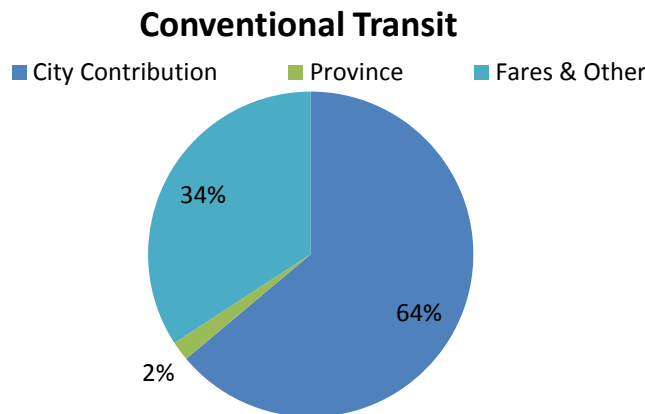


Figure 17: Contribution Rates

Conventional Transit's city contribution in 2014 was 67% while in 2015 the contribution decreased by 2.7%. Access Transit's city contribution was 73% in 2014 and in 2015 the contribution increased by 0.7%. A report from CUTA showed 2014 Conventional Transit City Contributions for peer cities as 58%, 67%, 58%, and 66% respectively for Longueuil, Regina, Gatineau and Oakville.

The \$1.6 million in operating savings for the Transit service line was offset by lower than budgeted funding of \$1.6 million. Therefore, 2015 actuals resulted in a variance of \$17,000 from budgeted city contribution to actuals. Below is the summary of operating budgets for both Conventional Transit and Access Transit:

2015 Conventional Transit Operating Budget

	<u>Budget</u>	<u>Actual</u>	<u>Variance</u>	<u>%</u>
Fare Revenue	\$13,378	\$12,072	\$(1,307)	-9.77%
Charter & Advertising	1,259	1,072	(187)	-14.85%
City Contribution	24,613	24,564	(49)	-0.20%
Province of Sask	855	745	(110)	-12.86%
Total Revenue	\$40,105	\$38,453	\$(1,652)	-4.12%
Transit Operations	\$20,427	\$19,705	\$722	-3.53%
Fuel, Lube & Oil	5,005	3,455	1,550	-30.96%
Transit Maintenance	7,189	7,964	(774)	10.77%
Building Maintenance	1,038	1,038	0	0.04%
City Hall Services	617	617	0	0.00%
General & admin	2,853	2,697	155	-5.45%
Capital (debt & reserve)	2,977	2,977	0	0.00%
Total expense	\$40,105	\$38,453	\$1,652	-4.12%
Return on Investment	\$0	\$0	\$0	0%

Figure 18: Conventional Transit Operating Budget

An aging fleet, and the additional maintenance required to maintain an aging fleet, have resulted in increased operating costs. Fuel prices provided significant savings that, fortunately, resulted in the Conventional Transit average cost-per-passenger decreasing from \$3.22 in 2014 to \$3.15 for 2015. The most recent CUTA fact book shows the 2014 transit average cost per passenger at \$4.50, \$4.84, \$6.40 and \$7.31 respectively for Longueuil, Regina, Gatineau and Oakville.

The cost per passenger is calculated by taking total operating expenses and dividing them by ridership. The graph below shows the average based on calculated and electronic ridership. At present CUTA statistics only show calculated results as not all properties have electronic fareboxes.

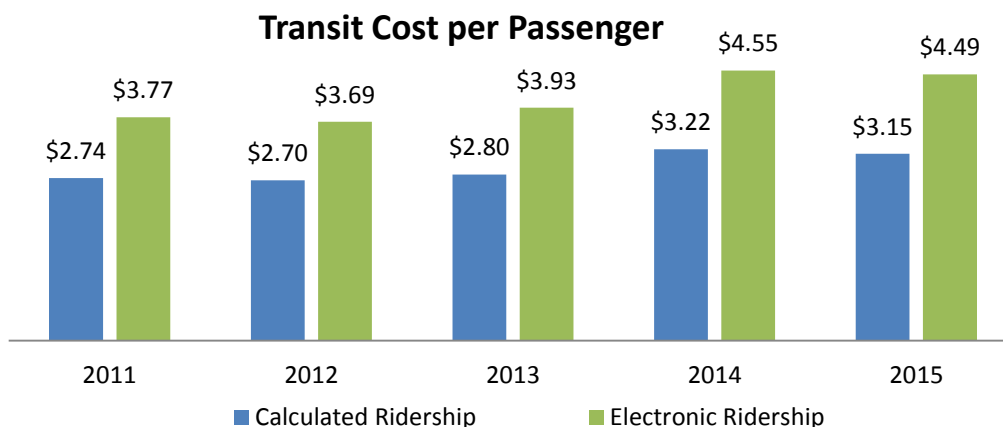


Figure 19: Transit Cost per Passenger

2015 Access Transit Operating Budget

	<u>Budget</u>	<u>Actual</u>	<u>Variance</u>	<u>%</u>
City Contribution	\$3,413	\$3,479	\$66	2%
Province of Sask grant	996	984	(11)	-1%
Fares	245	224	(22)	-9%
Total Revenue	\$4,654	\$4,687	\$33	1%
Salaries & payroll	\$3,206	\$3,397	(\$191)	6%
Fuel, lube, oil	348	221	127	-36%
AF -Facilities division	243	243	0	0%
Maintenance equip & radio	275	265	10	-4%
Debt cost	48	48	0	0%
Other expense	281	260	21	-7%
Transfer to reserves	253	253	0	0%
Total expense	\$4,654	\$4,687	(\$33)	1%
Return on Investment	\$0	\$0	\$0	

Figure 20: Access Transit Operating Budget

In 2015, the average cost per trip for Access Transit was \$36.83. Through the Provincial Transit Assistance for People with Disabilities Program, Access Transit receives an operating grant based on available funding and ridership data. The 2015 operating grant amounted to \$7.73 per trip such that the total cost per trip to the city was \$29.10. This cost is inclusive of all program expenditures and is calculated by dividing total expenditures by the total number of revenue trips less the operating grant.

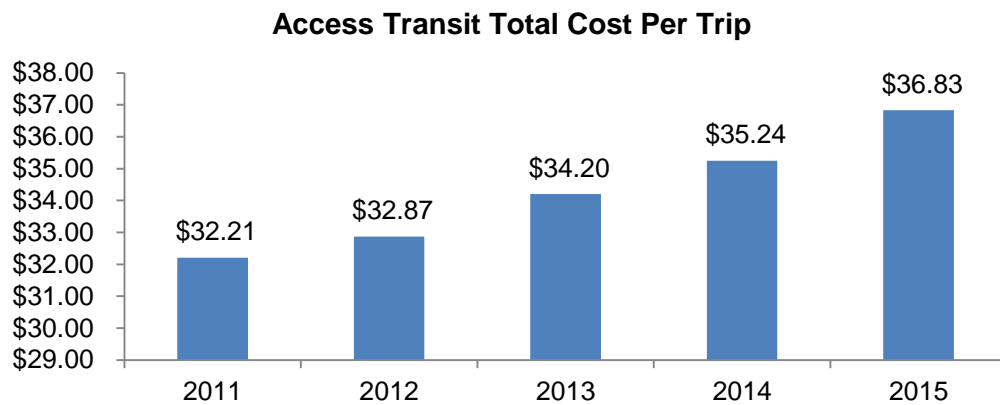


Figure 21: Access Transit Cost per Trip

OUR WORK – MOVING FORWARD

Conventional Transit

Meeting customer service expectations is integral to increasing ridership. To better fulfill these promises, Transit Operations is developing a continuous training program. Currently in the final stages of development and set to be implemented mid-2016, this program focuses on customer service delivery, situation de-escalation and driving for comfort and efficiency. The principles reinforced through this process will support the promises within the Passenger Pledge and provide Transit staff with the necessary tools to succeed.

Slated for 2017, Saskatoon Transit will conduct a complete review of the Access Transit model with a goal of better integration with Conventional Transit. As we move toward a 100% accessible fleet in 2018, this review will allow for a more efficient use of resources in providing coverage throughout Saskatoon.

Technology within the transit industry continues to provide opportunities for increased operational efficiencies, data analytics and customer tools. Saskatoon Transit is working with various vendors to improve its ability to report on performance measures as well as informational tools for customers. Products such as these allow administration to make more accurate service delivery

decisions while providing customers the ability to conveniently and reliably plan their trip.

Internal processes and standard operating procedures continue to be refined and developed at Saskatoon Transit. Ongoing operational reviews will aid in the consistency of the service we provide, as well as create opportunities to more effectively serve the citizens of Saskatoon.

Growth Plan to 500,000:

In April of 2016, the Growth Plan to 500,000 was approved in principle by City Council. Transit forms an integral, coordinated part of this plan, in addition to Transportation Networks, Corridor Growth and Core Bridges. Part of the plan involves creation of two Bus Rapid Transit (BRT) routes over the next 30 – 40 years, the Blue Line (North-South) and the Red Line (East-West). The plan calls for increased funding for Capital equipment and Service hours to support higher ridership in the Saskatoon area.

8th street Initiative:

In an effort to better serve citizens and grow ridership, Saskatoon Transit is implementing a concept that reallocates resources in order to increase frequency along popular routes.

Using principles found in the Growth Plan to 500,000, and aiming to provide a demonstration of the possibilities for a BRT System, an initiative has been developed for the summer of 2016 to provide service at 7.5 minute frequencies along 8th Street during peak periods and 10 minute frequencies during the remainder of the weekday, with 30 minute frequencies during evenings, weekends, and statutory holidays.

Other bus routes that serve the 8th Street Corridor are being redesigned to increase service frequency along 8th Street and increase ridership to downtown. Ongoing initiatives will be rolled out in 2017 and 2018 for 22nd Street, Idylwyld and College Drive.

Relocation to the Civic Operations Centre:

The City of Saskatoon initiated a project to replace the current Caswell Hill bus barns with a new purpose built garage. The site of the new facility is called the Civic Operations Centre (COC) and is located on Valley Road near the current landfill. Eventually this site will have facilities for Public Works as well as other City departments, but at the moment only the transit facility and a snow storage site will be ready for occupancy in 2017. The garage will be the product of a Public Private Partnership, which will see the day-to-day operation of the facility itself managed by Cofely Services. The garage is capable of housing up to 224

Transit buses and will meet LEED certifications. Transit operations will be moving to the new location in the first quarter of 2017, and the change of location should be seamless to the public. It will, however, be a culture change for staff moving to this new facility, having everything under one roof, sorting out how buses are routed into service, as well as when/where seat changes are completed.

Customer Support and Engagement Section:

In late 2015, approval was given to create a new section within Saskatoon Transit to provide improved customer focus and a customer advocacy role. A section manager was hired at the beginning of 2016 who will transition the Customer Service, Planning and ITS groups from their current sections into the new section. Engagement is high on the agenda for this new manager and there will be some close coordination between this section and the Communications Division throughout 2016, and as we move into the new COC.

Passenger Pledge:

In an effort to better serve our customer base and improve the transit experience, Saskatoon Transit is developing customer commitments that will be a public pledge to the kind of service delivered to transit customers. The development of this passenger pledge will be based on the CUTA model which has become industry best practice. CUTA has developed training programs and initiatives that have supported the development of customer commitments, which Saskatoon Transit will be utilizing to enhance customer service. The development of the passenger pledge will start to address the strategic goal outlined in the five-year transit plan of changing attitudes around transit and increasing Saskatoon Transit ridership.

Access Transit:

The current Mobile Data Terminal (MDT's) system is 10 years old, and consists of a 7.5 inch screen, a separate onboard computer, and a modem on each Access Transit bus. Over the course of the second quarter of 2016, the MDTs will be replaced with Samsung Tablets. They are a self-contained unit that can be purchased, repaired, replaced, and/or upgraded locally at a considerably lower price. This change will save time, precious operating dollars, and eliminate dependency on vendor specific hardware.

Access Transit will also be working with IT and the vendor to install Interactive Voice Response (IVR) software into our Trapeze Pass software. IVR is a program that calls our customers, who have booked trips, the night before the actual trip to confirm it is still required and provides the customer with the opportunity to cancel the trip if not needed. The intent of this program is to reduce the amount of late cancellations and no-shows, which will in turn allow us to provide more revenue trips and utilize our resources more efficiently.

There will be public demonstrations of low floor bus service through our Ride Trainer project in late spring, summer, and early fall 2016, subject to more pleasant weather conditions. These on-site demonstrations will provide people in the community who are living with some type of disability the opportunity to learn more about low floor bus service and how it can be a great option or compliment to Access Transit, providing a wider range of travel options, thus promoting more spontaneity and an improved quality of life, in a calm, supportive learning environment.

Access Transit will be receiving four replacement buses in 2016. These new buses are the last diesel units available in the cutaway body style. From 2017 and beyond, the cutaway style of bus will only be available with gas engines. Access Transit will be conducting a review of the current service model and vehicles used in 2017 to determine if there are better/different alternatives. There are diesel accessible vans in the market segment; however, interior space is quite limited. 30 foot conventional platforms will also be looked at and there are smaller models currently in the process of getting certification for the North American market, hopefully in the later part of 2016. The Access Transit bus replacement options for 2017 will be very interesting and somewhat challenging.

Access Transit and Regina Paratransit provide similar services; however, the delivery models are quite different. Access Transit service provides lift van transportation that is all done in-house with some taxi augmentation while Regina Paratransit contracts out the operations and maintenance, similar to how it was done in Saskatoon prior to 2004.

Access Transit Administration, Regina Paratransit Administration, and the Saskatchewan Human Rights Commission are currently working on a pilot project to track denials in a manner that is synonymous so that a true comparison can be made in order to work towards developing a provincial standard.

Access Transit is an extremely valuable, essential service for people living with disabilities in our community. This service would not be possible without the financial support of the City of Saskatoon, the Provincial Government and of course those who ride it every day, the customer. Access Transit Administration will continue to be diligent in financial stewardship, implementing new incentives and/or technology that will increase efficiency to improve our service for our customers.

With the current level of resources, Access Transit has peaked in terms of capacity. Although 2015 was a bit of an anomaly, it is expected that demand for Access Transit will increase in the coming years. As stated in previous Annual Reports, more resources (capital and operating) will be required to meet this demand. For the sake of comparison, Access Transit currently has 26 buses in the fleet, with 19 on the road during peak times. The population of Saskatoon is 262,900. The city of Regina has a population of 232,000 people, and they have

33 Paratransit buses, with 28 buses on the road during peak times. The current funding plan in place for Regina's Paratransit Service enables replacement of buses at, or around, 5 years of age. Access Transit is only able to replace buses at, or around, 7 - 10 years of age.

Employees are Access Transit's greatest resource. The dedication to customers and service they provide is both inspirational and unparalleled and it is because of them that Access Transit has been able to develop into the successful high-quality caring service it is.

IN CONCLUSION

Saskatoon Transit has had a challenging few years, highlighted by equipment, bargaining and personnel related issues. In 2015, a new leadership team was put in place with a main objective to move Saskatoon Transit past a number of these issues and rebuild relationships with employees, customers, and the City of Saskatoon in general. Saskatoon Transit currently provides the service that the City of Saskatoon mandates as part of the Official Community Plan, with some augmentation to provide peak hour frequency. The concept of coverage and frequency, as part of the same spectrum, was recently introduced through the Growth Plan to 500,000 as a concept that should be taken up by Saskatoon Transit in both service delivery and the planning of same when coordinating with Planning and Development and Transportation divisions.

Saskatoon Transit is committed to doing better! One of the primary aims is to connect our community by providing professional, reliable, safe and affordable mobility options.

Comprehensive Downtown Parking Strategy Update

Recommendation

That the information be received.

Topic and Purpose

The purpose of this report is to present the key directions of the Comprehensive Downtown Parking Strategy, as prepared by the City of Saskatoon's parking consultant.

Report Highlights

1. The preparation of a Comprehensive Downtown Parking Strategy (Parking Strategy) was a recommendation of the City Centre Plan.
2. The purpose of the Parking Strategy is to guide the parking decisions and actions as the City of Saskatoon (City) grows to a population of 500,000.
3. The key directions of the Parking Strategy are divided into two categories:
 - a) how to address current parking challenges; and
 - b) how to plan for future needs.
4. The Parking Strategy includes a potential Implementation Plan identifying short- and long-term actions.

Strategic Goals

This initiative supports the City's Strategic Goals of Moving Around and Economic Diversity and Prosperity by investing in infrastructure needed to support an efficient transportation system and help sustain economic growth in the Downtown.

Background

At its June 23, 2014 meeting, City Council approved the report entitled "Proposed Comprehensive Downtown Parking Strategy." The study area for the Parking Strategy includes the Downtown, River Landing, and Riversdale and Broadway Business Improvement Districts (BIDs).

At its October 27, 2014 meeting, City Council approved the award of the contract for the Parking Strategy to the team led by the BA Group Ltd. (Toronto) and CIMA+ Engineering (Saskatoon).

Report

City Centre Plan Recommended a Parking Study

The Parking Strategy was a recommendation of the City Centre Plan, which viewed parking as a key piece to the long-term success of the Downtown.

As discussed in the City Centre Plan, in order for the Downtown to grow, development will be required to take place on vacant lots. These vacant lots occupy roughly 26% of

Comprehensive Downtown Parking Strategy Update

the Downtown and make up a high percentage of parking needs. In order for these sites to be developed, the existing parking, as well as the additional parking needs of the new building occupants, must be accommodated. This can be done in three ways:

- a) improved transit options;
- b) improved active transportation options; and
- c) other parking options, including structured parking.

The Growth Plan to Half a Million and Active Transportation Plan are addressing the first two strategies. The Parking Strategy is examining the third option.

The Parking Strategy

The Parking Strategy recommends actions to address existing conditions and challenges, presents a long-term vision for the City's parking system, determines future needs, and provides an action plan that will lead to achieving the vision. The Parking Strategy also identifies funding strategies, incentives, and partnership options that will lead to the development of structured parking facilities in the Downtown and help provide an appropriate supply of parking over the long term. The Parking Strategy supports the transportation strategies outlined in the City's Growth Plan to Half a Million.

Key Directions

The key directions of the Parking Strategy are divided into two categories:

- a) how to address current parking challenges; and
- b) how to prepare for future needs.

The consultant's key directions, as presented at the March 2016 open house, include the following:

- a) reduce the amount of reserved parking spaces Downtown;
- b) provide additional publicly-available off-street parking spaces;
- c) transition to a model where the City manages a larger percentage of the overall downtown parking inventory through a centralized municipal parking enterprise;
- d) prepare a financial strategy to develop and manage additional off-street parking resources, including public parking structures;
- e) explore amendments to Zoning Bylaw No. 8770 (Zoning Bylaw) to add required minimum parking standards for all uses Downtown;
- f) offer of a payment in lieu option for required parking, with the funds used to help provide public parking facilities;
- g) provide structured parking to enable vacant lots to become developed, thereby adding density, which is key for transit and active transportation options;
- h) explore partnership opportunities to ensure additional structured parking facilities are developed by both the private and public sectors; and
- i) continue to improve the transit, cycling, and pedestrian system to help reduce the number of people driving to the Downtown.

Comprehensive Downtown Parking Strategy Update

Implementation Plan

The consultant's Parking Strategy provides an Implementation Plan with short-term and long-term recommendations. Some of the short-term recommendations include:

- a) amendments to the Zoning Bylaw to provide parking requirements in the B6 Zoning District;
- b) consolidation of the management of on- and off-street parking assets into one division; and
- c) working with private parking lot owners to reduce the amount of reserved parking spaces.

Long-term recommendations include:

- a) acquiring and developing surface parking lots, especially on the sites identified for future parking garages;
- b) investing in the provision of new parking garages in order to free up existing surface parking lots for new development; and
- c) continuing to focus on bicycle parking, transit improvements, and automobile-sharing services to reduce the need for parking spaces into the future.

Public and/or Stakeholder Involvement

Consultation efforts focused on interviews with key stakeholders, as well as two open houses and online surveys. A steering committee was assembled to guide the study. The steering committee included members of the Administration, the Directors of the City Centre area BIDs, and other Downtown stakeholders. Interviews with 29 key stakeholders were completed in December 2014. These stakeholders included business owners, large employers, developers, and real estate professionals. In March 2016, the proposed key directions were presented to the stakeholder group. Two public open houses and two online surveys were also part of the engagement process. The information gathered from the stakeholders, public, and steering committee members, as well as the knowledge and experience of the parking consultants, led to the development of the Parking Strategy.

Communication Plan

The Administration will be reviewing the consultant's recommendations over the next few months and will bring forward recommendations, implementation strategies, and appropriate communication plans in due course. The Administration will continue to communicate with stakeholders throughout the review and implementation process.

Policy Implications

The Parking Strategy recommends amendments to the Zoning Bylaw. Any possible amendments will follow the required public notification process prior to consideration by City Council.

Comprehensive Downtown Parking Strategy Update

Financial Implications

There are no immediate financial implications as a result of this information report. However, as possible implementation options are brought forward, any financial implications would also be brought forward at that time.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

The Administration will bring forward appropriate implementation strategies to Committee and City Council in due course, beginning in 2017.

Public Notice

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

Attachment

1. Downtown Parking Strategy – City of Saskatoon

Report Approval

Written by: Paul Whitenect, Senior Planner, Neighbourhood Planning Section
Reviewed by: Alan Wallace, Director of Planning and Development
Angela Gardiner, Director of Transportation
Andrew Hildebrandt, Director of Community Standards
Jeff Jorgenson, General Manager, Transportation and Utilities Department
Approved by: Randy Grauer, General Manager, Community Services Department

S/Reports/2016/PD/TRANS – Comprehensive Downtown Parking Strategy Update/ks



DOWNTOWN PARKING STRATEGY CITY OF SASKATOON

Prepared For: City of Saskatoon

April 19, 2016



© BA Consulting Group Ltd.
45 St. Clair Avenue West, Suite 300
Toronto, ON M4V 1K9
www.bagroup.com

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1.0 EXECUTIVE SUMMARY

1.1 STUDY PURPOSE

In 2013, the City of Saskatoon completed a City Centre Plan (CCP) in order to provide a comprehensive planning framework for the Downtown and vicinity. This plan sets the groundwork for policy and development decisions that will guide and direct future growth throughout five key areas in the Downtown. The provision of parking to support and facilitate new development has been identified as a critical element of the plan.

Existing surface parking lots represent future development sites, however, many of these lots provide parking for Downtown employees and visitors that would have to be replaced. The key challenge will be how best to achieve a transition to structured parking garages that will facilitate new development on existing surface lots and encourage adaptive re-use of older buildings for new mixed use development.

At the same time, the City has been working on its new “Growing Forward” growth plan that will guide and direct an increase in population from 250,000 people to 500,000 people over the next 25 to 30 years, including a commensurate growth in employment throughout the city. This plan includes an overall transportation plan for the city to accommodate the growth and increase the use of Active Transportation options such as public transit, walking and cycling. The transportation plan is intended to achieve a decrease in single occupant vehicle travel into the downtown that will in turn reduce the long term need for parking, particularly employee or commuter related.

Although the major focus of this study is on the downtown, we have also considered the parking situation in the Riversdale and Broadway Business Improvement Districts as well.

Accordingly, we have reviewed existing parking conditions, considered future development potential including relevant aspects of the City’s Growing Forward Plan and provided recommendations regarding:

- the City’s future role in the provision of shared public parking resources;
- the integration of Transportation Demand Management considerations into its parking strategy;
- proposed amendments to the parking supply requirements in the zoning by-law;
- the creation of a payment in lieu of parking policy;
- a funding plan;
- short term operational considerations;
- a parking system management structure.

1.2 STAKEHOLDER CONSULTATION

Valuable input has been invited and received from a wide variety of stakeholders over the course of the study including:

- the Steering Committee
- the Downtown Partnership BID, Broadway BID and Riversdale BID
- Downtown Retailers and Restaurateurs
- Large Downtown Employers
- Developers and Architects



- Private Parking Operators
- the general public

Two public open houses have been held, one on Wednesday March 25, 2015 to provide a preliminary report on existing conditions and next steps and more recently a second open house was held on Monday March 7, 2016 to provide a summary of the analysis and preliminary recommendations. Presentations were provided to various stakeholder groups during the course of the study. Public input was also invited via the Shaping Saskatoon website by submitting comments to parking.study@saskatoon.ca.

1.3 EXISTING PARKING CONDITIONS

The study area consists of four broad districts including Downtown, Kinsmen, Riversdale and Broadway (see Figure 1). The Downtown area was further divided into five sub areas (Warehouse, North Core, Core, South Core and Midtown) to provide a more localized review of supply and demand (illustrated in Figure 4).

A summary of parking supply by type and by area is provided in Table 1.

TABLE 1 STUDY AREA EXISTING PARKING SUPPLY

Parking Type	Downtown	Kinsmen	Riversdale ¹	Broadway	Total Supply	
Municipal On-Street	1,860	655	574	837	3,926	19%
Municipal Off-Street	418	346	70	-	834	4%
Commercial Off-Street	5,592	90	415	-	6,097	30%
Private Off-Street	5,399	2,594	1,239	545	9,777	47%
Total	13,269	3,685	2,298	1,382	20,634	100%

Notes:

1. Parking occupancy surveys were not conducted west of Avenue H within the Riversdale study area. This area's parking supply (688 spaces including 208 on-street and 480 off-street spaces) has been removed from the total study area supply in order to calculate parking occupancy.

There are a total of 20,634 parking spaces within the study area comprised of on-street, municipal (public) off-street (owned by the City), commercial (public) off-street (privately owned/operated) and private off-street parking (not available for public parking).

It is noteworthy that almost 50% of the total parking supply within the study area (41% in the downtown) is private off-street parking that serves specific employer buildings but is not available to the general public. Historically buildings in the downtown area have supplied at most, 50% of their parking needs on site because a large portion of the area is located in a parking exempt zone (i.e. B6) for commercial uses that does not require the provision any parking for these uses.

The municipal parking supply within the study area (23% of total supply) is significantly lower than most other municipalities. In the downtown, the municipal portion is only 17%. BA Group's experience has been that municipalities which play a strong role in providing shared public parking resources to support development



generally provide approximately 35% to 50% of the total supply in key areas, especially when a parking supply exempt zoning by-law area is provided in order to encourage new development.

In order to understand how much of the existing parking is being used and identify locations that might have a need for additional supply, parking occupancy counts were conducted for the study area parking supply. A summary of the publicly available parking supply, peak parking demand and number of vacant spaces based upon parking occupancy surveys conducted by the consulting team is provided in Table 2 for each of the sub-boundaries established within the study area. As a conservative approach only the publicly available parking supply has been included in the parking analysis. The study area's vacant parking supply could be increased if owners of private parking facilities have excess supply that they are willing to lease to the public (either for monthly or transient users).

TABLE 2 STUDY AREA PEAK PARKING DEMAND SUMMARY

Study Area	Total Parking Supply	Total Publicly Available Supply ¹		Peak Publicly Available Parking Demand				
		# spaces	% total supply	Time ²	# spaces	% OCCUPIED	Number of vacant spaces	
Downtown	Midtown	2,411	2,169	90%	1:00 pm	1,355	62%	814
	Core	3,843	2,005	52%		1,503	75%	502
	South Core ³	2,855	2,073	73%		1,340	65%	733
	Warehouse	1,538	399	26%		185	46%	214
	North Core	2,622	1,224	47%		464	38%	760
	Total	13,269	7,870	59%		4,847	62%	3,023
	Kinsmen	3,685	1,091	30%	2:00 pm	497	46%	594
	Riversdale	2,298	1,059	46%	1:00 pm	402	38%	657
	Broadway	1,382	837	61%	1:00 pm	590	70%	247

Notes:

1. Publicly available parking excludes private parking.
2. The peak parking demand across the Downtown study area occurred at 1:00 pm.
3. The below grade public parking facility (approximately 155 spaces) in the Remai Art Gallery of Saskatchewan was not included in the parking demand surveys as it was under construction. It is anticipated that most of the parking supply in the new garage will be utilized by visitors and staff to the Remai Art Gallery of Saskatchewan and the Persephone Theatre.

As summarized in Table 2, the *occupancy* level achieved in each of the study sub-areas is well below the 85 to 90% threshold typically considered to indicate a parking supply shortfall. It should also be noted that many of the private parking facilities not available to the public have significant vacancies as well, some of which could be used to accommodate additional parking demands generated by absorption of existing vacant office space.¹ However the following points should be noted:

¹ From current Downtown vacancy rate of 13.53% to a typical rate of 5%.



- While it appears that there is sufficient vacant public parking available within each area during the peak period, discussions with stakeholders suggests that some employers within the Downtown have difficulty securing large blocks of monthly rate off-site parking for employees on a long term basis.

For example, two large employers secure a substantial amount of parking for their employees within an existing private parking facility in order to supplement the insufficient supply provided in the buildings where they occupy space. However, they are vulnerable to losing this supply if the off-site parking is redeveloped.

- In general, many buildings throughout the Downtown meet only half of their actual parking needs on their own building sites and rely on the use of public surface lots to meet the remainder of the parking demand generated by employees in the buildings.
- A number of parking lots across the City provide dedicated reserved parking spaces within public parking facilities instead of providing a monthly parking permit with access to a common pool of parking. The practice of reserving particular spaces limits the effective capacity within a parking facility (as certain spaces can only be occupied by a specific user regardless of whether or not they are parking at a given time) and does not maximize a parking facility’s revenue potential.
- Because the City of Saskatoon controls a relatively small portion of the overall parking supply (i.e. 23% in total, only 4% off-street), it has limited scope to assist in providing parking to meet employee demand in the Downtown area.
- On-street parking within the Downtown (particularly within the Core, South Core and North Core areas) typically peaks in the early evening (7:00 pm) when on-street parking is free and no parking restrictions are in place. However, there is an ample supply of publicly available off-street parking available to accommodate demands that cannot be met in the municipal on-street parking.

1.4 FUTURE DEVELOPMENT CONSIDERATIONS

One of the key components of the parking strategy is an assessment of future growth and its impact on future parking conditions and requirements, including the role that the City could play in facilitating development from a parking perspective.

In order to understand the potential parking implications associated with new development, we have worked with the City to create an estimate of future parking supply and demand for each study sub-area. While the estimates should be viewed as conceptual in nature, they do serve to provide an outline of the potential parking challenges in meeting the City’s desired development goals and objectives for the Downtown as set out in the City Centre Plan that was created in 2013 and endorsed by City Council.

The parking demand generated by new development combined with the loss of existing surface lots that will become future development sites will present a significant challenge as many existing employers and employees rely on the use of the existing lots. Since most new developments provide only enough parking to meet approximately half of their actual needs, new development will create substantial additional demand for new off-site parking unless:



- public transit use increases substantially;
- existing public and private parking resources are managed more efficiently; and
- new developments increase the amount of parking they provide to meet their own needs and/or the City assists in meeting some of the demand with public parking garages.

Table 3 provides a summary of the potential parking impacts generated by future development within the study area for two levels of office development. The lower end of the range includes approximately 1.8 million square feet of new office space, which assumes that the downtown share of future office development declines to approximately 60% of its existing share.² The higher end of the range includes approximately 2.9 million square feet of new office space, which assumes that the existing downtown share of the office market continues into the future. It also provides an estimate of the impact of increased transit use on reducing the need for future parking supply over the long term in accordance with the transportation component of the growth plan.

If a strategy is not developed to address the transformation challenge from surface lots to development sites and the long term need for public parking resources, the future development aspirations included in the City Centre Plan will not be realized.

TABLE 3 FUTURE LONG TERM PARKING SUPPLY DEFICITS SUMMARY

Area	1.8 Million Sq.ft. New Office Downtown		2.9 Million Sq.ft. New Office Downtown	
	Existing 10% Transit Mode Split	Future 25% Transit Mode Split	Existing 10% Transit Mode Split	Future 25% Transit Mode Split
Midtown	-671 spaces	-378 spaces	-671 spaces	-378 spaces
South Core	-1,037 spaces	-531 spaces	-1,810 spaces	-1,134 spaces
Core	-541 spaces	-121 spaces	-683 spaces	-172 spaces
North Core	-306 spaces	-98 spaces	-580 spaces	-296 spaces
Warehouse	72 spaces	+113 spaces	+33 spaces	+83 spaces
Downtown Sub-Total	-2,483 spaces	-1,015 spaces	-3,711 spaces	-1,897 spaces
Kinsmen	-205 spaces	+76 spaces	-205 spaces	+76 spaces
Riversdale	-236 spaces	+38 spaces	-236 spaces	+38 spaces
Broadway	-31 spaces	+104 spaces	-31 spaces	+104 spaces
Sub-Total	-472 spaces	+218 spaces	-472 spaces	+218 spaces

² This lower share of future office development has been used for planning purposes in the new growth plan.



It is apparent from Table 3 that an important consideration in future parking requirements is the expected increase in transit utilization from the existing level of 10% to 25% due to the substantial investment in new transit service proposed in the growth plan, including BRT service for the downtown. Increased transit use over the long term will reduce the need for office related parking facilities in the downtown by 1450 to 1800 parking spaces, resulting in a capital cost savings of \$72.5 to \$90.0 million at existing prices of approximately \$50,000 per space for new above grade garages.

However, even with the improved transit system in place, the need for public parking facilities beyond those provided on specific development sites could range from 1,000 to 1,900 parking spaces, depending upon the level of office development achieved over the long term. This represents the need for a potential long term municipal investment of \$50.0 million to \$95.0 million at existing prices for new above grade garages in order to address the deficiency and facilitate the realization of the downtown City Centre Plan endorsed by Council.

1.5 KEY CONCLUSIONS & RECOMMENDATIONS

1. The City needs to play a greater role in the provision of off-street public parking facilities in order to facilitate future development in the downtown in accordance with the Council approved City Centre Plan.
 - a) In the long term, 1,000 to 1,900 public parking spaces in three or more garages could be required in addition to the supply that will be provided by new development;
 - b) The new public parking facilities need to be strategically located to facilitate economic development, maximize utilization and minimize development cost;
 - c) In order to maximize future development potential in the Midtown area, approximately 600 new parking spaces may be required for the existing TCU Place which presently does not supply any parking to meet its own needs;
 - d) In order to facilitate future development in the Core and South Core areas of the downtown, 650 to 1,300 new public parking spaces may be required in at least two locations;
2. The parking deficiencies and need for public parking garages identified within the various sub-areas of the Downtown are a result of numerous factors including:
 - o there are not any parking supply requirements for a large part of Downtown area in the B6 zone;
 - o the parking supply typically provided by developers for commercial development is well below the typical demand; and
 - o the redevelopment sites are all located on existing commercial parking facilities that would be removed as part of the redevelopment.



3. The need for additional parking across the study area will be substantially reduced by :
 - o Continuing to implement Transportation Demand Management (TDM) initiatives focused on increasing mobility options and reducing parking demand over time, especially improved transit service to/from the Downtown;
 - o Improving the efficiency of the existing public and private parking supply by eliminating the practice of dedicated reserved spaces within parking lots and encouraging private parking operators to offer more spaces to the general public;
 - o Amending the Zoning Bylaw to require new development to include a minimum supply of parking on site and/or making a cash in lieu contribution to the City for parking that cannot be provided on site in order to assist in funding municipal shared public parking resources in key areas.

4. In order for the City to position itself to effectively address future parking planning and management challenges it should:
 - a) Consolidate parking operations and finances for both on-street facilities and off street parking lots and potential future garages in one department;
 - b) Create a plan to allocate net revenue from both on-street and off street parking operations to a parking reserve fund to assist in financing future shared public parking resources;
 - c) Allocate the proceeds of any future parking lot sales to the parking reserve fund;
 - d) Maintain ownership of all existing surface parking lots until a plan is created that clearly confirms which lots are not required to meet future parking needs;
 - e) Explore joint venture development opportunities on the old Police Station site to secure additional public parking.
 - f) Plan for the construction of a public parking garage on the surface lots it already owns adjacent to the YMCA in the Midtown sub-area of the Downtown;
 - g) Identify preferred locations in the South-Core area of the Downtown to provide a future public parking facility by acquiring a development site or in joint development with an existing landowner/developer;
 - h) Implement a minimum parking supply requirement for new commercial development in the downtown of one space per 37 square metres GFA (2.7 spaces per 100 square metres).
 - i) Consider a Payment in Lieu (PIL) parking policy that would allow a developer to make a cash payment per space to the City for each parking space they are unable to provide on the site of the new development.



5. In the short term, the City should undertake the following initiatives to improve existing parking operations:
- a) Increase the maximum duration of stay time limits for on-street parking in the Downtown to three hours everywhere except for 21st Street and 2nd Avenue which should be two hours (except the block in front of the Scotiabank Theatre);
 - b) Investigate opportunities to provide additional on-street parking including changes from parallel to nose in parking where feasible;
 - c) Ensure that the surface parking lots it controls do not lease out reserved parking spaces;
 - d) Work with owners of private surface parking lots and encourage them to consider the strategic importance of eliminating/ minimizing reserved parking in order to increase general public parking availability.
 - e) Lease strategically located surface lots with a view to operating them with monthly employee scramble parking in place of reserved monthly parking.



2.0 INTRODUCTION

2.1 STUDY PURPOSE

In December 2013, the City completed the City Centre Plan (CCP) in order to provide a comprehensive planning framework for the Downtown and vicinity. This plan sets the groundwork for policy and development decisions that will guide and direct future growth throughout five key areas in the Downtown. The provision of parking to support and facilitate new development has been identified as a critical element of the plan. Existing surface parking lots represent future development sites, however, many of these lots provide parking for existing downtown employees and visitors that would have to be replaced. The key challenge will be how best to achieve a transition to structured parking garages that will facilitate new development on existing surface lots and encourage adaptive re-use of older buildings for new mixed use development.

Although the major focus of this study is on the Downtown, we have also considered the parking situation in the Riversdale and Broadway Business Improvement Districts as well.

2.2 BACKGROUND

Improved urban design is one of the key strategies of the City Centre Plan. The reduction of surface parking and conversion of these land resources into new building sites will substantially improve the quality of urban design by creating an urban streetscape and more compact development form. This will in turn provide more feet on the street to support local commercial business. However, the parking demand generated by new development combined with the loss of existing surface lots will amplify the need to develop strategically located parking structures in the Downtown area.

The City has also completed studies for both the Riversdale and Broadway districts that are intended to guide and direct future development in these areas.

The City currently provides parking services to support the Downtown and surrounding areas (including the Kinsmen, Riversdale, Broadway and River Landing areas) predominantly by supplying some 3,926 on-street spaces and 457 spaces in 10 off-street surface lots.³ Commercial and office uses in the Downtown's B6 Zoning District are exempt from providing parking (i.e. no parking requirements set out in the Zoning Bylaw) as a development incentive. This has resulted in the provision of insufficient supply on most development sites to meet the parking demand generated by the building on the site. This in turn has encouraged the demolition of buildings to create surface parking lots instead of new development because land values and parking market pricing were insufficient to cover the cost of constructing structured parking from a development economics perspective. It has also contributed to the misuse of some on-street parking (intended for use by short duration visitors) by employees in the Downtown because they are unable to find proximate off-street parking.

Growing Forward – Shaping Saskatoon is examining various options for moving around including improved public transit, corridor redevelopment and potentially a new core bridge. Improving transportation access

³ This includes 4 public parking lots operated by the parking department, 3 lots owned by the land division (including the old Police Station) but operated by private parking companies and 3 lots used for City Hall employees.



to/from Downtown by increasing transit service, enhancing the cycling and pedestrian network are also identified in the City Centre Plan as important goals for long term sustainable development. Managing transportation demand over the medium to long term is an important element of a municipal parking strategy because it will, if done effectively, reduce demand for expensive parking structure spaces, thereby improving development economics and minimizing the amount of space required for parking. It will also facilitate higher density development and the demand for active transportation.

2.3 STUDY SCOPE

This Downtown Parking Strategy reviews the existing parking demand within the Downtown, Kinsmen (north of Downtown), Riversdale and Broadway areas. It should be noted that the Riversdale and Broadway study areas discussed within this study do not follow the exact boundaries of the actual Riversdale and Broadway Business Improvement (BID) Districts. For the purposes of this study, the Riversdale and Broadway area boundaries include key corridors within the area rather than exact Business Improvement District boundaries and River Landing has been incorporated into the Downtown and Riversdale study areas.

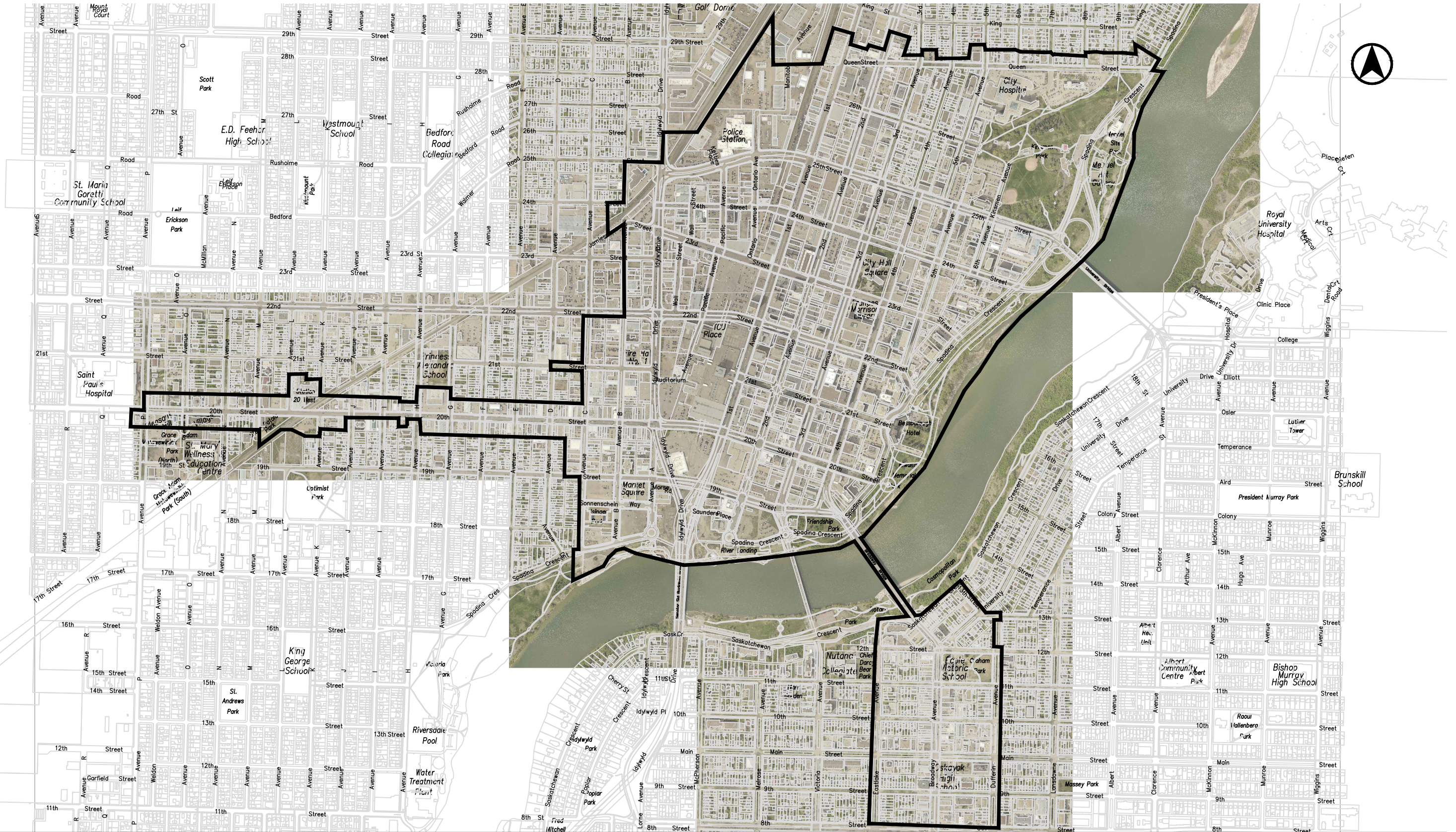
The overall study boundary is illustrated in Figure 1.

This report provides an overview of the following:

1. A review of the consultation process undertaken as part of this study.
2. A profile of existing parking conditions within the study area.
3. A review of potential future developments within the study area.
4. The development of a Parking Management Plan based on future parking demand estimates and taking into account existing vacancies and future development sites within the study area.
5. The opportunities to potentially reduce future parking demands using Transportation Demand Management (TDM) initiatives.
6. A review of the financial considerations to meet future parking needs (including considerations for structured parking, metered parking, and surface parking).
7. The development of short and long-term recommendations regarding a parking management strategy for the future.



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STUDY BOUNDARY

3.0 STAKEHOLDER & PUBLIC CONSULTATION PROCESS

Public consultation has been undertaken throughout the study in order to inform and guide the process. Meetings with key stakeholders were held early on in the study over a three day period (November 3 – 5, 2014) to ensure that those who are or feel that they are affected by parking issues within the study area have been given the opportunity to provide feedback early on in the process. Consultation included meetings with the following stakeholders:

- Steering Committee
- Downtown Partnership BID, Broadway BID and Riversdale BID
- Downtown Retailers and Restaurateurs
- Large Downtown Employers
- Developers and Architects
- Private Parking Operators

A subsequent meeting was held with the Steering Committee on March 24, 2015 to discuss initial findings. The Steering Committee includes members from numerous City of Saskatoon departments (including Planning and Development Division, Transportation and Utilities Department, Environmental and Corporate Initiatives Division, Saskatoon Land Division and Community Services Department), the Downtown Partnership Business Improvement District, the Broadway Business Improvement District, the Riversdale Business Improvement District, the parking manager of the Midtown Plaza and the manager of the City's new parking meter system.

An open house was held on March 25, 2015 (4:00 pm to 9:00 pm) to present initial findings to the public and collect feedback. A presentation was made by BA Group at two separate times during the open house (5:00 pm and 7:00 pm) in an attempt to accommodate as many people as possible. Each presentation was followed by a question and answer period. Downtown, Broadway and Riversdale BID representatives attended the open house as well as some City Councillors and members of the public. City staff was also present to answer questions and solicit feedback.

Public feedback regarding Downtown parking has been ongoing. City staff prepared presentation boards for the open house summarizing key insights and findings that had been received to date (Presentation Board information is attached in Appendix A) and to determine if there were any additional concerns that may have been missed. Additional feedback from the Open House (March 25, 2015) was collected through a variety of methods including response forms, suggestion/idea board, email, and social media. An online poll was also conducted asking members of the public (visitors, business owners, residents and employees) to identify key challenges to parking and what actions they believe would help address parking concerns. Comments were received regarding the cost of parking, increasing the parking time restrictions, insufficient parking for Downtown employees, improvements to alternative modes of travel including public transit, carpooling and cycling facilities.

Stakeholder meetings as well as meetings with local private parking operators, the City of Saskatoon and BA Group were held on March 26, 2015 to discuss existing parking operations, general area parking demands and vacancies.



A Steering Committee meeting was held on January 19, 2016 in order to present preliminary conclusions and recommendations and secure comments.

An additional series of stakeholder meetings and a public open house was held on Monday March 7, 2016 to provide an overview of the preliminary study conclusions and recommendations and obtain comments (Presentation boards are provided in Appendix A). People were also invited to submit comments by emailing parking.study@saskatoon.ca



4.0 EXISTING PARKING CONDITIONS

4.1 STUDY AREA OVERVIEW

A review of parking availability across the entire study area has been undertaken to establish the existing parking supply (public and private), to determine what is driving existing parking conditions, how well the existing supply is being used or managed and how this information should be used to forecast future parking demand.

4.1.1 Study Area Boundaries

The study area boundary (including the Central Business District boundary) was developed by the City of Saskatoon as part of the RFP (Request for Proposals) process. Based on discussions with City staff the study area was broken down into sub-boundaries (Downtown, Kinsmen, Riversdale and Broadway), as follows (illustrated in Figure 2):

- The Downtown area was further subdivided into five areas (Warehouse, North Core, Core, South Core and Midtown) to provide a more localized review of supply and demand throughout this study (illustrated in Figure 3).
- The Kinsmen study area is generally bounded by 25th Street to the south, Spadina Crescent to the east, Queen Street to the north and Idylwyld Drive to the west.
- The Riversdale study area extends from Idylwyld Drive (on the east) along 20th Street West to Avenue P. The Riversdale area also includes the area generally bounded by Spadina Crescent West to the south, Avenue C to the west, Idylwyld Drive to the east and 25th Street West to the north. For the purposes of this study, the Riversdale area boundaries have been modified to include key corridors within the area rather than exact neighbourhood boundaries.
- The Broadway study area is generally bounded by Saskatchewan Crescent to the north, Eastlake Avenue to the west, 8th Street East to the south and Dufferin Avenue to the east. For the purposes of this study, the study boundaries also include key corridors within the area rather than exact neighbourhood boundaries.

4.1.2 Parking Inventory

A comprehensive inventory of public and private parking and parking rates was conducted by CIMA+, in partnership with BA Consulting Group. Area parking supply information was provided by the City of Saskatoon and confirmed by CIMA+, where possible. Parking supply information was also obtained from the private parking operators for public off-street pay lots and directly from property owners and/or managers for some buildings. The area parking supply consists of public on-street parking, public off-street parking (municipal and privately owned parking that is available for public use) and private off-street parking. A general description of each type of parking is provided below:

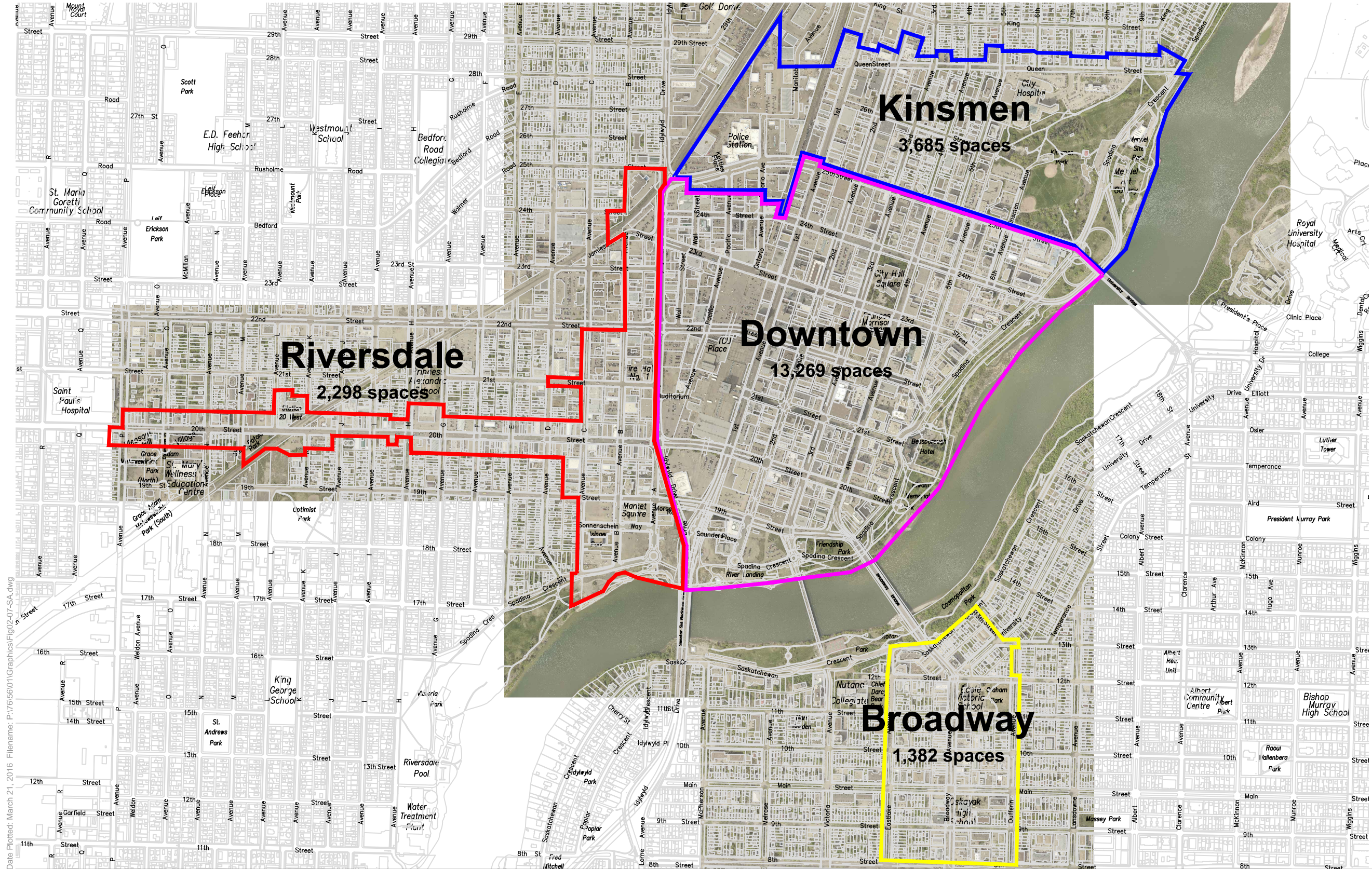
- **Public on-street parking:** includes “metered” parking (delineated street parking with meter heads), pay by license plate street blocks and free non-delineated street parking that is available for public



use. Two dollar (\$2) hourly rates are standard for paid on-street parking. Parking meters require payment from Monday to Saturday from 9:00 am to 6:00 pm. Time limits for metered parking range from 90 minutes to 3 hours with the majority being either 90 minutes or 2 hours. An overview of the on-street parking time restrictions is illustrated in Figure 4. The City has implemented a new on-street parking system that replaced meters with pay by license plate machines, from February to November 2015.

- **Municipal off-street parking:** includes paid and unpaid municipally owned parking lots and structured parking facilities that are available for public use including facilities controlled by the Land Division as well as lots provided for City Hall employees. Nine hour time restrictions apply to several lots across the Downtown (illustrated in Figure 4). Where applicable, hourly rates are two dollars (\$2) at paid facilities. Monthly parking is also provided in certain lots.
- **Commercial (public) off-street parking:** includes paid commercial (privately owned) parking lots and structured parking facilities that are available for public use. Where applicable, hourly rates range from one (\$1) to four (\$4) dollars, daily rates range from five (\$5) to fifteen (\$15) dollars, and monthly rates ranged from seventy-five (\$75) to three hundred (\$300) dollars depending on parking lot type (i.e. above-grade, surface or below-grade) and option to reserve a dedicated parking space within the lot.
- **Private off-street parking:** consists of parking that is not available to the general public (free or paid). Private off-street parking includes spaces located in private parking lots and garages and reserved parking spaces dedicated to a specific user or group.

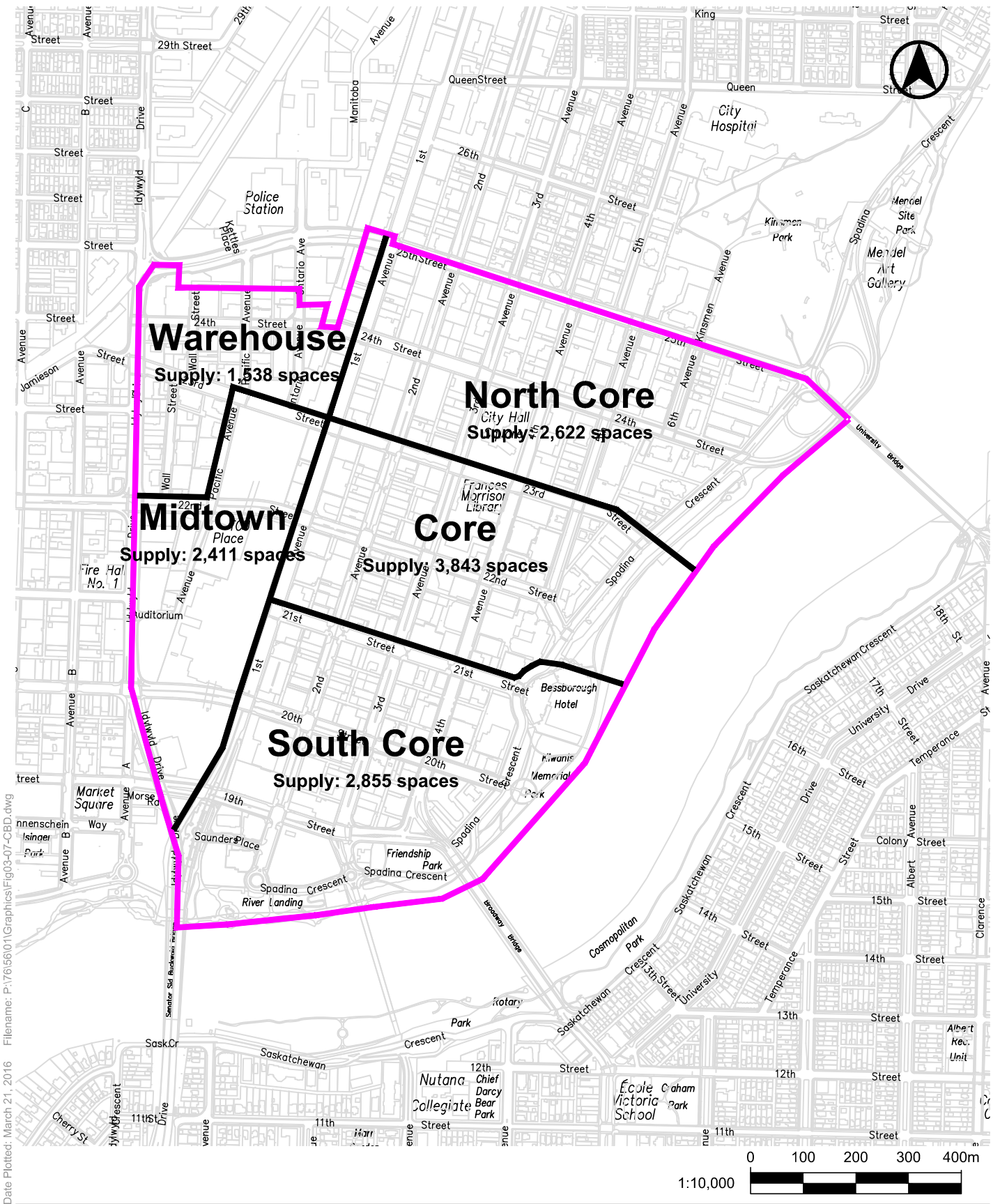




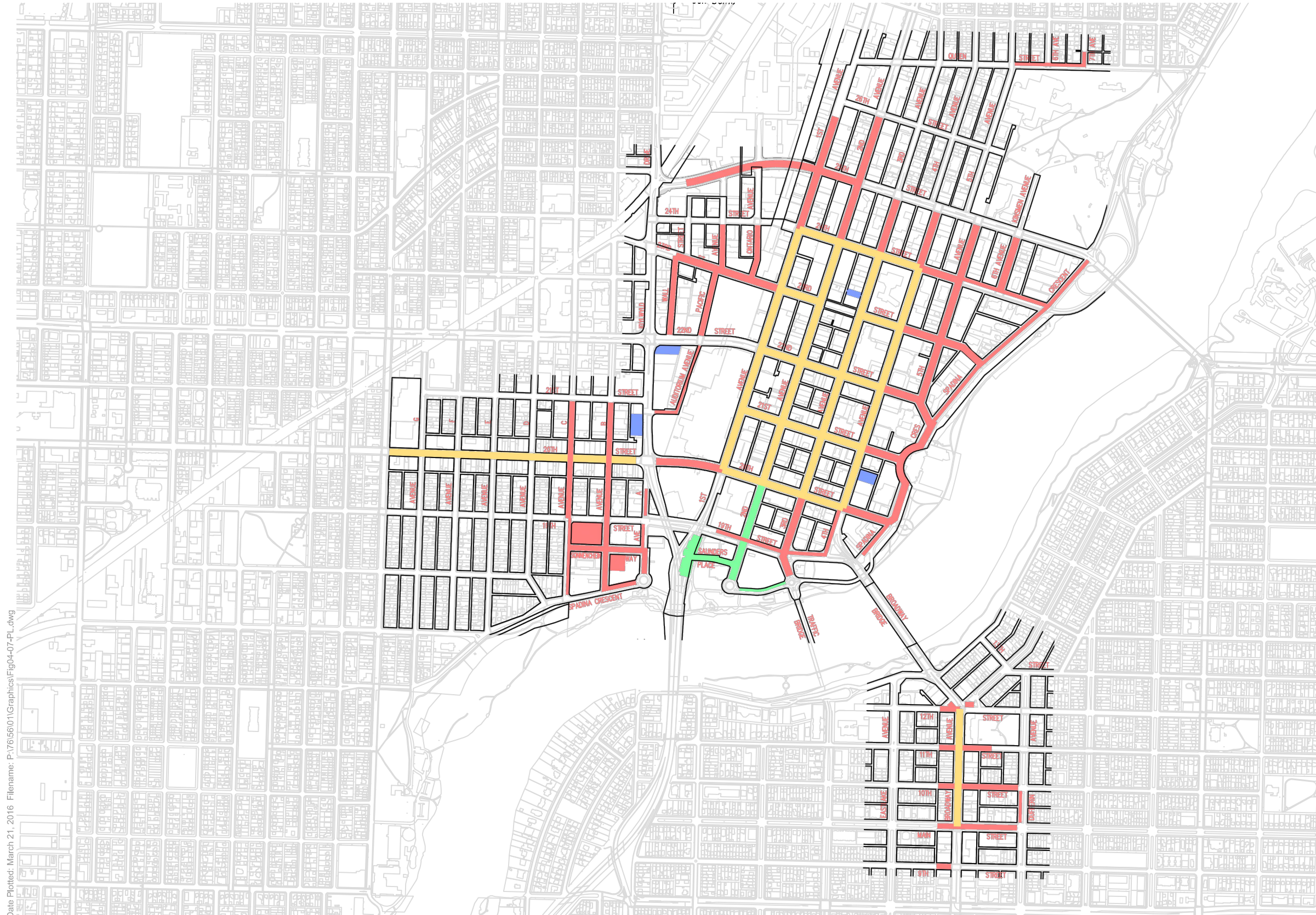
LEGEND
1,382 AREA SUPPLY

STUDY AREAS

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DOWNTOWN - BY AREA



- 1.5 HOUR PARKING
- 2 HOUR PARKING
- 3 HOUR PARKING
- 9 HOUR PARKING

MAXIMUM PARKING METER TIMES

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4.2 EXISTING PARKING SUPPLY

In total, the study area's parking supply consists of 20,634 spaces of which there are 3,926 on-street parking spaces, 6,698 publicly available off-street parking spaces (including 457 municipal off-street parking spaces and 6,241 commercial (paid) parking spaces) and 10,010 private off-street parking spaces⁴. A summary of the parking supply within the study area is provided in Table 4 and detailed information is provided in Appendix B.

TABLE 4 STUDY AREA PARKING SUPPLY

Parking Type	Downtown	Kinsmen	Riversdale ¹	Broadway	Total Supply	
On-Street	1,860	655	574	837	3,926	19%
Municipal Off-Street	418	346	70	-	834	4%
Commercial Off-Street	5,592	90	415	-	6,097	30%
Private Off-Street	5,399	2,594	1,239	545	9,777	47%
Total	13,269	3,685	2,298	1,382	20,634	100%

Notes:

1. Parking occupancy surveys were not conducted west of Avenue H within the Riversdale study area. This area's parking supply (688 spaces including 208 on-street and 480 off-street spaces) has been removed from the total study area supply in order to calculate parking occupancy.

The City of Saskatoon controls 23% of total parking supply within the study area. It predominantly consists of on-street parking with little off-street facilities (19% on-street and 4% off-street). It is noteworthy that the municipal off-street parking supply (4% of total supply) within the study area is significantly lower than most other municipalities. BA Group's experience has been that municipalities which play a strong role in providing shared public parking resources to support development generally provide approximately 35 to 50% of the total supply in key areas. Examples include the Cities of Barrie (50%), Brampton (57%), Kitchener (44%), Oakville (60%), Oshawa (70%) and Waterloo (70%).

⁴ It should be noted that based on discussions with the City, parking occupancy surveys were not conducted west of Avenue H within the Riversdale area. This area (west of Avenue H) has an estimated parking supply of 688 spaces, including 208 on-street and 480 off-street spaces, which has been excluded from the total parking supply for the purposes of calculating area parking demands.



4.3 EXISTING PARKING DEMAND SUMMARY & KEY FINDINGS

The following sections provide a summary of the key findings of the parking demand surveys across the study area. Detailed parking demand analysis is provided in Appendix D.

4.3.1 Downtown

- A summary of the parking supply by type (on-street, municipal, commercial and private) within each area in the Downtown is provided in Table 5.

TABLE 5 DOWNTOWN PARKING SUPPLY – BY AREA

Parking Type	Midtown	Core	South Core	Warehouse	North Core	Total Supply	
On-Street	107	496	700	223	334	1,860	14%
Municipal Off-Street	187	158	56	0	17	418	3%
Commercial Off-Street	1,875	1,351	1,317	176	873	5,592	42%
Private Off-Street	242	1,838	782	1,139	1,398	5,399	41%
Total	2,411	3,843	2,855	1,538	2,622	13,269	100%

- The limited municipally controlled off-street parking within the Downtown (1% of the total supply) restricts the City’s ability to manage overall supply and maintain a sufficient amount of parking within an area.
- There are a total of 5,071 vacant parking spaces available within the Downtown during the busiest daytime period of which 3,023 spaces are publicly available and 2,048 are private parking spaces.
- On-street parking within the Downtown (particularly within the Core, South Core and North Core areas) typically peaks in the early evening (7:00 pm) when on-street parking is free and no parking restrictions are in place.

It is noteworthy that publicly available off-street parking demands decrease substantially after 5:00 pm, when on-street parking demands are reaching their peak.

- A summary of the parking supply (total and publicly available) and peak publicly available parking demands is provided in Table 6.

TABLE 6 DOWNTOWN PEAK PUBLICLY AVAILABLE PARKING DEMAND

Downtown Area	Total Parking Supply	Total Publicly Available Supply ¹		Peak Publicly Available Parking Demand			
		# spaces	% total supply	Time ²	# spaces	% occupied	Number of vacant spaces
Midtown	2,411	2,169	90%	1:00 pm	1,355	62%	814
Core	3,843	2,005	52%		1,503	75%	502
South Core	2,855	2,073	73%		1,340	65%	733
Warehouse	1,538	399	26%		185	46%	214
North Core	2,622	1,224	47%		464	38%	760
Total	13,269	7,870	59%		4,847	62%	3,023

Notes:

1. Publicly available parking excludes private parking.
2. The peak parking demand across the Downtown study area occurred at 1:00 pm.

4.3.2 Kinsmen, Riversdale & Broadway

A summary of the Kinsmen, Riversdale and Broadway parking supplies (total and publicly available) and peak parking demands are provided in Table 7.

TABLE 7 PEAK PUBLICLY AVAILABLE PARKING DEMAND

Study Area	Total Parking Supply	Total Publicly Available Supply ¹		Peak Publicly Available Parking Demand			
		# spaces	% total supply	Time	# spaces	% occupied	Number of vacant spaces
Kinsmen	3,685	1,091	30%	2:00 pm	497	46%	594
Riversdale	2,298	1,059	46%	1:00 pm	402	38%	657
Broadway	1,382	837	61%	1:00 pm	590	70%	247

Notes:

1. Publicly available parking excludes private parking.

4.3.2.1 Kinsmen – Key Findings

- There are a total of 3,685 spaces located within the area “Kinsmen” including 655 on-street parking spaces, 346 municipal off-street parking spaces, 90 commercial (paid) parking spaces and 2,594 private parking spaces.
- The majority of the area’s parking supply is private off-street parking (70%) which is not available for public use.
- A total of 1,514 spaces are vacant during the overall study area peak period (2:00 pm) of which 594 spaces are publicly available.

4.3.2.2 Riversdale – Key Findings

- More than half of the area's parking supply is private off-street parking (54%) which is not available for public use.
- A total of 1,387 spaces are vacant during the peak period (1:00 pm) of which 657 spaces are publicly available.
- Municipal off-street parking is well utilized throughout the afternoon and is approaching its practical capacity (i.e. 90-95% occupied) in the evening.

4.3.2.3 Broadway – Key Findings

- The municipality plays the dominant role in the supply of parking within Broadway. Sixty-one percent (61%) of the area parking supply is municipal (public) on-street parking.
- Seventy percent (70%) of the total publicly available parking (excluding private parking) is in use during the study area's busiest period (1:00 pm – 590 spaces). An additional 247 spaces are available for public use during the peak period.
- There is a significant amount of free on-street parking within the adjacent residential neighbourhood (not included as part of this study). Any changes to the parking within the adjacent residential neighbourhood (i.e. a residential permit parking program) could impact the available on-street parking supply and demand within the Broadway area.



4.4 DOWNTOWN OFFICE VACANCY CONSIDERATIONS

It should be noted that according to Colliers International's Saskatoon Office Market Report, Fourth Quarter 2014, at the time of the study the vacancy rate within the Central Business District (CBD) was 12.54% (304,314 ft²). A review of the Second Quarter 2015 Office Market Report indicated an increased vacancy rate of 14.83% within the CBD. In our experience, a typical vacancy rate within most downtown areas is approximately 5%.

Colliers International provided BA Group with a further breakdown of office vacancies within the Downtown area based on localized areas specific to the study area. The vacancy rate within the Downtown study area was 13.53% during the period in November 2014 and February 2015 when the parking occupancy surveys were conducted. A decrease in Saskatoon's vacancy rate, towards the typical rate (5%), could generate a demand for approximately 615 additional spaces in the Downtown, predominantly for employees.

This increased demand would increase the occupancy level of publicly available parking to 69% which is still well below the 85 to 90% occupancy rate that would indicate the need to provide more parking and/or implement parking demand management measures. It should also be noted that some of this new demand would likely be accommodated in the 2,092 vacant parking spaces available in existing private parking facilities many of which serve the buildings with the vacant space that would be filled. However, employers who wish to secure large amounts of monthly employee parking may find it hard to do so.

A summary of the existing vacancy rates within the localized areas of the Downtown and projected additional parking demands generated by a reduced vacancy rate (5%) is provided in Table 8.

TABLE 8 DOWNTOWN STUDY AREA OFFICE VACANCY RATES

Downtown – By Area	Total Floor Area (ft ²)	Existing Vacancy (ft ²)		Potential GFA to be occupied assuming 5% Vacancy Rate (ft ²)	Projected Parking Demands based on 5% Vacancy Rate ¹
South Core	704,684	61,953	8.79%	26,719	80 spaces
Core	1,072,721	148,542	13.85%	94,906	285 spaces
North Core	472,036	75,192	15.93%	51,590	155 spaces
Midtown	96,884	9,417	9.72%	4,573	14 spaces
Warehouse	57,322	30,000	52.34%	27,134	81 spaces
Total				204,922	615 spaces

Notes:

1. Projected parking demands are calculated based on a rate of 3.0 spaces per 1,000 ft² GFA.



5.0 FUTURE DEVELOPMENT CONSIDERATIONS

As mentioned in the Introduction (Section 1.0), one of the key components of the parking strategy is an assessment of future growth and its impact on future parking conditions and requirements, including the role that the City could play in facilitating development from a parking perspective.

The Growing Forward Growth to Half a Million Plan is intended to address the best way to accommodate a doubling of the existing population from approximately 250,000 people today to 500,000 people 30 to 40 years into the future. In order to continue to capture its current share of office employment demand, roughly 3.0 million square feet of new office space would need to be accommodated in the Downtown area.⁵ This would generate a demand for approximately 9,000 parking spaces assuming existing travel characteristics remain the same. We have also tested the impact of a lower range of future office development at approximately 1.8 million square feet of new space which represents about 60% of the demand that would occur if the downtown continued to attract its current share of new space construction. This lower share of new office space has been used in the new growth plan for planning purposes.

To date, newer office buildings in the Downtown have been supplying on-site parking at a rate that at best meets only 50% of the actual demand, relying on off-site parking in other lots to accommodate the difference. In addition, in order to accommodate the demand for new office space, most of the large surface lots in the Downtown area would have to be redeveloped. Since all of these surface lots presently accommodate employees and some visitors from nearby buildings, the people parking in these lots will also have to be replaced if existing travel characteristics remain the same.

In order to understand this issue more clearly, BA Group has worked with the City to prepare future development estimates for each of the existing larger surface parking lots in the Downtown and a number of sites that have been identified as having future development potential. In some cases, a reasonably accurate picture of future development potential is available from development proposals (e.g. The Banks and River Landing development areas and the City Centre development announced by North Prairie Developments). In some cases, information has been obtained from leasing agencies (e.g. First Nations Bank site) and finally in other cases BA Group has developed estimates based upon typical height and parking supply patterns evident on the other sites. While the estimates should be viewed as conceptual in nature and subject to change, they will help identify the general magnitude and location of future long term parking demands and potential supply shortfalls within each study subarea.

Figure 5 illustrates the potential future development sites that have been considered within the study area.

Saskatoon's Zoning Bylaw 8770 does not require parking to be provided for office, hotel or commercial/retail uses within the core commercial areas in Riversdale, Broadway or a large portion of the Downtown that is located in the b[^] zone. In addition, the Zoning Bylaw does not require parking to be provided for multi-unit

⁵ This estimate is based upon the future office demand estimates contained in the November 2011 "Commercial and Industrial Development Study prepared for the City by MXD Development Strategists. This study suggested a future demand of approximately 22.6 square feet of office space for every person would be generated. A 250,000 person increase in population would generate a need for approximately 5,650,000 ft² of new office space City wide. Based upon Colliers real estate statistics for the Downtown and suburban office market in Saskatoon, approximately 55% of the total office space is located in the Downtown area. If future City wide demand follows the same pattern, a demand for approximately 3.1 million ft² of new office space would be attracted to Downtown.



dwelling use in the core Downtown area. In order to estimate the additional parking demand that would be generated by new development BA Group has utilized parking demand rates based on our experience in other cities for the potential future office, residential, hotel and commercial/retail uses. The hotel and residential demand ratio (1 space per unit/room) used is consistent with the base parking requirement set out in the Saskatoon Zoning Bylaw 8770 for the Riversdale and Broadway areas.

The following parking demand ratios have been applied to each development to estimate future parking requirements across the study area:

- Office Use: 3.23 spaces per 100 m² (3.0 spaces per 1000 ft²)⁶
- Residential and Hotel Uses: 1 space per unit/hotel room⁷
- Retail - Commercial Uses: 2.94 spaces per 100 m² (2.75 spaces per 1000 ft²)⁸

These demand rates are approximate and assume that existing travel characteristics in terms of transit use, car-pooling, walking and cycling remain the same as today.

The following sections review the future potential developments across the study sub-areas, taking into account existing parking demands, estimated future parking demands and supply and net parking impact on a given area. The net parking impact is calculated based on the proposed parking supply for the development and subtracting the estimated parking demand generated by the proposed use and existing peak parking demand on the site. Existing parking vacancies have been utilized to help meet the future potential development parking requirements that exceed the supply provided on-site. It is recommended that a minimum 10% vacancy buffer should be maintained within the publicly available parking supply in order to allow people to find a vacant parking space in a reasonable amount of time.

A number of sites that currently provide public parking have been identified as potential future development sites across the study area. The vacant parking supply available within these lots during the peak parking demand period has been removed from the total vacant publicly available parking as they will no longer be available for use.

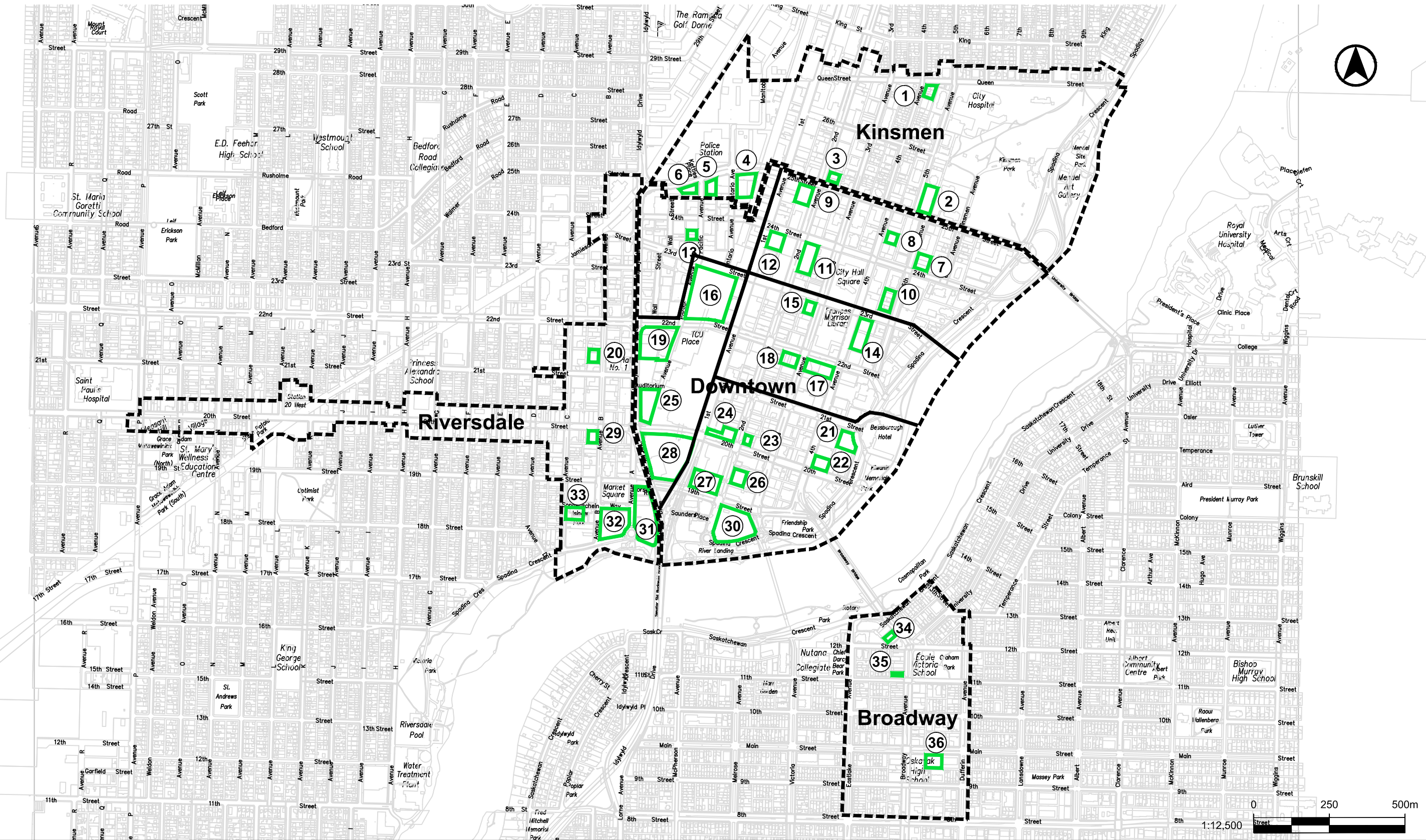
⁶ Based upon typical office employee density of 4 people per 1,000 ft², transit use of 10%, walk and cycle of 5% and an average vehicle occupancy rate of 1.10 and a visitor demand of 8%.

⁷ Based upon minimum rates for Downtown locations. Hotel rates do not include meeting and banquet facilities typically found in larger hotels.

⁸ Based on typical rates found in other Downtown parking studies conducted by BA Group and others.



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POTENTIAL FUTURE DEVELOPMENT LOCATIONS

5.1 DOWNTOWN

5.1.1 Future Development Considerations

There are twenty two (22) sites within the Downtown that have been considered as potential future development. The following sections review the implications of the potential future developments within the five areas in the Downtown (Midtown, South Core, Core, Warehouse and North Core) taking into account existing parking demand, estimated future parking demands and supply and net parking impact. The net parking impact is calculated based on the proposed parking supply for the development and subtracting the estimated parking demand generated by the proposed use and existing peak parking demand on the site.

Figure 5 illustrates the location of the potential future developments that have been considered within the study area.

This conceptual estimate of future development includes a total of 2,900,000 ft² GFA (Gross Floor Area) of new office development, 188,000 ft² of new retail-commercial space, 256 hotel units and 1,502 residential apartment units. The amount of new office space is similar to the 3.0 million ft² of space that would replicate the existing Downtown share of overall office space demand generated by a doubling of the existing population as per the Growing Forward Plan.

5.1.1.1 Midtown – Future Development Sites

The Midtown sub-area is predominantly made up of the Midtown Plaza properties, including the main mall site as well as the large north and south side surface parking lots. It also includes the existing TCU Place Arts and Convention Centre as well as the existing YMCA and City owned surface parking lots west of the YMCA with frontage along Idylwyld Drive.

The Midtown Plaza surface lots represent substantial future development potential for a mix of office, retail – commercial, hotel and residential apartment uses. The large size and location of these surface lots (illustrated as sites 16, 19, 25 and 28 in Figure 5) provide considerable flexibility for the design of new development and the provision of the substantial amount of new parking that would be required to meet new demand and replace the existing parking that is well used throughout most periods in the year.

Midtown Plaza currently provides approximately 1875 parking spaces including 1079 spaces in four surface lots and 796 spaces in underground parking beneath the mall even though the B6 zoning classification does not require the provision of any parking. This parking is generally sufficient to meet the demands generated by the 650,000 ft² retail mall and the 97,000 ft² office building (“Tower at Midtown” - formerly known as the CN Office Building), most of the year. Some of the parking is also used to meet parking demand generated by other non- related uses in the area.

TCU Place is a large convention centre that includes approximately 100,000 ft² of function space and a 2000 seat performing arts theatre. Although the convention space has a theoretical maximum capacity of some 5,500 people if each and every space was occupied simultaneously in a theatre type setting, it is unlikely that more than 2,250 people would be accommodated at any one time due to overlapping use of the function space by the same event. An appropriate design condition for parking purposes would likely be approximately 1500 people at any one time.



TCU Place does not supply any parking to meet its needs on-site, relying to a large extent on the parking provided by Midtown Plaza and the surface lots adjacent to the YMCA. It is possible that an evening concert could generate a parking demand for 500 to 600 cars. A 1500 person peak daytime event at the convention centre might also generate a parking demand of 500 to 600 cars. When this type of demand occurs it would result in close to capacity conditions at the Midtown Plaza parking facilities. Larger events would require the use of other parking facilities in addition to those at Midtown Plaza. Although TCU Place's reliance on Midtown Plaza's parking supply has existed for many years, its continued dependence presents a considerable logistical and financial challenge to the full development potential of Midtown Plaza's existing surface parking lots. As the surface lots redevelop and TCU Place's parking demands can no longer be accommodated by parking supplied on other sites, the TCU Place parking demand will need to be accommodated in future parking garages.

Based upon our experience in working on many similar redevelopment projects that include a variety of uses on existing surface lots and large quantities of garage parking, it would not be unusual to expect that over 1.2 million ft² of new office-retail-commercial space could be developed on the Midtown Plaza site as well as some residential apartment buildings, if the considerable challenge of providing enough parking could be met. The new commercial development alone could generate the need for up to 3,500 parking spaces plus the replacement of the existing 1875 spaces of which approximately 600 spaces would be required to serve TCU Place.

It is important the City and Midtown Plaza continue to work together to support each other's growth needs and enable development across the Midtown area.

For the purposes of this study, we have assumed that the parking demand associated with existing uses plus any future development of the Midtown sub-area will be accommodated within the sub-zone and not require additional parking facilities off site. However, this would require approximately 600 spaces to meet TCU Place parking needs.

5.1.1.2 South Core – Future Development Sites

There are seven sites that have been identified in the South Core as potential redevelopment sites. The majority of the sites currently provide commercial parking with a peak demand of 391 spaces across all sites.

An overview of the net parking impact on each site (taking into account existing demand, estimated parking demand for the proposed uses and estimated parking supply) is provided in Table 9.

The total estimated parking demand generated by the future development sites is 3,168 spaces and the estimated proposed supply is 1,391 spaces. Taking into account the existing demand, proposed supply and estimated parking demand for the potential redevelopment sites, the net parking impact on the South Core area is a deficiency of 2,168 parking spaces. This deficiency exceeds the vacant parking supply (358 spaces-including a 10% vacancy buffer) available within the area by 1,810 spaces. Therefore, substantial additional parking supply will need to be provided over and above the amount that is typically provided in new development within this area to accommodate the growth potential described in Table 9.

The potential deficiency is a result of a number of factors including 1) there are no parking supply requirements for the Downtown area 2) the potential supply, particularly for office uses, is well below the



typical demand 3) the redevelopment sites are all located on existing well used commercial parking facilities that will be removed as part of the redevelopment.

TABLE 9 SOUTH CORE (DOWNTOWN) – POTENTIAL LONG-TERM FUTURE DEVELOPMENTS

Map # ¹	Intersection / Address	Peak Existing Parking Demand ²	Potential Development				Net Parking Impact
			Use	Approx. GFA / # Units	Estimated Parking Demand ³	Estimated Supply	
21	Justice Site	79 spaces	Office	75,000 ft ²	225 spaces	66 spaces	-238 spaces
22	240 4th Avenue South	49 spaces	Office	75,000 ft ²	225 spaces	66 spaces	-208 spaces
23	2nd Ave / 20th Street (NE corner)	14 spaces	Office	40,000 ft ²	120 spaces	0 spaces	-134 spaces
24	265 2nd Ave South (2nd Avenue / 20th Street)	65 spaces	Office	203 459 ft ²	610 spaces	70 spaces	-605 spaces
26	2nd Ave between 19th Street and 20th Street	60 spaces	Office	100,000 ft ²	300 spaces	80 spaces	-280 spaces
27	1st Avenue / 19th Street	102 spaces	Office	185,000 ft ²	555 spaces	278 spaces	-379 spaces
30	River Landing Village Parcel YY - Building A	0 spaces	Residential	15 units	162 spaces	255 spaces	93 spaces
			Hotel	147 units			
	River Landing Village Parcel YY - Building B	0 spaces	Office	267,008 ft ²	801 spaces	345 spaces	-456 spaces
	River Landing Village Parcel YY - Building C	22 spaces	Residential	170 units	170 spaces	231 spaces	39 spaces
Total		391 spaces			3,168 spaces	1,391 spaces	-2,168 spaces
Available Publicly Available Parking Supply (Including 10% Vacancy Buffer)							358 spaces
Parking Surplus / Deficit							-1,810 spaces

Notes:

1. The location of each potential future development site is illustrated in Figure 5.
2. Peak existing parking demand is based on peak parking demand observed at each site throughout the course of the survey day. Future development on a site will displace existing demands which need to continue to be accounted for as part of the area's parking demand.
3. City of Saskatoon Zoning Bylaw 8770 does not require parking to be provided within the Downtown area. As such, estimated parking demands are based on the following rates: Office: 3.0 spaces / 1000 ft². Retail: 2.75 spaces/1000 ft² and Hotel:/Residential 1 space/unit.

The potentially large 1800 parking space deficiency⁹ in the south core area would inhibit full development of the sites and create a considerable demand/supply imbalance unless the City develops a plan to effectively address the parking impacts. Potential solutions include:

1. Continuing to implement a range of Transportation Demand Management (TDM) initiatives focused on increasing mobility options and reducing parking demand over time.
2. Elimination of the current parking exempt zone and the creation of minimum parking supply requirements in the Zoning Bylaw.
3. The provision of municipally owned/controlled shared public parking resources in surface lots/garages.

5.1.1.3 Core – Future Development Sites

Four potential future development sites have been identified within the Core, the majority of which are comprised of office uses with some residential and retail at-grade. Today, these sites provide private parking (66 spaces), municipal parking (88 spaces) and commercial parking (114 spaces). Peak demand across all sites was 172 spaces. An overview of the net parking impact on each site (taking into account existing demand, estimated parking demand for the proposed uses and estimated parking supply) is provided in Table 10.

The peak existing parking demand at the future development sites is 172 spaces. The total estimated parking demand generated by the future development sites is 1,909 spaces with an estimated proposed supply of 1,162 spaces. The net parking impact of the potential future development in the Core is a deficiency of approximately 671 spaces.

There are a total of 1,112 vacant spaces available during the peak period, of which 236 spaces are available for public use (including the removal of parking supply on development sites and a 10% vacancy buffer). The projected demand exceeds the available public parking supply within the area by 683 spaces however there is a substantial inventory of vacant private parking in the area (610 spaces) that has the potential to help meet the additional parking demands within the Core if these facilities are opened to the general public and the use of reserved parking is minimized in order to maximize the utilization of the parking resources.¹⁰

A Transportation Demand Management (TDM) strategy focused on increasing mobility options and reducing parking demand over time may limit the need to rely on private parking or additional publicly accessible parking to meet future demands in the Core sub-area.

⁹ It is anticipated that most of the parking supply in the new below grade public parking facility (approximately 155 spaces) in the Remai Art Gallery of Saskatchewan will be utilized by visitors and staff to the Gallery and the Persephone Theatre and will not help off-set the potential parking space deficiency in the south core area.

¹⁰ There are private parking facilities within the area that provide dedicated reserved spaces to permit holders within a portion or an entire parking facility (as opposed to offering parking on a first come first serve basis). This practice of offering large proportions of reserved parking spaces dedicated to a single user results in an underutilization of the overall parking supply that could otherwise be used to meet additional area demands.



TABLE 10 CORE (DOWNTOWN) – POTENTIAL LONG-TERM FUTURE DEVELOPMENTS

Map # ¹	Intersection / Address	Peak Existing Parking Demand ²	Potential Development				Net Parking Impact
			Use	Approx. GFA / # Units	Estimated Parking Demand ³	Estimated Supply	
14	Vacant Police Building	48 spaces	Office	60,000 ft ²	180 spaces	91 spaces	-137 spaces
15	3rd Avenue / 23rd Street	35 spaces	Office	75,000 ft ²	225 spaces	66 spaces	-194 spaces
17	City Centre Tower (3rd Avenue / 22nd Street) – Phases 2 & 3	19 spaces	Office Commercial Residential	209,896 ft ² 37,781 ft ² 290 units	630 spaces 104 spaces 290 spaces	805 spaces	-238 spaces
18	3 rd Avenue at 22 nd Street	70 spaces	Office	160,000 ft ²	480 spaces	200 spaces	-350 spaces
Total		172 spaces			1,909 spaces	1,162 spaces	-919 spaces
Available Publicly Available Parking Supply (Including 10% Vacancy Buffer)							+236 spaces
Parking Surplus / Deficit							-683 spaces

Notes:

- The location of each potential future development site is illustrated in Figure 5.
- Peak existing parking demand is based on peak parking demand observed at each site throughout the course of the survey day. Future development on a site will displace existing demands which need to continue to be accounted for as part of the area's parking demand.
- City of Saskatoon Zoning Bylaw 8770 does not require parking to be provided within the Downtown area. As such, estimated parking demands are based on the following rates: Office: 3.0 spaces / 1000 s.f., Retail: 2.75 spaces/1000 s.f. and Hotel:/Residential 1 space/unit.

5.1.1.4 North Core – Future Development Sites

There are six sites within the North Core area that have been identified as potential redevelopment sites. Commercial and private parking are currently provided on the sites including 316 commercial spaces and 160 private spaces. Peak parking demand across all four sites is 257 spaces. An overview of the net parking impact on each site (taking into account existing demand, estimated parking demand for the proposed uses and estimated parking supply) is provided in Table 11.

Taking into account the existing demand, proposed supply and estimated parking demand for the potential redevelopment sites, the net parking impact on the North Core area is a deficiency of 1,048 parking spaces. There are a total of 1,352 vacant spaces available during the peak period, of which 468 are available for public use (including a 10% vacancy buffer).

The net parking impact anticipated from the six potential redevelopments would result in a deficiency of approximately 580 parking spaces. This demand exceeds the available public parking supply within the area; however there is a substantial inventory of private parking in the area (592 spaces) that has the potential to meet the additional parking demands within the North Core area.

If there are no opportunities long-term to utilize area private parking facilities additional parking may need to be secured to support the potential redevelopment sites within the North Core area. Implementation of a TDM strategy focused on increasing mobility options and reducing parking demand over time could also reduce the existing and future parking demands within the area.



TABLE 11 NORTH CORE (DOWNTOWN) – POTENTIAL LONG-TERM FUTURE DEVELOPMENTS

Map # ¹	Intersection / Address	Peak Existing Parking Demand ²	Potential Development				Net Parking Impact
			Use	Approx. GFA / # Units	Estimated Parking Demand ³	Estimated Supply	
7	5 th Street / 24 th Avenue	43 spaces	Office	75,000 ft ²	225 spaces	66 spaces	-202 spaces
8	4 th Avenue North between 24 th Street and 25 th Street	49 spaces	Office	15,000 ft ²	45 spaces	24 spaces	-70 spaces
9	2 nd Avenue / 25 th Street	55 spaces	Office	100,000 ft ²	300 spaces	200 spaces	-155 spaces
10	5 th Avenue North between 23 rd Street and 24 th Street	56 spaces	Residential	160 units	160 spaces	160 spaces	-56 spaces
11	2 nd Avenue/ 24 th Street	91 spaces	Office	150,000 ft ²	450 spaces	132 spaces	-409 spaces
12	1 st Avenue / 24 th Street	68 spaces	Office	82,500 ft ²	248 spaces	160 spaces	-156 spaces
Total		362 spaces			1,428 spaces	742 spaces	-1,048 spaces
Available Publicly Available Parking Supply (Including 10% Vacancy Buffer)							+468 spaces
Parking Surplus / Deficit							-580 spaces

Notes:

1. The location of each potential future development site is illustrated in Figure 5.
2. Peak existing parking demand is based on peak parking demand observed at each site throughout the course of the survey day. Future development on a site will displace existing demands which need to continue to be accounted for as part of the area's parking demand.
3. City of Saskatoon Zoning Bylaw 8770 does not require parking to be provided within the Downtown area. As such, estimated parking demands are based on the following rates: Office: 3.0 spaces / 1000 s.f., Retail: 2.75 spaces/1000 s.f. and Hotel:/Residential 1 space/unit.

5.1.1.5 Warehouse

One potential future office development site has been identified within the Warehouse area. Today, this site provides commercial parking (45 spaces) for public use with a peak demand of 32 spaces. A summary of the net parking impact on the site on the area parking supply (taking into account existing demand, estimated parking demand for the proposed uses and estimated parking supply) is provided in Table 10.

The peak existing parking demand at the future development site is 32 spaces. The total estimated parking demand generated by the future development site is 144 spaces with an estimated proposed supply of 48 spaces. The net parking impact of the future development sites on the Warehouse area is a deficiency of approximately 128 spaces.

There are a total of 161 vacant spaces available for public use (including a 10% vacancy buffer). There is sufficient public parking within the Warehouse area to accommodate the additional parking supply required to support the future development sites.



TABLE 12 WAREHOUSE (DOWNTOWN) – POTENTIAL LONG-TERM FUTURE DEVELOPMENTS

Map # ¹	Intersection / Address	Peak Existing Parking Demand ²	Potential Development				Net Parking Impact
			Use	Approx. GFA / # Units	Estimated Parking Demand ³	Estimated Supply	
13	Pacific Avenue between 23 rd and 24 th	32 spaces	Office	48,000 ft ²	144 spaces	48 spaces	-128 spaces
Available Publicly Available Parking Supply (Including 10% Vacancy Buffer)							+161 spaces
Parking Surplus / Deficit							+33 spaces

Notes:

1. The location of each potential future development site is illustrated in Figure 5.
2. Peak existing parking demand is based on peak parking demand observed at each site throughout the course of the survey day. Future development on a site will displace existing demands which need to continue to be accounted for as part of the area's parking demand.
3. City of Saskatoon Zoning Bylaw 8770 does not require parking to be provided within the Downtown area. As such, estimated parking demands are based on the following rates: Office: 3.0 spaces / 1000 s.f., Retail: 2.75 spaces/1000 s.f. and Hotel:/Residential 1 space/unit.

5.1.1.6 Downtown – Future Development Summary

The estimated impact of the potential future development across the Downtown could result in a parking deficit of approximately 4,863¹¹ spaces if existing travel and new development parking supply characteristics continue into the future. There are a total of 1,152 publicly available parking spaces across the Downtown at the peak parking demand period (including the removal of parking supply on development sites and a 10% vacancy buffer). Therefore a net parking supply deficit of approximately 3,711 spaces would need to be accommodated by the construction of additional, strategically located parking facilities that serve a variety of developments in the area.

The amount of additional parking required could be reduced if single occupant auto travel is reduced by increased transit use as well as increased walking, cycling and carpooling. More efficient management of existing private parking resources by opening up private sites for off-site customers and minimizing the use of reserved parking could also reduce the need for additional parking.

A summary of the parking impacts of potential future developments across the Downtown (assuming an additional 2.9 million ft² in office) is provided in Table 13.

We have also tested the impact of 1.8 million square feet of new office development which assumes that the share of future development in the downtown declines to approximately 60% of its current level as per the assumptions used in the new growth plan. A summary of the parking impacts associated with this lower level of development is provided in Table 15.

¹¹ Includes peak existing parking demand (957 spaces) on future potential development sites, estimated parking demand for future potential developments (7,249 spaces) and estimated parking supply provisions for future potential developments (3,343 spaces).



TABLE 13 DOWNTOWN – POTENTIAL LONG-TERM FUTURE DEVELOPMENTS (2.9 M FT² OFFICE)

Area	Peak Existing Parking Demand ¹	Potential Development		Vacant Publicly Available Parking ³	Net Parking Impact
		Estimated Parking Demand ²	Estimated Parking Supply		
Midtown	N/A	600 spaces	N/A	-71 spaces	-671 spaces
South Core	391 spaces	3,168 spaces	1,391 spaces	358 spaces	-1,810 spaces
Core	172 spaces	1,909 spaces	1,162 spaces	236 spaces	-683 spaces
North Core	362 spaces	1,428 spaces	742 spaces	468 spaces	-580 spaces
Warehouse	32 spaces	144 spaces	48 spaces	161 spaces	33 spaces
Total	957 spaces	7,249 spaces	3,343 spaces	1,152 spaces	-3,711 spaces

Notes:

1. Peak existing parking demand is based on peak parking demand observed at each site throughout the course of the survey day. Future development on a site will displace existing demands which need to continue to be accounted for as part of the area's parking demand.
2. City of Saskatoon Zoning Bylaw 8770 does not require parking to be provided within the Downtown area. As such, estimated parking demands are based on the following rates: Office: 3.0 spaces / 1000 s.f., Retail: 2.75 spaces/1000 s.f. and Hotel:/Residential 1 space/unit.
3. In order to provide a reasonable level of service for people searching for parking a minimum 10% vacancy buffer has been applied to the total publicly available parking supply.
4. The 600 space demand in the Midtown area is related to TCU Place which does not presently supply any parking of its own.

TABLE 14 DOWNTOWN – POTENTIAL LONG-TERM FUTURE DEVELOPMENTS (1.8 M FT² OFFICE)

Area	Peak Existing Parking Demand ¹	Potential Development		Vacant Publicly Available Parking ³	Net Parking Impact
		Estimated Parking Demand ²	Estimated Parking Supply		
Midtown	N/A	600 spaces	N/A	-71 spaces	-671 spaces
South Core	391 spaces	2,034 spaces	1,030 spaces	358 spaces	-1,037 spaces
Core	172 spaces	1,303 spaces	698 spaces	236 spaces	-541 spaces
North Core	362 spaces	921 spaces	509 spaces	468 spaces	-306 spaces
Warehouse	32 spaces	86 spaces	29 spaces	161 spaces	72 spaces
Total	957 spaces	4,944 spaces	2,266 spaces	1,152 spaces	-2,483 spaces

Notes:

1. Peak existing parking demand is based on peak parking demand observed at each site throughout the course of the survey day. Future development on a site will displace existing demands which need to continue to be accounted for as part of the area's parking demand.
2. City of Saskatoon Zoning Bylaw 8770 does not require parking to be provided within the Downtown area. As such, estimated parking demands are based on the following rates: Office: 3.0 spaces / 1000 s.f., Retail: 2.75 spaces/1000 s.f. and Hotel:/Residential 1 space/unit.
3. In order to provide a reasonable level of service for people searching for parking a minimum 10% vacancy buffer has been applied to the total publicly available parking supply.
4. The 600 space demand in the Midtown area is related to TCU Place which does not presently supply any parking of its own.



5.2 KINSMEN

5.2.1 Existing Parking Vacancies

As discussed in Section 4.3, there are a total of 1,565 vacant spaces available within the Kinsmen during the peak period of which 594 spaces are publicly available (see Table 15).

A number of sites that currently provide public parking have been identified as potential future development sites. As such, the vacant parking supply available within these lots during the peak parking demand period have been removed from the total vacant publicly available parking demand.

In order to provide a reasonable level of service for people searching for parking, it is recommended that a minimum 10% vacancy should be maintained within the area. As such, a 10% vacancy buffer has been applied to the total publicly available spaces resulting in an available supply of 374 spaces.

TABLE 15 KINSMEN PARKING VACANCIES

Area	Total Vacant Parking during Peak Period	Vacant Public Parking during Peak Period	
		Total ¹	Total (with 10% vacancy buffer) ²
Kinsmen	1,565 spaces	483 spaces	374 spaces

Notes:

1. A number of sites that currently provide public parking have been identified as potential future development sites. As such, the vacant parking supply available within these lots during the peak parking demand period have been removed from the total vacant publicly available parking demand.
2. In order to provide a reasonable level of service for people searching for parking a minimum 10% vacancy buffer has been applied to the total publicly available parking supply.

5.2.2 Future Development Sites

There are six sites within the Kinsmen area that have been identified for future development. Table 16 provides an overview of each site, existing parking demand, potential development and net parking impact.

The proposed redevelopment sites include commercial, office and residential uses. The net parking impacts of the proposed development, taking into account the peak existing parking demand on the site, the estimated parking demand generated by the proposed uses and the proposed supply will be a deficiency of 579 spaces. This deficiency exceeds the vacant parking supply (374 spaces including a 10% vacancy buffer) available within the area by 205 spaces. Additional parking supply will need to be provided within this area to accommodate the development potential described in Table 16.

As discussed in Section 4.3, there is an inventory of vacant private parking in the area (1,091 spaces) that has the potential to meet the additional parking demands within Kinsmen if these facilities are opened to the general public use and the use of reserved parking is minimized in order to maximize utilization.



TABLE 16 KINSMEN – POTENTIAL LONG-TERM FUTURE DEVELOPMENTS

Map # ¹	Intersection / Address	Peak Existing Parking Demand ²	Proposed Development				Net Parking Impact
			Use	Approx. GFA / # Units	Estimated Parking Demand ³	Estimated Supply	
1	550 4th Avenue North	0 spaces	Residential	94	94 spaces	106 spaces	+12 spaces
2	410 5 th Avenue North	59 spaces	Commercial Office Residential	25,000 ft ² 210,000 ft ² 200	69 spaces 630 spaces 200 spaces	684 spaces	-274 spaces
3	2 nd Avenue / 25 th Street (NE Corner)	23 spaces	Office	15,000 ft ²	45 spaces	45 spaces	-23 spaces
4	Ontario Ave / 25 th Street (se corner)	86 spaces	University of Saskatchewan ⁴				N/A
5	Pacific Ave / 25 th Street E (se corner)	10 spaces	Office	72,000 ft ²	216 spaces	80 spaces	-146 spaces
6	Pacific Ave / 25 th Street E (SW corner)	45 spaces	Office	51,000 ft ²	153 spaces	50 spaces	-148 spaces
Total		223 spaces		-	1,407 spaces	965 spaces	-579 spaces
Available Publicly Available Parking Supply (Including 10% Vacancy Buffer)							+374 spaces
Parking Surplus / Deficit							-205 spaces

Notes:

1. The location of each potential future development site is illustrated in Figure 5.
2. Peak existing parking demand is based on peak parking demand observed at each site throughout the course of the survey day. Future development on a site will displace existing demands which need to continue to be accounted for as part of the area's parking demand.
3. City of Saskatoon Zoning Bylaw 8770 does not require parking to be provided within the Downtown area. As such, estimated parking demands are based on the following rates: Office: 3.0 spaces / 1000 ft², Retail: 2.75 spaces/1000 ft² and Hotel:/Residential 1 space/unit.
4. This site is intended to be redeveloped for the University of Saskatchewan. It is assumed that the parking demand generated by the University project will be accommodated by the on-site parking supply.



5.3 RIVERSDALE

5.3.1 Existing Parking Demands

As discussed in Section 4.3, there are a total of 1,387 vacant spaces available within Riversdale during the peak period of which 356 spaces are publicly available (see Table 17).

In order to provide a reasonable level of service for people searching for parking, it is recommended that a minimum 10% vacancy should be maintained within the area's public parking supply. As such, a 10% vacancy buffer has been applied to the total publicly available spaces resulting in an available supply of 250 spaces.

TABLE 17 RIVERSDALE PARKING VACANCIES

Area	Total Vacant Parking during Peak Period	Vacant Public Parking during Peak Period	
		Total ¹	Total (with 10% vacancy buffer) ²
Riversdale	1,387 spaces	356 spaces	250 spaces

Notes:

1. A number of sites that currently provide public parking have been identified as potential future development sites. As such, the vacant parking supply available within these lots during the peak parking demand period have been removed from the total vacant publicly available parking demand.
2. In order to provide a reasonable level of service for people searching for parking a minimum 10% vacancy buffer has been applied to the total publicly available parking supply.

5.3.2 Future Development Sites

Five sites have been identified with Riversdale as potential redevelopment sites. Table 18 provides an overview of each site, existing parking demand, potential development and net parking impact.

The proposed redevelopment sites include commercial, office, hotel and residential uses. Minimal parking is currently provided on the redevelopment sites.

The net parking impact anticipated from the four potential redevelopments would result in a deficiency of approximately 486 parking spaces. This demand exceeds the available public parking supply within the area by approximately 236 spaces however; there is a substantial inventory of private parking in the area (730 spaces) that has the potential to meet the additional parking demands within the Riversdale area.

TABLE 18 RIVERSDALE – POTENTIAL LONG-TERM FUTURE DEVELOPMENTS

Map # ¹	Intersection / Address	Peak Existing Parking Demand ²	Proposed Development				Net Parking Impact
			Use	Approx. GFA / # Units	Estimated Parking Demand ³	Proposed Supply	
20	123 Avenue B South (The Blok)	6	Office	28,926 ft ²	87 spaces	17 spaces	-76 spaces
29	20 th Avenue at Avenue B	27	Residential / Commercial	24 units 10,000 ft ²	24 spaces 30 spaces	27 spaces	-54 spaces
31	Parcel D/E - 2.25 acres	0	Residential/ Office/ Hotel	137 units 197,586 ft ² 109 rooms	137 spaces 593 spaces 109 spaces	137 spaces 255 spaces 109 spaces	-338 spaces
32	Parcel BB -1.7 acres	0	Residential	211 units	211 spaces	211 spaces	0 spaces
33	Parcel A -1.4 acres	N/A	Residential / Commercial	176 units 21,785 ft ²	176 spaces 60 spaces	218 spaces	-18 spaces
Total		33 spaces			1,426 spaces	973 spaces	-486 spaces
Available Publicly Available Parking Supply (Including 10% Vacancy Buffer)							+250 spaces
Parking Surplus / Deficit							-236 spaces

Notes:

1. The location of each potential future development site is illustrated in Figure 5.
2. Peak existing parking demand is based on peak parking demand observed at each site throughout the course of the survey day. Future development on a site will displace existing demands which need to continue to be accounted for as part of the area's parking demand.
3. City of Saskatoon Zoning Bylaw 8770 does not require parking to be provided within the Downtown area. As such, estimated parking demands are based on the following rates: Office: 3.0 spaces / 1000 ft², Retail: 2.75 spaces/1000 ft² and Hotel:/Residential 1 space/unit.

5.4 BROADWAY

5.4.1 Existing Parking Demands

As discussed in Section 4.3, there are a total of 597 vacant spaces available within Broadway during the peak period of which 247 spaces are publicly available (see Table 19). In order to provide a reasonable level of service for people searching for parking, it is recommended that a minimum 10% vacancy should be maintained within the area. As such, a 10% vacancy buffer has been applied to the total publicly available spaces resulting in an available supply of 163 spaces.

TABLE 19 BROADWAY PARKING VACANCIES

Area	Total Vacant Parking during Peak Period	Vacant Public Parking during Peak Period	
		Total	Total (with 10% vacancy buffer) ¹
Broadway	597 spaces	247 spaces	163 spaces

Notes:

1. In order to provide a reasonable level of service for people searching for parking a minimum 10% vacancy buffer has been applied to the total publicly available parking supply.

5.4.2 Future Development Sites

Three sites have been identified within Broadway as potential redevelopment sites. Table 20 provides an overview of each site, existing parking demand, potential development and net parking impact.

There are a total of 163 on-street parking spaces available (including a 10% vacancy buffer) during the peak demand period and an additional 342 private parking spaces available within the area. The available on-street parking supply would meet the majority of the parking needs of the proposed development in the short term.

It should be noted that this area is substantially reliant on the supply of municipal on-street parking for both employee and customer parking demand and that over time it would be advantageous to identify off-street locations where longer stay employee parking demand could be accommodated, thereby freeing up some on-street parking for short duration visitor parking.



TABLE 20 BROADWAY – POTENTIAL LONG-TERM FUTURE DEVELOPMENTS

Map #	Intersection / Address	Peak Existing Parking Demand ¹	Proposed Development				Net Parking Impact
			Use	Approx. GFA / # Units	Estimated Parking Demand ²	Proposed Supply	
34	Broadway Avenue at Saskatchewan Crescent East ³	16 spaces	Residential Retail	25 units 4,300 ft ²	25 spaces 12 spaces	47 spaces	-6 spaces
35	Farnam Block (11th Street East and Broadway Avenue)	0 spaces	Commercial Office	5,700 ft ² 11,400 ft ²	16 spaces 34 spaces	6 spaces	-44 spaces
36	616 Main Street ⁴	0 spaces	Office	74,206 ft ²	223 spaces	79 spaces	-144 spaces
Total		16 spaces			310 spaces	132 spaces	-194 spaces
Available Publicly Available Parking Supply (Including 10% Vacancy Buffer)⁵							+163 spaces
Parking Surplus / Deficit							-31 spaces

Notes:

1. City of Saskatoon Zoning Bylaw 8770 does not require parking to be provided within the Downtown area. As such, estimated parking demands are based on the following rates: Office: 3.3 spaces / 1000 ft², Retail: 3 spaces/1000 ft² and Hotel:/Residential 1 space/unit.
2. Peak existing parking demand is based on peak parking demand observed at each site throughout the course of the survey day. Future development on a site will displace existing demands which need to continue to be accounted for as part of the area's parking demand.
3. Site is located on the west side of Broadway Avenue between Saskatchewan Crescent E and 12 Street East. No development stats known at this time. Development stats were estimated based on other comparable developments within the study area. Retail estimate is based on typical floor plate.
4. This building was under construction when parking surveys were undertaken.
5. In order to provide a reasonable level of service for people searching for parking a minimum 10% vacancy buffer has been applied to the total publicly available parking supply.



5.5 POTENTIAL FUTURE PARKING SUPPLY DEFICIT SUMMARY

5.5.1 With Existing Travel Characteristics

Table 22 provides a summary of the potential parking impacts generated by future development within the study area if existing travel characteristics remain the same into the future. The Downtown estimates include the range in potential future office development from 1.8 million to 2.9 million square feet described earlier in Section 5.1.2.6.

TABLE 21 LONG RANGE POTENTIAL PARKING SUPPLY DEFICITS

Area	1.8 Million Sq.ft. New Office Development	2.9 Million Sq.ft. New Office Development
	Existing 10% Transit Mode Split	Existing 10% Transit Mode Split
Midtown	-671 spaces	-671 spaces
South Core	-1,037 spaces	-1,810 spaces
Core	-541 spaces	-683 spaces
North Core	-306 spaces	-580 spaces
Warehouse	72 spaces	+33 spaces
Downtown Sub-Total	-2,483 spaces	-3,711 spaces
Kinsmen	-205 spaces	-205 spaces
Riversdale	-236 spaces	-236 spaces
Broadway	-31 spaces	-31 spaces
Sub-Total	-472 spaces	-472 spaces

5.5.2 Downtown

1. The parking implications of potential future development within the Downtown are summarized as follows:

- **Midtown**

The Midtown area has extensive future development potential on its existing surface parking lots. The large size and shape of the parking lots should provide the flexibility to meet new parking demand within the sub-area. In order to maximize future development potential in Midtown, approximately 600 parking spaces would be required for TCU Place which presently does not supply any parking to meet its own needs and could be impacted significantly if new development takes place on the Midtown Plaza blocks and the parking available for TCU Place is reduced or restricted significantly.

- **South Core**

In order to accommodate future development potential in the South Core, 1,000 to 1,800 parking public parking spaces may be required in strategically located parking garages that would be



available to serve a variety of parkers in the area. The amount of parking might be reduced if increased transit use, walking, cycling and carpooling are achieved over the long term.

The large parking space deficiency would inhibit full development of the sites and create a considerable demand/supply imbalance unless the City develops a plan to effectively address the parking impacts.

- **Core**

In order to accommodate future development potential in the Core, 540 to up to 685 parking spaces may be required in strategically located parking garages that would be available to serve a variety of parkers in the area. The amount of parking might be reduced if increased transit use, walking, cycling and carpooling are achieved over the long term. The need for the additional parking could also be reduced if existing private parking in the area is made available to the general public.

- **North Core**

In order to accommodate future development potential in the North Core sub-area, 300 to 580 parking spaces may be required in strategically located parking garages that would be available to serve a variety of parkers in the area.

- **Warehouse**

The potential parking deficiency generated by the future development site in the Warehouse sub-area could be accommodated using area public parking supply.

2. The parking deficiencies and need for public parking garages identified within the various sub-areas of the Downtown are a result of numerous factors including 1) there are no parking supply requirements for the Downtown area 2) the proposed supply, particularly for office uses, is well below the typical demand 3) the redevelopment sites are all located on existing commercial parking facilities that will be removed as part of the redevelopment.
3. Continuing to implement Transportation Demand Management (TDM) initiatives focused on increasing mobility options (i.e. transit use, walking, cycling and carpooling) and reducing parking demand over time will reduce the need to rely on private parking or additional publicly accessible parking to meet future demands. The benefits of TDM modal split targets on parking requirements are discussed in Section 6.2.
4. The need for the additional parking could also be reduced if existing private parking in the area is made available to the general public.
5. There are private parking facilities within the Downtown that provide dedicated reserved spaces to permit holders within a portion or an entire parking facility (as opposed to offering parking on a first come first serve basis). This practice of offering large proportions of reserved parking spaces dedicated to a single user results in an underutilization of the overall parking supply that could otherwise be used to meet additional area demands.



5.5.3 Kinsmen, Riversdale and Broadway

6. The net parking impact anticipated from the six potential developments in Kinsmen would result in a deficiency of approximately 205 parking spaces. The need for the additional parking could also be reduced if existing private parking in the area is made available to the general public.
7. The potential parking impact anticipated from the five potential developments in Riversdale would result in a deficiency of approximately 486 parking spaces. This demand exceeds the available public parking supply within the area by approximately 236 spaces however; there is a substantial inventory of private parking in the area (730 spaces) that has the potential to meet the additional parking demands within the Riversdale study area.
8. The available public parking supply in Broadway (163 spaces) could accommodate the majority of the area's potential future developments; however there is a substantial inventory of private parking in the area that has the potential to meet the additional parking demands within the Broadway study area. It should be noted that the Broadway study area relies on public on-street parking to meet a substantial portion of its parking needs. Therefore any future loss of public on street parking for visitors and employees in the area would necessitate its replacement in off street parking lots or garages.

Over time it would be advantageous to identify off-street locations where longer stay employee parking demand could be accommodated, thereby freeing up some on-street parking for short duration visitor parking.

9. There may be the potential to explore parking opportunities on the borders of Kinsmen, Riversdale and Broadway and the Downtown.

5.5.4 Impacts of Increased Transit Mode Share on Future Parking Supply Deficits

The City of Saskatoon's *Growing Forward! Shaping Saskatoon* is a planning initiative to help develop a growth strategy for the City as the population is expected to double over the next 30 to 40 years. One of the objectives identified in the *Growth Plan Summary Report #1*, dated May 2014, is to increase peak period transit mode share in the Downtown from 10% to 25% over the next 30 years.

Figure 6 illustrates the future conceptual transit network as prepared in the June 2015 session of the Growing Forward Growth Plan Summary Report #2. The plan includes the two future rapid transit corridors that would connect the Downtown with major population and employment areas throughout the city. The rapid transit corridors will consist of exclusive Bus Rapid Transit (BRT) lanes in order to provide convenient, reliable service into/out of the Downtown.

Table 22 provides an illustration of the beneficial impacts of an increase of 15% in transit/non-auto travel mode share related to the investment in new transit services proposed in the new growth plan.

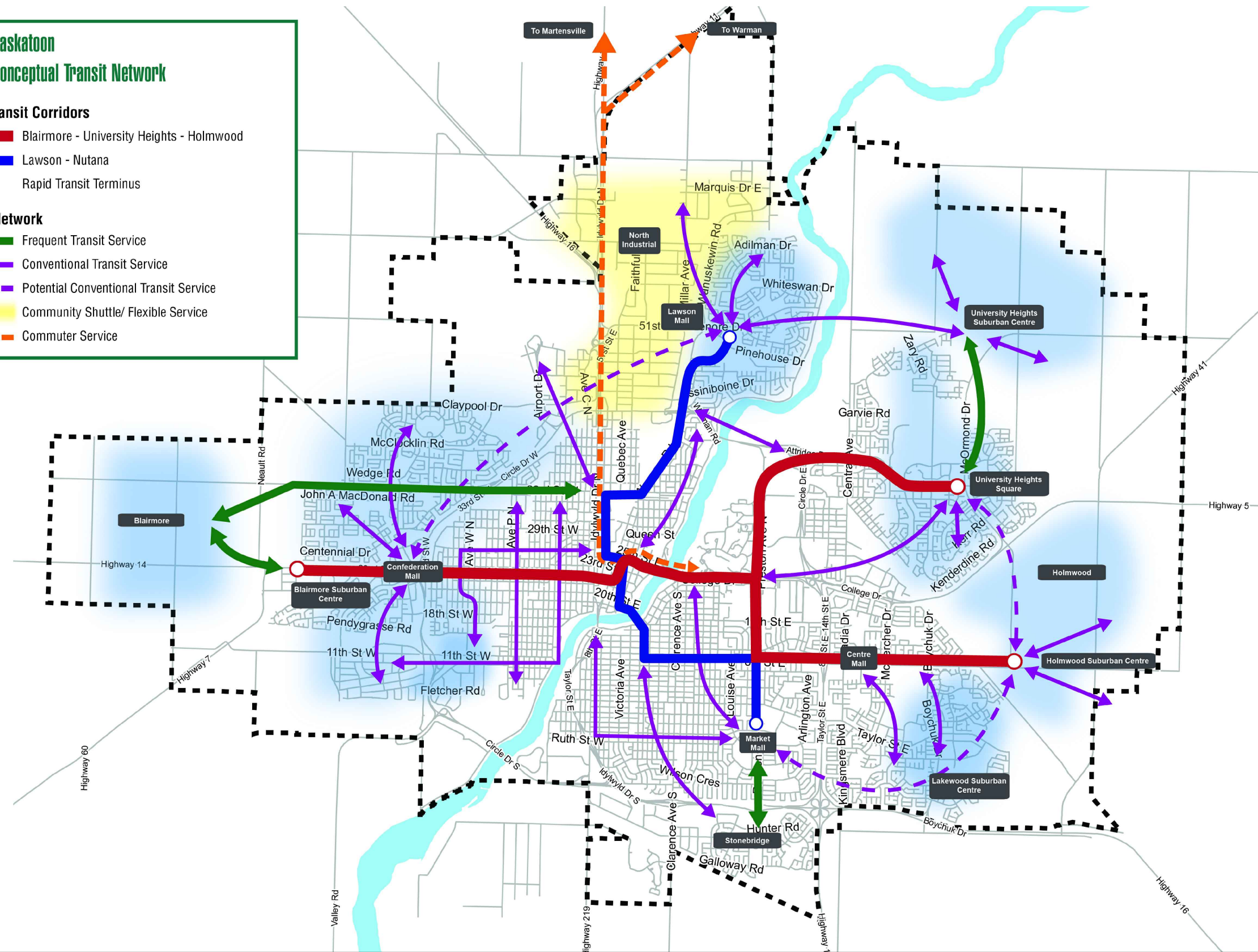
**City of Saskatoon
Future Conceptual Transit Network**

Rapid Transit Corridors

- Blairmore - University Heights - Holmwood
- Lawson - Nutana
- Rapid Transit Terminus

Transit Network

- Frequent Transit Service
- Conventional Transit Service
- Potential Conventional Transit Service
- Community Shuttle/ Flexible Service
- Commuter Service



N.T.S.

FUTURE CONCEPTUAL TRANSIT NETWORK
Source: City of Saskatoon. Received February 18, 2016

Date Plotted: March 21, 2016. Filename: P:\76166\01\Graphics\Fig06-07-FCTN.dwg

TABLE 22 FUTURE LONG TERM PARKING SUPPLY DEFICIT SUMMARY

Area	1.8 Million Sq.ft. Office Downtown		2.9 Million Sq.ft. Office Downtown	
	Existing 10% Transit Mode Split	Future 25% Transit Mode Split	Existing 10% Transit Mode Split	Future 25% Transit Mode Split
Midtown	-671 spaces	-378 spaces	-671 spaces	-378 spaces
South Core	-1,037 spaces	-531 spaces	-1,810 spaces	-1,134 spaces
Core	-541 spaces	-121 spaces	-683 spaces	-172 spaces
North Core	-306 spaces	-98 spaces	-580 spaces	-296 spaces
Warehouse	72 spaces	+113 spaces	+33 spaces	+83 spaces
Downtown Sub-Total	-2,483 spaces	-1,015 spaces	-3,711 spaces	-1,897 spaces
Kinsmen	-205 spaces	+76 spaces	-205 spaces	+76 spaces
Riversdale	-236 spaces	+38 spaces	-236 spaces	+38 spaces
Broadway	-31 spaces	+104 spaces	-31 spaces	+104 spaces
Sub-Total	-472 spaces	+218 spaces	-472 spaces	+218 spaces

5.5.5 Potential Long Range Parking Supply Deficits

The potential long-term parking supply deficits without any increase in transit/non-auto mode share are substantial, up to 3,700 spaces (rounded) in the Downtown and 470 spaces (rounded) in the Kinsmen/Riversdale/Broadway areas.

Should the City achieve the long range improvements in transit mode share related to their \$100 million investment (rough preliminary cost estimate) in the proposed BRT system, the parking supply deficits would be reduced considerably, to only 1,900 spaces (rounded) in the Downtown and no deficit in other areas. The potential 1,800 space reduction in the Downtown parking supply deficit represents a savings in future garage capital costs of at least \$90 million dollars (2015 \$).

Although the exact magnitude of municipal parking infrastructure to support long-range development is dependent upon the success in converting drivers to transit and other modes over the long-term, it is apparent the City might need to consider providing at least 1,900 spaces in the Downtown area over the long-term even with the substantial improvements in transit mode split that should be achieved with the new rapid transit plan. The approximate cost of providing such infrastructure would be roughly \$95 million (2015\$) assuming it is provided in above ground garages.

5.5.6 Short Term Parking Supply Implications

In the short-term, the amount of parking that the City should consider providing is related to the need to free up existing surface lots for future development (i.e. by replacing the parking currently being used in these lots to serve existing development). Such an investment could serve as a catalyst for new development when market demand exists for it, and minimize the impacts on existing employers and building owners who rely on the surface lots to meet their parking needs.

A number of the future development sites identified within the Downtown currently provide publicly available parking (municipal and privately operated). These existing parking demands (a total of 925 spaces across the Downtown including 362 spaces in the North Core, 172 spaces in the Core and 391 spaces in the South Core) would need to be replaced in order to permit redevelopment on these sites. The provision of this supply within municipal parking garages could enable redevelopment in the core areas of the Downtown

In the Midtown area, the parking needs of the TCU Place are largely met in the publicly available parking facilities owned by the Midtown Plaza. Should the owners of the Midtown Plaza decide to renovate/expand the mall and/or add new development on the two large surface lots they own, TCU Place would be faced with challenges in meeting the parking requirements associated with their customers. As mentioned earlier in Section 5.1.1.1, approximately 600 spaces should be provided to meet TCU Place recurring demands. If the City were to provide a garage of 600 spaces this would secure a reasonable supply to meet the business needs of the TCU Place and also facilitate the redevelopment of the Midtown Plaza large surface lots.

6.0 PARKING MANAGEMENT STRATEGY

As summarized in Section 4.0, the existing parking occupancy levels achieved in each of the study sub-areas is well below the 85 to 90% threshold typically considered to indicate a parking supply shortfall (detailed parking supply, demand and vacancies (at 1:00 pm and 7:00 pm) are summarized in Appendix B). It should also be noted that many of the private parking facilities not available to the public have significant vacancies as well, some of which could be used to accommodate additional parking demands generated by absorption of existing vacant office space. However the following points should be noted:

- While it appears that there is sufficient vacant public parking available within each area during the peak period, discussions with stakeholders suggests that some employers within the Downtown have difficulty securing large blocks of monthly rate off-site parking for employees on a long term basis.
- A number of parking lots across the city provide dedicated reserved parking spaces within public parking facilities (municipal or privately operated) as opposed to simply providing a monthly parking permit with access to a common pool of parking. The practice of reserving particular spaces limits the effective capacity within a parking facility (as certain spaces can only be occupied by a specific user regardless of whether or not they are parking at a given time) and does not maximize a parking facility's revenue potential.
- Because the City controls a relatively small portion of the overall parking supply compared to most mid-sized municipalities, it has limited scope to assist in providing parking to meet employee demand in the Downtown area.
- On-street parking within the Downtown (particularly within the Core, South Core and North Core areas) typically peaks in the early evening (7:00 pm) when on-street parking is free and no parking restrictions are in place. However, there is an ample supply of publicly available off-street parking available to accommodate demands that cannot be met in the municipal on-street parking.

Looking to the future, the parking demand generated by new development combined with the loss of existing surface lots that will become future development sites will present a transformation challenge because many existing employers and employees rely on the use of the existing lots. Since most new developments provide only enough parking to meet approximately half of their actual needs, new development will create substantial additional demand for new off-site parking unless public transit use increases substantially, existing public and private parking resources are managed more efficiently and new developments increase the amount of parking they provide to meet their own needs and/or the City assists in meeting some of the demand with public parking garages. If a strategy is not developed to address the transformation challenge from surface lots to development sites and the long term need for public parking resources, future office development in the Downtown, may be limited to well below its historic share of the total office supply.

The proposed parking management strategy involves the following elements:

1. **Rationale for Public Sector Parking Supply Involvement** - the provision of shared public parking resources.



2. **Transportation Demand Management** - the importance of integrating parking management and transportation management policies and the potential long term impact of the City's public transit strategy (as articulated in their Growing Forward growth plan).
3. **Potential Future Parking Garage Considerations** - the potential magnitude and locations for future municipal shared public parking resources.
4. **Zoning Bylaw Requirements** – a review of Zoning Bylaw changes regarding future development parking supply requirements for vehicles and bicycles.
5. **Financial Considerations** - a review of funding options.
6. **Management Considerations** – a review of organizational considerations and shorter term operational considerations.

The following sections discuss the rationale for each of the elements within the proposed parking management strategy.

6.1 RATIONALE FOR PUBLIC SECTOR PARKING SUPPLY INVOLVEMENT

Most municipalities, especially in smaller and mid-size cities like Saskatoon, invest in public parking resources in order to encourage and facilitate development in their Downtown core areas. Municipal parking systems in the very large cities such as Calgary, Vancouver, Toronto, Montreal and Ottawa operate with substantial annual revenue surpluses that are returned to the City to fund other non-parking related initiatives, thereby reducing the general realty tax rate. Some smaller mid- size cities have adopted a “parking enterprise” approach whereby they intend to operate the municipal parking system as a self-sustaining break even basis over the long run. The enterprise model requires parking fees to be high enough to cover operating costs, capital repairs and build a reserve fund to finance future parking infrastructure. In many mid-sized cities, surplus funds generated by on-street parking and off-street surface lots are used to off-set the financial shortfalls associated with building more expensive parking garages. It is not unusual for many municipalities to control up to 50 to 60% of the overall parking supply in the Downtown areas of small to mid-sized cities. It is unusual to see a municipal parking operation that controls less than 25 to 35% of the overall parking supply, which is the case in Saskatoon, especially in a parking exempt Zoning By-law environment.

The provision of municipally controlled public parking infrastructure can encourage new commercial and institutional uses to locate within various sub-areas which, otherwise, may have found the amount and/or cost of providing the required parking prohibitive.

Parking policies can foster economic development by:

- encouraging the provision of well-designed and strategically located municipal parking facilities which will allow multiple users and property owners to benefit from economies of scale, efficient use of parking and land resources;

- allowing builders to provide a cash payment to the municipality in lieu of providing parking for a building on the same site, thereby reducing the proliferation of many small parking facilities and facilitating the intensification of building sites; and
- allowing the municipal government to provide financial support in terms of developing parking facilities for shared use at less cost than the private sector.

In short – shared public parking resources – rather than providing parking in independent private buildings- can be provided at cheaper cost and provide more efficient use of expensive parking infrastructure, thereby supporting sustainable economic development and fostering a more compact urban built form that is transit supportive.

An additional opportunity for the City to support existing and future development would be to own/control and better manage a greater proportion of the overall parking supply by acquiring or developing new surface lots, especially in locations where it is apparent that they will likely be required for future public garages. City control of temporary surface lots would improve their ability to influence parking pricing and better manage the supply for the overall benefit of visitors and employees in the area. A detailed review of potential future parking garage sites and associated costs is provided in Section 6.3.

6.2 TRANSPORTATION PLAN CONSIDERATIONS

The City has been working on its new “Growing Forward” growth plan that will guide and direct an increase in population from 250,000 people to 500,000 people over the next 25 to 30 years, including a commensurate growth in employment throughout the city. This plan includes an overall transportation plan for the city to accommodate the growth and increase the use of alternative modes of transportation such as public transit, walking and cycling. The transportation plan is intended to achieve a decrease in single occupant vehicle travel into the downtown that will in turn reduce the long term need for parking, particularly employee or commuter related.

The City Centre Plan recommended the development of a well thought out pedestrian system and cycling network throughout the downtown in order to encourage active transportation for short trips inside the downtown and to/from the Riversdale and Broadway Business Improvement Districts. As the downtown attracts more residents who live, work and shop in the area it is important to have active transportation options in order to reduce the need for short trip travel by using single occupant vehicles. The new growth plan includes the identification of priority pedestrian and cycling corridors to/from and through the downtown and also includes the staged implementation of a bus rapid transit system to encourage longer distance commuting trips. An overlay of the key transportation plan elements for the downtown are included on Figure 8.

The implementation of a transportation demand management (TDM) strategy focused on increasing mobility options and reducing parking demand over time can play a significant role in reducing the existing and future parking demands within the study area.

As transportation planners and government officials have increasingly realized, there is a limit to the amount of road and freeway infrastructure that can be constructed from a financial and environmental sustainability perspective. More emphasis must be placed on developing effective transit service and on managing transportation infrastructure in a more efficient manner through TDM policies and techniques. The provision of parking services is an important but often overlooked component in this process.

Parking related TDM policies and techniques which can be used to encourage transit use, car/van pooling, walking, cycling and moped/motorcycle use include:

- parking pricing that is the same or higher than transit fares;
- full cost pricing for parking facilities at the individual user level;
- cash-in-lieu of parking & reduced cost transit benefits;
- co-ordinating parking supply strategies with transit initiatives;
- provision of specially designated car/van pool stalls in convenient locations;
- reduced parking fees for car/van pooling;
- provision of parking stalls for bicycles and motorcycles;
- provision of car share and bike share services in both public and private parking facilities;



- provision of a guaranteed ride home service for personal emergencies¹²;
- implementing parking supply limits in zoning ordinances (minimum and maximum parking requirements);
- demonstrating leadership by applying all of the above policies and techniques to municipal employee parking.

Most of these policies and techniques can be applied to the study area in order to encourage reduced single-occupancy vehicle use over time.

The ultimate goal of Transportation Demand Management is to provide well co-ordinated mobility options for commuters and visitors. This will increase the productivity of an area by making the commute more convenient, cost effective and less stressful as well as improve the environment by reducing congestion. It will also facilitate the more efficient use of land and effective urban design. Parking planning, design, management and operation are very important parts of this system.

In order to influence travel demand characteristics, particularly for employees, both the supply and price of parking must be effectively managed. The City can control supply by implementing minimum and maximum supply requirements in the Zoning Bylaws for the area. However, this alone will not necessarily result in the desired change in travel behaviour. In addition to supplying reasonable alternatives to single occupant vehicle travel through enhanced transit services and other transportation demand management initiatives, one of the single most effective measures in reducing parking demand is the implementation of parking pricing. Monthly parking rates in the Downtown are currently transit supportive because they range from \$150 to \$250 per month per space which is well in excess of the \$83 cost of a monthly transit pass. It is important that this price differential continue or increase into the future in order to provide a strong economic incentive to use public transit.

It is also important to complement the investment in increased transit and active transportation infrastructure and services with many of the TDM measures described earlier. For example:

- the provision of a car and bike share service will increase the likelihood that people will take transit, if they know that they can access an automobile or bike for short duration business or personal trips when required;
- the provision of a guaranteed ride home service will increase the likelihood that people will take transit or cycle if they can access a ride home for a personal emergency;
- the provision of secure bicycle parking in municipal and private parking facilities will encourage more people to try cycling for commuter trips;
- the provision of shower and change facilities at places of employment will encourage people to cycle for commuter trips;
- the provision of carpool parking in priority locations and the creation of a ride matching service will encourage more people to carpool for at least some of their commuting trips;
- monthly bus pass discounts for employer groups in specific areas will provide an additional economic incentive to use public transit;

¹² Provides commuters who regularly use alternative modes are provided with a reliable and free ride home in a personal emergency. This service is typically available to users a certain number of times per year and a maximum reimbursable cost (e.g. taxi fare).

- regular surveys of employee commuting characteristics and their propensity to consider the use of alternative travel modes will provide current information to plan and implement new measures to improve mobility options.

We have found that a co-ordinated and well-founded transportation demand management plan can be best deployed at the parking management level because this is where the interaction with people who drive regularly occurs and where the opportunity to engage them about changing travel modes as an alternative to driving is most effective. We have also found that TDM efforts are most successful when trying to address an important parking challenge. Therefore, many of these services should be managed, promoted and funded through the municipal parking operation in co-ordination with other municipal departments, especially Saskatoon Transit. The municipal parking office should also be able to sell transit passes as an alternative to more expensive monthly parking or a lengthy wait list, perhaps at an introductory discount. The formal implementation of the TDM function should occur in conjunction with a major new parking or transit project such as a new parking garage and /or the proposed BRT service through the Downtown.

The City has been quite advanced in its approach to using a portion of parking revenue proceeds generated by the municipal parking operation to fund streetscape improvements in critical areas which will in turn encourage walking and cycling trips and mixed use development. Similarly, a portion of the parking revenues could be used to fund a guaranteed ride home service, subsidize the initial start-up of a ride share service, fund secure bike storage facilities and provide discounts or special memberships in local health clubs for access to shower and change facilities.

6.3 FUTURE PARKING GARAGE CONSIDERATIONS

6.3.1 Recommended Municipal Approach

In order to effectively facilitate future sustainable development the City should play three roles:

1. Invest in the provision of new parking garages in advance of major development in order to free up existing surface parking lots for new development and make it clear what parking will be available to meet future development needs in a timely manner.
2. Invest in joint venture projects by participating with developers to top up or provide additional parking where it is desirable to do so.
3. Implement a comprehensive TDM program to reduce the amount of costly parking garage(s) required in the future. This program would include local transit improvements, the provision of auto share services, a ride matching service, preferential parking for carpool vehicles, enhanced bicycle parking, a guaranteed ride home service and the continued use of parking rates for employee parking that are significantly higher than the cost of a transit pass.

Parking demands should be monitored over time, as development occurs within the area, to confirm the timing and number of spaces required in strategically located parking garages. Implementation of TDM strategies (including increased transit modal split) and the introduction of Zoning Bylaw parking supply



requirements could delay or reduce the need for a parking structures in the future. Payment -in-lieu policies could help meet the cost of constructing parking garages over the long term.

Figure 7 illustrates the location of seven sites that have been identified as potential future parking structure locations based on area parking needs, reasonable walking distance as well as lot size and configuration. Figure 8 illustrates the potential parking garage sites in the context of the key transportation infrastructure planned for the downtown including the future BRT lines, active transportation features and major vehicular access routes.

Lot #1

This site is located on municipally owned lands adjacent to Idylwyld Drive and south of 19th Street within River Landing (within the Riversdale study area). This site is part of the Phase 2 River Landing mixed-use development (residential, hotel, office and restaurant uses are currently being contemplated).

Construction of a four and a half level freestanding parking structure could provide approximately 630 public parking spaces (140 spaces per level).

This site is located within 400 metres of the southwestern corner of the South Core area of the Downtown and could help alleviate some of the parking deficiency identified within this area. However, access from the site to the Downtown is limited from a pedestrian perspective. An east-west pedestrian crossing from the parking lot site to the Downtown would not be possible due to the existing road configuration (at-grade 1st Avenue South and elevated Idylwyld Drive Freeway ramp). As such, pedestrians would be required to travel northbound to the 1st Avenue South and 19th Street East signalized intersection in order to gain access into the Downtown.

A parking structure in this location would also help meet more localized demands generated by the Farmers Market, the Banks and other future developments (i.e. the Pump house).

Lot #2

This site is located on privately owned lands at the northwest corner of 19th Street and 2nd Avenue within the South Core area of the Downtown. The site is currently occupied by a commercial surface parking lot.

The City would need to acquire the site or an agreement would need to be secured between the City and the developer to construct a public parking structure as part of a larger development. Construction of a five level parking structure could provide approximately 800 public parking spaces (160 spaces per level) compared to the 280 spaces the developer would typically provide on this site for the proposed development, a net gain of up to 520 spaces.¹³

The site is located within 400 metres of the majority of the South Core area, where significant parking deficiencies may occur in the future. Other nearby uses that could benefit from the additional parking include a cinema (with significant evening parking demands), River Landing and the Midtown Plaza.

¹³ The parking supply provided by the developer was assumed to be provided at a rate of 1.5 spaces per 1000 sf² of GFA. This rate is comparable to the proposed parking supply of other comparable developments across the Downtown (where more complete development information was provided).



Lot #3

This site is located on City owned lands at the southwest corner of 22nd Street and Pacific Avenue, adjacent to the Midtown Plaza and TCU Place. The site is currently occupied by a commercial surface parking lot.

Construction of a six level parking structure could provide approximately 1,200 public parking spaces (200 spaces per level).

A parking structure in this location (either freestanding or part of a larger development) could help accommodate the reoccurring parking demands of the TCU Place and support the redevelopment of other sites in the area.

As mentioned earlier, a garage with 600 spaces would meet the recurring needs at TCU Place, but not peak demands.

Lot #4

For parking efficiency purposes, two lots have been reviewed as a single parking structure. This site is located south of 21st Street, east of 4th Avenue and west of Spadina Crescent and is currently occupied by two surface parking lots.

Construction of a two to four level parking structure could provide between 200 and 400 public parking spaces (100 spaces per level). This site is located within the South Core area of the Downtown, where significant parking deficiencies may occur in the future.

The size and configuration of the site may not make it the most optimal parking structure but its location in relation to the Downtown does make it a viable option.

Lot #5

This site is located on City owned lands at the southeast corner of 23rd Street and 4th Avenue within the Core area of the Downtown. The site is currently occupied by the vacant police station building and a surface parking lot.

Construction of a four and a half level standalone parking structure could provide approximately 630 public parking spaces (140 spaces per level) and would require the demolition of the existing building.

The City is currently pursuing a sale of the Site. If sold, the City should look to secure a public parking facility in the redevelopment of the site.

The site location is within 400 metres of the entire Core area and would also serve a portion of the South Core and North Core areas of the Downtown.

Lot #6

This site is located on privately owned lands at the southeast corner of 24th Street and 2nd Avenue within the North Core area of the Downtown.

An agreement would need to be secured between the City and the developer to construct a public parking structure as part of a larger development or the City could acquire the site for a future development and public



parking garage. The garage would be located within a five minute walk of most future development in the core zone as well as the north Midtown block.

Construction of a four and a half level parking structure could provide approximately 630 public parking spaces (140 spaces per level).

Lot #7

This site is located on City owned lands at the northeast corner of 5th Avenue and 25th Street north of the Downtown.

Construction of a four and a half level parking structure could provide approximately 540 public parking spaces (120 spaces per level).

While this site is well configured for a parking structure there is sufficient publicly available parking in the Kinsmen area to accommodate existing and future parking demands. Future parking deficiencies are concentrated in the North and South Core areas of the Downtown and the location of this parking structure would have a minimal impact on alleviating the demands in these areas.

6.3.2 Recommended Downtown Parking Garage Locations

Based upon this preliminary screening of potential locations for strategically located parking garages to serve future development needs, the following sites appear to be the best locations for the City to consider for providing future public parking garages:

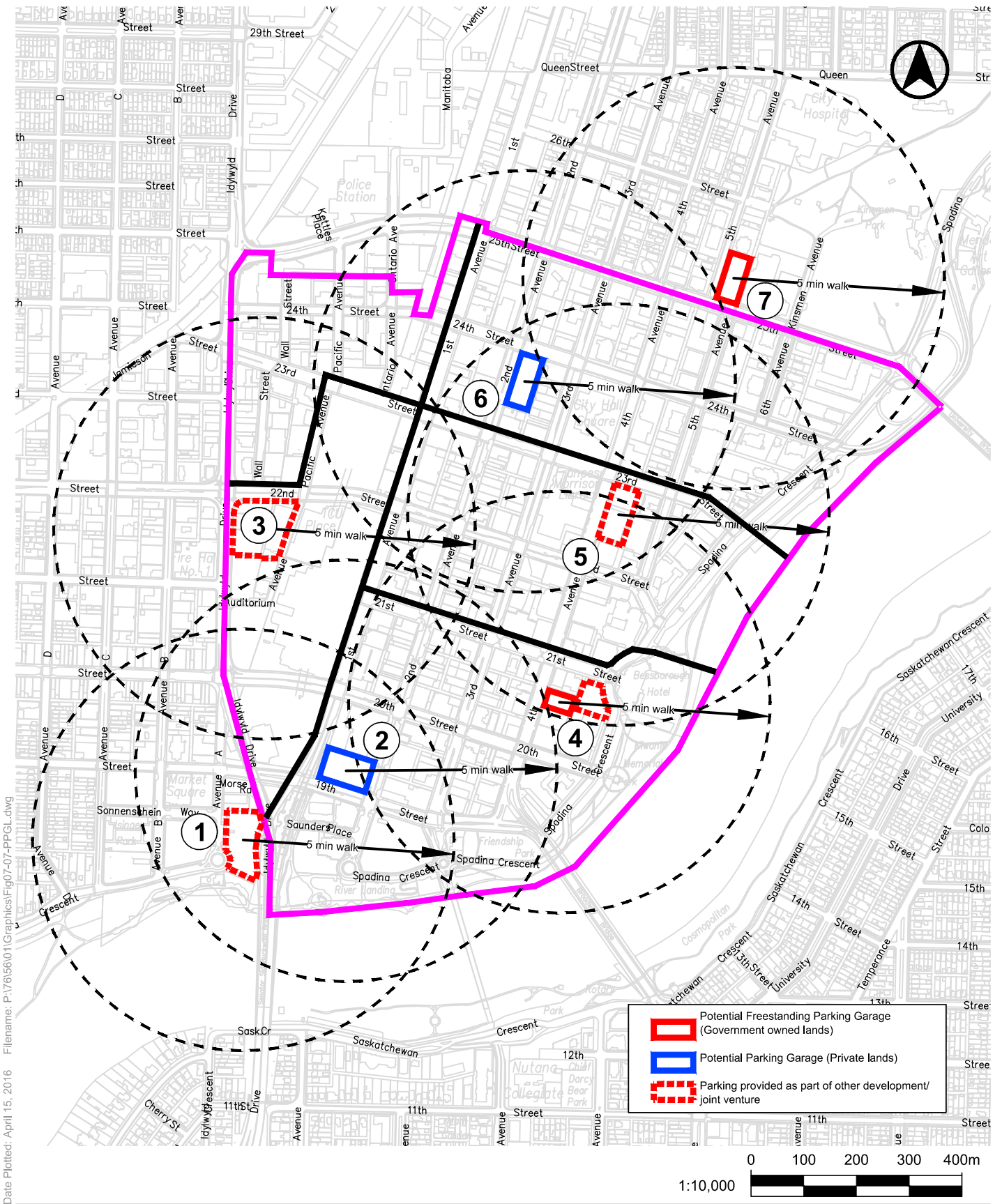
1. Site 5 or 6 to serve the core and north core sub areas. Site 6 is better located to serve future development. However, the City already owns Site 5 (the Police Station and adjacent parking lot) which may be sold. Development of a 600 space garage on site 5 or 6 or some combination of the two would serve to free up existing surface lots in the North Core and Core sub-areas of the Downtown for future development.
2. Site 3 to provide a TCU Place parking supply of 600 spaces and potentially more parking in joint venture with Midtown Plaza to serve their needs related to future development. The City already owns this site.
3. Site 2 to serve the South Core sub-area with up to 520 public parking spaces.
4. The City may also need to partner with several development projects to provide up to 600 additional public parking spaces in the South Core.

The City already requires that grade level commercial space be incorporated into new developments, which is important from an urban design and economic development perspective. In addition the City should encourage additional mixed use development by providing air rights on top of any new municipal garage, the sale of which would be used to offset some of the cost of acquiring the land or building the new garage.

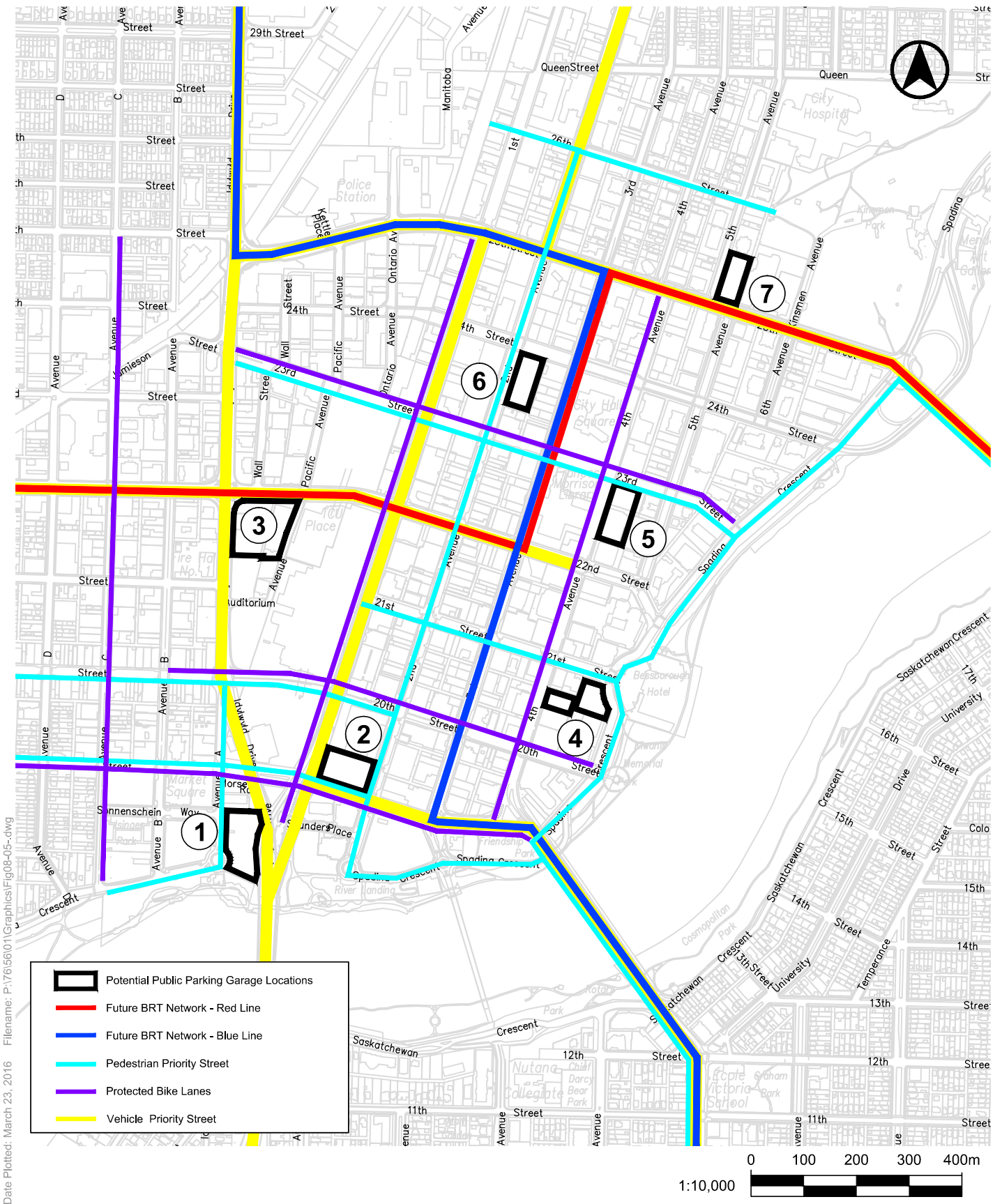
An additional opportunity would be for the City to construct park and ride lots on the outer edges of the future BRT line that would accommodate some Downtown employee parking demand, thereby reducing the need and perhaps some of the cost to provide it Downtown.

As mentioned earlier, the City should also consider topping up the supply of parking in specific development projects with the intention that such facilities will be operated as shared public parking resources for the general area and not just the specific development site. It appears that this approach may be necessary in the South Core area of the Downtown.





POTENTIAL PUBLIC PARKING GARAGE OR JOINT VENTURE LOCATIONS



DOWNTOWN TRANSPORTATION NETWORK AND POTENTIAL PUBLIC PARKING GARAGE LOCATIONS

6.4 ZONING BYLAW REQUIREMENTS

6.4.1 Minimum Vehicular Parking Supply Requirements

The City of Saskatoon's Zoning Bylaw 8770 does not require parking to be provided for residential, office or commercial uses in the core commercial area of the Downtown as a means to incentivize development. Based on a review of development proposals within the study area it appears that the majority of developments are supplying significantly less parking than required to meet the parking needs of the proposed uses. For example, the average on-site parking supply rates for existing office buildings is approximately 1.0 space per 1000 ft² (1.0 space per 93 m²) GFA, with some development supplying as much as 1.5 spaces per 1000 ft² (1.0 space per 62 m²). This compares to an estimated average actual demand rate of approximately 3.0 spaces per 1000 ft² (1.0 space per 31 m²). Therefore office developers are supplying at most 50% of the anticipated need for parking and in many cases less than 50%. This parking supply pattern was probably related to the fact that the value of land was less than the cost of providing parking in a garage and some development sites preclude the efficient provision of structured parking in a cost effective manner. This has led to the present proliferation of surface parking lots that need to become future development sites if the Council endorsed City Centre Plan is to be realized.

More recently, land values in the core area of the Downtown are at/or exceed the cost of providing garage parking, which should result in the provision of more parking subject to site design constraints. However, Downtown office developers compete with the cost of suburban office developments that provide much cheaper surface parking. This in turn will lead new office developers to minimize the cost gap by undersupplying parking in new development, relying on the use of existing surface lots in the area.

In order to minimize the future impacts of new commercial development parking demand undersupply, the City should at least revise the Zoning Bylaw to require the provision of on-site parking at the same rates required for the M4 Institutional zone on the east side of the downtown. This would be 2.0 spaces per 100 square metres (one space per 50 square metres) GFA (2.15 spaces per 1000 ft²) of office/commercial development. However this would still result in significant parking supply deficits until future transit improvements are implemented and transit use increases.

An alternate approach that would align strategically with the new Growing Forward plan would be to set commercial parking supply rates to reflect future transit mode split targets for the Downtown, in this case a rate of (2.7 spaces per 100 square metres GFA (1.0 space per 37 m²) or approximately 2.5 spaces per 1000 ft².

However, introducing zoning by-law parking supply requirements in the Downtown may discourage new development because it will be at a competitive cost disadvantage with suburban development in building structured parking compared to surface parking in the suburbs. In order to off-set this disadvantage the City should implement a payment-in-lieu (PIL) of parking policy (discussed in greater detail in Section 6.5.2) that would allow developers to make a cash payment for each space they do not supply to meet the Zoning Bylaw requirement. The amount of this payment should be set to match the estimated cost of providing such parking in a suburban surface lot (including land costs) and rise overtime as demand for Downtown space and land values increase. Small scale commercial development or conversions of existing buildings could be exempt from the PIL policy.



6.4.2 Bicycle Parking Requirements

The provision of adequate, safe and convenient bicycle parking and support facilities are important to encourage increased cycling as a regular mode of transportation for both commuters (employees) and visitors to commercial, institutional, recreational and residential uses in urbanized areas. In contrast the absence of these facilities will deter regular cycling for non-recreational purposes. Increased cycling will reduce the growth in vehicle trips and future parking needs as well as support more sustainable urban travel patterns.

Based upon a review of the recent City of Toronto study and best practice information provided by the Victoria Transport Policy Institute, we suggest the City adopt bicycle parking requirements for the Downtown, Riversdale and Broadway areas that require a secure and covered supply for approximately 4% of the estimated employee load for all non-residential uses. In the case of office space this would amount to 0.17 spaces per 100 m². For retail and restaurant and personal service uses, the requirement for employee bicycle parking would be 0.085 per 100 m².

For visitor bicycle parking a similar goal of providing enough space for approximately 4% of the visitors should be considered. In the case of retail/personal service/restaurant uses, this would require 0.25 per 100 m². For office space, the requirement for visitors would be about 8% of the employee demand or 0.014 per 100 m²; however, the greatest demand for visitor bicycle parking in Downtown core areas of large cities is for courier deliveries, which could increase the rate to 0.03.

Bicycle parking should also be provided for high density residential buildings, townhouses and horizontal multiple dwellings which do not have exclusive use garages and driveways. The City of Toronto recently reviewed its requirements and concluded that the existing rate of 0.75 spaces per unit including 90% for residents and 10% for visitors was sufficient for the city except in the Downtown core where it should be increased to 1 space per unit. The parking has to be provided in a secure weather protected area of the building which would include bicycle racks in a monitored area, a limited access room or garage and bicycle lockers. The 0.75 rate would be sufficient for the study area. The visitor parking component can be met through external or internal bike racks which do not have to be in a secure area, but should be visible and weather protected.

The recommended Bicycle parking requirements are summarized in Table 23.

TABLE 23 BICYCLE PARKING SUPPLY REQUIREMENTS

Use	Bicycle Parking Standard
Office Uses	0.17 spaces per 100 m ² GFA staff plus 0.03 spaces per 100 m ² GFA visitor
Retail Uses	0.085 spaces per 100 m ² GFA staff plus 0.25 spaces per 100 m ² GFA visitor
All other non-residential uses	4% for staff and 4% for visitors
Residential Apartments & Townhomes	0.68 resident spaces per unit 0.07 visitor spaces per unit

Notes:

1. Residential requirement applies to apartments and townhouses that do not have an exclusive garage.



It is also important that shower and change facilities be provided for employee cyclists in order to encourage the use of this alternative travel mode. The Cities of Toronto and Vancouver require washroom, change and shower facilities for each gender. Toronto requires one shower/change facility for each gender in non-residential buildings greater than 20,000 m² (215,300 sq. ft.) while Vancouver requires one facility per gender when 4 to 29 employee bicycle spaces are required and one additional facility per gender for every 30 spaces thereafter. Converting the Vancouver shower/change room requirement to square metres suggests that an office building would have to be 2,353 m² GFA (i.e. approximately 25,000 sq. ft.) before shower/change facilities are required. For retail/restaurant/personal service uses, the floor area would have to be 4,705 m² (approximately 50,600 sq. ft.). The Vancouver Bylaw also requires clothing lockers at 0.7 times the number of employee parking spaces provided.

It is recommended that an exemption threshold for renovations and small developments that may find it onerous to comply with the recommended bicycle parking provisions. The exemption limit in Toronto of 20,000 square metres (215,300 sq. ft.) is significantly larger than any potential non-residential development that will occur in the study area. We therefore recommend applying the exemption limit based on the Vancouver Bylaw of 2,325 square metres (25,000 sq. ft.) for office developments and 4,705 square metres (50,650 sq. ft.) for retail/restaurant/personal service uses. The Vancouver requirements should be applied to the study area as outlined in Table 24.

TABLE 24 SHOWER/CHANGE FACILITY REQUIREMENTS

Required No. of Employee Bike Spaces	Number of Shower Stalls per gender
0-4	0
5-29	1
30-59	2
60-89	3
90-119	4
120-149	5
150-179	6
over 179	7 plus 1 for each additional 30 bike spaces

Notes:

1. *Each gender will also require a change and washroom facility, including storage lockers equal to 0.70 times the number of employee parking spaces provided.*

In summary, the City of Saskatoon should implement the bicycle parking and shower/change facility requirements outlined in Table 23 and Table 24 into the Zoning Bylaw for the Downtown, Riversdale and Broadway areas. Developments that require less than five bicycle parking spaces in total should be exempt from the requirements. This would exempt office buildings less than 2,353 square metres GFA and all other commercial space less than 4,705 square metres GFA from providing the shower/change facility requirements.



6.5 FINANCIAL CONSIDERATIONS

Municipalities can draw upon several sources of funding to finance municipal shared public parking resources such as:

- User Fees for parking services;
- Payment in Lieu (PIL) of parking fees from builders;
- Joint Venture projects with private development;
- Tax Increment Financing;
- Development Charges.

These potential revenue sources should also be used to finance TDM initiatives that reduce the need for future parking facilities, promote sustainable mobility and facilitate Transit Oriented Development (TOD).

Tax Increment Financing has been used extensively for many years in the United States to fund public parking facilities and is starting to be considered in Canada. Some municipalities are also beginning to use Development Charges to partially fund new parking resources.

Except in the high density core areas of Canada's largest cities, parking fees rarely cover the full cost of providing parking infrastructure. Most municipalities fund parking from several of the sources mentioned above. A more detailed description of these options is provided below.

Generally, the emphasis should be on creating a municipal parking system that is financially self-sustaining over the long term and which includes fees that encourage people to consider public transit and active transportation alternatives.

6.5.1 User Fees

User fees for municipal public parking should be set to recover the actual cost of providing the parking less the anticipated funds generated from other sources.

As mentioned earlier, most municipalities use the surplus generated by on-street parking to fund a significant portion of their off-street surface lot and garage infrastructure which operates in a deficit position in terms of recovering development and operating costs. In Saskatoon, the City has a somewhat complex but unique and innovative revenue sharing policy that is used to fund streetscape improvements in the Riversdale, Broadway and Downtown areas. A small 3.5% portion of the revenue is also placed in the parking reserve account for future parking initiatives. The parking capital reserve fund is expected to have a balance of approximately \$300,000 at the end of 2016 which is insignificant in terms of funding future municipal parking garages or lots. A much larger portion of on-street meter revenue would have to be allocated to help fund future parking garages and/or land acquisition for garages.

The City Land Division also operates three paid surface lots which generate net revenues that could also be used to fund future parking investments with a consolidated financial approach.

At the present time short duration hourly parking rates for on-street parking are set at \$2.00 per hour with a maximum permitted durations ranging from 1.5 hours to 3 hours. The hourly rate for most off-street parking



lots is \$2.00 per hour with some locations as low as \$1.00 per hour and as high as \$4.00 per hour. Short term hourly rates for off-street public parking should be set lower than the rate for prime on-street spaces in order to encourage turnover of convenient on-street parking and higher utilization of off street parking for people staying longer periods of time. Some side street on-street parking could be priced lower and have longer parking time limits depending upon demand. A 25% increase in the existing \$2.00 per hour rate for on-street parking that was last increased in 2011 could generate roughly \$1.0 million per year in additional revenue which would allow the City to build a first garage or put money in the reserve fund to offset the future capital costs of building a garage.

Some of the revenue generated by parking customers should also be directed to the establishment and development of transportation demand management programs, such as a ride sharing program, an auto share program, the provision of bicycle lockers and parking in off street public parking facilities and a discounted transit pass program, all of which should be targeted to reducing the need for costly public or private parking garages over the medium and long term.

At the present time, the City has surface off-street lots that are operated independently from the on-street parking system. In the future, the net revenue and asset value of these facilities should be utilized to assist in funding the capital costs of new municipal off-street parking resources. It would also be beneficial to have all of the City's public parking resources managed by one parking focused entity.

6.5.2 Payment in Lieu of Parking

The financial resources required to provide the parking garages to support redevelopment are substantial and addressing them will be a formidable challenge. The implementation of a payment in lieu of parking policy would assist in generating funds to assist in financing public parking garages thereby reducing the gap between markets based parking fees and the actual cost of building, maintaining and operating the facilities.

“Cash in lieu” contributions from developers who cannot or do not want to provide minimum parking requirements on their own sites should play a role in financing future public parking structures. Cash in lieu rates are usually set at a discount to the actual cost of development, typically ranging from 25 to 50% of the actual cost to reflect that they are not as valuable as directly owned stalls and that the City will recover some of the cost through parking fees. Typically, the lower percentage is applied to small infill developments which require the economic incentives to develop, while larger sites with more flexibility and presumably more ample financial resources are assessed the higher 50% amount. In some cases, the actual cost of developing parking is a municipal parking system wide average rather than the marginal cost of developing the next stall. A PIL system usually works in a thriving economic area where land and parking facilities are relatively scarce. In areas where redevelopment is just beginning and economic stimulus is required, payment in lieu policies have limited success.

The payment in lieu amount would be set at a discount to the actual cost of providing the parking to:

- provide a financial incentive for developers to contribute to the creation of strategically located public parking facilities.
- recognize that the City will be able to recover some of the costs through user fees.



- recognize that as a municipal facility, the parking facilities would not be subject to certain taxes.
- recognize that the parking spaces are not allocated to specific users on a reserved basis, although the general supply will be available to meet demand.
- recognize that the cash in lieu contributor will not obtain an ownership position in the garage.

Parking garage costs of \$50,000 to \$70,000 per space for above and below grade parking have been reported for the Downtown Saskatoon area, which would result in a payment in lieu rate of \$25,000 to \$35,000 per space using a 50% recovery rate. At existing parking rates and using estimated garage development costs, new garages would run a financial deficit of roughly \$1,700 per space per year.¹⁴ Therefore, from the City's perspective, they would need to collect approximately \$25,000 per space in cash-in-lieu funds in order to break even over the long run on new above grade garage construction.¹⁵ However, in order to have Downtown developers be able to compete with suburban developments, the rate would likely have to be set much lower initially – probably in the \$10,000 to \$15,000 per space range.

It is important to note that the success of the payment in lieu of parking policy can be substantially compromised if the City approves parking variance requests in order to relieve owners from some or all of the obligation to provide parking according to the Zoning Bylaw which would then relieve them of the need to provide cash in lieu. Variance requests should only be approved where the applicant can clearly demonstrate that the Bylaw requirement is excessive, not simply to allow an applicant to proceed because they are unable to provide what is deemed to be an appropriate amount of parking. Should the City approve a reduction in the cash in lieu Bylaw amount because it is technically justifiable, the applicant would still have the ability to use the program to reduce the amount of parking required on site.

A special payment in lieu rate for small developments could be considered in order to assist individual property owners who are not large scale developers and property investors who renovate or add onto their buildings. Some municipalities provide reduced payment in lieu rates for changes of use within an existing building where the Zoning Bylaw would require more parking. For example, the City of Toronto provides reduced rates for smaller building or additions, less than 400 sq. metres in floor area and a further reduction for less than 200 sq. metres.

In order to enact the payment in lieu program, the City should establish a corporate policy for the Downtown, Riversdale and Broadway areas to indicate where the program would apply and to provide guidance regarding appropriate application and costs. A draft outline of such a policy is provided below:

In the Downtown, Riversdale and Broadway areas, the City may at its sole discretion consider accepting payment in lieu funds for all or part of the Zoning Bylaw requirements for parking, having regard for the following:

- *the existing municipal public parking supply in the surrounding area can or will be able to accommodate the on- site parking supply deficiency at the time of development;*

¹⁴ Estimated annual deficit for an above grade parking garage costing \$50,000 per space, 100% fully financed at 4.25% over 25 years with 80% monthly employee parking and 20% short duration visitor parking during the weekday daytime.

¹⁵ Present value of the \$1700 per year deficit with a 4.25% discount rate over 25 years.

- *the presence of site constraints that prevent the provision of the required number of parking spaces;*
- *the use of the property is not considered overdevelopment of the site;*
- *the development or applicant has prepared a formal TDM Plan for the project which is likely to reduce the need for parking.*

The payment in lieu amount will be reviewed and set annually based upon current information regarding the anticipated cost of providing shared municipal public parking resources and the desire to provide economic development incentives.

It should be noted that the decision to accept payment in lieu should remain at the discretion of the City and not become an automatic right. This will allow the City to ensure that if it accepts cash in lieu payments, there is a reasonable expectation municipal parking is already available to serve the development or that the City will be able to provide a supply increase in the short term.

6.5.3 Public Private Partnerships

As mentioned in the City Centre Plan, the City should also consider potential opportunities to deliver parking infrastructure through partnerships and collaboration on specific development projects, where this would result in achieving the goals and objectives established in the Parking Strategy as described in this report. The primary goals being to support good urban design, transportation demand management, and economic development. For example, the City is currently pursuing a sale of the old Police Station site. If sold, the City should look to secure a public parking facility in the redevelopment of the site. Another example might be a joint venture garage serving TCU Place and Midtown Plaza.

The City should determine the need to incorporate public parking facilities in any new development that might be considered for any of the existing and all future surface lots they may own.

In order to achieve the primary goals described above, it is important the City control any partnership arrangement including the price of parking, the use of the spaces, and the ability to expand the garage. It is also important the City maintain control over the design of the garage to ensure it meets reasonable urban design, functional design and life cycle cost considerations. As an example, the Parking Authority of Toronto often engages in private sector partnerships to achieve substantial development on their parking lots. However, they maintain strict control over the cost and design aspects of their garages as well as operational control or the development does not proceed.

A detailed evaluation of the financial costs would also be required in order to ensure that the City was not paying more for the parking than it would otherwise be able to do on its own.

6.5.4 Tax Increment Financing

A Directed Tax Reserve could include the use of the increased realty tax increment associated with higher order development in the Downtown compared to the base tax assessment that would otherwise have been obtained with traditional low density development. This tax uplift could be used to finance various infrastructure projects that are required to support increased density in the area, including future parking garages.



The extent of such financing would depend in large part upon the proportion of the real estate tax that would be available to the municipality. The City already offers a tax increment type incentive to encourage new development on vacant building sites referred to as the Vacant Lot Adaptive Reuse Strategy (VLARS). This program allows developers or builders to obtain an up-front grant or annual reduction in realty taxes based upon the incremental increase in taxes compared to the vacant lot use (which includes parking lots) up to a limit of \$200,000. Therefore, it would be increment above this amount that might be used in part to assist in funding future public parking garage development in strategic locations.

There are currently a myriad of different calculations and assumptions which could be made regarding the Dedicated Area Tax Reserve, depending upon how much the uplift in taxes actually turns out to be and how much of the uplift ultimately ends up being used to support the capital costs of the parking strategy.

However, it is important to note that increased availability of tax uplift funding should not be used to create a situation where the user fees for parking would be reduced below that of a transit pass, in order to use parking pricing as an incentive to use public transit. It should also be recognized that a broader based TIF program might also be utilized to fund other infrastructure initiatives, not just public parking. This will tend to reduce the potential for this tool to fund a substantial portion of the municipal parking program.

6.5.5 Development Charges

We understand the City is considering new ways to fund future growth related infrastructure. This program could include designated shared public parking resources in the study area. However, the funding would be shared with the existing commercial areas and would not fully finance future development costs. The net capital costs after receipt of payment in lieu funds would also have to be considered.

6.5.6 Public Parking Garage Financing Example

As described in Section 6.3, the City may have to supply up to 1900 spaces in strategically located public parking garages over the long term in order to facilitate continued office development in the Downtown. This would best be achieved in three separate garages. In the short term, the City will need to provide one garage in order to free up existing surface parking lots for new development, most likely on the surface lots adjacent to the existing YMCA or perhaps on the Police Station site.

In order to illustrate the order of magnitude financial implications for the City to build a first garage in the Downtown area, we have prepared a preliminary revenue/cost analysis for a 600 space above ground garage¹⁶ with a capital cost of \$50,000 per space or \$30 million. We have also utilized existing hourly and monthly rates of \$2.00 and \$200 respectively and assumed that the garage would be allocated 80% (480 spaces) to hourly visitor parking and 20% (120 spaces) to monthly employee parking. A garage serving TCU Place would serve more short term visitor parking and have slightly better revenue generation.

¹⁶ A below ground parking garage would likely cost up to \$70,000 per space.



Table 25 indicates that the garage would incur an annual deficit of approximately \$1.0 million in Year 1 which is equivalent to approximately \$1675 per space per year. The present value of the annual deficit in Year 1 would be approximately \$25,500 per space using a discount rate the same as the assumed interest rate of 4.25% per year. In other words, the City would need to provide an upfront payment of \$25,500 per space to eliminate the annual deficit of approximately \$1.0 million per year.

Table 26 illustrates the impact of providing an upfront investment of \$25,000 per space or \$15.0 million. These funds would typically come from a reserve fund built up from annual operating surpluses for the municipal parking system, from payment in lieu funds received from building developers or perhaps from land sales proceeds received from selling off City surface parking lots or air rights for development on the garage site itself. In practical terms, the City might not receive all of the funds necessary to offset the deficit in advance of building a garage, but would instead receive them over the 25 year finance period.

An additional source of revenue that is often used by municipalities to fund new garage construction, is the annual net revenue surplus generated by the on-street parking operation. However most of it is used to fund streetscape improvements in the Downtown, Broadway and Riversdale BID's with the remainder directed to City general revenue and only 3.5% allocated to the parking reserve fund. The City would have to allocate a much larger portion of existing parking revenue to the parking reserve fund in order to sustain future parking garage investment. Alternatively, as mentioned in Section 6.5.1, a 25% (\$0.50) rate increase for on-street parking might generate an additional \$1.0 million per year that would also offset the annual loss for a first parking garage and also achieve the desirable pricing objective of having on-street parking be more expensive than off-street parking.

TABLE 25 - Typical Municipal Parking Garage Financial Outlook (with Upfront Investment)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Annual Parking Revenue										
Monthly parkers	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400
Weekday Hourly parkers 7am to 6pm	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000
Weekday Hourly parkers 6pm to 12am	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600
Weekend Hourly parkers 7am to 12am	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500
Total Gross Annual Parking Revenue	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500
Less GST	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500
Net Annual Parking Revenue	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000
Net Annual Revenue per space	\$ 2,850.00									
Annual Parking Expenses										
Operating & Maintenance Costs	\$ 285,000	\$ 293,550	\$ 302,357	\$ 311,427	\$ 320,770	\$ 330,393	\$ 340,305	\$ 350,514	\$ 361,029	\$ 371,860
Staff & Security	\$ 35,000	\$ 36,050	\$ 37,132	\$ 38,245	\$ 39,393	\$ 40,575	\$ 41,792	\$ 43,046	\$ 44,337	\$ 45,667
Credit Card Processing Costs	\$ 20,000	\$ 71,820	\$ 71,820	\$ 71,820	\$ 71,820	\$ 71,820	\$ 71,820	\$ 71,820	\$ 71,820	\$ 71,820
PARC System Technology/Software	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
Parking Management Fee Allowance	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200
Total Annual Operating Costs before reserve	\$ 384,200	\$ 445,620	\$ 455,508	\$ 465,693	\$ 476,183	\$ 486,988	\$ 498,117	\$ 509,580	\$ 521,386	\$ 533,547
Capital Reserve Contribution	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000
Total Annual Operating Costs with reserve	\$ 744,200	\$ 805,620	\$ 815,508	\$ 825,693	\$ 836,183	\$ 846,988	\$ 858,117	\$ 869,580	\$ 881,386	\$ 893,547
Total Annual Operating Costs per space	\$ 1,240.33									
Net Annual Parking Operating Revenue	\$ 965,800	\$ 904,380	\$ 894,492	\$ 884,307	\$ 873,817	\$ 863,012	\$ 851,883	\$ 840,420	\$ 828,614	\$ 816,453
Annual Debt Service Costs	-\$ 1,971,436	-\$ 1,971,436	-\$ 1,971,436	-\$ 1,971,436	-\$ 1,971,436	-\$ 1,971,436	-\$ 1,971,436	-\$ 1,971,436	-\$ 1,971,436	-\$ 1,971,436
Annual Debt Service Cost per space	-\$ 3,285.73									
Net Annual Revenue after debt service	-\$ 1,005,636	-\$ 1,067,056	-\$ 1,076,944	-\$ 1,087,128	-\$ 1,097,619	-\$ 1,108,423	-\$ 1,119,552	-\$ 1,131,015	-\$ 1,142,822	-\$ 1,154,983
Net Annual Revenue after debt service per space	-\$ 1,676.06									
Present Value of Annual Deficit	\$25,505.16									

Revenue (2015 \$)

Number of parking spaces	600	on both levels		Highlighted text indicates input values
Percent Monthly Parking	80%	estimated allocation		
Monthly Parking Spaces Available	480	Monday to Friday 7am to 6pm non reserved		
Months Available	12	for monthly parkers		
Monthly Rate	\$ 200	estimated for non- reserved covered parking		
Number of weekday hourly parking spaces	120	available from 7am to 6pm		
Weekday hourly parkers per year 7am to 6pm	81,000	based upon an hourly space turnover rate of 3.0 per day and 90% occupancy		
Weekday hourly parkers per year 6pm to 12am	8,100	approximately 105 of weekday daytime demand		
Weekend Hourly parkers per year 7am to 12am	8,100	approximately 105 of weekday daytime demand		
Hourly parking slippage factor	1.00	to account for cutomers evading payment		
Hourly parking rate	\$ 2.00	estimated 2015 market rate		
Evening Flat Rate	\$ 5.00	estimated 2015 market rate		
GST	5%	assuming City must remit to Province		

Costs (2015 \$)

Operating & Maintenance Costs	\$ 475	estimated typical for garage, including utilities
Staff & Security	\$ 35,000	to be confirmed
Credit Card Processing Costs	4%	to be confirmed
PARC System Technology/Software	\$ 10,000	includes 4 pay by plate stations and management software
Capital Reserve Contribution	1.20%	City mandated
Parking Management Fee Allowance	2.00%	to be confirmed
Garage Construction Cost	\$ 30,000,000	estimate
Equity Contribution	\$ -	from City (PIL funds)
Debt Financed Ammount	\$ 30,000,000	from City
Interest rate	4.25%	from City
Finance Term (no. of years)	25	from City
O&M Inflation factor	1.03	estimate

TABLE 26 - Typical Municipal Parking Garage Financial Outlook (with Upfront Investment)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Annual Parking Revenue										
Monthly parkers	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400	\$ 1,382,400
Weekday Hourly parkers 7am to 6pm	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000	\$ 324,000
Weekday Hourly parkers 6pm to 12am	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600	\$ 48,600
Weekend Hourly parkers 7am to 12am	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500	\$ 40,500
Total Gross Annual Parking Revenue	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500	\$ 1,795,500
Less GST	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500	-\$ 85,500
<i>Net Annual Parking Revenue</i>	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000	\$ 1,710,000
Net Annual Revenue per space	\$ 2,850.00									
Annual Parking Expenses										
Operating & Maintenance Costs	\$ 285,000	\$ 293,550	\$ 302,357	\$ 311,427	\$ 320,770	\$ 330,393	\$ 340,305	\$ 350,514	\$ 361,029	\$ 371,860
Staff & Security	\$ 35,000	\$ 36,050	\$ 37,132	\$ 38,245	\$ 39,393	\$ 40,575	\$ 41,792	\$ 43,046	\$ 44,337	\$ 45,667
Credit Card Processing Costs	\$ 20,000	\$ 71,820	\$ 71,820	\$ 71,820	\$ 71,820	\$ 71,820	\$ 71,820	\$ 71,820	\$ 71,820	\$ 71,820
PARC System Technology/Software	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
Parking Management Fee Allowance	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200	\$ 34,200
<i>Total Annual Operating Costs before reserve</i>	\$ 384,200	\$ 445,620	\$ 455,508	\$ 465,693	\$ 476,183	\$ 486,988	\$ 498,117	\$ 509,580	\$ 521,386	\$ 533,547
Capital Reserve Contribution	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000	\$ 360,000
<i>Total Annual Operating Costs with reserve</i>	\$ 744,200	\$ 805,620	\$ 815,508	\$ 825,693	\$ 836,183	\$ 846,988	\$ 858,117	\$ 869,580	\$ 881,386	\$ 893,547
Total Annual Operating Costs per space	\$ 1,240.33									
Net Annual Parking Operating Revenue	\$ 965,800	\$ 904,380	\$ 894,492	\$ 884,307	\$ 873,817	\$ 863,012	\$ 851,883	\$ 840,420	\$ 828,614	\$ 816,453
<i>Annual Debt Service Costs</i>	-\$ 985,718	-\$ 985,718	-\$ 985,718	-\$ 985,718	-\$ 985,718	-\$ 985,718	-\$ 985,718	-\$ 985,718	-\$ 985,718	-\$ 985,718
<i>Annual Debt Service Cost per space</i>	-\$ 1,642.86									
Net Annual Revenue after debt service	-\$ 19,918	-\$ 81,338	-\$ 91,226	-\$ 101,410	-\$ 111,901	-\$ 122,706	-\$ 133,835	-\$ 145,297	-\$ 157,104	-\$ 169,265
Net Annual Revenue after debt service per space	-\$ 33.20									
Present Value of Annual Deficit	\$505.16									

Revenue (2015 \$)

Number of parking spaces	600	on both levels	Highlighted text indicates input values
Percent Monthly Parking	80%	estimated allocation	
Monthly Parking Spaces Available	480	Monday to Friday 7am to 6pm non reserved	
Months Available	12	for monthly parkers	
Monthly Rate	\$ 200	estimated for non- reserved covered parking	
Number of weekday hourly parking spaces	120	available from 7am to 6pm	
Weekday hourly parkers per year 7am to 6pm	81,000	based upon an hourly space turnover rate of 3.0 per day and 90% occupancy	
Weekday hourly parkers per year 6pm to 12am	8,100	approximately 105 of weekday daytime demand	
Weekend Hourly parkers per year 7am to 12am	8,100	approximately 105 of weekday daytime demand	
Hourly parking slippage factor	1.00	to account for customers evading payment	
Hourly parking rate	\$ 2.00	estimated 2015 market rate	
Evening Flat Rate	\$ 5.00	estimated 2015 market rate	
GST	5%	assuming City must remit to Province	

Costs (2015 \$)

Operating & Maintenance Costs	\$ 475	estimated typical for garage, including utilities
Staff & Security	\$ 35,000	to be confirmed
Credit Card Processing Costs	4%	to be confirmed
PARC System Technology/Software	\$ 10,000	includes 4 pay by plate stations and management software
Capital Reserve Contribution	1.20%	City mandated
Parking Management Fee Allowance	2.00%	to be confirmed
Garage Construction Cost	\$ 30,000,000	estimate
Equity Contribution	\$ 15,000,000	PIL funds at \$25,000 per space for 600 spaces
Debt Financed Ammount	\$ 15,000,000	from City
Interest rate	4.25%	from City
Finance Term (no. of years)	25	from City
O&M Inflation factor	1.03	estimate

6.6 MANAGEMENT CONSIDERATIONS

In the short term the City should:

- Consolidate the management and operation of both on-street and off-street parking in one department. The land value of the surface lots when sold should be deposited in the parking reserve fund to assist in funding future garages;
- Increase the allocation of the on-street parking revenue to the parking capital reserve fund in order to finance future garage development;
- Actively identify locations to increase the supply of on-street parking;
- Seek to lease private surface lots in order to ensure less parking is allocated to reserved monthly parking and more parking is made available through monthly scramble parking;
- Conduct detailed feasibility studies regarding new public parking garages on the former Police Station site and the surface lots adjacent to the YMCA; and
- Develop a financial plan that will allow the municipal parking system to operate on a financially self-sustaining basis over the long term (i.e. 25 years).

Ultimately, the City could operate the consolidated parking system by using an Enterprise Model. Under this model, the municipal parking system is operated by a City department or division on a financially sustainable basis in terms of operation, life cycle costing and future development funding. Long term budgeting would be prepared for the department and approved by Council with the intent that little or no external funding would be required. Examples include the Cities of Kingston, Kitchener, Oakville, Oshawa and Ottawa with Kitchener having the most explicit mandate. Other cities are currently examining the feasibility of converting to this option, including Waterloo and London.

Alternatively, the City could consider the eventual creation of financially independent Parking Authority or Commission that would be guided by an independent board of directors and managed by a group of senior executive level staff who report to the board of directors with the objective of operating with annual revenue surpluses that could then be disbursed to the city as a dividend to be used for other purposes. The board of directors usually consists of downtown stakeholders with business experience and could include the Mayor and or councillor who would represent the BIDS where the authority operates. Examples include the Cities of Montreal, Toronto, Saint John and Winnipeg.

7.0 OPERATIONAL CONSIDERATIONS

In the short term, the City should undertake the following initiatives to improve existing parking operations:

- Increase the maximum duration of stay time limits for on-street parking in the Downtown to three hours everywhere except for 21st Street and 2nd Avenue which should be two hours (except the block in front of the Scotiabank Theatre);
- Investigate opportunities to provide additional on-street parking;
- Ensure that the surface parking lots it controls do not lease out *reserved* parking spaces;
- Strongly encourage private surface parking lot owners to not provide reserved parking for monthly employee parkers as a condition of renewal for a business parking license; and
- Consider leasing strategically located surface lots with a view to managing them to provide monthly employee scramble parking in place of reserved monthly parking.

7.1 ON-STREET PARKING TIME LIMITS

At the present time, most on-street parking in the Downtown, Riversdale and Broadway areas operate with duration time limits of ninety minutes to two hours with a few exceptions in the Downtown where three hour limits are provided near the Persephone Theatre and Cinemas (see Figure 4). The Downtown Partnership BID and some of its members have indicated that the existing parking duration time limits of ninety minutes to two hours across most of the Downtown area are not sufficient for customers conducting many business engagements and for people having lunch, attending medical appointments or some personal service appointments. Although there are two municipal surface lots in the Downtown which permit longer (9 hour) duration time limits they do not provide enough coverage within convenient walking distance for many business locations and the availability of short duration parking in private lots is limited. Under these circumstances, people will often exceed the posted time limits or reduce the amount of time they spend in the area on each visit.

It has been our experience that people strongly resent receiving parking tickets for overstaying time limits when they are willing to pay for the extra time. Typically, most of the vocal complaints about parking fines are related to the duration overstay factor. It is generally preferable from a customer service perspective to maximize revenue from people who pay for parking and minimize the amount of revenue obtained from parking fines for people who wanted to pay more to park longer but could not. The Downtown Partnership has recently polled its membership regarding on-street parking time limits and based on this research, the BID supports an increase in on-street parking time limits to three hours throughout the area, except for the right angle nose in parking on 21st Street and 2nd Avenue which should have two hour time limits. The three hour time limits near the Cinema and Persephone Theatre would remain in place.

We are supportive of increased time limits in general and the specific proposal put forward by the Downtown Partnership BID, however, the following impacts should be considered:

- The increased durations can make it easier for some employees to misuse on-street parking and move their vehicles around throughout the day;
- Some business locations that depend on very short stay customers may need to be provided with some parking with a 20 to 30 minute duration limit; and
- Increased on-street parking duration could result in increased occupancy during peak periods which will make it more challenging to find a space in a reasonable amount of time.

In order to counteract the tendency for people to exceed the increased time limits, increased enforcement may be required and/or parking charges for on-street parking should be increased. As mentioned earlier, it is generally desirable to price on-street parking at a higher level than hourly parking in off-street lots and garages to encourage price sensitive customers to use off street parking, thereby freeing up more convenient on-street parking. This could be accomplished by increasing rates from \$2.00 per hour to say \$2.50 per hour or by employing a graduated rate that increases for each hour starting with \$2.00 per hour for the first hour, \$2.50 for the second hour and \$3.00 for the third hour.

7.2 ON-STREET SUPPLY

The City should work with the BID's in each area to determine whether a limited amount of very short stay parking should be provided in specific locations.

In order to counteract the potential increase in occupancy levels, the City should actively research locations where additional on street parking can be provided. Increased on street parking is the most cost effective way to provide additional parking that should be generally more convenient to use than off-street parking. For example, the Riversdale BID has been suggesting that some on-street parking could be added to 19th Street between Avenues A and C. There might also be some potential to add angled nose in parking on 23rd Street between 3rd Avenue and Spadina Crescent and perhaps on 3rd Avenue between 22nd and 19th Street. Adding angled nose in parking has the potential to add up to 25 spaces per block depending on the number of driveways and curb side obstructions. The angled parking on 3rd Avenue might have to be removed in the longer term when the proposed north-south BRT line through the Downtown is implemented.

8.0 CONCLUSIONS AND RECOMMENDATIONS

If a strategy is not developed to address the transformation challenge from surface lots to development sites and the long term need for public parking resources, the Council approved City Centre Plan will not be realized and future office development in the Downtown may be limited to well below its historic share of the total office supply.

8.1 SHORT TERM RECOMMENDATIONS (2 YEARS OR LESS)

- Consolidate the management of both on-street and off-street municipal parking in one department. The land value of the surface lots when sold should be deposited in the parking reserve fund to assist in funding future garages;
- Develop a financial plan that will allow the municipal parking system to operate on a financially self-sustaining basis over the long term (i.e. 25 years) including the provision of public parking garages and lots.
- Increase the allocation of the on-street parking revenue to the parking capital reserve fund in order to increase funding available for future garage development;
- Actively identify locations to increase the supply of on-street parking;
- Increase the maximum duration of stay time limits for on-street parking in the Downtown to three hours everywhere except for 21st Street and 2nd Avenue which should be two hours (except the block in front of the Scotiabank Theatre);
- Ensure that the surface parking lots the City controls do not lease out reserved parking spaces;
- Consider leasing strategically located surface lots with a view to managing them to provide monthly employee scramble parking in place of reserved monthly parking;
- Strongly encourage private surface parking lot owners to not provide reserved parking for monthly employee parkers as a condition of renewal for a business license for their commercial parking lot;
- Conduct detailed feasibility studies regarding the provision of public parking in new garages on the former Police Station site and the surface lots adjacent to the YMCA.

8.2 MEDIUM TO LONG TERM RECOMMENDATIONS (2 TO 10 YEAR TIME FRAME)

- Revise the Zoning Bylaw commercial parking supply requirements to include the on-site provision of parking at 1.0 space per 37 m² GFA (2.7/100 square metres);
- Implement a Payment in Lieu of Parking (PIL) Policy to allow developers to reduce their on-site supply in return for making payment towards future municipal parking and TDM infrastructure;
- Own and better manage a greater proportion of the overall parking supply by acquiring or developing new surface lots, especially in locations where it is apparent that they will likely be required for future public garages. City control of temporary surface lots would improve their ability to influence parking pricing and better manage the supply for the overall benefit of visitors and employees in the area.
- Invest in the provision of new parking garages in advance of major development in order to free up existing surface parking lots for new development and make it clear what parking will be available to meet future development needs in a timely manner.
- Continue to target a 15% increase in transit/non-auto mode split which could significantly reduce the area's future parking demands and result in substantial future garage capital cost savings for the private sector as well as the cost of future municipal public parking garages.
- Review the feasibility of providing park and ride surface lots at the outer portions of the future BRT lines in order to reduce the amount of parking required Downtown.
- Implement a comprehensive TDM program to reduce the amount of costly parking garage(s) required in the future. This program would include local transit improvements, the provision of auto share services, a ride matching service, preferential parking for carpool vehicles, enhanced bicycle parking, a guaranteed ride home service and the continued use of parking rates for employee parking that are significantly higher than the cost of a transit pass.
- Review the feasibility of implementing a number of additional sources of funding to finance municipal shared public parking resources such as:
 - **Joint Venture projects** with private development to top up or provide additional parking where it is desirable to do so, especially on land the City already owns;
 -
 - **Tax Increment Financing** to finance various infrastructure projects that are required to support increased density in the area, including future parking garages; and
 - **Development Charges** to help support public parking resources in the study area.

**APPENDIX A:
Parking Study Open House Presentation Boards
(Public Feedback Summary)**



What we have heard

Challenges

- Availability of parking is the main issue.
- Parking availability and cost are always the first questions by potential office renters and staff.
- People working Downtown are using on-street meters for long-term parking.
- There is adequate parking for retailers, but a shortage for office uses, and people working Downtown which affects the availability of parking meters for the retail sector.
- Parking shortages are pushing businesses and office uses to the suburbs.
- People want certainty; they want to know they will have a parking space when they get to work.
- People want their parking space reserved for 24 hours, which makes the sharing of parking spaces difficult.
- Evening parking is even more difficult than daytime parking.
- Restaurants use up a lot of available parking spaces in the evenings.
- There is little enforcement of parking violations in the area, especially the 2 hour maximum time limit.
- Safety concerns about parking in rear lanes, both Downtown and surrounding neighbourhoods.
- Delivery vehicles often block traffic.
- Crossing Idylwyld Drive is challenging, and improvements are needed.
- There are very few drop-off spaces Downtown, which causes problems for people with mobility issues.

What we have heard

Opportunities

- Develop vacant lands near the Downtown/Broadway Avenue to provide inexpensive (or free) parking.
- People will walk a long way for free parking; provide free parking peripherally as part of the overall plan.
- Consider a shuttle bus from parking lots peripheral to the Downtown.
- Develop on-street “parking malls” near the Downtown with angled parking, long-term parking, and provide a more walkable (streetscaped) linkages into the Downtown.
- Consider “parking parks” that become an amenity; they provide parking, park space, and other amenities.
- Consider park and ride options.
- Consider marketing and technology opportunities, such as a mobile application, or signage directing people to available parking spaces.
- Need a more efficient use of existing parking spaces, as well as the expansion of parking.
- Rent Downtown spaces for evenings (just like daytime). Someone rents the space by day, and someone rents the space in the evening. It is effectively “time-share parking”.
- Improved signage could help identify parking locations.
- Need to allow parking to exceed the maximum time limit; for instance, if you are in a meeting or appointment and your meter expires, there needs to be a way to remotely add time even if over the time limit.

What we have heard

Role of the City of Saskatoon

- City needs to provide incentives for the private sector to develop parking spaces.
- Encourage office buildings to provide more parking, because stand-alone parking structures may not be viable due to construction costs.
- Implement development standards for surface parking lots, and at some point they should no longer be considered temporary.
- The City could give land or some parking levels away that would then be provided for public use.
- Consider making spaces available, and free, for scooters and potentially motorcycles to encourage their use.
- Additional parking requirements Downtown would have no effect on the amount of parking that is developed; the market already provides what would be required.
- The parking plan needs to consider both day and evening parking.
- Should consider limiting the number of reserved parking spaces in the evening/weekends.
- Difficult to control private parking lots. Need someone to manage the whole system.
- Encourage car share programs to help reduce the need for parking.

What we have heard

Alternative Modes of Transportation

- Parking for bikes needs to be considered.
- People don't want to take transit for a variety of reasons.
- Bus system does not work for many people, including those with young families.
- Transit is not an option for people from out of town.
- Transit is not flexible and is inefficient. Needs to become an efficient system.
- Can't force people onto transit, but other transportation options need to be available.
- Need increased population density to help make transit work (critical mass).
- This is a car oriented City; we need to be realistic about the how much effect there will be with other forms of transportation. Continue to grow these other forms, but the car will always be dominant.
- Need to accommodate other forms of transportation and transit needs to be improved.
- There are some safety concerns about walking around Downtown.
- Pedestrian amenities need to be improved so walking can become a better option.

What we have heard

New Parking Structures

- Any new structure will need daytime and night time occupancy.
- Perhaps consider a parking structure in the Broadway BID and Riversdale BID areas.
- Shoring costs are high, so it is expensive to provide underground parking.
- City needs to encourage office buildings to provide more parking, because stand-alone parking structures may be not viable due to construction costs.

What we have heard

Change in Approach Needed

- Looking to fix parking challenges; need to start with changing attitudes.
- We have a small-town mentality and expect to park close to where we are going.
- People view convenient and free parking as a right.
- Some people complain about a long walk from their parking space to their destination; however, the walk may be just as far in malls and big box centres.
- Need to change attitudes about parking. Parking lots could become scramble parking and can oversell spaces.
- Need to examine the 2 hour time limits. May not need longer times everywhere, but some areas do need longer time limits.
- Consider lower rates where we are trying to attract people and higher rates where we want to encourage movement.

Challenges

- Most buildings supply only 50% or less of their actual parking demand and therefore rely on other parking lots to meet their remaining needs.
- Almost 50% of off-street parking spaces are reserved.
- Some employers have difficulty securing large blocks of employee parking off-site.
- Some Downtown employees are parking at on-street meters, thereby making it more difficult for customers to find conveniently located parking.
- Increased office occupancy or new development will increase the challenges described above.

Actions

- Reduce the amount of reserved parking spaces Downtown.
- Provide additional publicly available off-street parking spaces.
- Discourage employees from using on-street parking meters.
- Amend the time limits for parking meters; add some 3 hour meters, but keep 2 hour meters in key commercial areas.

Key Directions

Challenges

The City of Saskatoon controls a very small amount of the overall parking inventory.

- The City controls approximately 21% of parking spaces, where most cities control 40% to 60%.

Actions

- The City needs to control a higher percentage of the overall inventory by developing or operating additional off-street parking facilities (this can influence prices, reduce the amount of reserved parking, and can direct revenues to parking improvements).

Key Directions

Challenges

Amend the Zoning Bylaw to add a required parking standard for all uses Downtown.

- The lack of a parking requirement is leading to the parking challenges we currently face, and will limit our ability to provide sufficient parking in the future.

Actions

- Amend the Zoning Bylaw to provide parking requirements for commercial uses Downtown.
- Provide a payment in lieu option for required parking with funds used to build public parking structures.

Challenges

Structured parking will permit the Downtown to increase in density, which in turn will support other transportation options.

- Our current development pattern is a low density Downtown. By providing structured parking, vacant lots can become developed and will help add density to the Downtown. Density is key for the transit system and active transportation options to become viable.

Actions

- We need to ensure additional structured parking facilities are developed, by both the private and public sectors.
- Improve the transit, cycling and pedestrian system to help reduce the number of people driving to the Downtown.
- The City needs to develop a strategy to build public parking garages into the future.

Challenges

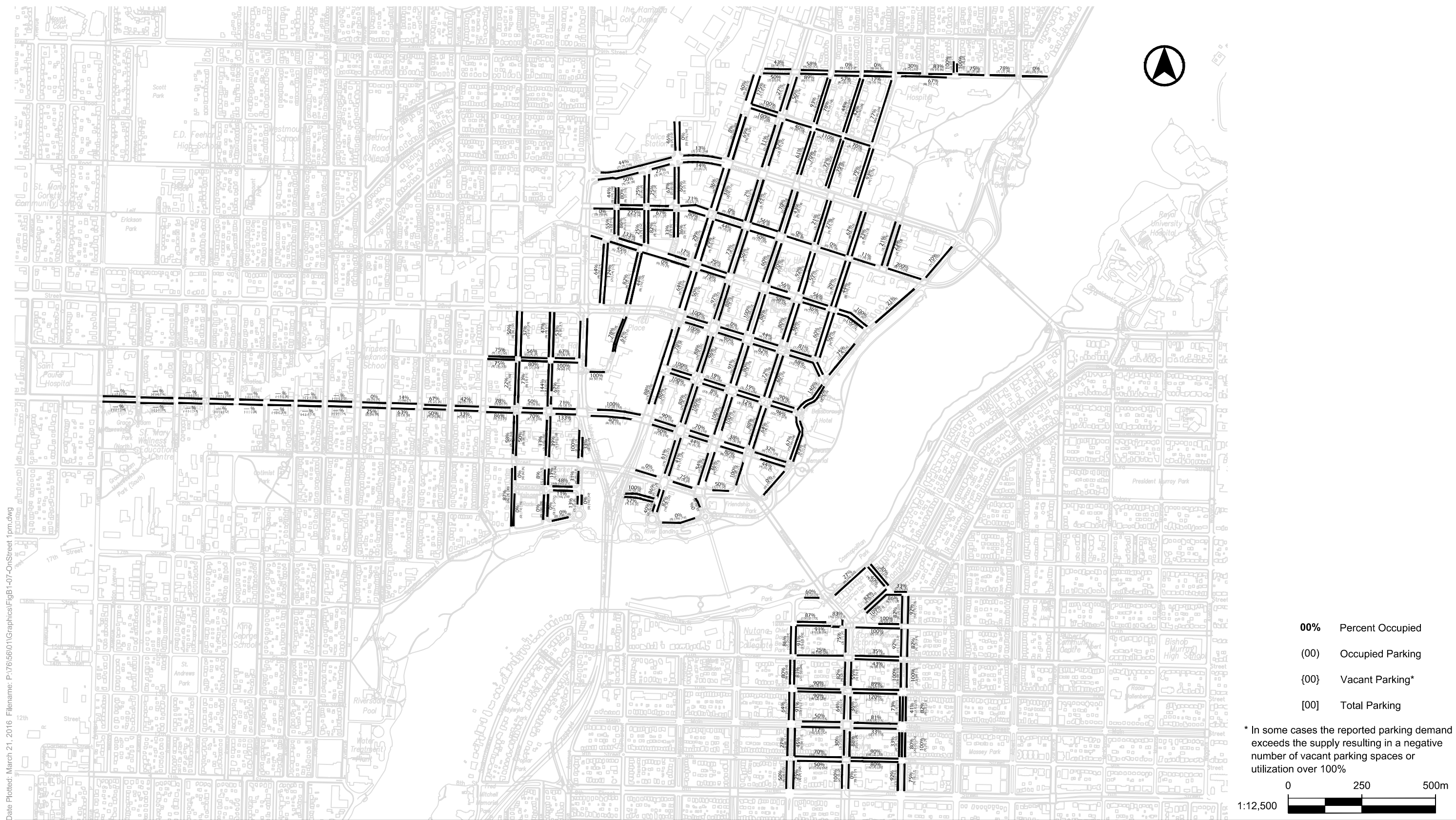
The success of our Downtown over the long-term is dependent upon additional parking inventory, particularly structured parking facilities.

Actions

- The City needs a centralized municipal parking operation.
- The City needs to create a financial strategy and management structure to develop and effectively manage additional off-street parking resources.
- The City needs to develop a strategy to build public parking garages into the future.

**APPENDIX B:
Parking Supply and Demand Survey Results (On- and Off-
Street)**





Date Plotted: March 21, 2016. Filename: P:\76166\01\Graphics\FigB1-07-OnStreet 1pm.dwg

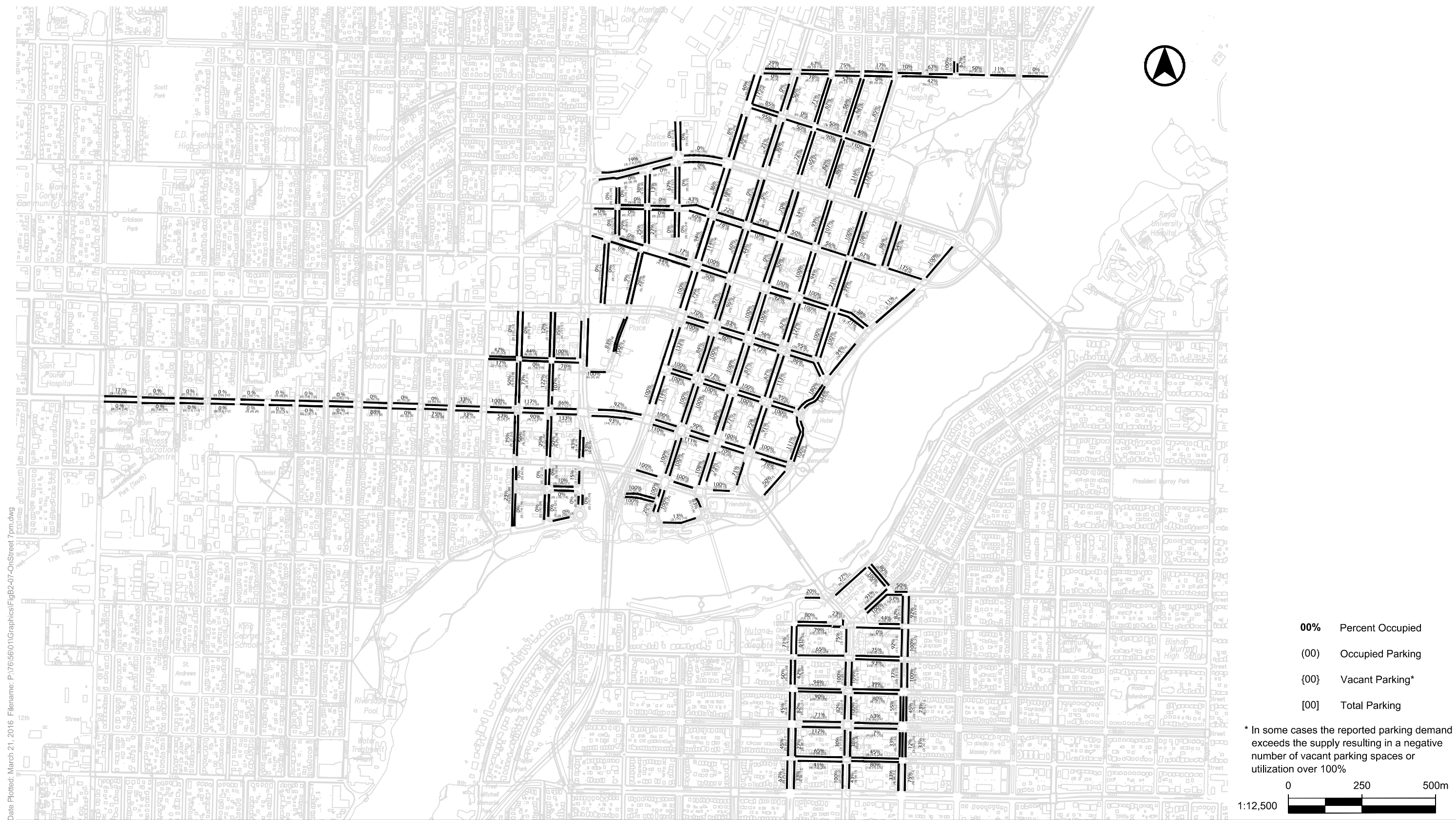
ON-STREET PARKING 1PM

- 00% Percent Occupied
- (00) Occupied Parking
- {00} Vacant Parking*
- [00] Total Parking

* In some cases the reported parking demand exceeds the supply resulting in a negative number of vacant parking spaces or utilization over 100%

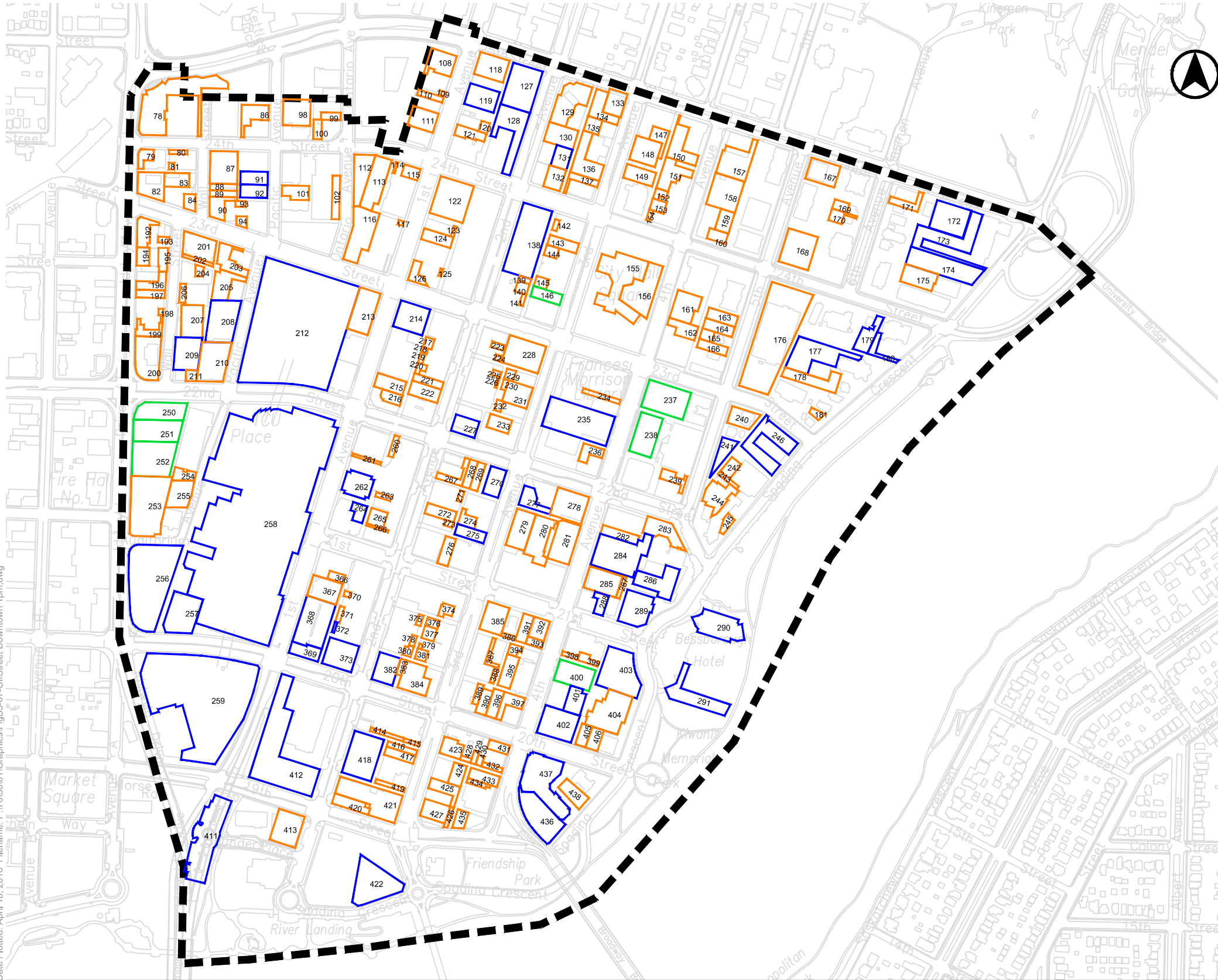
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ON-STREET PARKING 7PM



Lot #	Total Supply	Demand	Vacant *	Occupied
78	168	79	89	47%
79	10	8	2	80%
80	7	1	6	14%
81	2	3	-1	150%
82	14	4	10	29%
83	5	4	1	80%
84	14	11	3	79%
86	35	14	21	40%
87 a	20	4	16	20%
87 b	42	0	0	100%
88+89+90	20	10	10	50%
91+92	45	19	26	42%
93	3	3	0	100%
94	1	4	-3	400%
98	45	28	17	62%
99	10	8	2	80%
100	6	7	-1	117%
101	20	2	18	10%
102	15	6	9	40%
108	35	20	15	57%
109	2	2	0	100%
110	4	4	0	100%
111	27	9	18	33%
112	40	37	3	93%
113	68	43	25	63%
114	5	1	4	20%
115	10	1	9	10%
116	60	33	27	55%
117	2	2	0	100%
118	26	21	5	83%
119	52	4	48	8%
120	4	4	0	100%
121	5	5	0	0%
122	90	62	28	69%
123	3	3	0	100%
124	26	13	13	50%
125	3	1	2	33%
126	5	5	0	100%
127	150	47	103	31%
128	47	12	35	26%
129	22	10	12	45%
130	10	8	2	80%
131	44	10	34	23%
132	42	9	33	21%
133	44	31	13	70%
134	44	34	10	77%
135	29	10	19	34%
136	27	16	11	59%
137	14	13	1	93%
138	166	88	78	53%
139	2	3	-1	150%
140	9	7	2	78%
141	4	2	2	50%
142	4	4	0	100%
143	22	17	5	77%
144	14	0	14	0%
145	18	3	15	17%
146	17	13	4	76%
147	11	8	3	73%
148	96	65	31	68%
149	28	17	11	61%
150	21	13	8	62%
151	45	42	3	93%
152	3	2	1	67%
153	12	10	2	83%
154	6	5	1	83%
155	59	27	32	54%
156	47	23	24	49%
157 a	8	1	7	13%
157 b	45	7	38	16%
158	68	49	19	72%
159	24	18	6	75%
160	16	11	5	69%
161	16	13	3	81%
162	14	12	2	86%
163	20	14	6	70%
164	26	15	11	58%
165	9	4	5	44%
166	14	12	2	86%
167	35	16	19	46%
168	70	39	31	56%
169	6	4	2	67%
170	4	2	2	50%
171	21	5	16	24%
172 a	81	24	57	30%
172 b	51	13	38	25%
173	45	25	20	56%
174	100	13	87	13%
175	30	5	25	17%
176	133	63	70	47%
177	77	53	24	69%
178	35	19	16	54%
179+180	60	26	34	43%
181	9	4	5	44%
192	13	10	3	77%
193	4	4	0	100%
194	4	4	0	100%
195	8	9	-1	113%
196	15	10	5	67%
197	8	4	4	50%
198	3	3	0	100%
199	15	14	1	93%
200	30	6	24	20%
201	44	0	0	100%
202	14	11	3	79%
203	28	23	5	82%
204	5	2	3	40%
205	24	17	7	71%
206	8	3	5	38%
207	42	25	17	60%
208+209	131	39	92	30%
210	180	51	129	28%
211	4	4	0	100%
212	503	176	327	35%
213	145	0	0	100%
214 b	155	0	0	100%
214 a	52	0	0	100%
215	72	72	0	100%
216	13	2	11	15%
217	67	1	66	1%
218	3	5	-2	167%
219	4	5	-1	125%
220	5	4	1	80%
221	12	10	2	83%
222	24	16	8	67%
223	4	4	0	100%
224	3	3	0	100%
225	3	3	0	100%
226	3	2	1	67%
227	24	18	6	75%
228	66	24	42	36%
229	4	2	2	50%
230	3	1	2	33%
231	29	0	0	100%
232	3	3	0	100%
233 a	20	13	7	65%
233 b	17	12	5	71%
234	5	5	0	100%
235 b	490	441	49	90%
235 a	39	21	18	54%
236	50	35	15	50%
237	70	66	4	94%
238 a	43	25	18	58%
238 b	45	22	23	51%
239	20	11	9	55%
240	20	11	9	55%
241	49	28	21	57%
242	18	8	10	44%
243	7	4	3	57%
244	33	14	19	42%
245	13	9	4	69%
246	46	35	11	76%
250	43	5	38	12%
251+252	144	133	11	92%
253	56	50	6	89%
254	8	6	2	75%
255	33	28	5	85%
256	192	88	104	46%
257	56	42	14	75%
258	796	757	39	95%
259	328	90	238	27%
260	9	8	1	89%
261	6	5	1	83%
262	248	228	20	92%
263	3	2	1	67%
264	40	7	33	18%
265	14	9	5	64%
266	11	10	1	91%
267	16	12	4	75%
268	13	10	3	77%
269	6	3	3	50%
270	48	35	13	73%
271	5	5	0	100%
272	4	2	2	50%
273	4	1	3	25%
274	15	15	0	100%
275	24	11	13	46%
276	38	0	0	100%
277	24	19	5	79%
278	13	0	0	100%
279	65	51	14	78%
280	30	23	7	77%
281	476	251	225	53%
282	16	9	7	56%
283	44	14	30	32%
284	77	47	30	61%
285	29	15	14	52%
286	103	53	50	51%
287	10	6	4	60%
288	12	7	5	58%
289	275	275	0	100%
290	68	26	42	38%
291	67	32	35	48%
292	16	12	4	75%
293	16	4	12	25%
294	6	2	4	33%
295	30	0	0	100%
296	19	11	8	63%
297	2	5	-3	250%
298	2	1	1	50%
299	340	323	17	95%
300	50	43	7	86%
301	6	3	3	50%
302	5	4	1	80%
303	8	3	5	38%
304	8	3	5	38%
305	8	3	5	38%
306	3	2	1	67%
307	8	7	1	88%
308	7	6	1	86%
309	8	1	7	13%
310	22	13	9	59%
311	12	2	10	17%
312	21	21	0	100%
313	33	33	0	100%
314	6	5	1	83%
315	5	0	0	100%
316	7	6	1	86%
317	4	4	0	100%
318	8	0	8	0%
319	20	15	5	75%
320	26	0	0	100%
321	5	2	3	40%
322	5	5	0	100%
323	62	62	0	100%
324	11	7	4	64%
325	14	10	4	71%
326	6	3	3	50%
327	8	4	4	50%
328	56	22	34	39%
329	80	30	50	38%
330	70	26	44	37%
331	100	66	34	66%
332	18	0	0	100%
333	10	17	-7	170%
334	10	9	1	90%
335	60	17	43	28%
336	113	85	28	75%
337	11	0	0	100%
338	2	5	-3	250%
339	6	1	5	17%
340	10	6	4	60%
341	13	13	0	100%
342	77	56	21	73%
343	30	8	22	27%
344	25	4	21	16%
345	42	0	0	100%
346	97	17	80	18%
347	23	5	18	22%
348	20	15	5	75%
349+426	36	30	6	83%
350	28	28	0	100%
351	5	2	3	40%
352	4	4	0	100%
353	3	2	1	67%
354	12	11	1	92%
355	6	3	3	50%
356	24	13	11	54%
357	10	13	-3	130%
358	38	39	-1	103%
359	40	13	27	33%
360	178	108	70	61%
361	18	9	9	50%

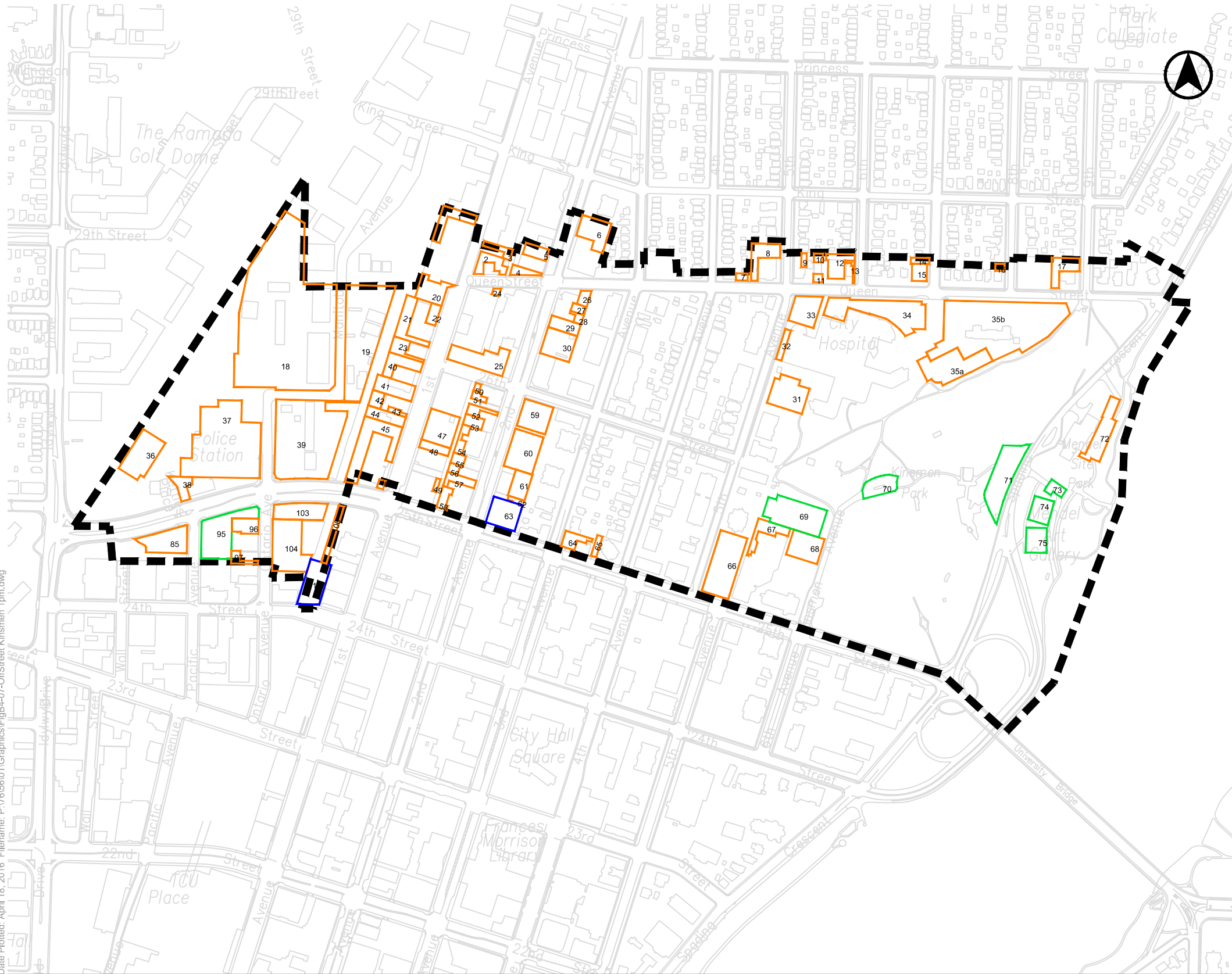
* In some cases the reported parking demand exceeds the supply resulting in a negative number of vacant parking spaces or utilization over 100%
 ■ Access not provided/lot closed (# indicates estimate)

OFF-STREET PARKING - DOWNTOWN 1PM

- Municipal Parking
- Commercial (Paid) Parking
- Private Parking

258 Lot number

Date Plotted: April 18, 2016 Filename: P:\7656\01\Graphics\FigB4-07-OffStreet Kinsmen 1pm.dwg



Lot#	Total Supply	Demand	Vacant *	Occupied
1	40	24	16	60%
2	24	26	-2	108%
3	3	4	-1	133%
4	5	2	3	40%
5	12	8	4	67%
6	57	39	18	68%
7	4	1	3	25%
8	35	4	31	11%
9	3	2	1	67%
10	4	5	-1	125%
11	3	1	2	33%
12 a	12	8	4	67%
12 b	34	1	33	3%
13	7	4	3	57%
14	16	3	13	19%
15	14	12	2	86%
16	7	4	3	57%
17	24	3	21	13%
18+19	166	119	47	72%
20	49	25	24	51%
21	20	21	-1	105%
22	9	4	5	44%
23	31	17	14	55%
24	5	0	5	0%
25	55	41	14	75%
26	15	12	3	80%
27	5	2	3	40%
28	10	5	5	50%
29	79	74	5	94%
30	28	22	6	79%
31	235	142	83	63%
32	8	9	-1	113%
33	36	8	28	22%
34	107	102	5	95%
35 a	103	73	30	71%
35 b	260	201	59	77%
36	REMOVED		#VALUE!	#VALUE!
37	REMOVED		#VALUE!	#VALUE!
38	23	15	8	65%
39	32	11	21	34%
40	5	15	-10	300%
41	23	19	4	83%
42	28	2	26	7%
43	8	2	6	25%
44	10	7	3	70%
45	76	4	72	5%
46	3	3	0	100%
47	51	50	1	98%
48	7	6	1	86%
49	6	7	-1	117%
50	5	4	1	80%
51	5	4	1	80%
52	10	3	7	30%
53	10	9	1	90%
54	11	9	2	82%
55	10	7	3	70%
56	8	3	5	38%
57	12	9	3	75%
58	12	3	9	25%
59	81	44	37	54%
60	89	57	32	64%
61	45	22	23	49%
62	6	5	1	83%
63	54	21	33	39%
64	8	8	0	100%
65	9	4	5	44%
66	127	55	72	43%
67	34	20	14	59%
68	50	38	12	76%
69	114	47	67	41%
70	53		53	0%
71	40		40	0%
72	30	14	16	47%
73	12	5	7	42%
74	26	11	15	42%
75	26	5	21	19%
85	60	45	15	75%
95	75	10	65	13%
96	6	0	6	0%
97	6	2	4	33%
103	44	24	20	55%
104	53	38	15	72%
105	34	21	13	62%
106	27	16	11	59%
107	36	21	15	58%
339	15	10	5	67%

* In some cases the reported parking demand exceeds the supply resulting in a negative number of vacant parking spaces or utilization over 100%.

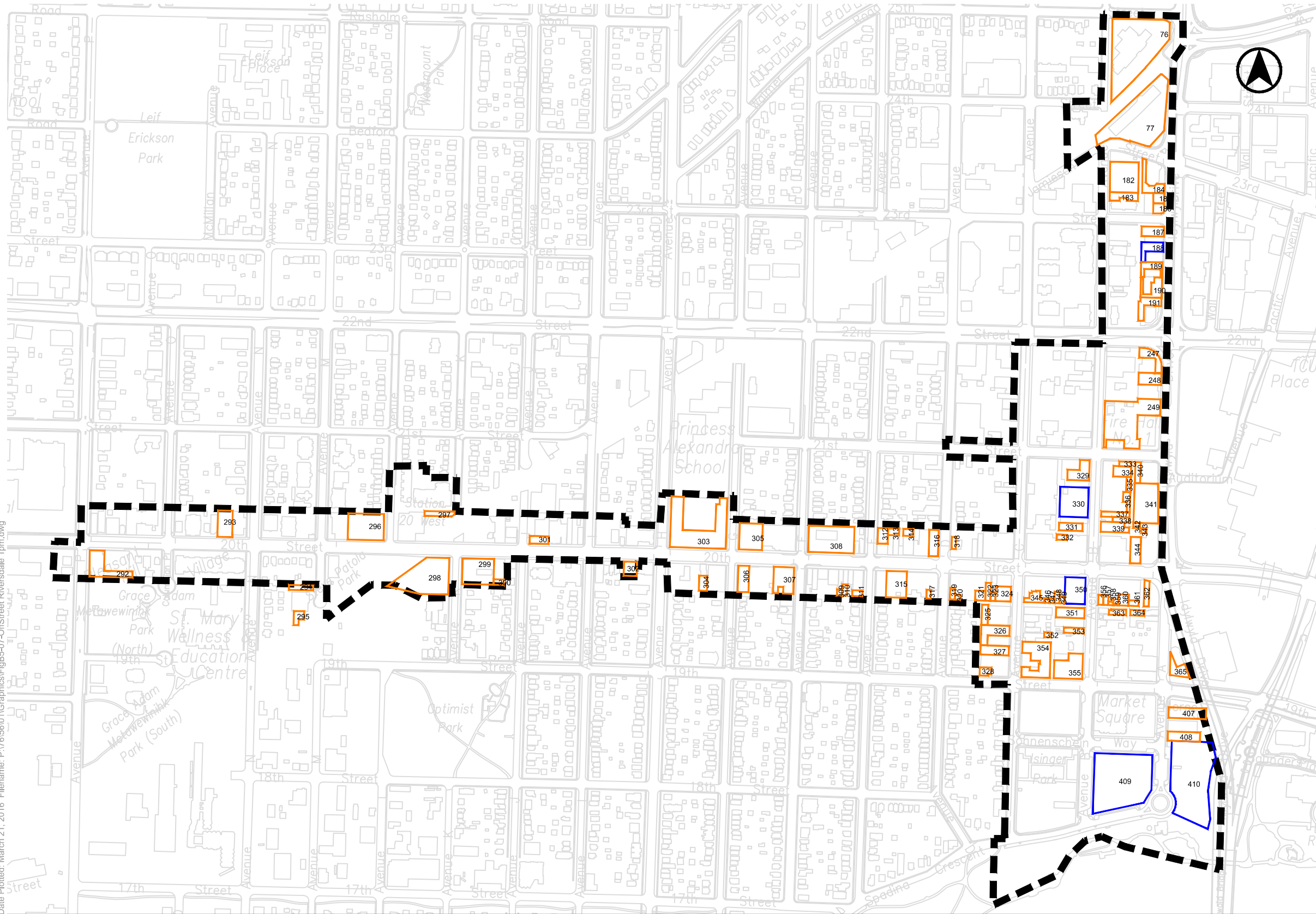
█ Access not provided/lot closed (# indicates estimate)

OFF-STREET PARKING - KINSMEN 1PM

- Municipal Parking
- Commercial (Paid) Parking
- Private Parking

258 Lot number

Date Plotted: March 21, 2016 File name: P:\7656\01\Graphics\FigB5-07-OffStreetRiversdale-1pm.dwg



Lot #	Total Supply	Demand	Vacant *	Occupied
36	20	6	14	30%
76	100	35	65	35%
77	76	38	38	50%
182	90	22	68	24%
183	6	3	3	50%
184	25	10	15	40%
185	6	4	2	67%
186	5	5	0	100%
187	10	3	7	30%
188	12	5	7	42%
189	5	2	3	40%
190	9	6	3	67%
191	14	11	3	79%
247	7	4	3	57%
248	15	5	10	33%
249	24	12	12	50%
303	40	5	35	13%
304	6	1	5	17%
305	40	24	16	60%
306	16	10	6	63%
307	40	7	33	18%
308	45	20	25	44%
309	6	1	5	17%
310	3	1	2	33%
311	7	3	4	43%
312	10	1	9	10%
313	6	1	5	17%
314	5	3	2	60%
315	40	40	0	100%
317	8	2	6	25%
318	5	0	5	0%
319	4	3	1	75%
320	2	1	1	50%
321	10	9	1	90%
322	10	2	8	20%
323	3	1	2	33%
324	20	7	13	35%
325	9	4	5	44%
326	20	10	10	50%
327	9	4	5	44%
328	1	1	0	100%
329	16	16	0	100%
330	75	26	49	35%
331	12	8	4	67%
332	3	4	-1	133%
333	10	1	9	10%
334	14	9	5	64%
335	110	8	102	7%
336	5	2	3	60%
337	15	1	14	7%
338	7	3	4	43%
340	10	5	5	50%
341	70	50	20	71%
342	4	1	3	25%
343	4	2	2	50%
344	26	13	13	50%
345	6	4	2	67%
346	2	0	2	0%
347	3	1	2	33%
348	2	2	0	100%
349	2	1	1	50%
350	28	27	1	96%
351	4	5	-1	125%
352	2	0	2	0%
353	4	4	0	100%
354	40	7	33	18%
355	35	20	15	57%
356	4	3	1	75%
357	4	2	2	50%
358	3	2	1	67%
359	5	3	2	60%
360	10	1	9	10%
361	4	3	1	75%
362	17	12	5	71%
363	4	3	1	75%
364	7	4	3	57%
365	15	2	13	13%
407	28	21	7	75%
408	25	4	21	16%
409	150	150	0	100%
410	150	47	103	31%
292	27	27	0	100%
293	19	19	0	100%
294	11	11	0	100%
295	7	7	0	100%
296	285	7	288	0%
297	13	13	0	100%
298	35	35	0	100%
299	43	43	0	100%
300	7	7	0	100%
301	11	11	0	100%
302	12	12	0	100%

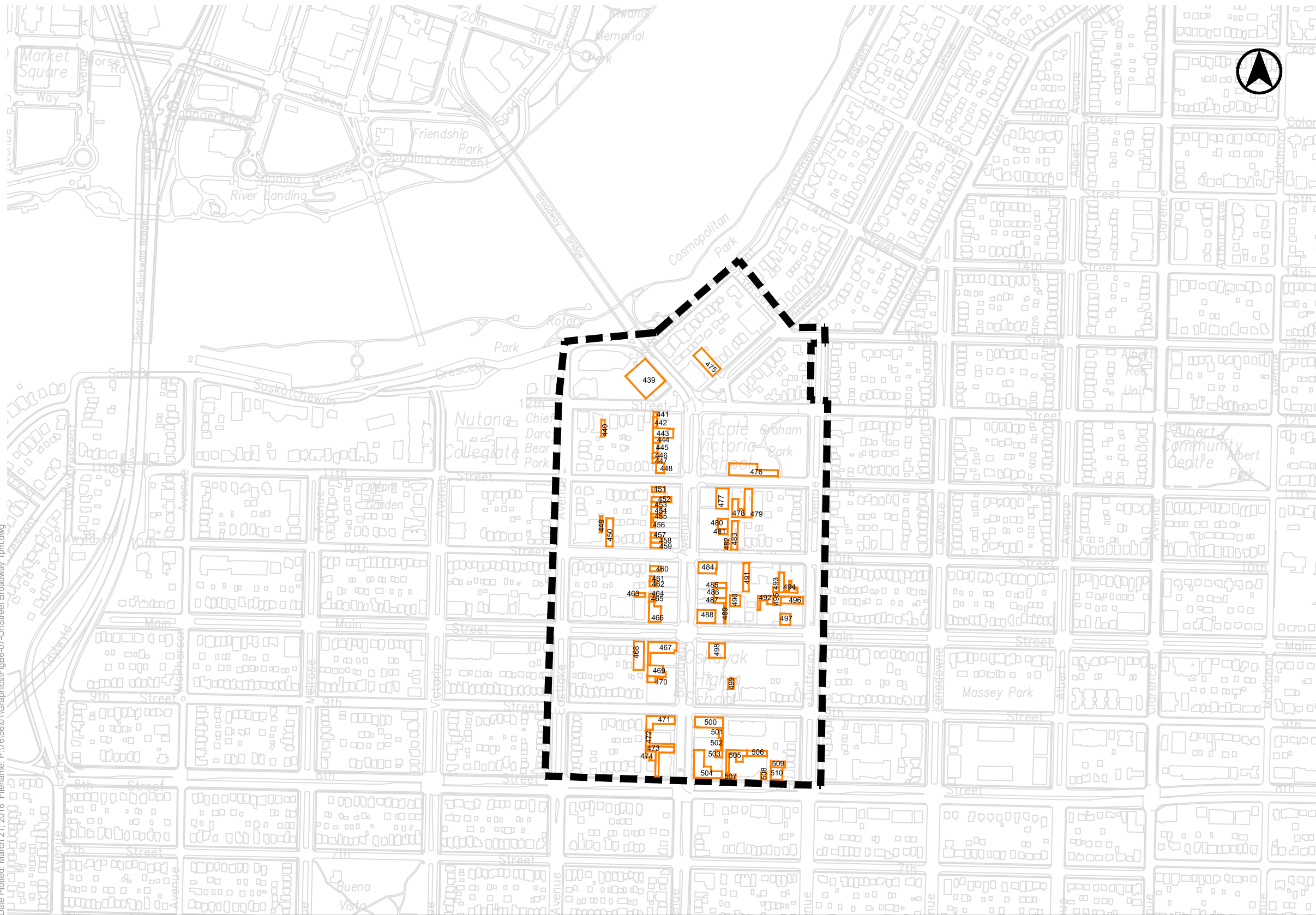
* In some cases the reported parking demand exceeds the supply resulting in a negative number of vacant parking spaces or utilization over 100%

█ Access not provided/lot closed (# indicates estimate)

OFF-STREET PARKING - RIVERSDALE 1PM

- Municipal Parking
- Commercial (Paid) Parking
- Private Parking
- 258 Lot number

Date Plotted: March 21, 2016 File name: P:\7656\01\Graphics\FigB6-07-OffStreetBroadway 1pm.dwg



Lot #	Total Supply	Demand	Vacant *	Occupied
434	8	1	7	13%
439	38	12	26	32%
440	14	10	4	71%
441	9	2	7	22%
442	2	1	1	50%
443	5	3	2	60%
444	8	9	-1	113%
445	3	3	0	100%
446	5	1	4	20%
447	3	2	1	67%
448	2	3	-1	150%
449	4	10	-6	250%
450	4	3	1	75%
451	6	1	5	17%
452	4	0	4	0%
453	5	2	3	40%
454	2	1	1	50%
455	13	1	12	8%
456	5	1	4	20%
457	2	1	1	50%
458	2	2	0	100%
459	3	1	2	33%
460	2	2	0	100%
461	2	1	1	50%
462	2	1	1	50%
463	2	2	0	100%
464	1	1	0	100%
465	5	2	3	40%
466	3	1	2	33%
467	10	1	9	10%
468	20	2	18	10%
469	20	1	19	5%
470	6	1	5	17%
471	2	2	0	100%
472	14	1	13	7%
474	3	2	1	67%
475	1	3	-2	300%
476	32	26	6	81%
476	7	2	5	29%
477	20	1	19	5%
479	14	0	14	0%
480	7	1	6	14%
481	11	1	10	9%
482	2	1	1	50%
483	1	0	1	100%
484	10	2	8	20%
485	1	1	0	100%
486	8	1	7	13%
487	10	2	8	20%
488	15	3	12	20%
489	2	3	-1	150%
490	10	3	7	30%
491	8	3	5	38%
492	4	2	2	50%
493	4	3	1	75%
494	4	2	2	50%
495	4	1	3	25%
496	6	2	4	33%
497	8	2	6	25%
498	24	19	5	79%
499	5	1	4	20%
500	12	1	11	8%
501-502	11	1	10	9%
503	2	1	1	50%
504	23	3	20	13%
505	12	1	11	8%
506	9	4	5	44%
507	2	2	0	100%
508	4	1	3	25%
509	1	4	-3	400%
510	12	1	11	8%

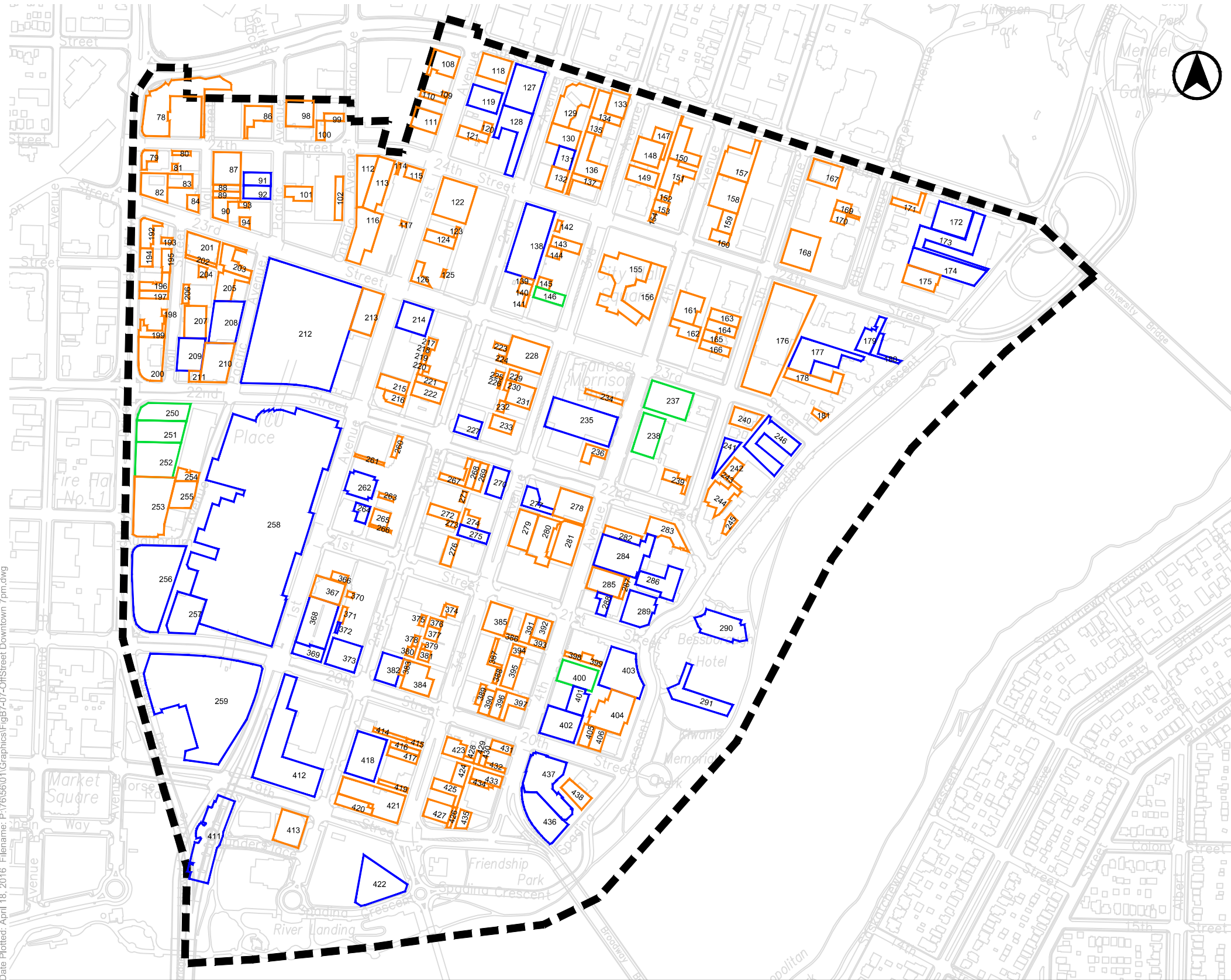
* In some cases the reported parking demand exceeds the supply resulting in a negative number of vacant parking spaces or utilization over 100%.
 ■ Access not provided/lot closed (# indicates estimate)

OFF-STREET PARKING - BROADWAY 1PM

- Municipal Parking
- Commercial (Paid) Parking
- Private Parking

258 Lot number

Appendix Figure B6



Lot #	Total Supply	Demand	Vacant *	Occupied	Lot #	Total Supply	Demand	Vacant *	Occupied	Lot #	Total Supply	Demand	Vacant *	Occupied
78	168	21	147	13%	179+180	60	1	59	2%	283	44	6	38	14%
79	10	4	6	40%	181	9	0	9	0%	284	77	20	57	26%
80	7	3	4	43%	192	13	9	4	69%	285	29	6	23	21%
81	2	0	2	0%	193	4	0	4	0%	286	103	58	45	56%
82	14	2	12	14%	194	4	1	3	25%	287	10	0	10	0%
83	5	4	1	80%	195	8	0	8	0%	288	12	0	12	0%
84	14	0	14	0%	196	15	4	11	27%	289	275	0	275	0%
86	35	1	34	3%	197	8	0	8	0%	290	68	34	34	50%
87 a	20	3	17	15%	198	3	0	3	0%	291	67	26	41	39%
87 b	42	1	38	10%	199	15	4	11	27%	296	16	2	14	13%
88+89+90	20	1	19	5%	200	30	15	15	50%	367	16	1	15	6%
91+92	45	5	40	13%	201	44	15	29	66%	368 b	6	0	6	0%
93	3	0	3	0%	202	14	0	14	0%	369 a	60	3	57	10%
94	1	0	1	0%	203	28	8	20	29%	370	30	3	27	10%
98	45	13	32	29%	204	5	0	5	0%	370	30	3	27	10%
99	10	0	10	0%	205	24	1	23	4%	371	2	1	1	50%
100	6	4	2	67%	206	8	0	8	0%	372	340	15	325	4%
101	20	1	19	5%	207	42	1	41	2%	373	50	9	41	18%
102	15	1	14	7%	208+209	131	4	127	3%	374	6	0	6	0%
108	35	12	23	34%	210	180	30	150	17%	375	5	0	5	0%
109	2	3	-1	150%	211	4	0	4	0%	376	8	0	8	0%
110	4	1	3	25%	212	503	48	455	10%	377	8	1	7	13%
111	27	0	27	0%	213	145	145	0	0%	378	3	1	2	33%
112	40	0	40	0%	214 b	155	139	10%	379	8	0	8	0%	
113	68	2	66	3%	214 a	52	47	10%	380	7	1	6	14%	
114	5	4	1	80%	215	72	30	42	42%	381	8	0	8	0%
115	10	3	7	30%	216	13	2	11	15%	382	22	1	21	5%
116	60	0	60	0%	217	67	0	67	0%	383	12	0	12	0%
117	2	2	0	100%	218	3	0	3	0%	384	21	0	21	0%
118	26	5	21	19%	219	4	0	4	0%	385	33	4	29	12%
119	52	1	51	2%	220	5	2	3	60%	386	6	1	5	17%
120	4	1	3	25%	221	12	3	9	25%	387	5	0	5	0%
121	5	4	1	80%	222	24	13	11	54%	388	7	0	7	0%
122	90	2	88	2%	223	4	1	3	25%	389	4	1	3	25%
123	3	10	-7	333%	224	3	4	-1	133%	390	8	0	8	0%
124	26	3	23	12%	225	3	0	3	0%	391	20	1	19	5%
125	3	3	0	100%	226	3	0	3	0%	392	25	2	23	12%
126	5	0	5	0%	227	24	1	23	4%	393	5	1	4	20%
127	150	0	150	0%	228	66	0	66	0%	394	5	1	4	20%
128	47	0	47	0%	229	4	0	4	0%	395	62	0	62	0%
129	22	6	16	27%	230	3	0	3	0%	396	11	4	7	36%
130	10	8	2	80%	231	29	2	26	10%	397	14	2	12	14%
131	44	8	36	18%	232	3	1	2	33%	398	6	3	3	50%
132	42	0	42	0%	233 a	20	0	20	0%	399	8	4	4	50%
133	44	4	40	9%	233 b	17	1	16	6%	400	56	29	27	52%
134	44	1	43	2%	234	5	3	2	60%	401	80	4	76	5%
135	29	1	28	3%	235 b	490	123	367	25%	402	70	2	68	3%
136	27	12	15	44%	235 a	39	0	39	0%	403	100	8	92	8%
137	14	6	8	43%	236	50	1	49	2%	404	18	0	18	0%
138	166	14	152	4%	237	70	3	67	4%	405	10	4	6	40%
139	2	2	0	100%	238 a	43	2	41	5%	406	10	1	9	10%
140	9	3	6	33%	238 b	45	3	42	13%	411	60	59	1	98%
141	4	1	3	25%	239	20	5	15	25%	412	113	12	101	11%
142	4	0	4	0%	240	20	0	20	0%	413	41	0	41	0%
143	22	1	21	5%	241	49	3	46	6%	414	2	0	2	0%
144	14	0	14	0%	242	18	1	17	6%	415	6	0	6	0%
145	18	10	8	56%	243	7	0	7	0%	416	10	0	10	0%
146	17	1	16	6%	244	33	14	19	42%	417	13	0	13	0%
147	11	1	10	9%	245	13	1	12	8%	418	77	15	62	19%
148	96	1	95	1%	246	46	4	42	9%	419	30	1	29	3%
149	28	0	28	0%	250	43	21	22	49%	420	25	1	24	4%
150	21	3	18	14%	251+252	144	24	120	17%	421	42	0	42	0%
151	45	2	43	4%	253	56	58	-2	104%	422	97	1	96	1%
152	3	0	3	0%	254	8	1	7	13%	423	23	4	19	17%
153	12	0	12	0%	255	33	4	29	12%	424	20	0	20	0%
154	6	2	4	33%	256	192	42	150	22%	425+426	36	14	22	39%
155	59	1	51	14%	257	56	13	43	23%	427	28	14	14	50%
156	47	4	43	9%	258	796	205	591	26%	428	5	0	5	0%
157 a	8	2	6	25%	259	328	57	271	17%	429	4	0	4	0%
157 b	45	4	41	9%	260	9	4	5	44%	430	3	1	2	33%
158	68	2	66	3%	261	6	0	6	0%	431	12	3	9	25%
159	24	2	22	8%	262	248	229	19	8%	432	6	1	5	17%
160	16	1	15	6%	263	3	0	3	0%	433	24	2	22	8%
161	16	16	0	100%	264	40	1	39	3%	434	10	4	6	40%
162	14	7	7	50%	265	14	6	8	43%	435	38	1	37	3%
163	20	3	17	15%	266	11	2	9	18%	436	40	2	38	5%
164	26	1	25	4%	267	16	1	15	6%	437	178	110	68	62%
165	9	2	7	22%	268	13	2	11	15%	438	18	0	18	0%
166	14	5	9	36%	269	6	0	6	0%					
167	35	6	29	17%	270	48	2	46	4%					
168	70	4	66	6%	271	5	1	4	20%					
169	6	2	4	33%	272	4	4	0	100%					
170	4	1	3	25%	273	4	1	3	25%					
171	21	1	20	5%	274	15	2	13	13%					
172 a	81	26	55	32%	275	24	8	16	33%					
172 b	51	19	32	37%	276	38	34	4	13%					
173	45	72	-27	160%	277	24	3	21	13%					
174	100	5	95	5%	278	13	1	12	0%					
175	30	0	30	0%	279	65	5	59	9%					
176	133	8	125	6%	280	30	7	23	23%					
177	77	18	59	23%	281	476	434	3%						
178	35	15	20	43%	282	16	5	11	31%					

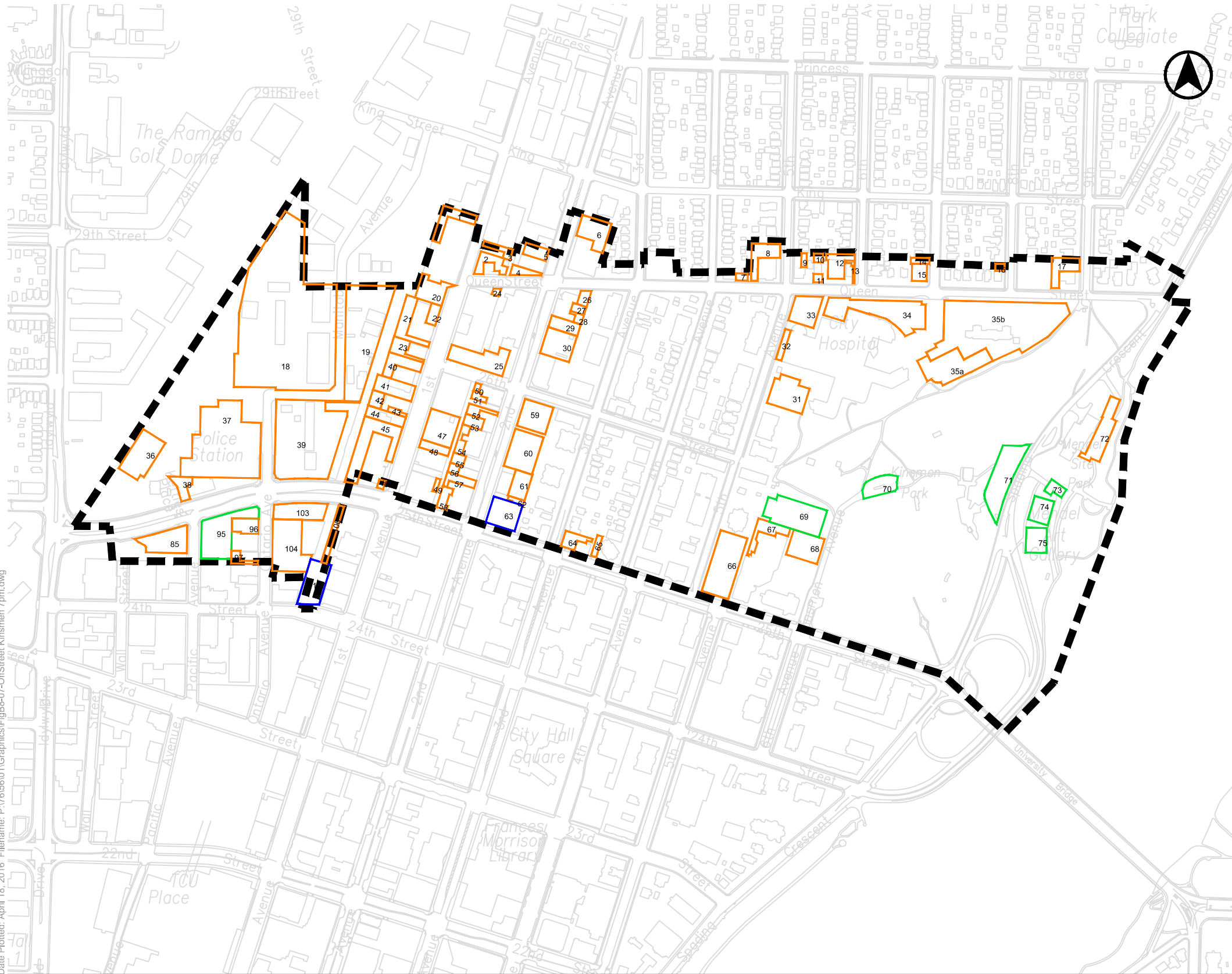
* In some cases the reported parking demand exceeds the supply resulting in a negative number of vacant parking spaces or utilization over 100%
 ■ Access not provided/lot closed (# indicates estimate)

OFF-STREET PARKING - DOWNTOWN 7PM

- Municipal Parking
- Commercial (Paid) Parking
- Private Parking

258 Lot number

Appendix Figure B7



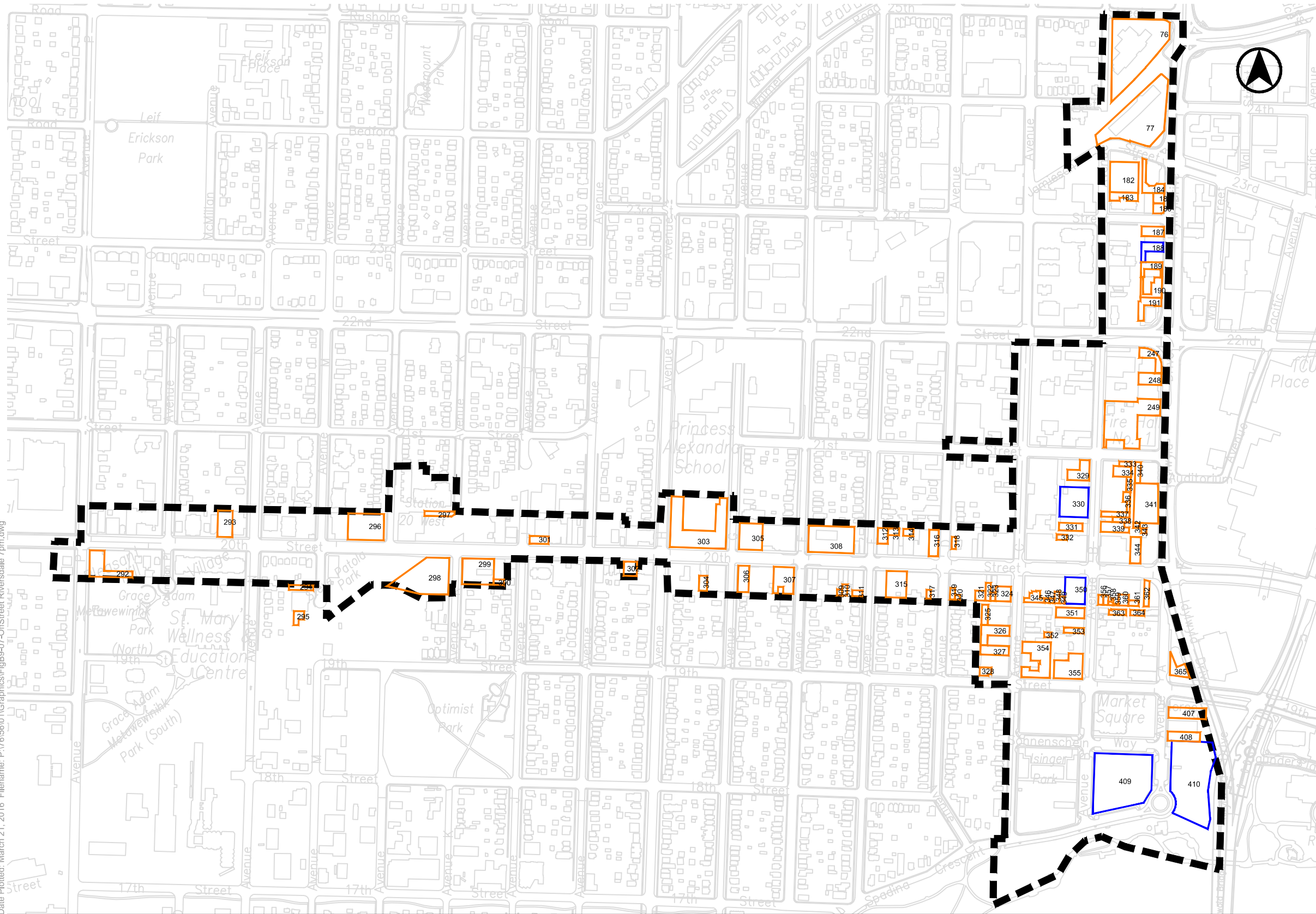
Lot#	Total Supply	Demand	Vacant *	Occupied
1	40	30	10	75%
2	24	12	12	50%
3	3	0	3	0%
4	5	1	4	20%
5	12	2	10	17%
6	57	51	6	89%
7	4	0	4	0%
8	35	0	35	0%
9	3	0	3	0%
10	4	0	4	0%
11	3	0	3	0%
12 a	12	0	12	0%
12 b	34	0	34	0%
13	7	0	7	0%
14	16	2	14	13%
15	14	0	14	0%
16	7	0	7	0%
17	24	1	23	4%
18+19	166	33	133	20%
20	49	8	41	16%
21	20	7	13	35%
22	9	1	8	11%
23	31	8	23	26%
24	5	0	5	0%
25	55	22	33	40%
26	15	2	13	13%
27	5	3	2	60%
28	10	1	9	10%
29	79	2	77	3%
30	28	0	28	0%
31	225	17	208	9%
32	8	7	1	8%
33	36	0	36	0%
34	107	20	87	19%
35 a	103	8	95	8%
35 b	260	20	240	8%
36	REMOVED	#VALUE!	#VALUE!	#VALUE!
37	REMOVED	#VALUE!	#VALUE!	#VALUE!
38	23	3	20	13%
39	32	4	28	13%
40	5	0	5	0%
41	23	2	21	9%
42	28	2	26	7%
43	8	4	4	50%
44	10	1	9	10%
45	76	11	65	14%
46	3	0	3	0%
47	51	10	41	20%
48	7	2	5	29%
49	6	1	5	17%
50	5	0	5	0%
51	5	1	4	20%
52	10	1	9	10%
53	10	2	8	20%
54	11	3	8	27%
55	10	0	10	0%
56	8	1	7	13%
57	12	4	8	33%
58	12	2	10	17%
59	81	8	73	10%
60	89	17	72	19%
61	45	4	41	9%
62	6	0	6	0%
63	54	4	50	7%
64	8	1	7	13%
65	9	0	9	0%
66	127	5	122	4%
67	34	8	26	24%
68	50	34	16	68%
69	114	34	80	30%
70	53	53	0	0%
71	40	40	0	0%
72	30	3	27	10%
73	12	3	9	25%
74	26	3	23	12%
75	26	0	26	0%
85	60	0	60	0%
95	75	0	75	0%
96	6	0	6	0%
97	6	0	6	0%
103	44	3	41	7%
104	53	11	42	21%
105	34	0	34	0%
106	27	2	25	7%
107	36	3	33	8%
339	15	2	13	13%

* In some cases the reported parking demand exceeds the supply resulting in a negative number of vacant parking spaces or utilization over 100%.
 ■ Access not provided/lot closed (# indicates estimate)

OFF-STREET PARKING - KINSMEN 7PM

- Municipal Parking
- Commercial (Paid) Parking
- Private Parking

258 Lot number



Lot #	Total Supply	Demand	Vacant *	Occupied
36	20	4	16	20%
76	100	44	56	44%
77	76	30	46	39%
182	90	5	85	6%
183	6	0	6	0%
184	25	4	21	16%
185	6	2	4	33%
186	5	1	4	20%
187	10	1	9	10%
188	12	6	6	50%
189	5	2	3	40%
190	9	2	7	22%
191	14	0	14	0%
247	7	3	4	43%
248	15	3	12	20%
249	24	9	15	38%
303	40	0	40	0%
304	6	0	6	0%
305	40	11	29	28%
306	16	0	16	0%
307	40	7	33	18%
308	45	20	25	44%
309	6	0	6	0%
310	3	0	3	0%
311	7	0	7	0%
312	10	0	10	0%
313	6	0	6	0%
314	5	2	3	40%
315	40	40	0	100%
317	8	2	6	25%
318	5	1	4	20%
319	4	1	3	25%
320	2	1	1	50%
321	10	0	10	0%
322	10	1	9	10%
323	3	0	3	0%
324	20	1	19	5%
325	9	0	9	0%
326	20	6	14	30%
327	9	2	7	22%
328	1	1	0	100%
329	16	16	0	100%
330	75	7	68	9%
331	12	4	8	33%
332	3	3	0	100%
333	10	0	10	0%
334	14	0	14	0%
335	110	0	110	0%
336	5	1	4	20%
337	15	0	15	0%
338	7	1	6	14%
340	10	1	9	10%
341	70	62	8	89%
342	4	2	2	50%
343	4	3	1	75%
344	26	21	5	81%
345	6	8	-2	133%
346	2	0	2	0%
347	3	0	3	0%
348	2	1	1	50%
349	2	2	0	100%
350	28	2	26	7%
351	4	1	3	25%
352	2	0	2	0%
353	4	0	4	0%
354	40	7	33	18%
355	35	20	15	57%
356	4	3	1	75%
357	4	0	4	0%
358	3	0	3	0%
359	5	0	5	0%
360	10	0	10	0%
361	4	2	2	50%
362	17	4	13	24%
363	4	0	4	0%
364	7	3	4	43%
365	15	1	14	7%
407	28	5	23	18%
408	25	2	23	8%
409	150	0	150	0%
410	150	4	146	3%
292	27	27	0	100%
293	19	19	0	100%
294	11	11	0	100%
295	7	7	0	100%
296	295	7	288	1%
297	13	13	0	100%
298	35	35	0	100%
299	43	43	0	100%
300	7	7	0	100%
301	11	11	0	100%
302	12	12	0	100%

* In some cases the reported parking demand exceeds the supply resulting in a negative number of vacant parking spaces or utilization over 100%

█ Access not provided/lot closed (# indicates estimate)

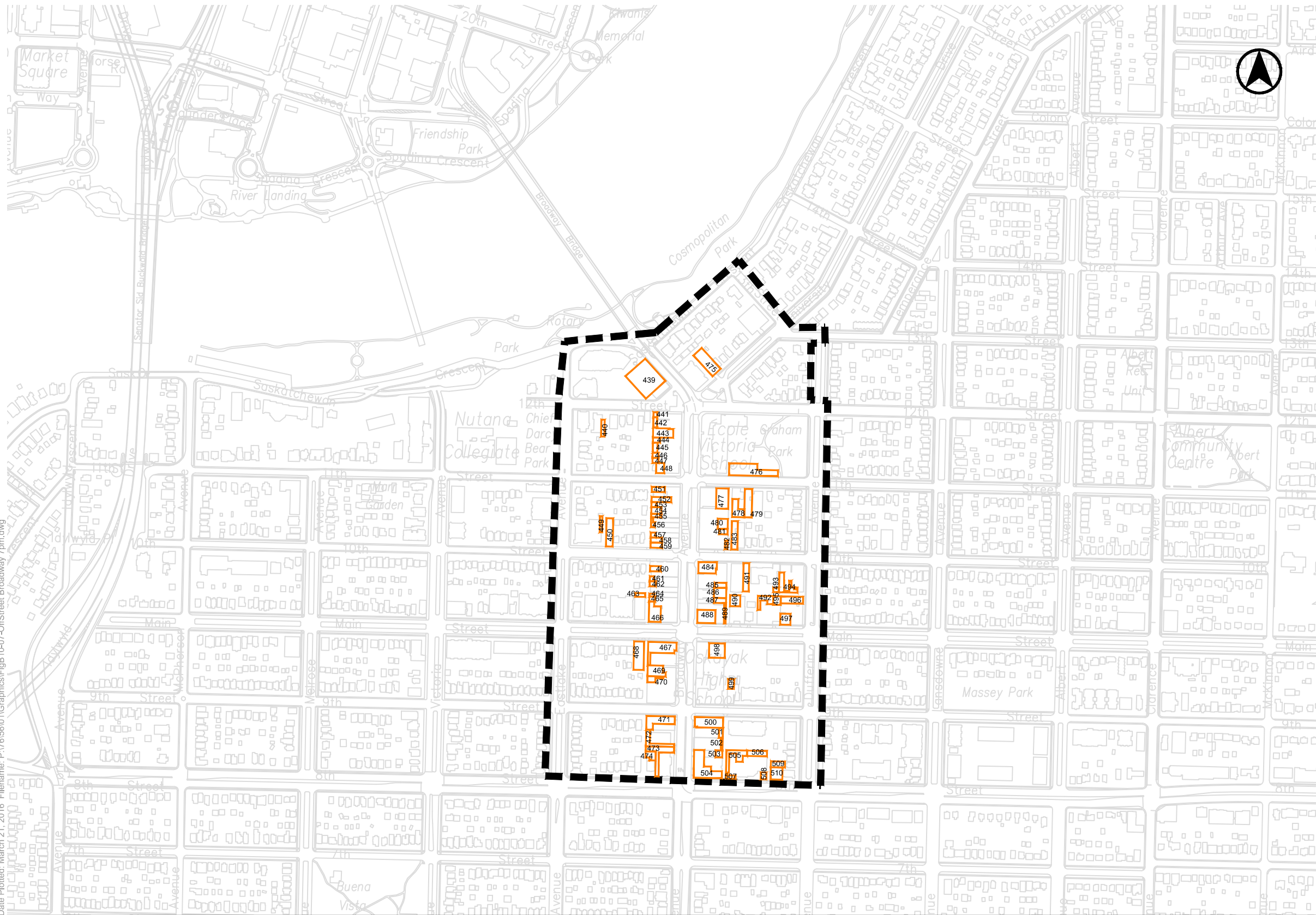
OFF-STREET PARKING - RIVERSDALE 7PM

- Municipal Parking
- Commercial (Paid) Parking
- Private Parking

258 Lot number

Appendix Figure B9

Date Plotted: March 21, 2016 File name: P:\765601\Graphics\FigB10-07-OffStreet Broadway 7pm.dwg



Lot #	Total Supply	Demand	Vacant *	Occupied
434	8	1	7	13%
439	38	2	36	5%
440	14	1	13	7%
441	9	0	9	0%
442	2	0	2	0%
443	5	1	4	20%
444	8	1	7	13%
445	3	1	2	33%
446	5	1	4	20%
447	3	2	1	67%
448	2	1	1	50%
449	4	1	3	25%
450	4	0	4	0%
451	6	0	6	0%
452	4	1	3	25%
453	5	1	4	20%
454	2	0	2	0%
455	13	1	12	8%
456	5	2	3	40%
457	2	1	1	50%
458	2	0	2	0%
459	3	2	1	67%
460	2	2	0	100%
461	2	1	1	50%
462	2	1	1	50%
463	2	2	0	100%
464	1	1	0	100%
465	5	1	4	20%
466	3	3	0	100%
467	10	0	10	0%
468	20	2	18	10%
469	20	1	19	5%
470	6	2	4	33%
471	2	1	1	50%
472	14	2	12	14%
474	3	1	2	33%
475	1	2	-1	200%
476	32	0	32	0%
476	7	1	6	14%
477	20	1	19	5%
479	14	0	14	0%
480	7	0	7	0%
481	11	1	10	9%
482	2	0	2	0%
483	1	1	0	100%
484	10	0	10	0%
485	1	1	0	100%
486	8	1	7	13%
487	10	2	8	20%
488	15	1	14	7%
489	2	0	2	0%
490	10	0	10	0%
491	8	0	8	0%
492	4	0	4	0%
493	4	0	4	0%
494	4	1	3	25%
495	4	1	3	25%
496	6	3	3	50%
497	8	2	6	25%
498	24	0	24	0%
499	5	2	3	40%
500	12	5	7	42%
501-502	11	2	9	18%
503	2	1	1	50%
504	23	1	22	4%
505	12	1	11	8%
506	9	4	5	44%
507	2	2	0	100%
508	4	2	2	50%
509	1	1	0	100%
510	12	2	10	17%

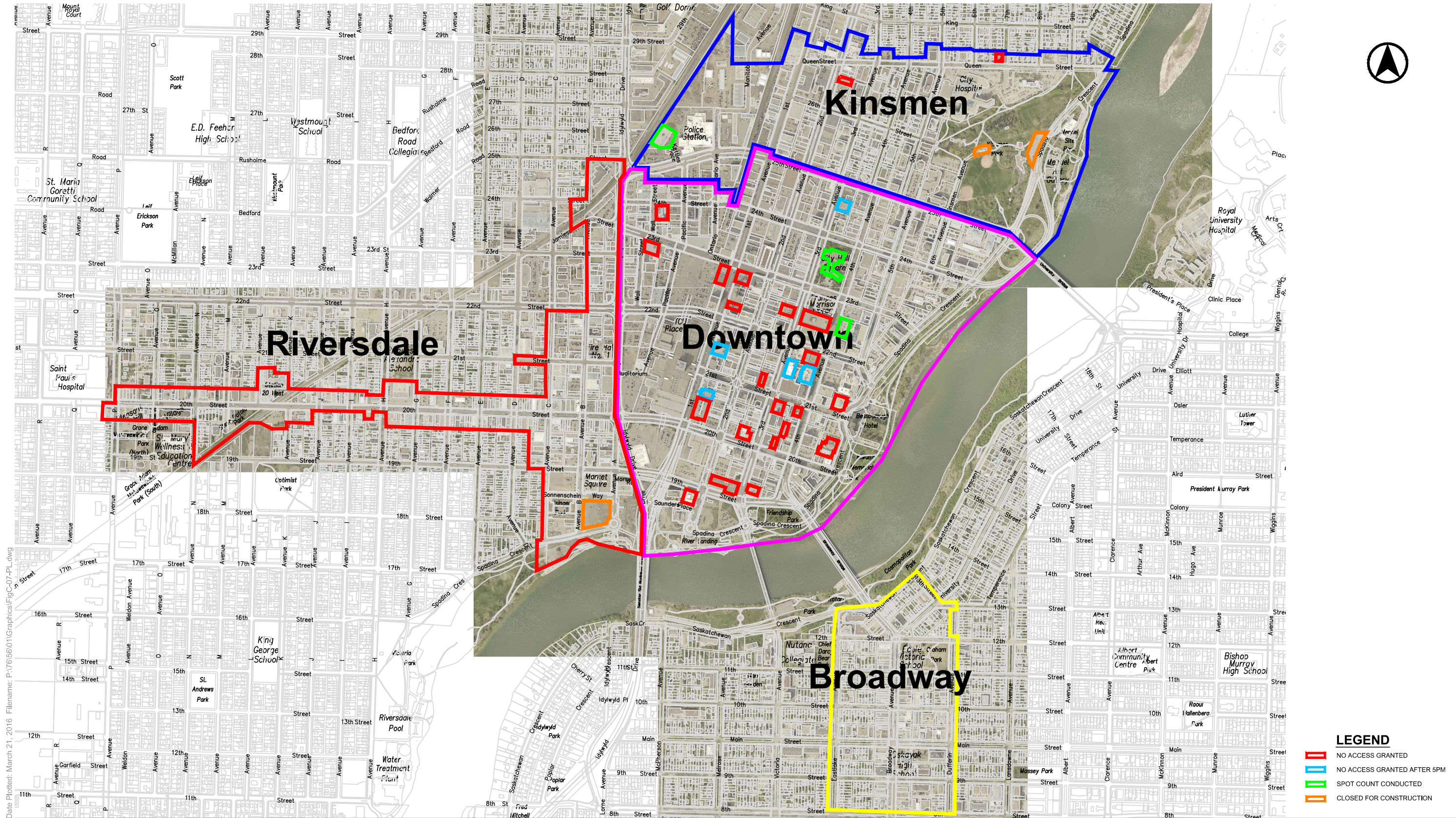
* In some cases the reported parking demand exceeds the supply resulting in a negative number of vacant parking spaces or utilization over 100%.
 ■ Access not provided/lot closed (# indicates estimate)

OFF-STREET PARKING - BROADWAY 7PM

- Municipal Parking
- Commercial (Paid) Parking
- Private Parking
- 258 Lot number

APPENDIX C: Restricted Access to Private Parking Lots





Date Plotted: March 21, 2016. Filename: P:\7656\01\Graphics\FigC-07-PL.dwg

RESTRICTED ACCESS TO PRIVATE LOTS

- LEGEND**
- ▭ NO ACCESS GRANTED
 - ▭ NO ACCESS GRANTED AFTER 5PM
 - ▭ SPOT COUNT CONDUCTED
 - ▭ CLOSED FOR CONSTRUCTION

APPENDIX D: Detailed Parking Demand Analysis



Appendix D: Detailed Parking Demand Analysis

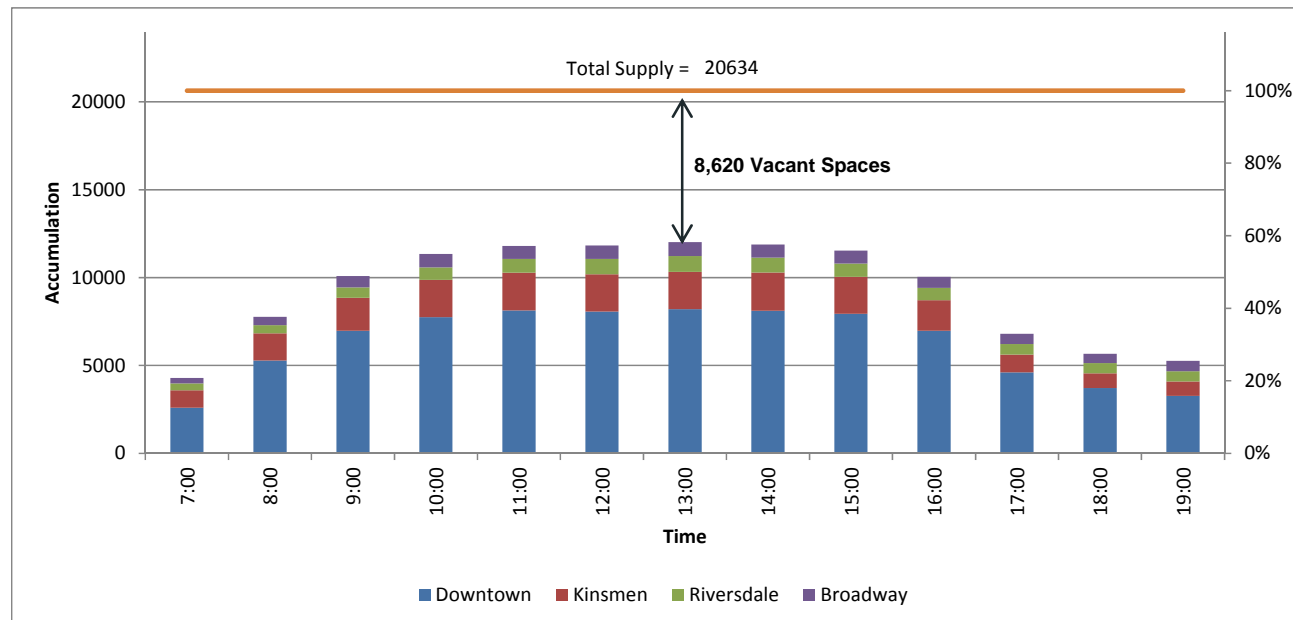
1.0 OVERALL DEMANDS

1.1 EXISTING STUDY AREA PARKING DEMANDS

Parking demand surveys were undertaken by CIMA+ in 2014 and 2015 within the study area's public and private parking facilities. Surveys were undertaken on an hourly basis between 7:00 am and 7:00 pm when general Downtown parking demands are at their greatest (i.e. weekday daytime and evening) to determine the existing parking demands and the availability of parking to meet the needs of future developments that may occur.

Recorded parking survey demand information has been used in determining the typical peak demand levels across the study area through a typical weekday when demands likely peak. Figure 1 provides an overview of the on and off-street parking demands across the entire study area.

FIGURE 1 — ON AND OFF-STREET PARKING DEMANDS – ENTIRE STUDY AREA



Parking utilization levels indicate that approximately 58 percent of the total parking supply within the study area is used during its busiest period (1:00 pm). An additional 8,620 parking spaces are available during this peak period. Of the 8,620 vacant spaces approximately 4,432 spaces are publicly available while the remaining 4,188 spaces are private parking spaces. While a significant portion of the private parking spaces are vacant they are not available for public use because they likely are reserved for a specific building or user group. However these private vacant parking spaces could be used to accommodate some or all of the demand associated with increased employment within the buildings they serve. Occupancy rates of 85% to 90% are typically used to identify areas where the parking supply is operating at or near its practical capacity in terms of allowing people to find a space in a reasonable amount of vacant time

A summary of the parking demand observed across the entire study area at the peak time (1:00 pm) is provided in Table 1.

TABLE 1 STUDY AREA PEAK PARKING DEMAND BY PARKING TYPE

Parking Type	Supply (# spaces)	Peak Demand			# vacant spaces
		Time	# spaces	% occupied	
On-Street	3,926	1:00 pm	2,303	59%	1,623
Municipal Off-Street	457		158	35%	299
Commercial Off-Street	6,241		3,731	60%	2,510
Private Off-Street	10,010		5,822	58%	4,188
Overall Total	20,634		12,014	58%	8,620
<hr/>					
Total Publicly Available Parking (excluding private parking)	10,624	1:00 pm	6,192	58%	4,432

It should be noted that the peak on-street parking demands have a different demand pattern (peak in the evening - 7:00 pm) compared to the overall area (peak in the mid-afternoon - 1:00 pm). On-street parking is well utilized throughout the study area in the evening, particularly after 7:00 pm when on-street parking is free. The following section provides a more detailed analysis of the on-street parking demands.

1.2 ON-STREET PARKING DEMANDS

On-street parking demand surveys were conducted on November 12th and 13th, 2014. Parking demands observed on November 13th were used in this analysis as parking conditions on this day were more consistent (i.e. fewer on-street closures).

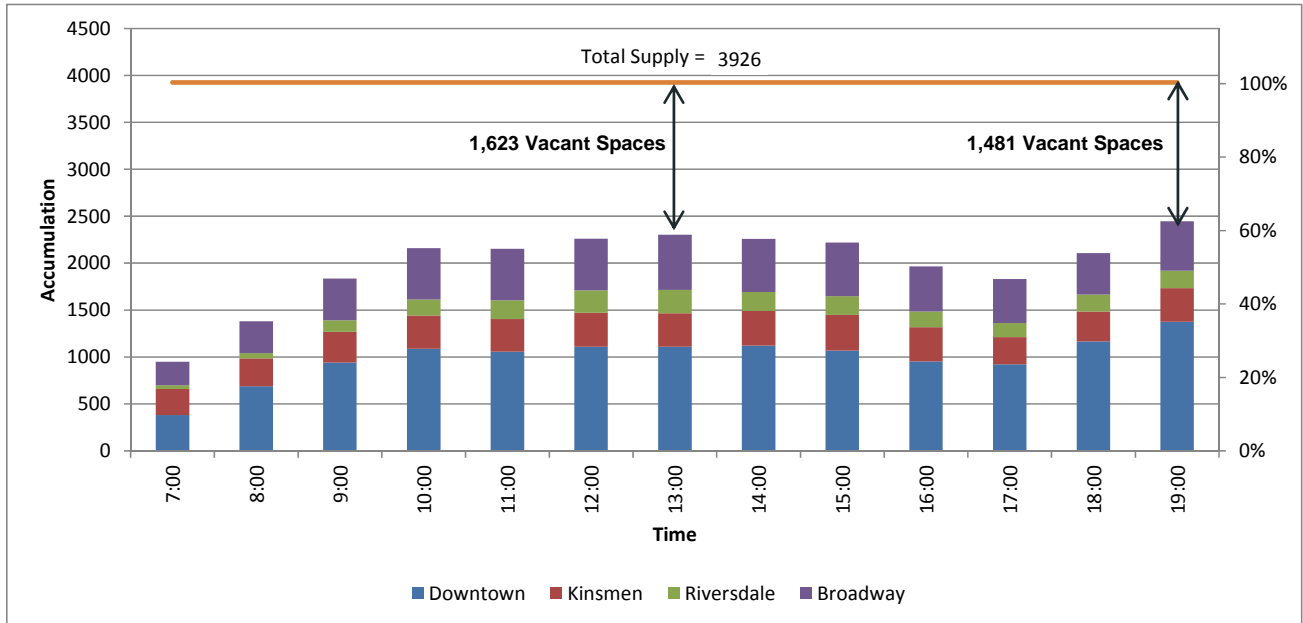
There are a total of 3,926 on-street parking spaces available across the entire study area. On-street parking includes “metered” parking (delineated street parking with meter heads), pay and display and free non-delineated street parking that are available for public use. Approximately 1,421 spaces (36%) of the total on-street supply are free while the remaining 2,505 spaces (64%) have two dollar (\$2.00) hourly rates throughout the day (typically Monday to Saturday).

On-street parking demands across the entire study area are summarized in Figure 2.

It should be noted that based on discussions with the City, parking occupancy surveys were not conducted west of Avenue H within the Riversdale area. This area (west of Avenue H) has an estimated parking supply of 688 spaces, including 208 on-street and 480 off-street spaces, which has been removed from the total parking supply for the purposes of calculating area parking demands.



FIGURE 2 — ON-STREET PARKING DEMANDS – ENTIRE STUDY AREA

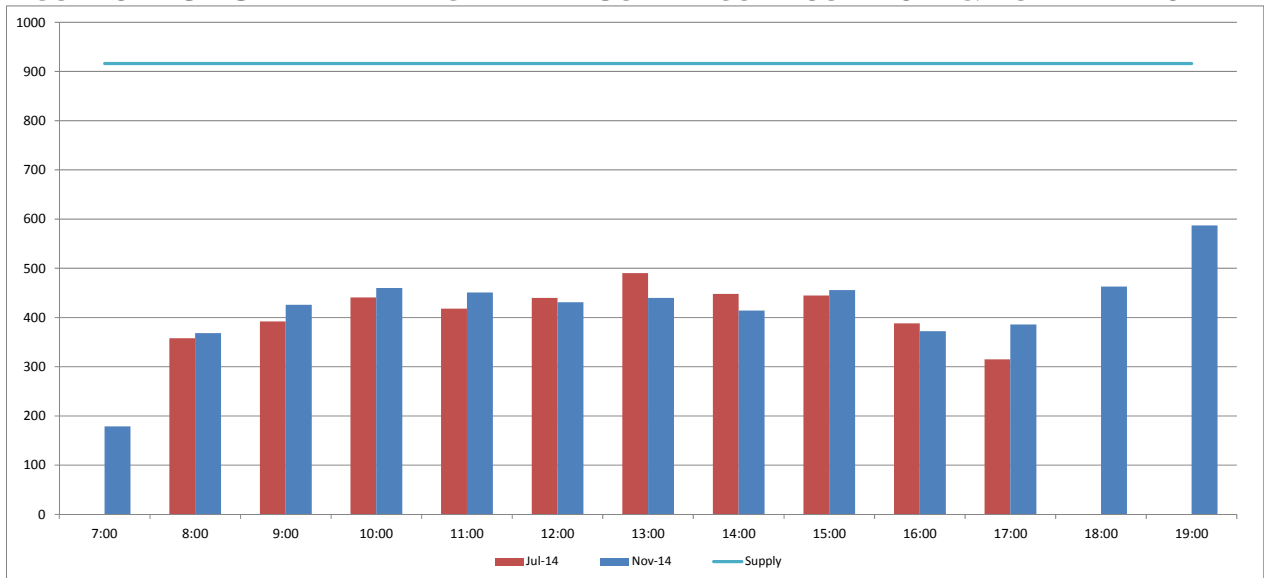


On-street utilization levels indicate that approximately 62 percent of the total parking supply (2,445 spaces) is used during its busiest period (7:00 pm). An additional 1,481 on-street parking spaces are available during this peak period.

The City of Saskatoon conducted on-street parking occupancy counts in July 2014, as part of the 4th Avenue bicycle lane study, within a portion of the Downtown. These demands were compared to those observed in November 2014.

Figure 3 illustrates the on-street parking demand within a portion of the Downtown for both survey periods. Key findings indicate that the overall daytime demand trend and peak parking demand observed in July 2014 are very comparable to those observed in November 2014.

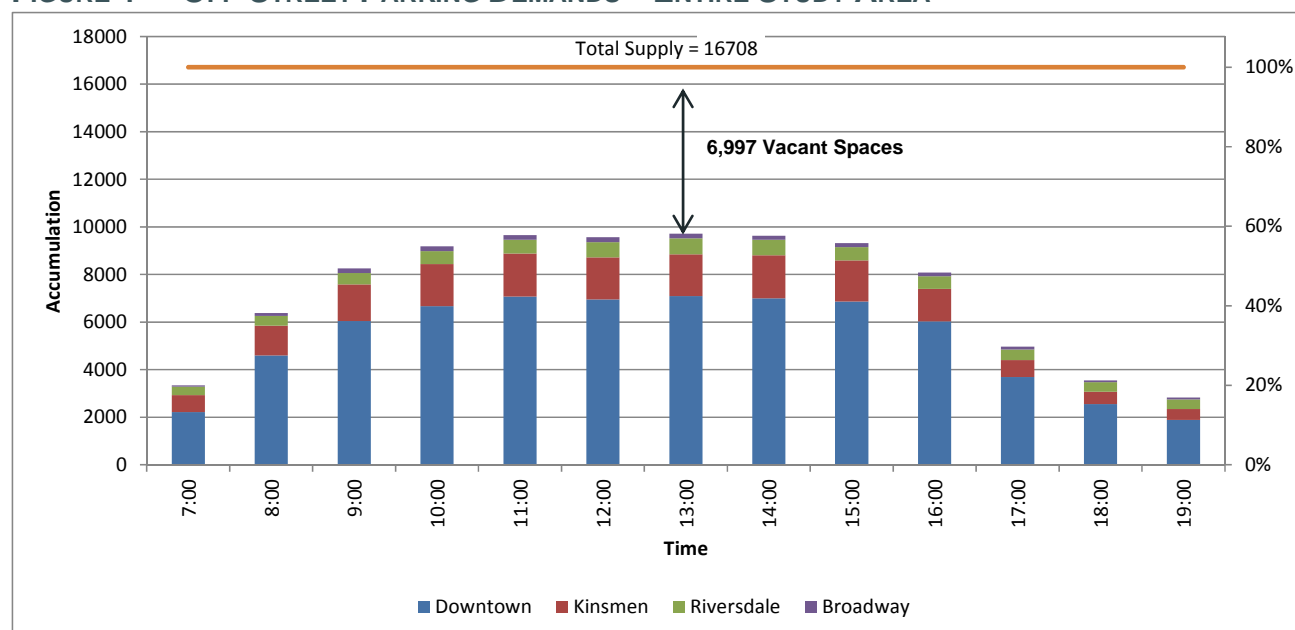
FIGURE 3 — ON-STREET PARKING DEMAND COMPARISON – JULY 2014 & NOVEMBER 2014



1.2.1.1 Off-Street Parking Demands

Off-street parking surveys were conducted on February 18, 2015 across the entire study area. Off-street parking demands are summarized in Figure 4.

FIGURE 4 — OFF-STREET PARKING DEMANDS – ENTIRE STUDY AREA



Off-street parking utilization peaked at 1:00 pm with approximately 58 percent of the total supply (9,711 spaces) being used during this peak period. An additional 6,997 spaces are vacant during the peak period.

There are a number of private parking facilities within the area that provide dedicated reserved spaces to permit holders within a portion or an entire parking lot. This practice of offering large proportions of reserved parking spaces dedicated to a single user results in an underutilization of the overall parking supply that could otherwise be used to meet additional area demands. For example, it is not an unusual practice to oversell parking permits by 15 to 25% or more in Downtown parking facilities in order to reflect the fact that a significant portion of employee parkers are not present every day or all day long due to meetings, business trips, vacation or illness.

Prior to commencing the parking surveys, the project team contacted private land owners in order to obtain permission to access parking structures. In some cases access to certain off-street lots within the Downtown and the Kinsmen areas was limited to certain hours of the survey period or not permitted at all (35 lots of the 511 lots surveyed). More specifically:

- While the majority of private garages were included within the parking demand surveys, access to twenty-four private parking facilities within the Downtown and North of the Downtown areas were not permitted (9% of the study area's total parking supply). As a conservative estimate it was assumed that each of these lots were at or near capacity during the daytime period.



- Access was not granted in five lots within the Downtown in the evening (4% of the study area's total parking supply); parking demands within these lots were estimated based on area occupancy trends.
- Full access was not provided for three lots located within the Downtown or North of the Downtown (3% of the study area's total parking supply); parking demands within these lots were estimated based on area occupancy trends (majority of the lots were assumed to be at or near capacity during the peak daytime period).
- Three lots (two public and one private parking lot) were closed for construction or a special event (1% of the study area's total parking supply). No parking demands were counted within these lots.

A figure illustrating the private lots located within the Downtown and Kinsmen areas where access was limited or restricted during the data collection phase of this study is provided in Appendix C.



2.0 DOWNTOWN

2.1 DOWNTOWN OVERVIEW

The Downtown is generally bounded by 25th Street to the north, Spadina Crescent to the east and south and Idylwyld Drive to the west.

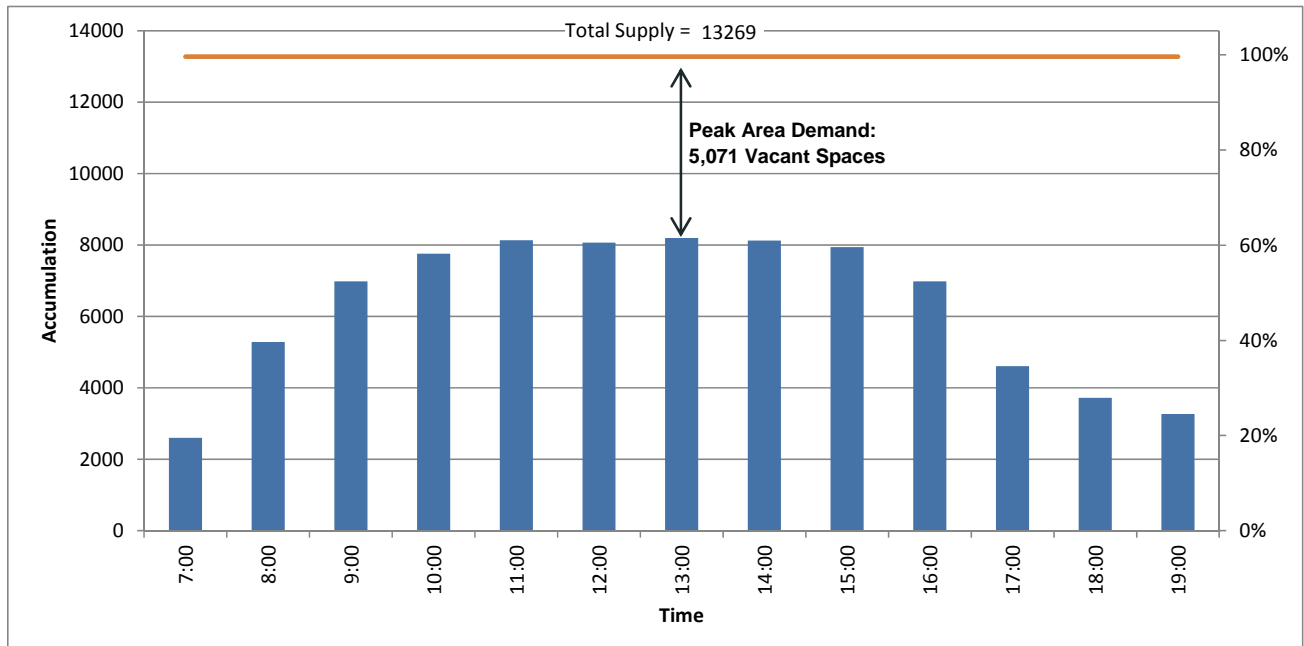
As summarized in Table 2, there are approximately 13,269 spaces located within the Downtown of which 1,860 spaces are on-street, 418 spaces are located within municipal lots, 5,592 spaces are located within commercial lots/structures and 5,399 spaces are located in private off-street facilities. Seventeen percent (17%) of the available parking within the Downtown is municipally owned or controlled.

TABLE 2 DOWNTOWN PARKING SUPPLY BY PARKING TYPE

Parking Type	Supply	
	# spaces	% of total supply
On-Street	1,860	14%
Municipal Off-Street	418	3%
Commercial Off-Street	5,592	42%
Private Off-Street	5,399	41%
Overall Total	13,269	100%

Peak parking demand within the Downtown was observed at 1:00pm (8,198 spaces). An additional 5,071 spaces are vacant (including public and private spaces) during the busiest daytime period.

FIGURE 5 — DOWNTOWN PARKING DEMANDS



Parking demands within the Downtown peaked at 1:00pm. Demands were further analyzed based upon type of parking (i.e. on-street, private, municipal off-street and commercial parking). A summary of the peak demand observed across the Downtown for each type of parking is provided in Table 3.

TABLE 3 DOWNTOWN PEAK PARKING DEMAND BY PARKING TYPE

Parking Type	Supply (# spaces)	Peak Demand			# vacant spaces
		Time	# spaces	% occupied	
On-Street	1,860	1:00 pm	1,109	60%	751
Municipal Off-Street	418		287	69%	131
Commercial Off-Street	5,592		3,351	60%	2,241
Private Off-Street	5,399		3,451	64%	1,948
Overall Total	13,269		8,198	62%	5,071
Total Publicly Available Parking (excluding private parking)					
	7,870	1:00 pm	4,847	62%	3,023

Excluding the area private parking, there are a total of 7,870 parking spaces that are publicly available across the Downtown. This supply represents 59% of the total supply within the Downtown.

The publicly available parking demand (including on-street, municipal off-street and commercial parking) at the peak period (1:00pm) was 4,847 spaces. An additional 3,023 public parking spaces are available across the Downtown during this peak time in publicly available parking facilities.

2.1.1 On-Street Parking Demands

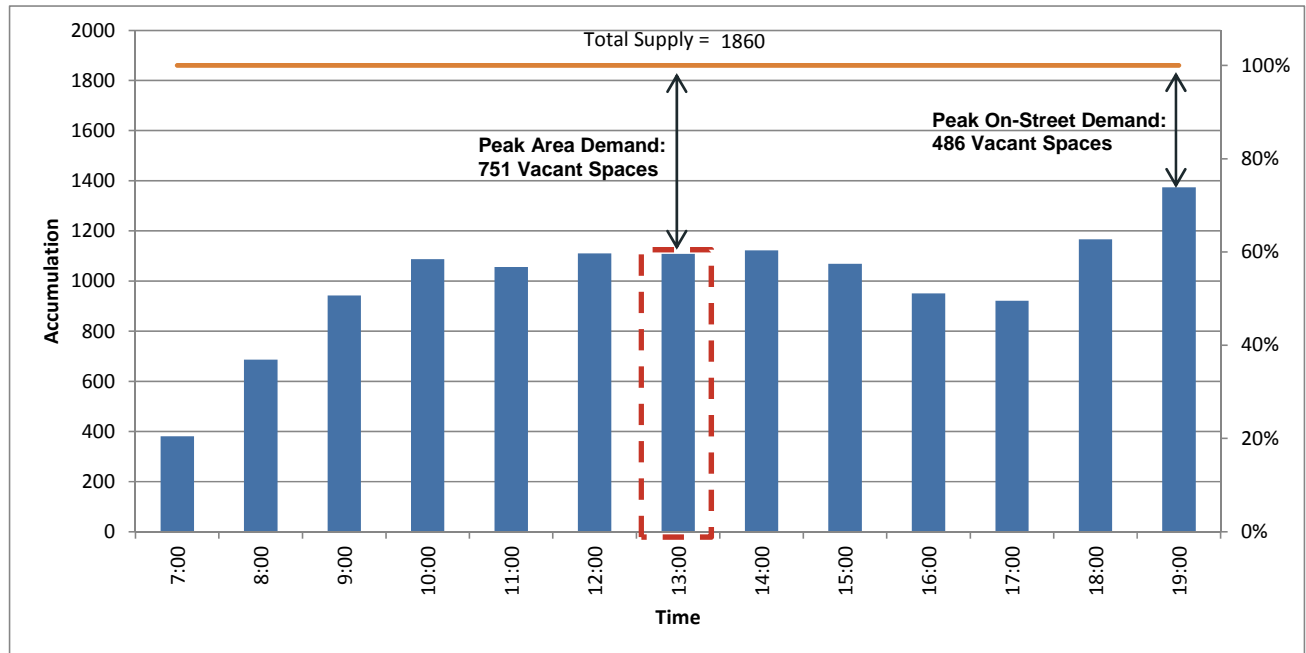
There are a total of 1,860 on-street parking spaces available within the Downtown. As illustrated in Figure 6, there is an additional 751 spaces available at the peak demand period within the study area (1:00pm).

It is noteworthy that peak on-street parking demands have a different demand pattern (peak in the evening - 7:00 pm) compared to the overall area (peak in the mid-afternoon - 1:00 pm). On-street utilization levels indicate that approximately 74 percent (1,374 spaces) of the total parking supply is used during its busiest period (7:00 pm). An additional 486 on-street vacant parking spaces are available during this peak period.

Generally speaking, the on-street parking in the west central part of the Core and South Core sub-areas is very well utilized in the 85% or higher occupancy range while the on-street parking in the north and east parts of the Downtown are less utilized. During the evening period when on-street demand peaks, there are many off-street surface lots that are not well utilized and which provide an opportunity for people who have been unable to locate an on street space to find alternative parking.



FIGURE 6 — ON-STREET PARKING DEMANDS – DOWNTOWN

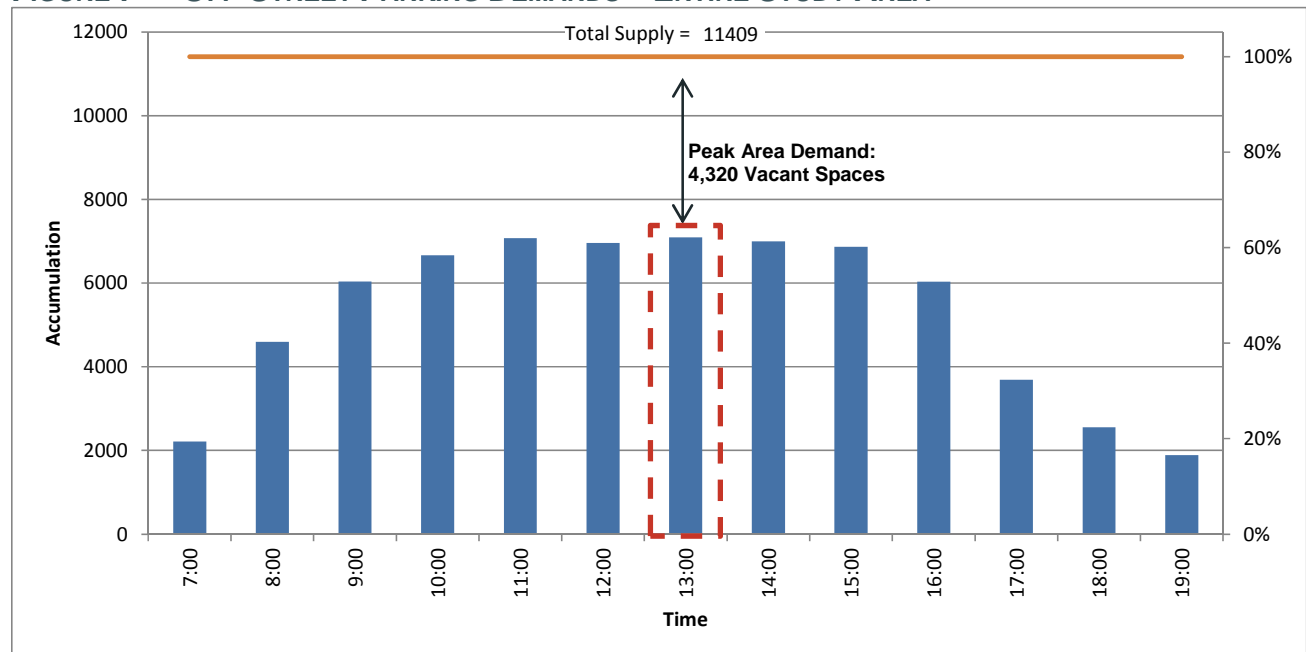


2.1.2 Off-Street Parking Demands

There are a total of 11,409 off-street parking spaces within the Downtown of which 6,010 are available for public use (53% of total supply) and 5,592 are private parking spaces (47% of total supply).

As illustrated in Figure 7, off-street parking utilization peaked at 1:00 pm (consistent with the study area peak demand period) with approximately 62 percent of the total supply (7,089 spaces) being used during this peak period. An additional 4,320 spaces are available for use during the peak period.

FIGURE 7 — OFF-STREET PARKING DEMANDS – ENTIRE STUDY AREA



2.1.3 Downtown – Key Findings

A summary of the key findings within the Downtown area are as follows:

Supply

- There are a total of 13,269 parking spaces located within the Downtown.
- Fifty-eight percent (62%) of the total parking supply (7,870 spaces) within the Downtown is available for public use (i.e. on-street, municipal off-street and commercial off-street parking).
- There is limited municipally controlled off-street parking within the Downtown.

Demand

- Sixty-two percent (62%) of the total parking supply is in use during the busiest period (1:00 pm).
- Sixty-one percent (62%) of the total parking supply available for public use (7,870 spaces) is occupied during the busiest period (1:00 pm – 4,847 spaces). An additional 3,023 spaces are available during this peak period.
- A decrease in Saskatoon’s office vacancy rate, towards the typical rate, could generate a demand for an addition 615 spaces across the Downtown area. If this demand were to be accommodated solely in the publicly available parking supply the occupancy level would increase to 69%. However, as noted earlier it is likely that some of this demand would be accommodated in the vacant private parking supply associated with specific buildings.
- During the peak PM period (7:00 pm), on-street parking is 74% occupied. This peak parking demand occurs in the evening period when on-street parking is free of charge.

In order to better understand localized parking demands, the Downtown was further broken down into five areas: “Midtown”, “Core”, “South Core”, “Warehouse” and “North Core”. The following sections provide detailed analysis of each area’s parking demands and availability.

A summary of the parking supply by type (on-street, municipal, commercial and private) within each area across the Downtown is provided in Table 4.

TABLE 4 DOWNTOWN PARKING SUPPLY – BY AREA

Parking Type	Midtown	Core	South Core	Warehouse	North Core	Total
On-Street	107	496	700	223	334	1,860
Municipal Off-Street	187	158	56	0	17	116
Commercial Off-Street	1,875	1,351	1,317	176	873	5,736
Private Off-Street	242	1,838	782	1,139	1,398	5,557
Total	2,411	3,843	2,855	1,538	2,622	13,269



2.2 MIDTOWN

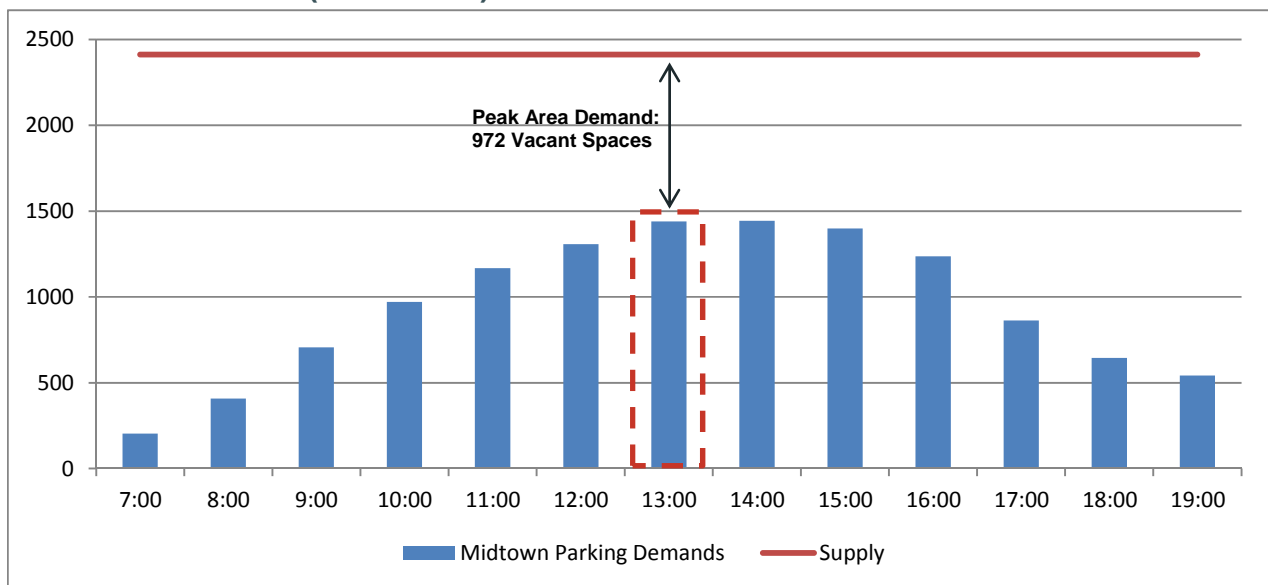
There are a total of 2,411 parking spaces located within the Downtown's Midtown area including 107 on-street spaces, 187 municipal off-street parking spaces, 1,875 commercial off-street spaces and 242 private off-street spaces. Six percent (6%) of the area parking supply is municipally owned and operated. The existing parking supply within the Midtown area is summarized in Table 5.

TABLE 5 MIDTOWN (DOWNTOWN) EXISTING PARKING SUPPLY

Parking Type	Supply	
	# spaces	% of total supply
On-Street	107	4%
Municipal Off-Street	187	8%
Commercial Off-Street	1,875	78%
Private Off-Street	242	10%
Total	2,411	100%
Total Publicly Available Parking (excluding private parking)	2,169	90%

Peak weekday utilization levels indicate that approximately 60% of the total parking supply is in use during the busiest period (as illustrated in Figure 8). A total of 1,439 spaces were occupied during the Downtown's peak period (1:00 pm). An additional 972 spaces are available during this peak period.

FIGURE 8 —MIDTOWN (DOWNTOWN) PARKING DEMANDS



Parking demands were further analyzed based on type of parking (on-street, private and commercial parking).

Table 6 summarizes the peak demand observed within the Downtown’s Midtown area for each type of parking available.

The majority of the parking available within the Midtown area is made up of commercial off-street parking. The Midtown Plaza’s parking supply (approximately 1,875 spaces) makes up a significant proportion of this area’s parking supply.

TABLE 6 MIDTOWN (DOWNTOWN) PEAK PARKING DEMAND BY PARKING TYPE

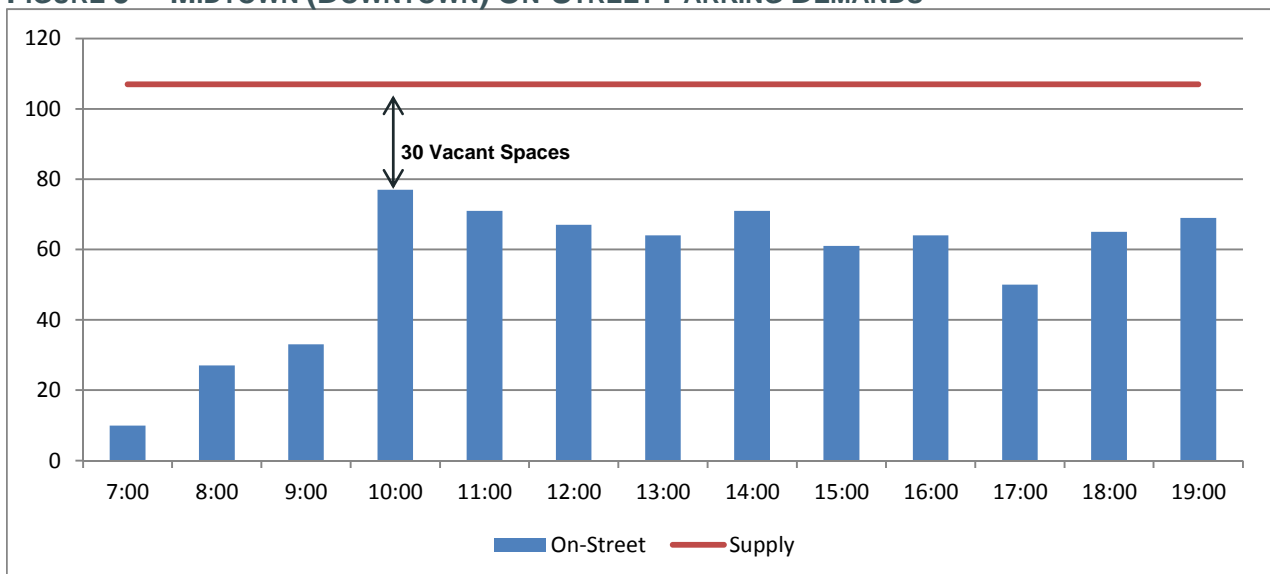
Parking Type	Supply (# spaces)	Peak Demand			# vacant spaces
		Time	# spaces	% occupied	
On-Street	107	1:00 pm	64	60%	43
Municipal Off-Street	187		138	74%	49
Commercial Off-Street	1,875		1,153	61%	722
Private Off-Street	242		84	35%	158
Total	2,411		1,439	60%	972
Total Publicly Available Parking (excluding private parking)	2,169	1:00 pm	1,355	62%	814

The following sections review demand patterns and parking availability for each parking type within the Downtown’s Midtown area.

2.2.1 On-Street Demands

There are a total of 107 on-street parking spaces available within the Downtown’s Midtown area. As illustrated in Figure 9, the peak on-street parking demand was observed at 10:00am (77 spaces) with an occupancy of 72%. An additional 30 spaces are available during this peak demand period.

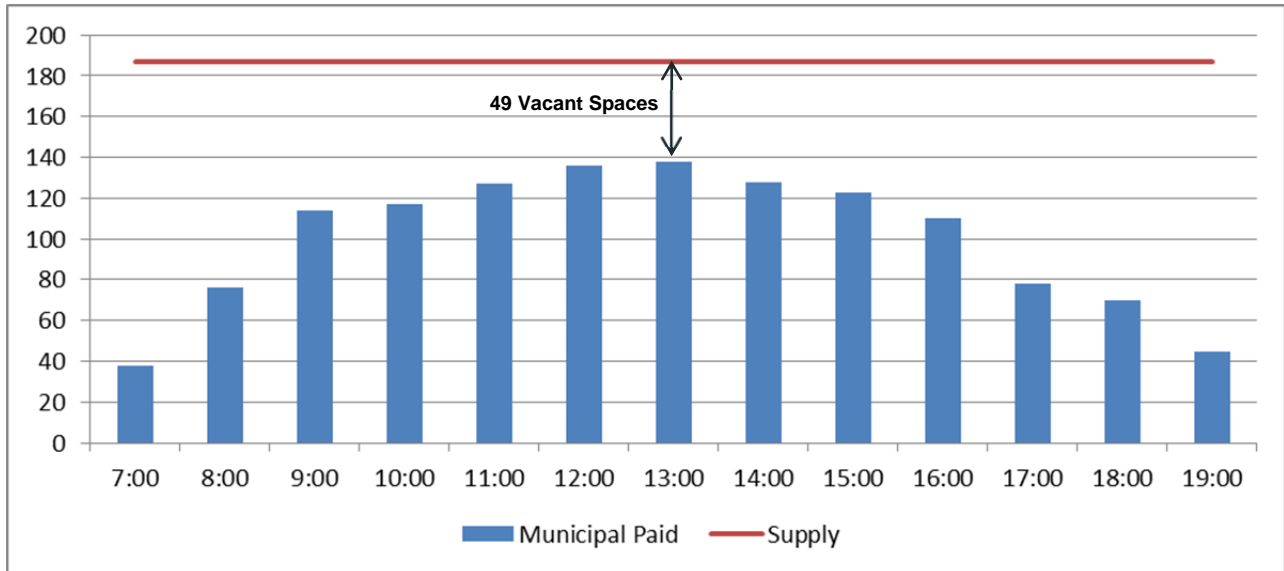
FIGURE 9 —MIDTOWN (DOWNTOWN) ON-STREET PARKING DEMANDS



2.2.2 Municipal Off-Street Parking

There are a total of 187 municipal off-street parking spaces available within the Downtown's Midtown area. These spaces are most well utilized during the daytime period with the peak demand observed at 1:00 pm (138 spaces) with an occupancy of 74%. Parking demands are illustrated in Figure 10.

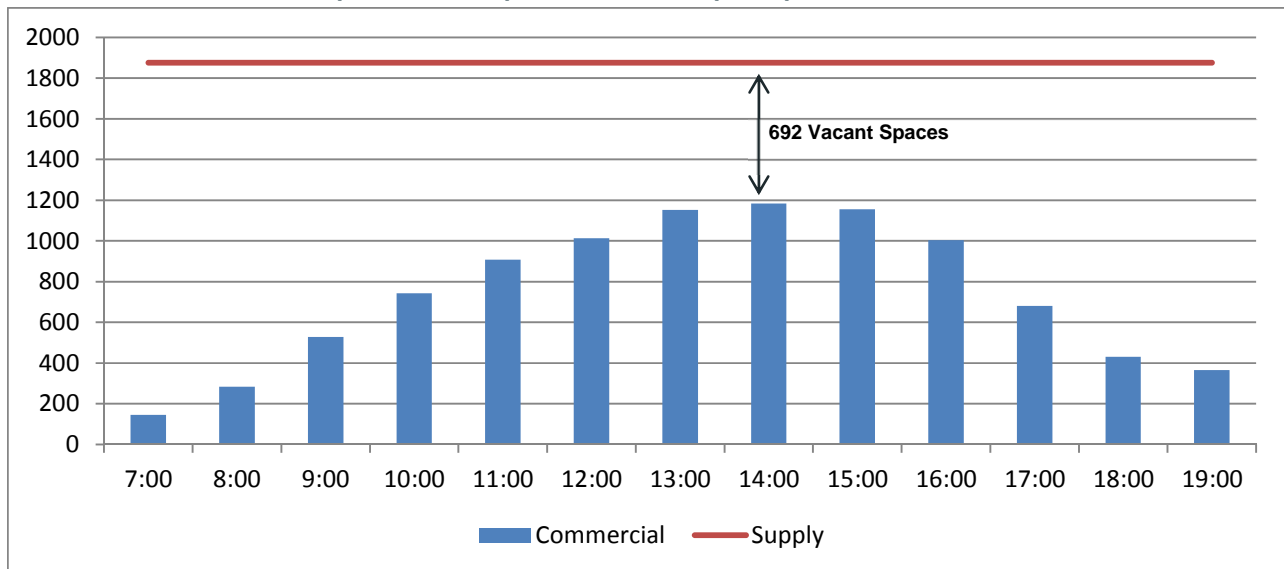
FIGURE 10 — MIDTOWN (DOWNTOWN) MUNICIPAL PARKING DEMANDS



2.2.3 Commercial (Paid) Parking

There are a total of 1,875 commercial (paid) parking spaces available within the Downtown's Midtown area. As illustrated in Figure 11, the peak commercial parking demand was observed at 2:00pm (1,183 spaces) with an occupancy of 63%. An additional 692 spaces are available during the busiest daytime period.

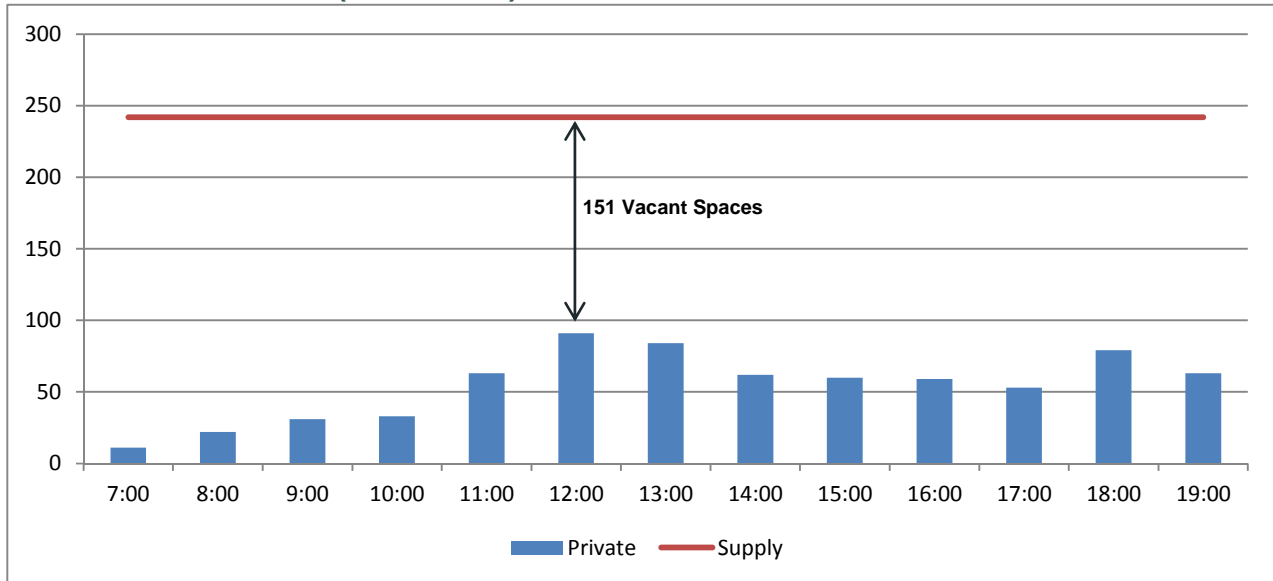
FIGURE 11 — MIDTOWN (DOWNTOWN) COMMERCIAL (PAID) PARKING DEMANDS



2.2.4 Private Parking

There are a total of 242 private parking spaces available within the Downtown's Midtown area. As illustrated in Figure 12, the peak private parking demand was observed at 12:00pm (91 spaces) with an occupancy of 38%. An additional 151 private spaces are available during the busiest daytime period.

FIGURE 12 — MIDTOWN (DOWNTOWN) PRIVATE PARKING DEMANDS



2.2.5 Midtown – Key Findings

A summary of the key findings within the Midtown Downtown area are as follows:

Supply

- There are a total of 2,411 parking spaces located within the Midtown area.
- Ninety percent (90%) of the total parking supply (2,169 spaces) within the Midtown area are available for public use (i.e. on-street, municipal off-street and commercial off-street parking).
- There is limited municipally controlled off-street parking within the Midtown Downtown area (8% of the total supply).

Demand

- Sixty percent (62%) of the total parking supply is in use during the Downtown's busiest period (1:00 pm).
- Sixty-two percent (62%) of the total parking supply available for public use (2,169 spaces) is occupied during the Downtown's busiest period (1:00 pm – 1,355 spaces).
- There was a surplus of publicly available parking within the Midtown (Downtown) area during the peak period (814 spaces available).
- It is our understanding that the TCU Place, a convention and arts centre, was not very busy during the February 18, 2015 off-street survey period (approximately 1,020 people attending events) and there are days where parking demands within this area are higher due to events being held at the TCU Place, which would substantially reduce the parking vacancy in the area.



2.3 CORE

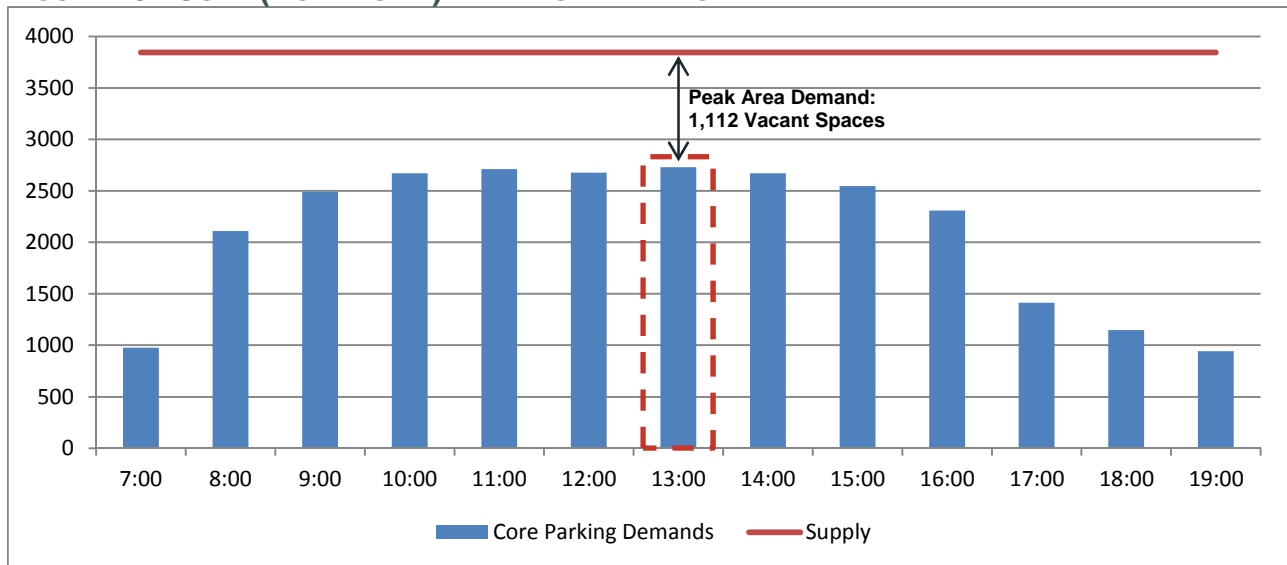
There are a total of 3,843 parking spaces located within the Downtown’s Core including 496 on-street spaces, 158 municipal off-street parking spaces, 1,351 commercial spaces and 1,838 private spaces. Fifty-two percent of the parking supply is available for public use (excluding private parking). Existing parking supply within the Core area is summarized in Table 7.

TABLE 7 CORE (DOWNTOWN) EXISTING PARKING SUPPLY

Parking Type	Supply	
	# spaces	% of total supply
On-Street	496	13%
Municipal Off-Street	158	4%
Commercial Off-Street	1,351	35%
Private Off-Street	1,838	48%
Total	3,843	100%
Total Publicly Available Parking (excluding private parking)	2,005	52%

Parking throughout the Core is well utilized throughout the daytime period. Peak weekday utilization levels indicate that approximately 71% (2,731 spaces) of the total parking supply is in use during the Downtown’s busiest period (1:00 pm) as illustrated in Figure 13. An additional 1,112 spaces are available during this peak period.

FIGURE 13 –CORE (DOWNTOWN) PARKING DEMANDS



Parking demands were further analyzed based on type of parking (on-street, private and commercial parking). Table 8 summarizes the peak demand observed within the Downtown’s Core for each type of parking available.

TABLE 8 CORE (DOWNTOWN) PEAK PARKING DEMAND BY PARKING TYPE

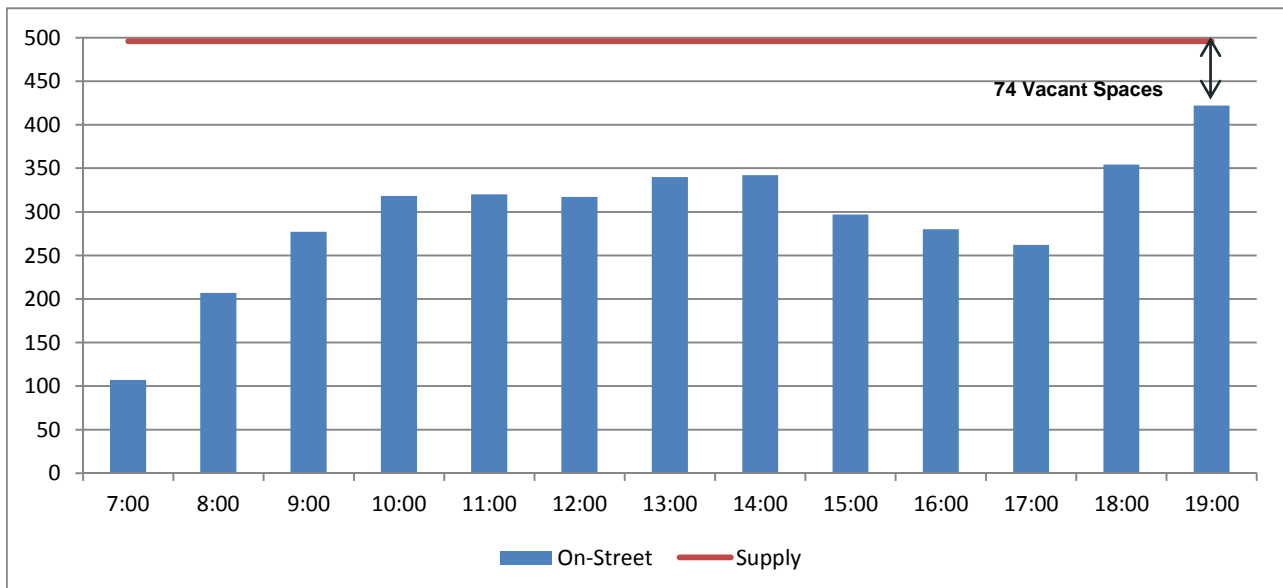
Parking Type	Supply (# spaces)	Peak Demand			# vacant spaces
		Time	# spaces	% occupied	
On-Street	496	1:00 pm	340	69%	156
Municipal Off-Street	158		114	72%	44
Commercial Off-Street	1,351		1,049	78%	302
Private Off-Street	1,838		1,228	67%	610
Total	3,843		2,731	71%	1,112
Total Publicly Available Parking (excluding private parking)	2,005	1:00 pm	1,503	75%	502

The following sections review demand patterns and parking availability for each parking type within the Downtown Core.

2.3.1 On-Street Demands

There are a total of 496 on-street parking spaces available within the Downtown’s Core. As illustrated in Figure 14, the peak on-street parking demand was observed at 7:00pm (422 spaces) with an occupancy of 85% (74 spaces available).

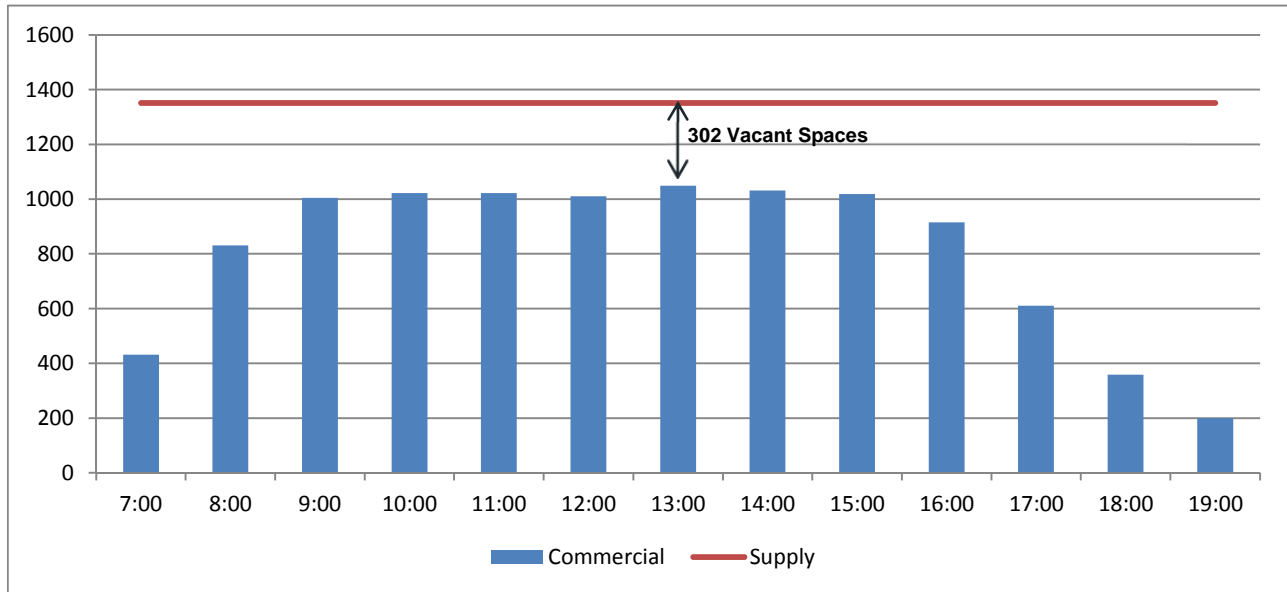
FIGURE 14 — CORE (DOWNTOWN) ON-STREET PARKING DEMANDS



2.3.2 Commercial (Paid) Parking

There are a total of 1,351 commercial (paid) parking spaces available within the Downtown's Core. As illustrated in Figure 15, the peak commercial parking demand was observed at 1:00pm (1,049 spaces) with an occupancy of 78%. An additional 302 commercial spaces are available during the busiest daytime period.

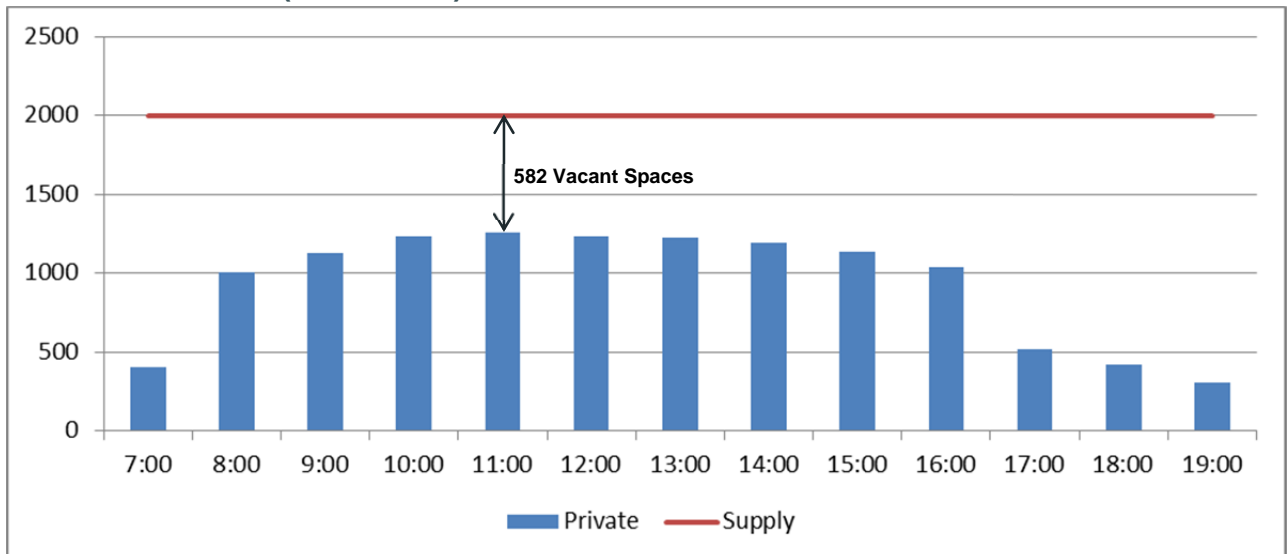
FIGURE 15 — CORE (DOWNTOWN) COMMERCIAL (PAID) PARKING DEMANDS



2.3.3 Private Parking

There are a total of 1,838 private parking spaces available within the Downtown's North Core. As illustrated in Figure 16, the peak private parking demand was observed at 11:00am (1,256 spaces) with an occupancy of 68%. An additional 582 private spaces are available during the busiest daytime period.

FIGURE 16 — CORE (DOWNTOWN) PRIVATE PARKING DEMANDS



2.3.4 Core – Key Findings

A summary of the key findings within the Core (Downtown) area are as follows:

Supply

- There are a total of 3,843 parking spaces located within the Core (Downtown) area.
- Fifty-two percent (52%) of the total parking supply is available for public use (i.e. on-street, municipal off-street and commercial off-street parking).

Demand

- Seventy-one percent (71%) of the total parking supply is in use during the busiest period (1:00 pm).
- Seventy-five percent (75%) of the total publicly available parking (excluding private parking) is in use during the busiest period. An additional 502 spaces are available for public use during the peak period.
- On-street parking demands have a different demand pattern (peak in the evening - 7:00 pm) compared to the overall area (peak in the mid-afternoon - 1:00 pm). On-street parking is well utilized in the evening, particularly after 7:00 pm.
- Public off-street parking demands decrease substantially after 5:00 pm. Approximately 1,300 spaces are available in the evening period (after 7:00 pm) when on-street parking demands are at their peak.
- Over 600 private parking spaces are available during the peak daytime period.

2.4 SOUTH CORE

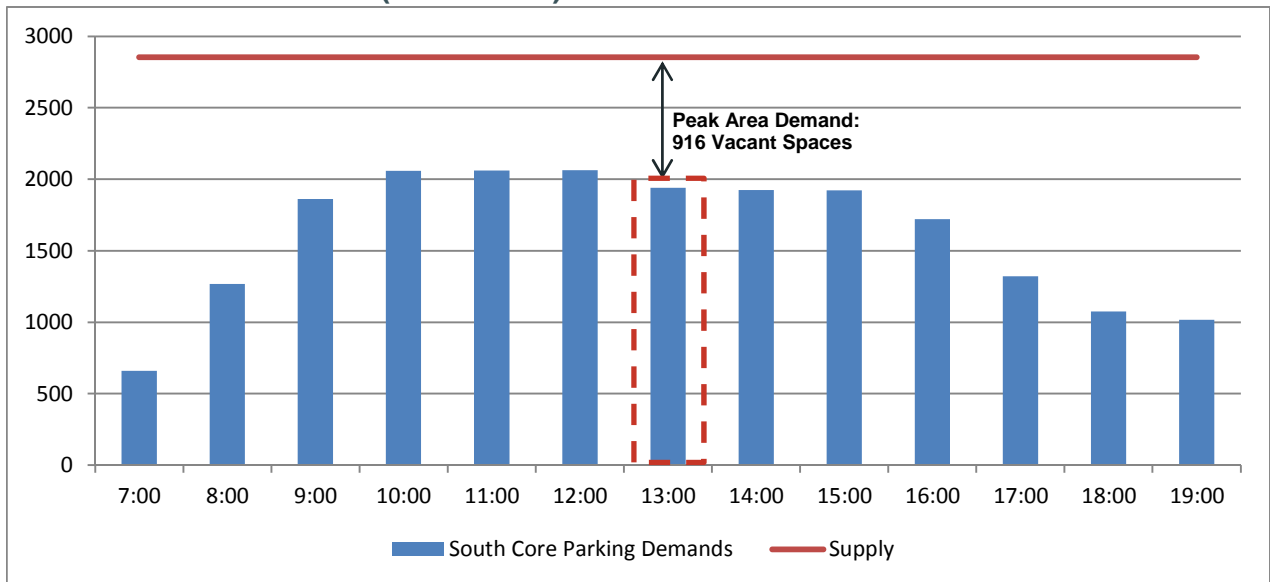
There are a total of 2,855 parking spaces located within the Downtown’s South Core including 700 on-street spaces, 56 municipal off-street spaces, 1,317 commercial spaces and 782 private spaces. Seventy-three percent of the parking supply is available for public use (excluding private parking). Existing parking supply within the South Core is summarized in Table 9.

TABLE 9 SOUTH CORE (DOWNTOWN) EXISTING PARKING SUPPLY

Parking Type	Supply	
	# spaces	% of total supply
On-Street	700	25%
Municipal Off-Street	56	2%
Commercial Off-Street	1,317	46%
Private Off-Street	782	27%
Total	2,855	100%
Total Publicly Available Parking (excluding private parking)	2,073	73%

Parking throughout the South Core is well utilized throughout the daytime period. Peak weekday utilization levels indicate that approximately 72% of the total parking supply is in use during the busiest period (as illustrated in Figure 17). The peak parking demand during the Downtown peak period (1:00pm) was 1,939 spaces. An additional 916 spaces are available during this peak period.

FIGURE 17 — SOUTH CORE (DOWNTOWN) PARKING DEMANDS



Parking demands were further analyzed based on type of parking (on-street, private and commercial parking). Table 10 summarized the peak demand observed within the Downtown’s South Core for each type of parking available.

TABLE 10 SOUTH CORE (DOWNTOWN) PEAK PARKING DEMAND BY PARKING TYPE

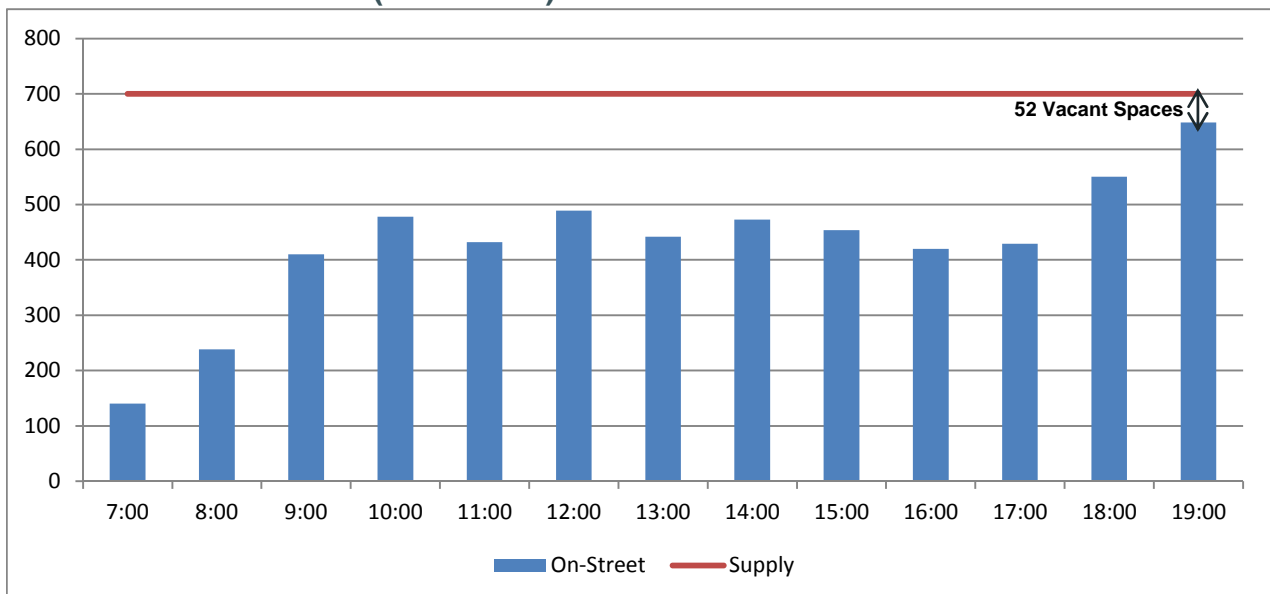
Parking Type	Supply (# spaces)	Peak Demand			# vacant spaces
		Time	# spaces	% occupied	
On-Street	700	1:00pm	442	63%	258
Municipal Off-Street	56		22	39%	34
Commercial Off-Street	1,317		876	67%	441
Private Off-Street	782		599	77%	183
Total	2,855		1,939	68%	916
Total Publicly Available Parking (excluding private parking)	2,073	1:00 pm	1,340	65%	733

The following sections review demand patterns and parking availability for each parking type within the Downtown’s South Core.

2.4.1 On-Street Demands

There are a total of 700 on-street parking spaces available within the Downtown’s South Core. As illustrated in Figure 18, the peak on-street parking demand was observed at 7:00pm (648 spaces) with an occupancy of 93% (52 spaces available).

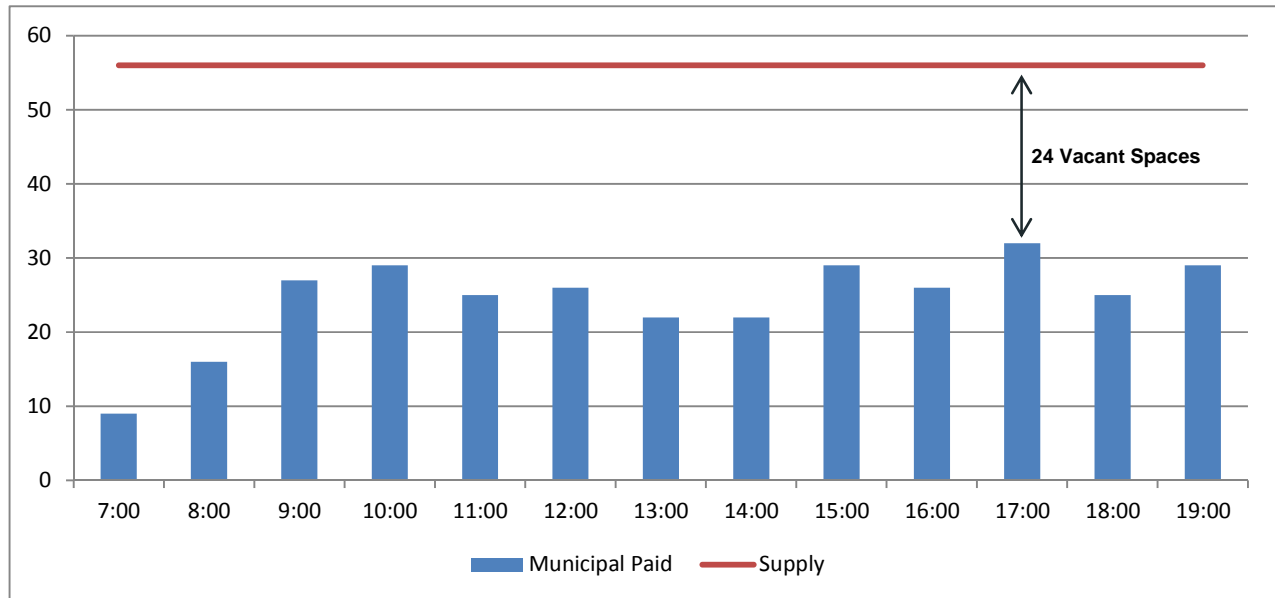
FIGURE 18 —SOUTH CORE (DOWNTOWN) ON-STREET PARKING DEMANDS



2.4.2 Municipal Off-Street Parking

There are a total of 56 municipal off-street parking spaces available within the Downtown’s South Core. Demand for these spaces fluctuate throughout the day, the peak demand was observed at 5:00pm (32 spaces) with an occupancy of 57%. Parking demands are illustrated in Figure 19.

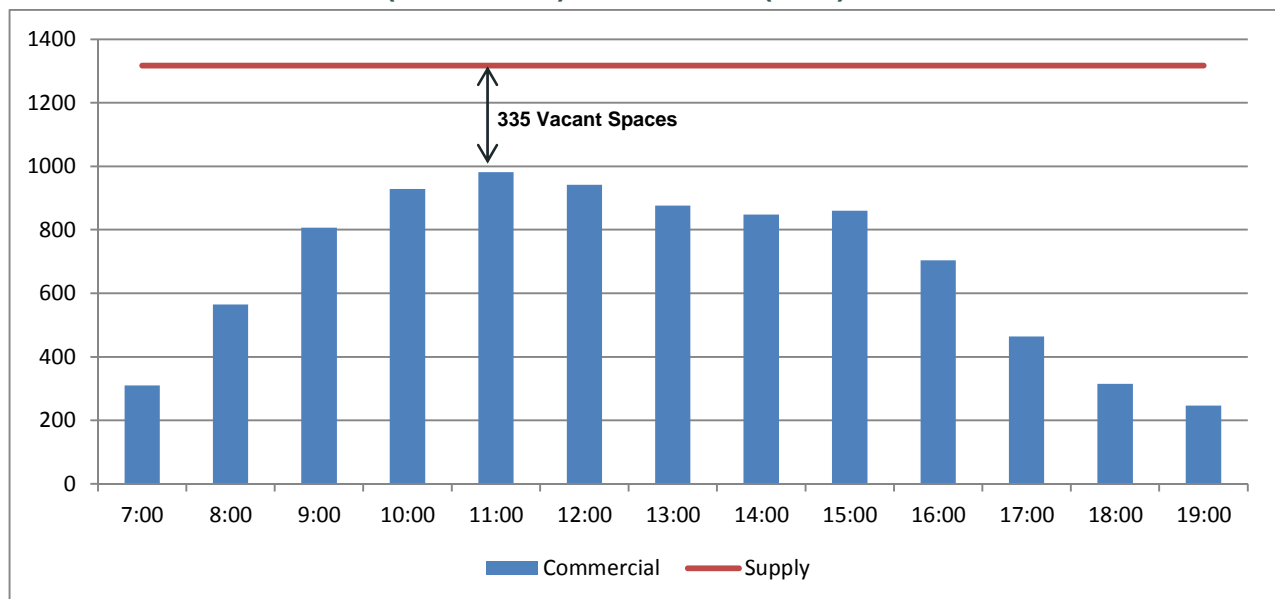
FIGURE 19 — SOUTH CORE (DOWNTOWN) MUNICIPAL OFF-STREET PARKING DEMANDS



2.4.3 Commercial (Paid) Parking

There are a total of 1,317 commercial (paid) parking spaces available within the Downtown’s South Core. As illustrated in Figure 20, the peak commercial parking demand was observed at 11:00am (982 spaces) with an occupancy of 75%. An additional 335 commercial spaces are available during the busiest daytime period.

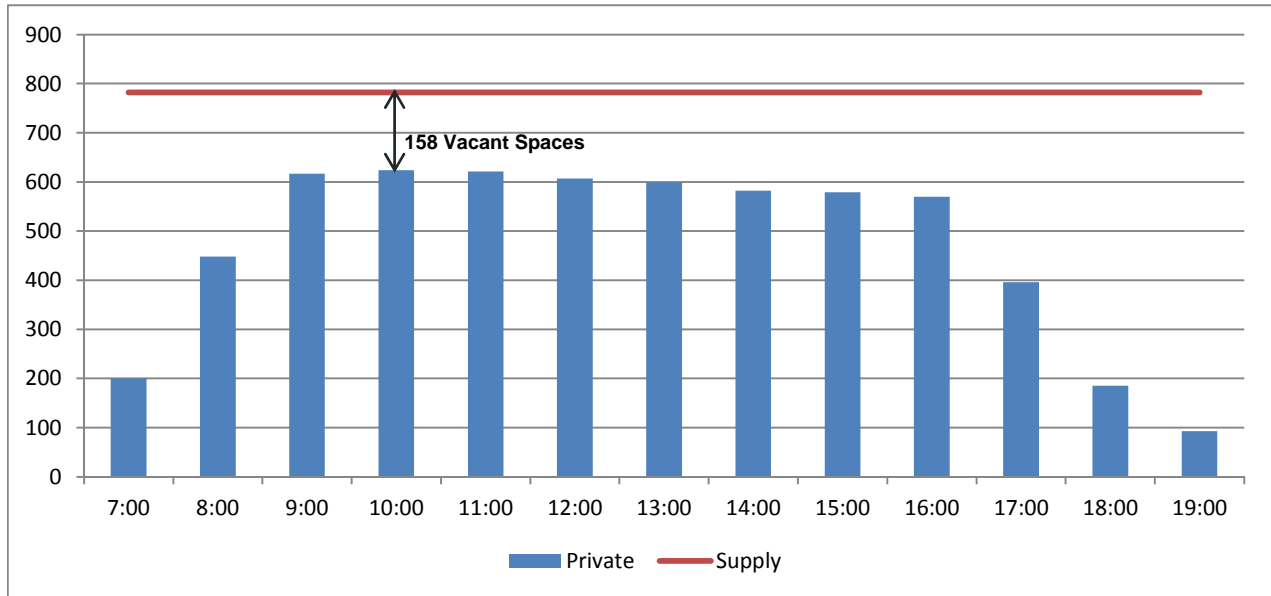
FIGURE 20 — SOUTH CORE (DOWNTOWN) COMMERCIAL (PAID) PARKING DEMANDS



2.4.4 Private Parking

There are a total of 782 private parking spaces available within the Downtown's South Core. As illustrated in Figure 21, the peak private parking demand was observed at 10:00am (624 spaces) with an occupancy of 80%. An additional 158 private spaces are available during the busiest daytime period.

FIGURE 21 — SOUTH CORE (DOWNTOWN) PRIVATE PARKING DEMANDS



2.4.5 South Core – Key Findings

A summary of the key findings within the South Core (Downtown) area are as follows:

Supply

- There are a total of 2,855 parking spaces located within the South Core (Downtown) area.
- Seventy-three percent (73%) of the total parking supply are available for public use (i.e. on-street, municipal off-street and commercial off-street parking).
- There is limited municipally controlled off-street parking within the South Core area.

Demand

- Sixty-eight percent (68%) of the total parking supply is in use during the Downtown's busiest period (1:00 pm).
- Sixty-five percent (65%) of the total publicly available parking (excluding private parking) is in use during the busiest period (1:00 pm – 1,340 spaces). An additional 733 spaces are available for public use during this peak period.
- The peak on-street parking demands have a different demand pattern (peak in the evening - 7:00 pm) compared to the overall area (peak in the mid-afternoon - 1:00 pm). On-street parking is well utilized in the evening (93% occupied at 7:00 pm) when on-street parking is free.

2.5 WAREHOUSE

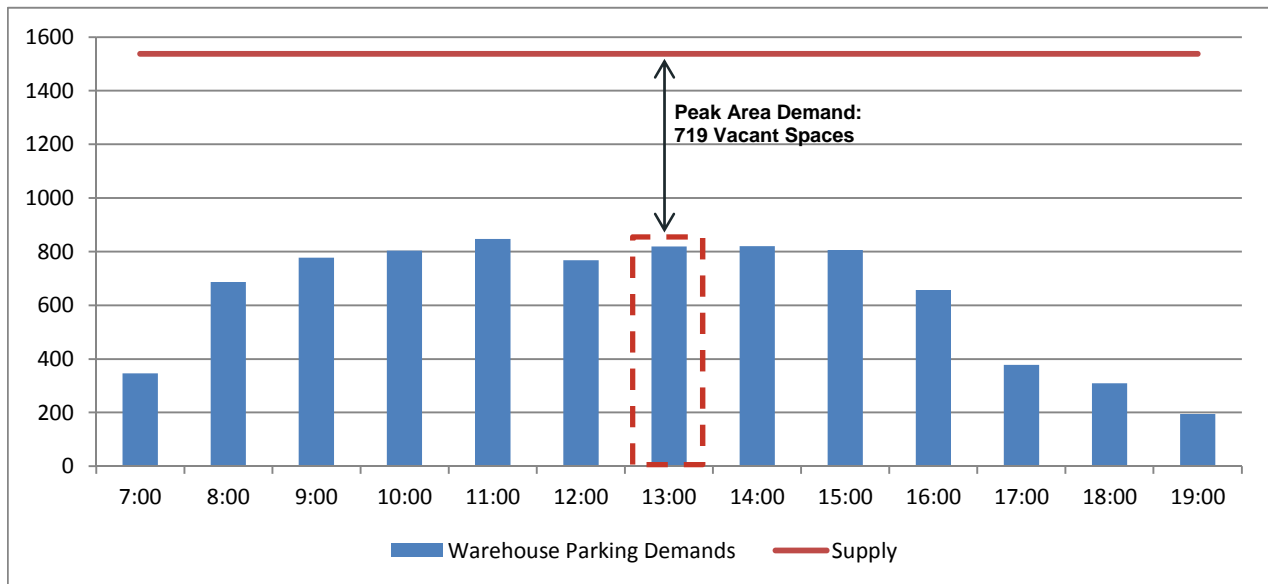
There are a total of 1,538 parking spaces located within the Downtown’s Warehouse area including 223 on-street parking spaces, 176 commercial off-street spaces and 1,139 private parking spaces. Twenty-six percent of the total parking supply is available for public use (excluding private parking). Existing parking supply within the South Core is summarized in Table 11.

TABLE 11 WAREHOUSE (DOWNTOWN) EXISTING PARKING SUPPLY

Parking Type	Supply	
	# spaces	% of total supply
On-Street	223	15%
Commercial Off-Street	176	11%
Private Off-Street	1,139	74%
Total	1,538	100%
Total Publicly Available Parking (excluding private parking)	399	26%

Peak weekday utilization levels indicate that approximately 55% of the total parking supply is in use during the Warehouse’s busiest period (illustrated in Figure 22). A total of 819 spaces were occupied during the Downtown’s busiest period (1:00pm). An additional 719 spaces are available during this peak period.

FIGURE 22 — WAREHOUSE (DOWNTOWN) PARKING DEMANDS



Parking demands were further analyzed based on type of parking (on-street, private and commercial parking). Table 10 summarized the peak demand observed within the Downtown’s Warehouse area for each type of parking available.

TABLE 12 WAREHOUSE (DOWNTOWN) PEAK PARKING DEMAND BY PARKING TYPE

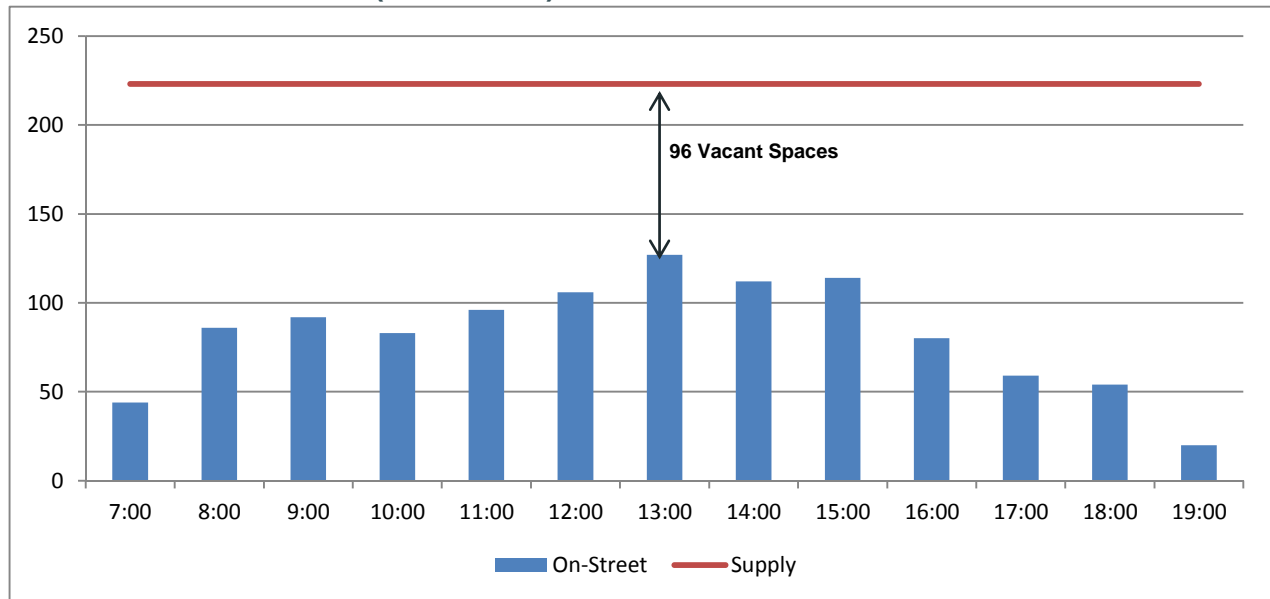
Parking Type	Supply (# spaces)	Peak Demand			# vacant spaces
		Time	# spaces	% occupied	
On-Street	223	1:00 pm	127	57%	96
Commercial Off-Street	176		58	33%	118
Private Off-Street	1,139		634	56%	505
Total	1,538		819	53%	719
Total Publicly Available Parking (excluding private parking)	399	1:00 pm	185	46%	214

The following sections review demand patterns and parking availability for each parking type within the Downtown’s Warehouse area.

2.5.1 On-Street Demands

There are a total of 223 on-street parking spaces available within the Downtown’s Warehouse area. As illustrated in Figure 23, the peak on-street parking demand was observed at 1:00pm (127 spaces) with an occupancy of 57% (96 spaces available).

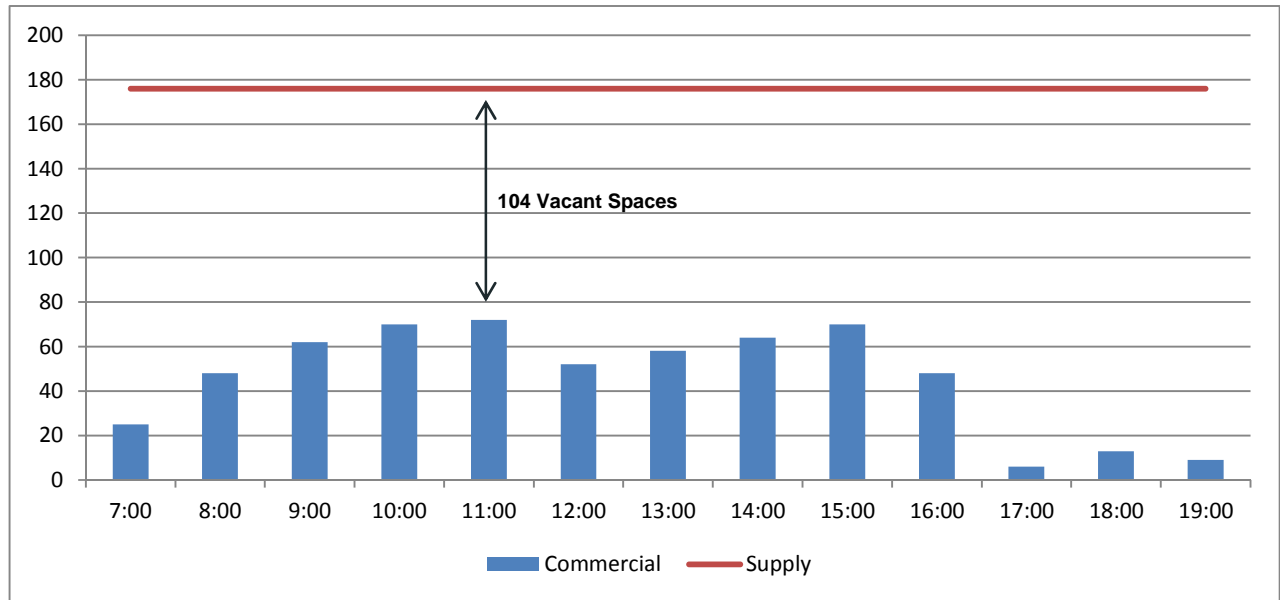
FIGURE 23 —WAREHOUSE (DOWNTOWN) ON-STREET PARKING DEMANDS



2.5.2 Commercial (Paid) Parking

There are a total of 176 commercial (paid) parking spaces available within the Downtown’s Warehouse area. As illustrated in Figure 24, the peak commercial parking demand was observed at 11:00am (72 spaces) with an occupancy of 41%. An additional 104 commercial spaces are available during the busiest daytime period.

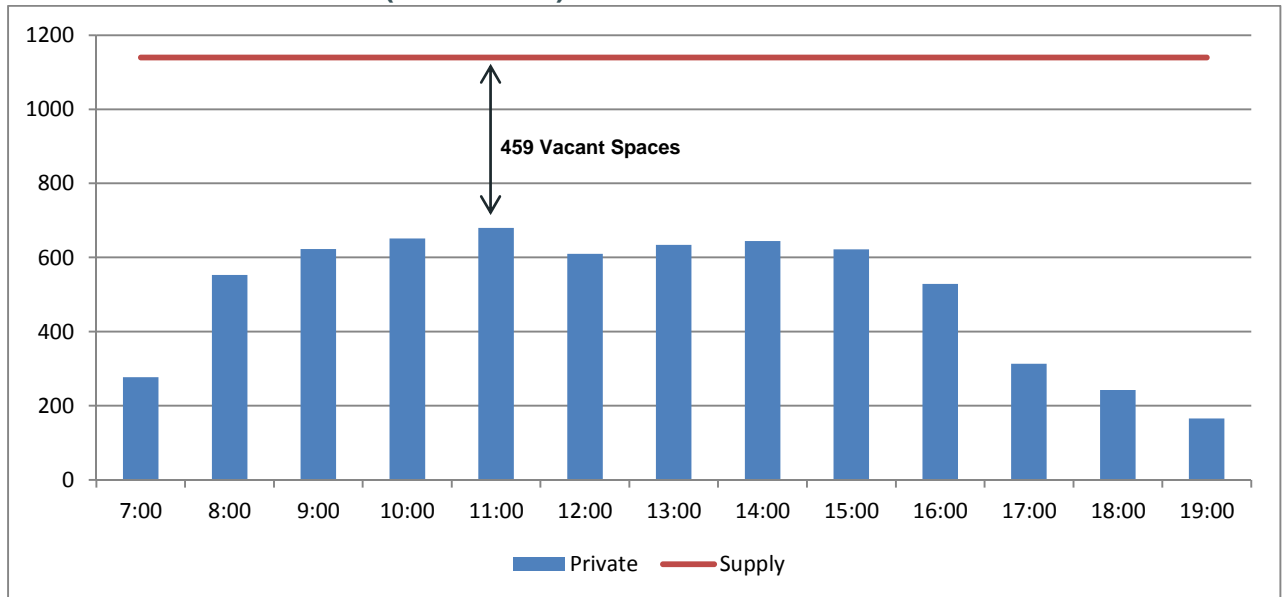
FIGURE 24 — WAREHOUSE (DOWNTOWN) COMMERCIAL (PAID) PARKING DEMANDS



2.5.3 Private Parking

There are a total of 1,139 private parking spaces available within the Downtown’s Warehouse area. As illustrated in Figure 25, the peak private parking demand was observed at 11:00am (680 spaces) with an occupancy of 60%. An additional 459 private spaces are available during the busiest daytime period.

FIGURE 25 — WAREHOUSE (DOWNTOWN) PRIVATE PARKING DEMANDS



2.5.4 Warehouse – Key Findings

A summary of the key findings within the Downtown's Warehouse area are as follows:

Supply

- There are a total of 1,538 parking spaces located within the Warehouse area of the Downtown.
- Twenty-six percent (26%) of the total parking supply (399 spaces) is available for public use (i.e. on-street, municipal off-street and commercial off-street parking).

Demand

- Fifty-three percent (53%) of the total parking supply is in use during the Downtown's busiest period (1:00 pm).
- Forty-six percent (46%) of the total publicly available parking (excluding private parking) is in use during the busiest period (1:00 pm – 185 spaces). An additional 214 spaces are available for public use during the peak period.
- Over 450 private parking spaces are vacant during the peak parking demand period.

2.6 NORTH CORE

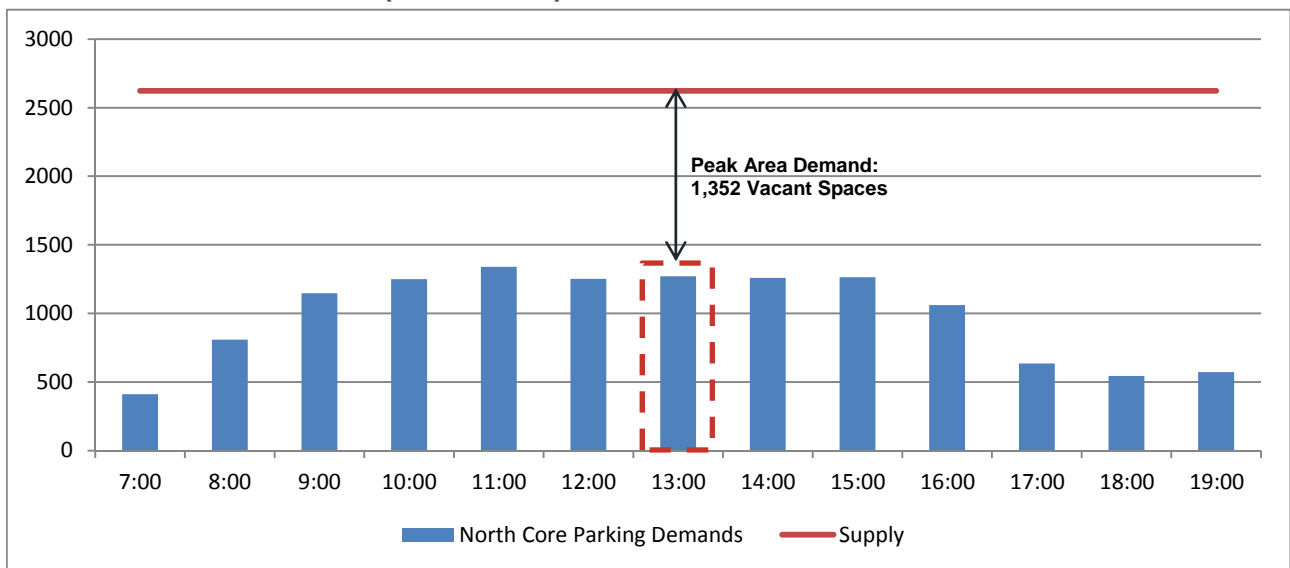
There are a total of 2,622 parking spaces located within the Downtown's North Core area including 334 on-street parking spaces, 17 municipal off-street spaces, 873 commercial off-street spaces and 1,398 private parking spaces. Forty-seven percent of the total parking supply is available for public use (excluding private parking). Existing parking supply within the North Core area is summarized in Table 13.

TABLE 13 NORTH CORE (DOWNTOWN) EXISTING PARKING SUPPLY

Parking Type	Supply	
	# spaces	% of total supply
On-Street	334	13%
Municipal Paid	17	1%
Commercial Off-Street	873	33%
Private Off-Street	1,398	53%
Total	2,622	100%
Total Publicly Available Parking (excluding private parking)	1,224	47%

Peak weekday utilization levels indicate that approximately 51% of the total parking supply is in use during the Downtown's busiest period (illustrated in Figure 26). A total of 1,270 spaces were occupied during the Downtown's peak period (1:00pm). An additional 1,352 spaces are available during this peak period.

FIGURE 26 — NORTH CORE (DOWNTOWN) PARKING DEMANDS



Parking demands were further analyzed based on type of parking (on-street, private and commercial parking). Figure 8 summarizes the peak demand observed within the Downtown's North Core for each type of parking available.

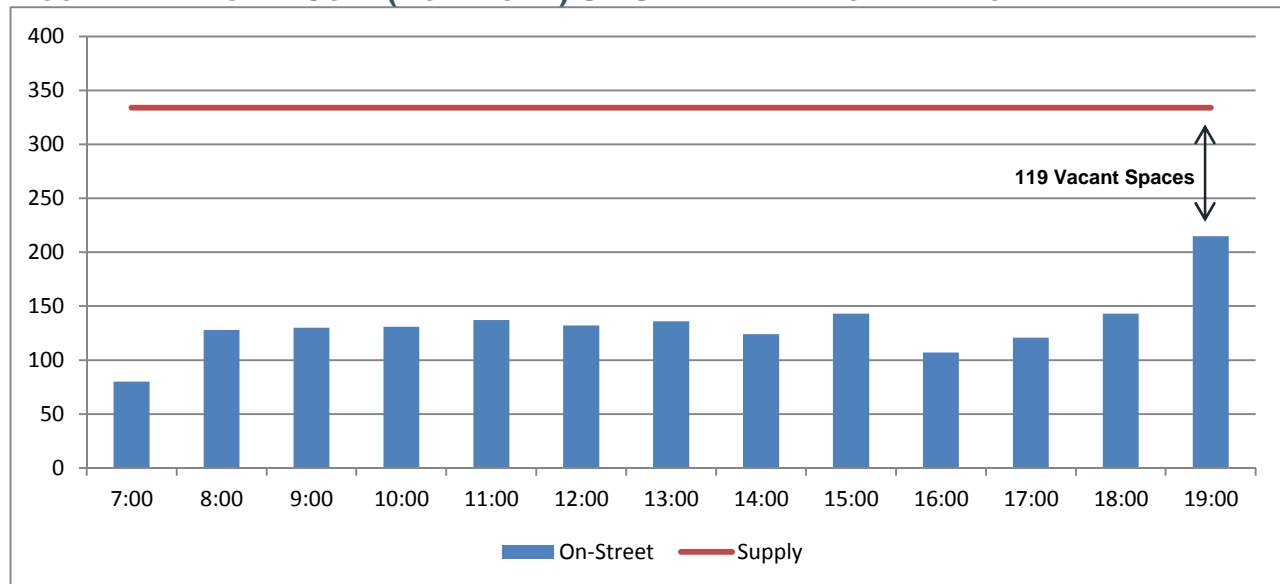
TABLE 14 NORTH CORE (DOWNTOWN) PEAK PARKING DEMAND BY PARKING TYPE

Parking Type	Supply (# spaces)	Peak Demand			# vacant spaces
		Time	# spaces	% occupied	
On-Street	334	1:00 pm	136	41%	198
Municipal Paid	17		13	76%	4
Commercial Off-Street	873		315	36%	558
Private Off-Street	1,398		806	58%	592
Total	2,622		1,270	48%	1,352
Total Publicly Available Parking (excluding private parking)	1,224	1:00 pm	464	38%	760

2.6.1 On-Street Demands

There are a total of 334 on-street parking spaces available within the Downtown's Kinsmen area. As illustrated in Figure 27, the peak on-street parking demand was observed at 7:00pm (215 spaces) with an occupancy of 64% (an additional 119 spaces were available).

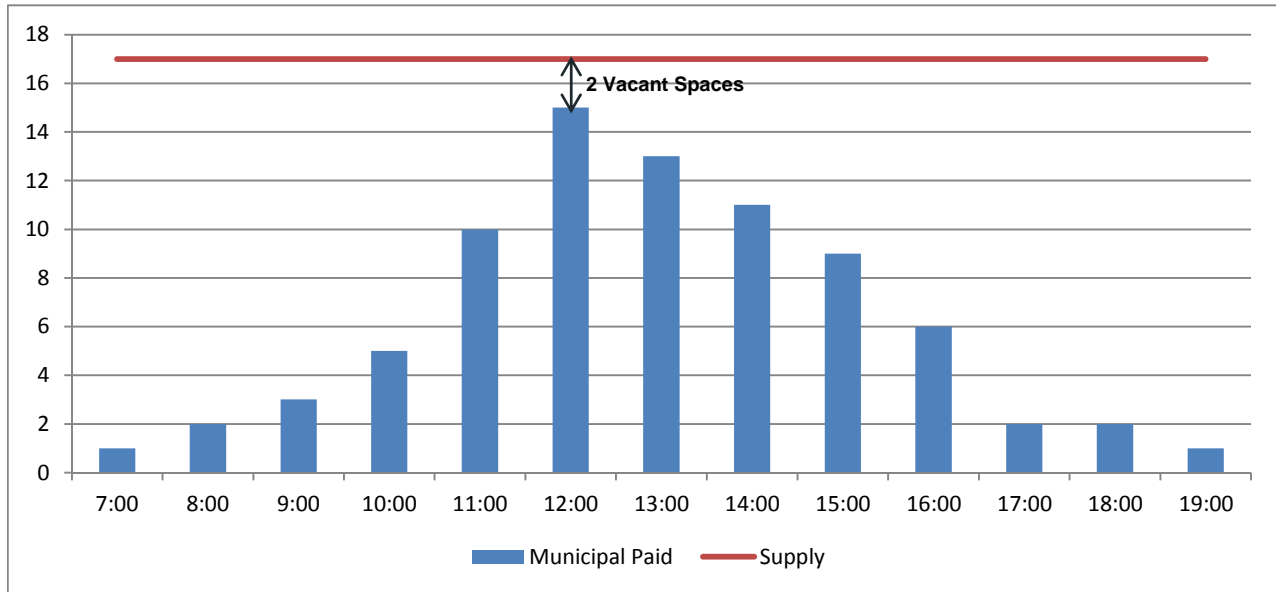
FIGURE 27 — NORTH CORE (DOWNTOWN) ON-STREET PARKING DEMANDS



2.6.2 Municipal Off-Street Parking

There are a total of 17 municipal off-street parking spaces available within the Downtown’s Kinsmen area. Demand for these spaces peaked at 12:00pm (15 spaces) with an occupancy of 88%. Parking demands are illustrated in Figure 28.

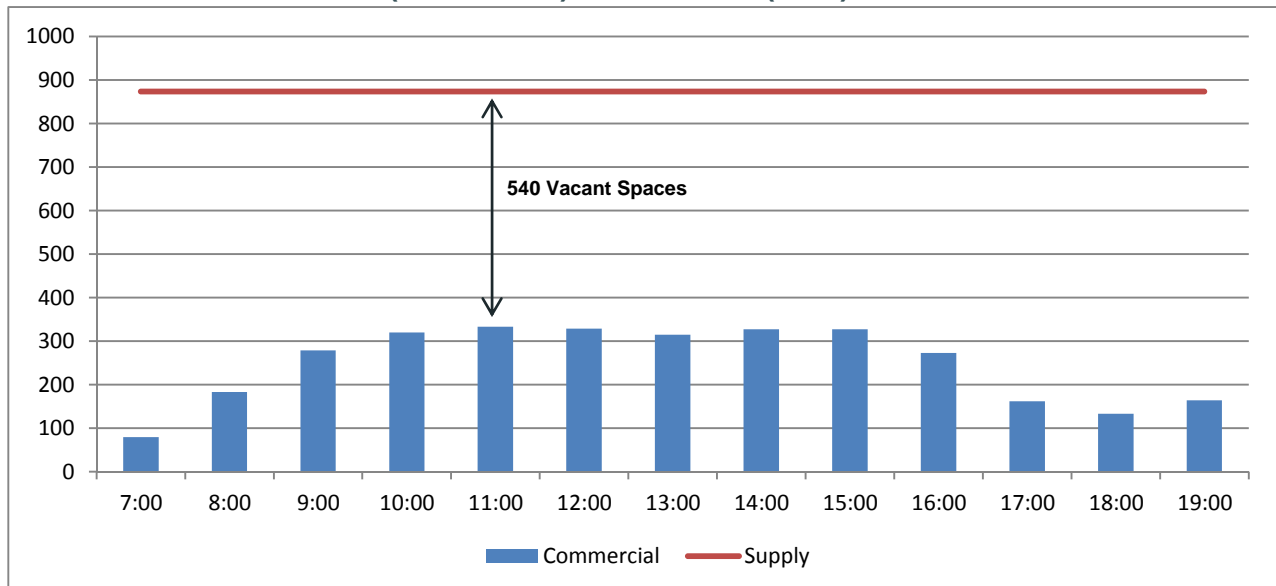
FIGURE 28 — NORTH CORE (DOWNTOWN) MUNICIPAL OFF-STREET PARKING DEMANDS



2.6.3 Commercial (Paid) Parking

There are a total of 873 commercial (paid) parking spaces available within the Downtown’s Kinsmen area. As illustrated in Figure 29, the peak commercial parking demand was observed at 11:00am (333 spaces) with an occupancy of 38%. An additional 540 commercial spaces are available during the busiest daytime period.

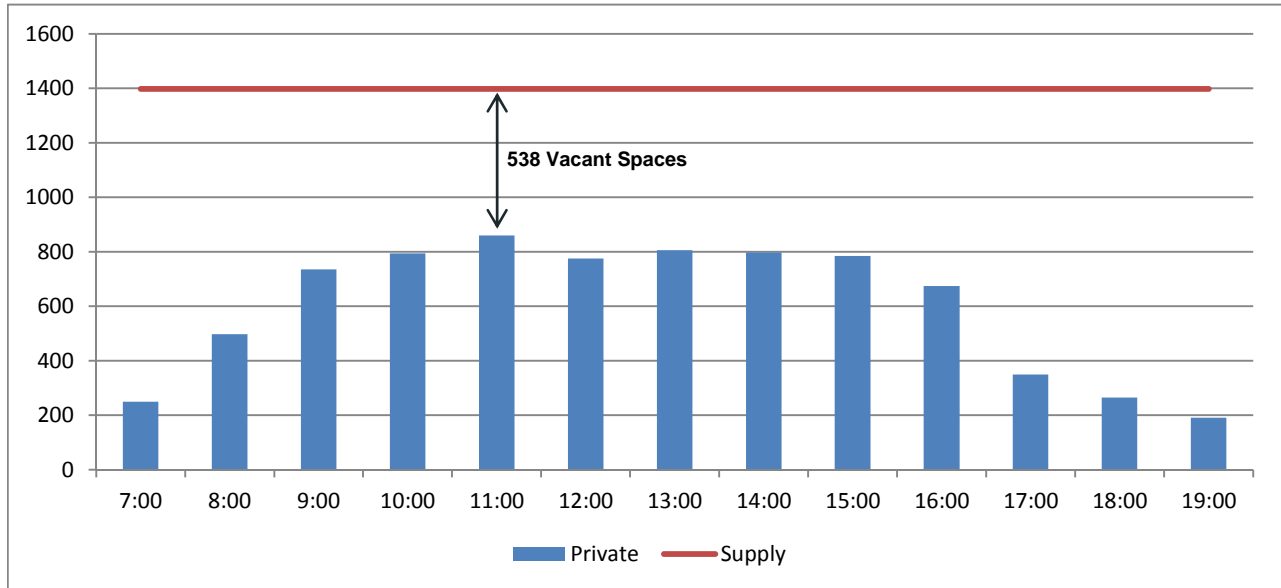
FIGURE 29 — NORTH CORE (DOWNTOWN) COMMERCIAL (PAID) PARKING DEMANDS



2.6.4 Private Parking

There are a total of 1,398 private parking spaces available within the Downtown's Warehouse area. As illustrated in Figure 30, the peak private parking demand was observed at 11:00am (860 spaces) with an occupancy of 62%. An additional 538 private spaces are available during the busiest daytime period.

FIGURE 30 — NORTH CORE (DOWNTOWN) PRIVATE PARKING DEMANDS



2.6.5 North Core – Key Findings

A summary of the key findings within the Downtown's North Core area are as follows:

Supply

- There are a total of 2,622 parking spaces located within the North Core area of the Downtown.
- Forty-seven percent (47%) of the total parking supply (1,224 spaces) is available for public use (i.e. on-street, municipal off-street and commercial off-street parking).
- There is limited municipally controlled off-street parking within the North Core area (1% of the total supply).

Demand

- Forty-eight percent (48%) of the total parking supply is in use during the busiest period (1:00 pm).
- Thirty-eight percent (38%) of the total publicly available parking (excluding private parking) is in use during the Downtown's busiest period (1:00 pm – 464 spaces). An additional 760 spaces are available for public use during the peak period.
- The limited amount of municipal off-street parking is very well utilized within the area (76% occupancy).
- The peak on-street parking demands have a different demand pattern (peak in the evening - 7:00 pm) compared to the overall area (peak in the mid-afternoon - 1:00 pm).
- An additional 592 private spaces are available during the Downtown's busiest period (1:00 pm).

3.0 KINSMEN

The area “Kinsmen” is generally bounded by 25th street to the south, Spadina Crescent to the east, Queen Street to the north and Idylwyld Drive to the west.

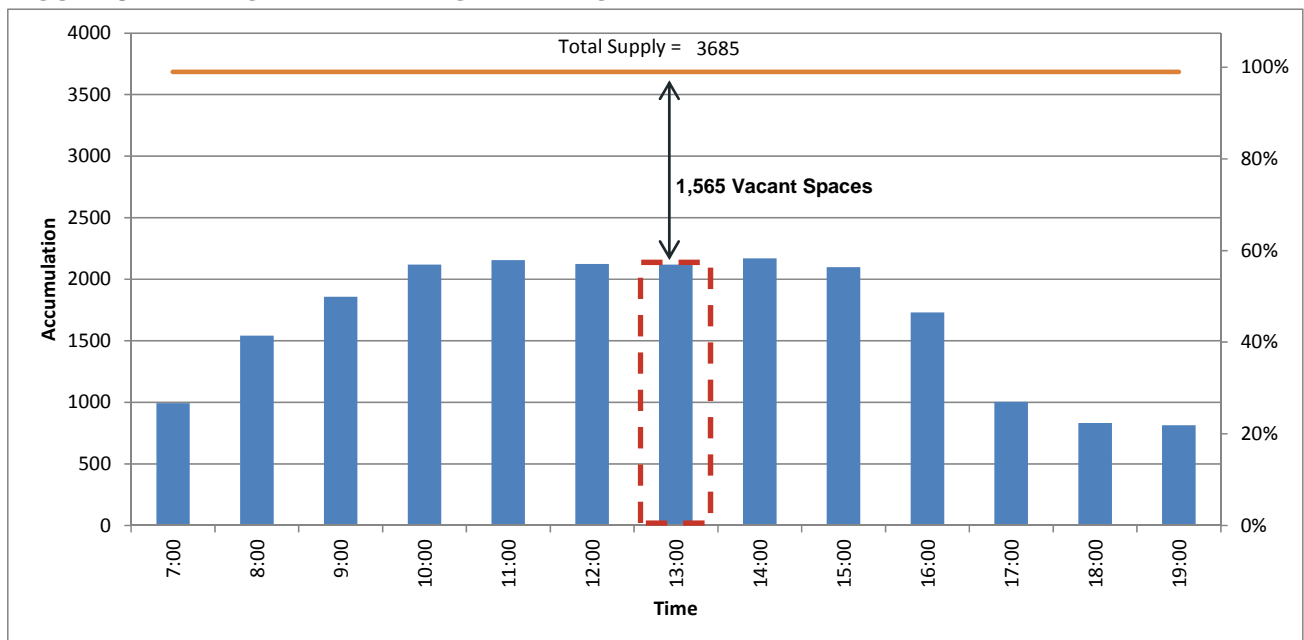
There are a total of 3,685 spaces located within the area “Kinsmen” including 655 on-street parking spaces, 346 municipal off-street parking spaces, 90 commercial (paid) parking spaces and 2,594 private parking spaces. The majority of the area’s parking supply is private off-street parking (70%) which is not available for public use. Existing parking supply by type is summarized in Table 15.

TABLE 15 KINSMEN EXISTING PARKING SUPPLY

Parking Type	Supply	
	# spaces	% of total supply
On-Street	655	18%
Municipal Off-Street	346	9%
Commercial Off-Street	90	3%
Private Off-Street	2,594	70%
Total	3,685	100%
Total Publicly Available Parking (excluding private parking)	1,091	30%

Peak weekday utilization levels indicate that approximately 58% of the total parking supply is in use during the study area’s busiest period (1:00 pm) (illustrated in Figure 31).

FIGURE 31 — KINSMEN – PARKING DEMANDS



Parking demands within this area were consistent throughout the late morning and early afternoon periods. The study area's peak parking demand is 2,120 spaces. An additional 1,565 spaces are available during this peak period.

Parking demands were further analyzed based on type of parking (on-street, private and commercial parking). Table 16 summarized the peak demand observed within the Kinsmen area for each type of parking available.

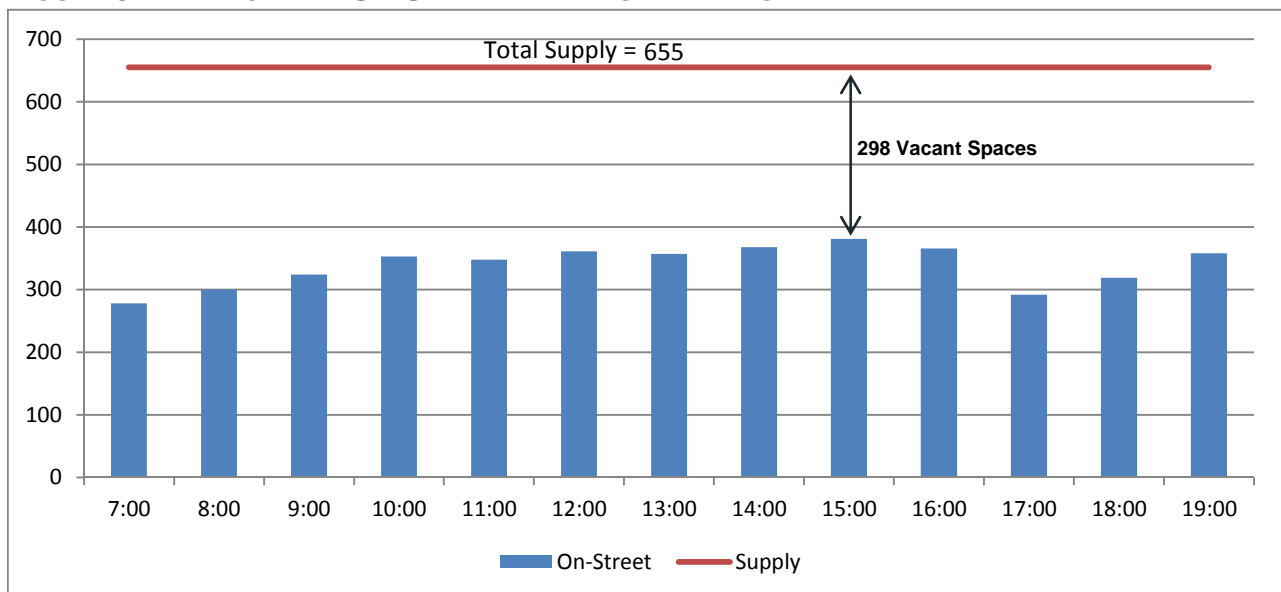
TABLE 16 KINSMEN PEAK PARKING DEMAND BY PARKING TYPE

Parking Type	Supply (# spaces)	Peak Demand			# vacant spaces
		Time	# spaces	% occupied	
On-Street	655	1:00 pm	357	55%	298
Municipal Off-Street	346		78	23%	268
Commercial Off-Street	90		42	47%	48
Private Off-Street	2,594		1,643	63%	951
Total	3,685		2,120	58%	1,565
Total Publicly Available Parking (excluding private parking)	1,091	1:00 pm	477	44%	614

3.1.1 On-Street Parking

There are a total of 655 on-street parking spaces available within the Kinsmen area. As illustrated in Figure 32, on-street parking demands remained relatively consistent throughout the day. The peak commercial parking demand was observed at 3:00pm (381 spaces) with an occupancy of 58%. An additional 274 on-street spaces are available during the busiest daytime period.

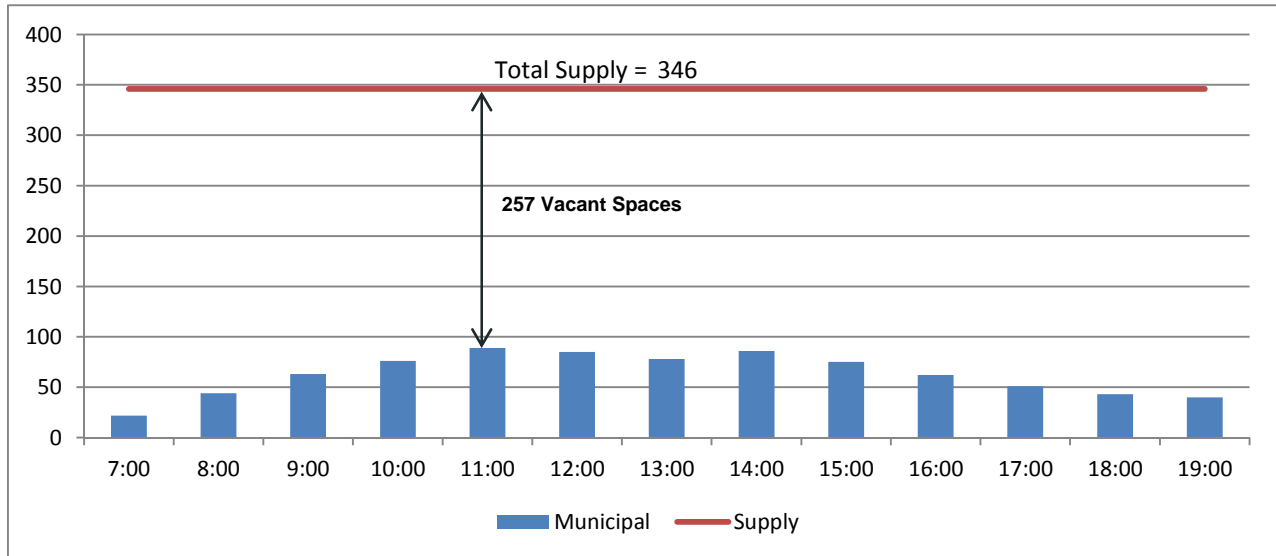
FIGURE 32 — KINSMEN – ON-STREET PARKING DEMANDS



3.1.2 Municipal Parking

There are a total of 346 municipal off-street parking spaces available within the Kinsmen area. Demand for these spaces peaked at 11:00am (89 spaces) with an occupancy of 26%. An additional 257 spaces are available during the busiest daytime period. Parking demands are illustrated in Figure 33.

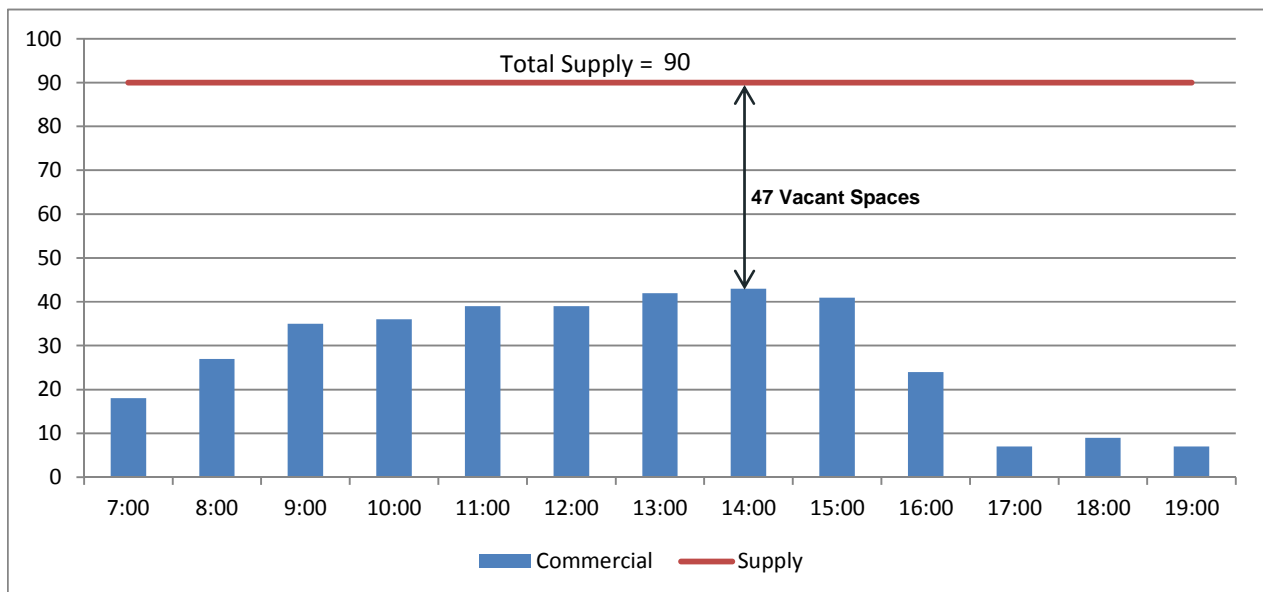
FIGURE 33 — KINSMEN – MUNICIPAL OFF-STREET PARKING DEMANDS



3.1.3 Commercial (Paid) Parking

There are a total of 90 commercial (paid) parking spaces available within the Kinsmen area. As illustrated in Figure 34, the peak commercial parking demand was observed at 2:00pm (43 spaces) with an occupancy of 43%. An additional 47 commercial spaces are available during the busiest daytime period.

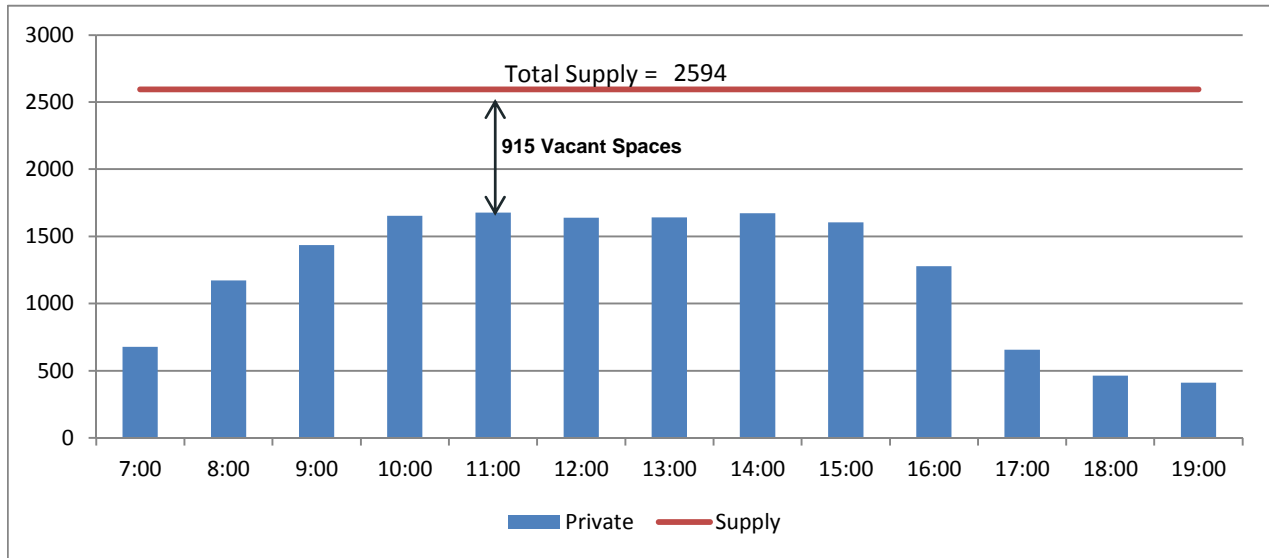
FIGURE 34 — KINSMEN – COMMERCIAL (PAID) PARKING DEMANDS



3.1.4 Private Parking

There are a total of 2,594 private parking spaces available within the Kinsmen area. As illustrated in Figure 35, the peak private parking demand was observed at 11:00am (1,679 spaces) with an occupancy of 65%. An additional 915 private spaces are available during the busiest daytime period.

FIGURE 35 — KINSMEN – PRIVATE PARKING DEMANDS



3.1.5 Kinsmen – Key Findings

A summary of the key findings within the Kinsmen area are as follows:

Supply

- There are a total of 3,685 parking spaces located within the Kinsmen area.
- Thirty percent (30%) of the total parking supply (1,091 spaces) is available for public use (i.e. on-street, municipal off-street and commercial off-street parking).

Demand

- Fifty-eight percent (58%) of the total parking supply is in use during the study area's busiest period
- Forty-four percent (44%) of the total publicly available parking (excluding private parking) is in use during the study area's busiest period. An additional 614 spaces are available for public use during the peak period.
- An additional 951 private spaces are available during the busiest daytime period.

4.0 RIVERSDALE

The Riversdale study area extends from Idylwyld Drive (on the east) along 20th Street West to Avenue P. The Riversdale area also includes the area generally bounded by Spadina Crescent West to the south, Avenue C to the west, Idylwyld Drive to the east and 25th Street West to the north. For the purposes of this study, the area boundaries have been modified to include key corridors within the area rather than exact neighbourhood boundaries.

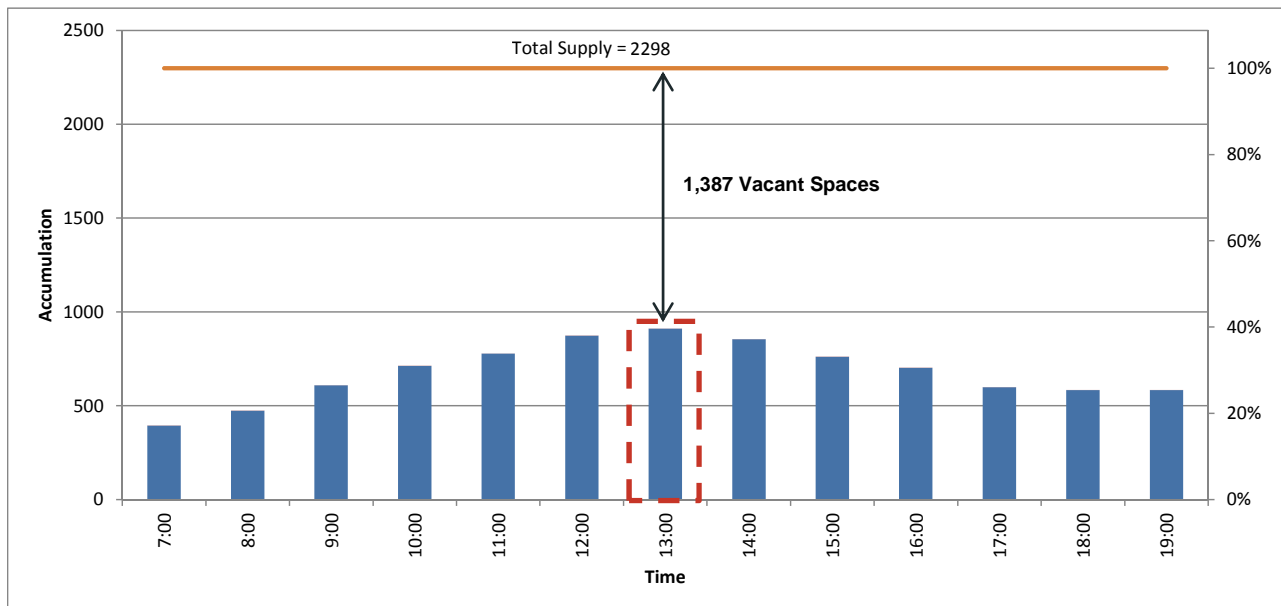
There are a total of 2,298 spaces located within Riversdale including 574 on-street parking spaces, 70 municipal off-street parking spaces, 415 commercial (paid) parking spaces and 1,239 private parking spaces. Riversdale’s existing parking supply is summarized in Table 17.

TABLE 17 RIVERSDALE EXISTING PARKING SUPPLY

Parking Type	Supply	
	# spaces	% of total supply
On-Street	574	25%
Municipal Off-Street	70	3%
Commercial Off-Street	415	18%
Private Off-Street	1,239	54%
Total	2,298	100%
Total Publicly Available Parking (excluding private parking)	1,059	46%

Peak weekday utilization levels indicate that approximately 40% of the total parking supply is in use during the busiest period (illustrated in Figure 36).

FIGURE 36 — RIVERSDALE – PARKING DEMANDS



The peak demand for this area was observed at 1:00pm (911 spaces). An additional 1,387 spaces are available during the busiest daytime period.

Parking demands were further analyzed based on type of parking (on-street, private and commercial parking). Table 18 summarized the peak demand observed within the Kinsmen area for each type of parking available.

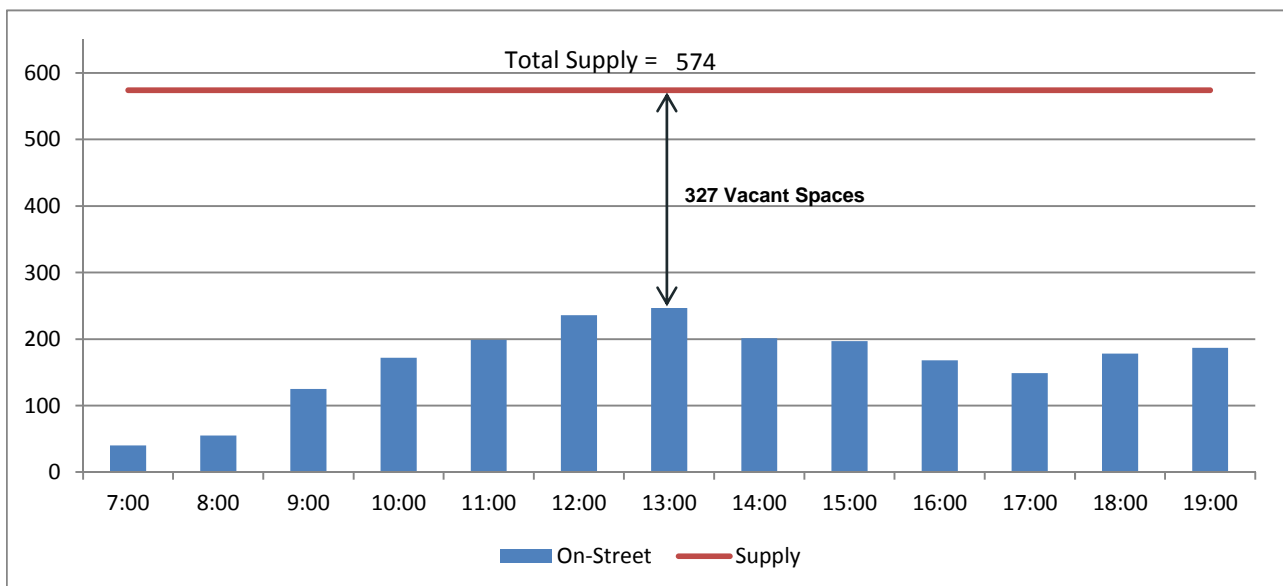
TABLE 18 RIVERSDALE PEAK PARKING DEMAND BY PARKING TYPE

Parking Type	Supply (# spaces)	Peak Demand			# vacant spaces
		Time	# spaces	% occupied	
On-Street	574	1:00 pm	247	43%	327
Municipal Off-Street	70		50	71%	20
Commercial Off-Street	415		105	25%	310
Private Off-Street	1,239		509	41%	730
Total	2,298		911	40%	1,387
Total Publicly Available Parking (excluding private parking)	1,059	1:00 pm	402	38%	657

4.1.1 On-Street Parking

There are a total of 574 on-street parking spaces available within Riversdale. As illustrated in Figure 37, the peak commercial parking demand was observed at 1:00pm (247 spaces) with an occupancy of 43%. An additional 327 on-street spaces are available during the busiest daytime period.

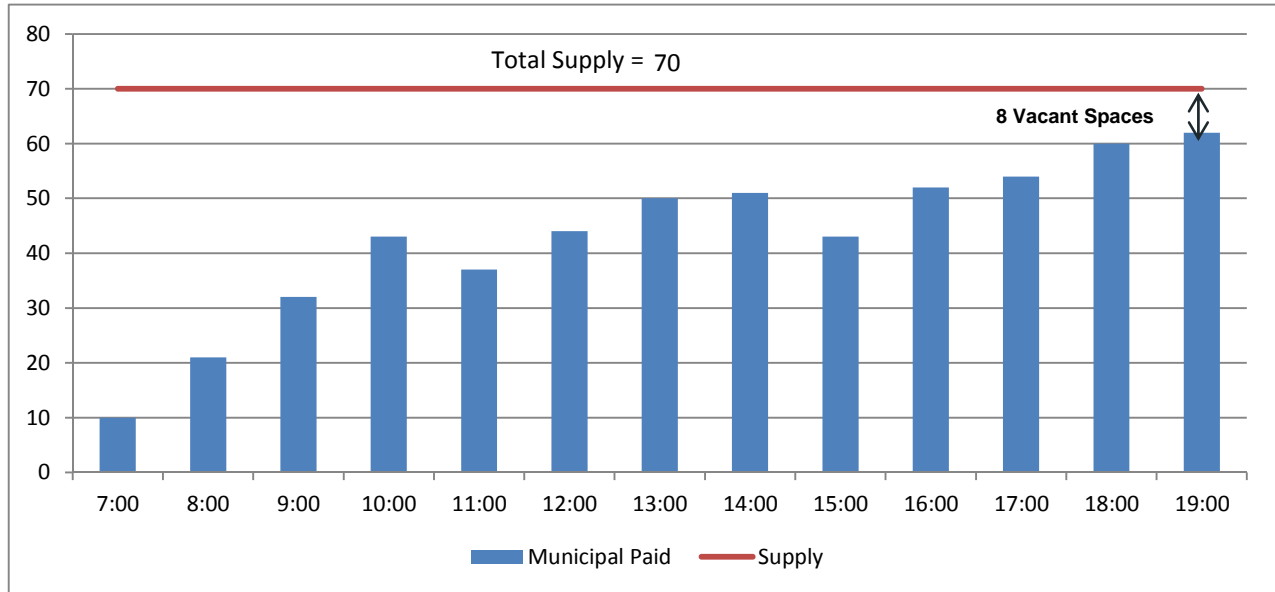
FIGURE 37 — RIVERSDALE – ON-STREET PARKING DEMANDS



4.1.2 Municipal Parking

There are a total of 70 municipal off-street parking spaces available within Riversdale. Demand for these spaces peaked at 7:00pm (62 spaces) with an occupancy of 89%. Parking demands are illustrated in Figure 38.

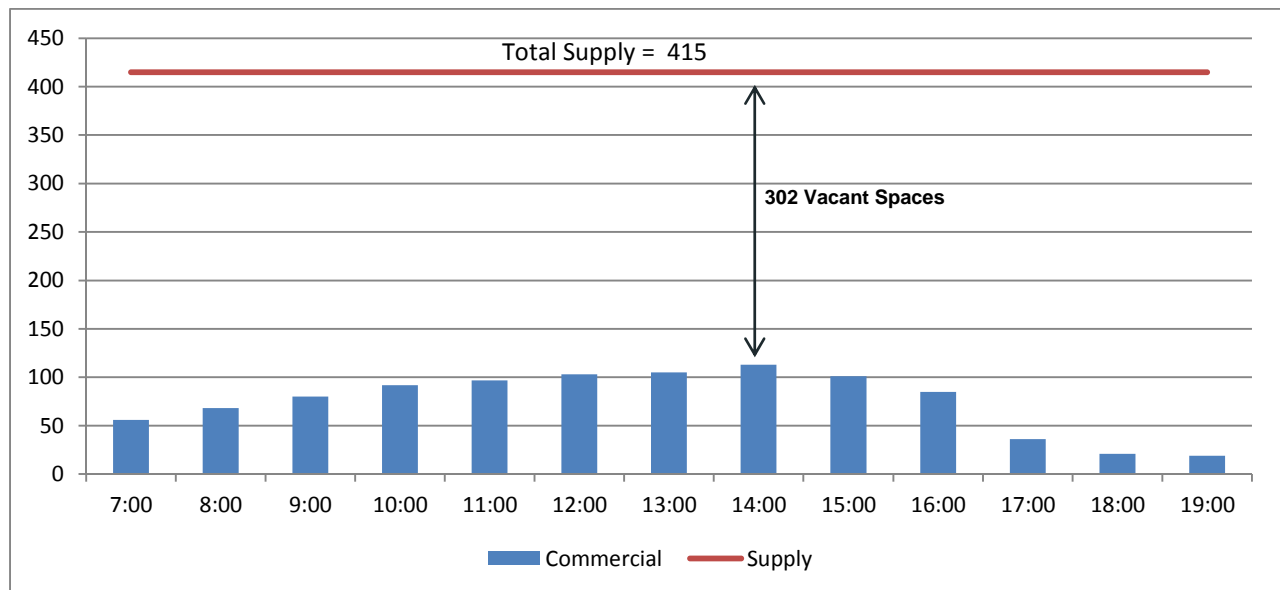
FIGURE 38 — RIVERSDALE – MUNICIPAL OFF-STREET PARKING DEMANDS



4.1.3 Commercial (Paid) Parking

There are a total of 415 commercial (paid) parking spaces available within Riversdale. As illustrated in Figure 39, the peak commercial parking demand was observed at 2:00pm (113 spaces) with an occupancy of 27%. An additional 302 commercial spaces are available during the busiest daytime period.

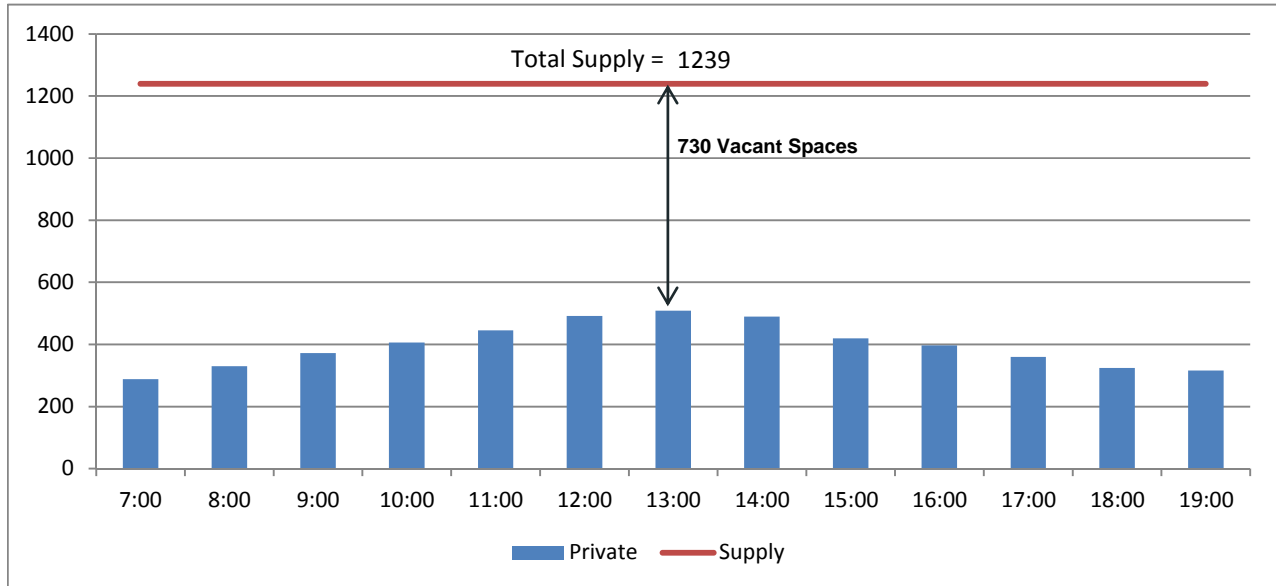
FIGURE 39 — RIVERSDALE – COMMERCIAL (PAID) PARKING DEMANDS



4.1.4 Private Parking

There are a total of 1,239 private parking spaces available within Riversdale. As illustrated in Figure 40, the peak private parking demand was observed at 1:00pm (509 spaces) with an occupancy of 41%. An additional 730 private spaces are available during the busiest daytime period.

FIGURE 40 — RIVERSDALE – PRIVATE PARKING DEMANDS



4.1.5 Riversdale – Key Findings

A summary of the key findings within the Riversdale study area are as follows:

Supply

- There are a total of 2,298 parking spaces located within the Riversdale study area.
- Forty-six percent (46%) of the total parking supply (1,059 spaces) is available for public use (i.e. on-street, municipal off-street and commercial off-street parking).

Demand

- Forty percent (40%) of the total parking supply is in use during the busiest period (1:00 pm).
- Thirty-eight percent (38%) of the total publicly available parking (excluding private parking) is in use during the busiest period (1:00 pm – 402 spaces). An additional 657 spaces are available for public use during the peak period.
- There are an additional 730 private spaces available during the busiest daytime period.
- Municipal off-street parking is well utilized throughout the afternoon and is approaching its practical capacity (i.e. 90-95% occupied) in the evening.

5.0 BROADWAY

The Broadway study area is generally bounded by Saskatchewan Crescent to the north, Eastlake Avenue to the west, 8th Street East to the south and Dufferin Avenue to the east. For the purposes of this study, the study boundaries also include key corridors within the area rather than exact neighbourhood boundaries.

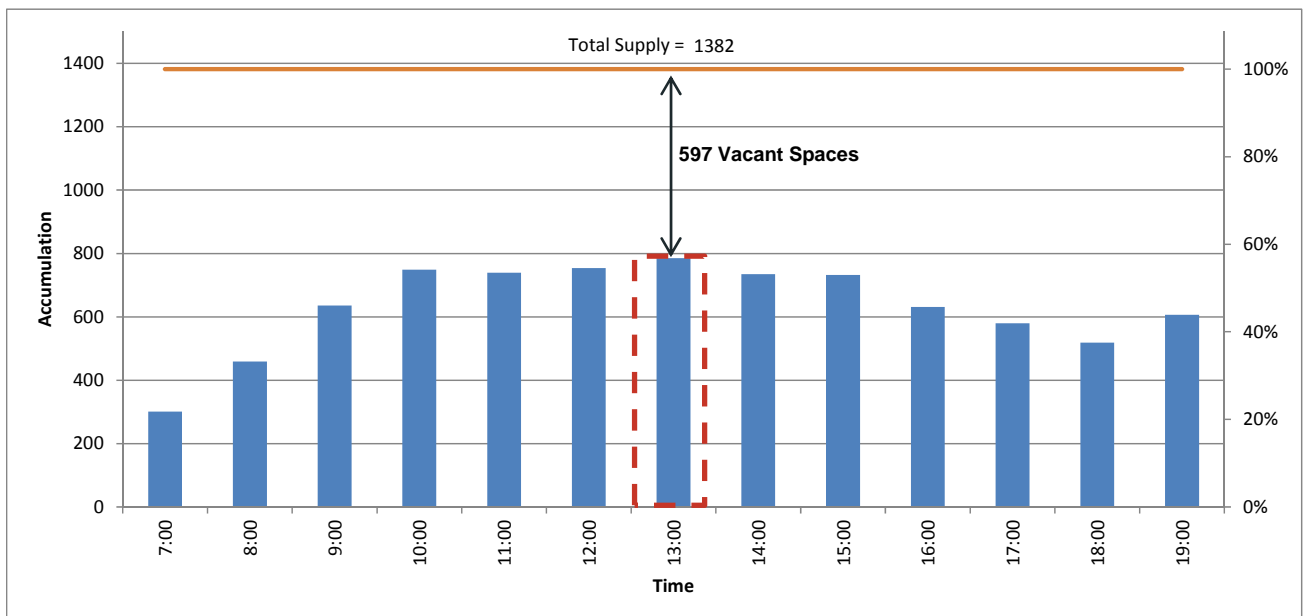
There are a total of 1,382 spaces located within Broadway including 837 on-street parking spaces and 545 private parking spaces. It is notable that this is the one portion of the study area where the municipality plays the predominant role in the supply of parking (i.e. the majority of the area parking supply (70%) is controlled by the City).

TABLE 19 BROADWAY EXISTING PARKING SUPPLY

Parking Type	Supply	
	# spaces	% of total supply
On-Street	837	61%
Private Off-Street	545	39%
Total	1,382	100%
Total Publicly Available Parking (excluding private parking)	837	61%

The peak demand for this area was observed at 1:00pm (785 spaces) with an occupancy of 57%. An additional 597 spaces are available during the busiest daytime period.

FIGURE 41 — BROADWAY — PARKING DEMANDS



Parking demands were further analyzed based on type of parking (on-street and private parking). Table 20 provides an overview of the peak demand observed within the Broadway area for each type of parking available.

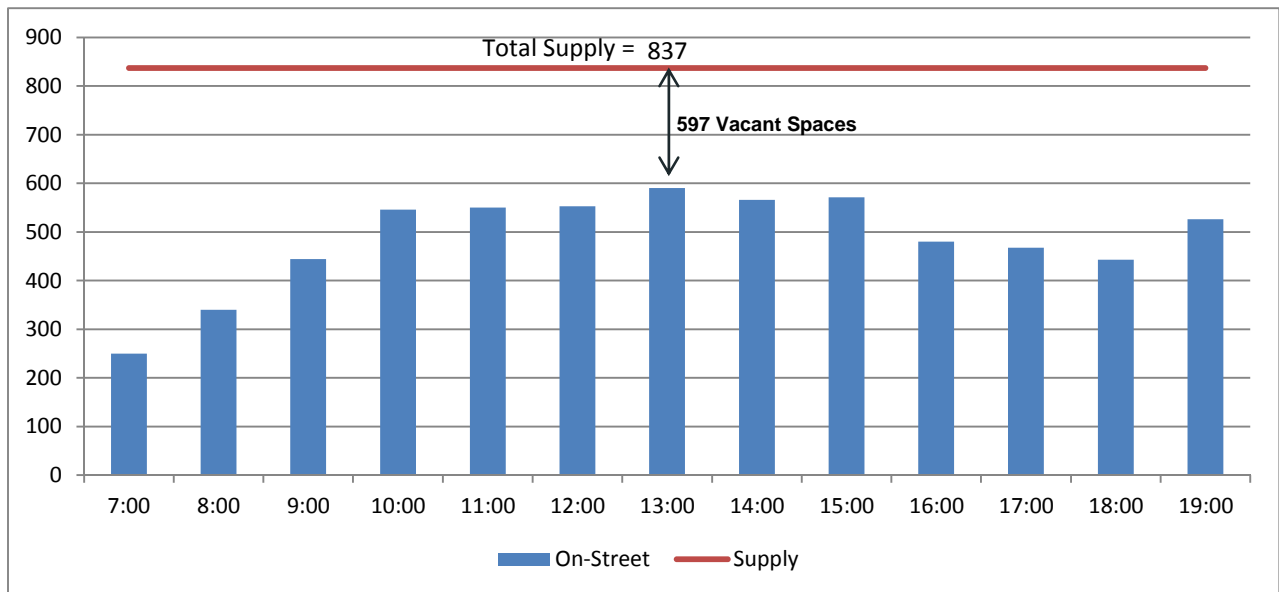
TABLE 20 BROADWAY PEAK PARKING DEMAND BY PARKING TYPE

Parking Type	Supply (# spaces)	Peak Demand			# Vacant Spaces
		Time	# spaces	% occupied	
On-Street	837	1:00 pm	590	70%	247
Private Off-Street	545		195	36%	350
Total	1,382		785	57%	597
Total Publicly Available Parking (excluding private parking)	837	1:00 pm	590	70%	247

5.1.1 On-Street Parking

There are a total of 837 on-street parking spaces available within Broadway. As illustrated in Figure 42, the peak on-street parking demand was observed at 1:00pm (590 spaces) with an occupancy of 70%. An additional 247 on-street spaces are available during the busiest daytime period.

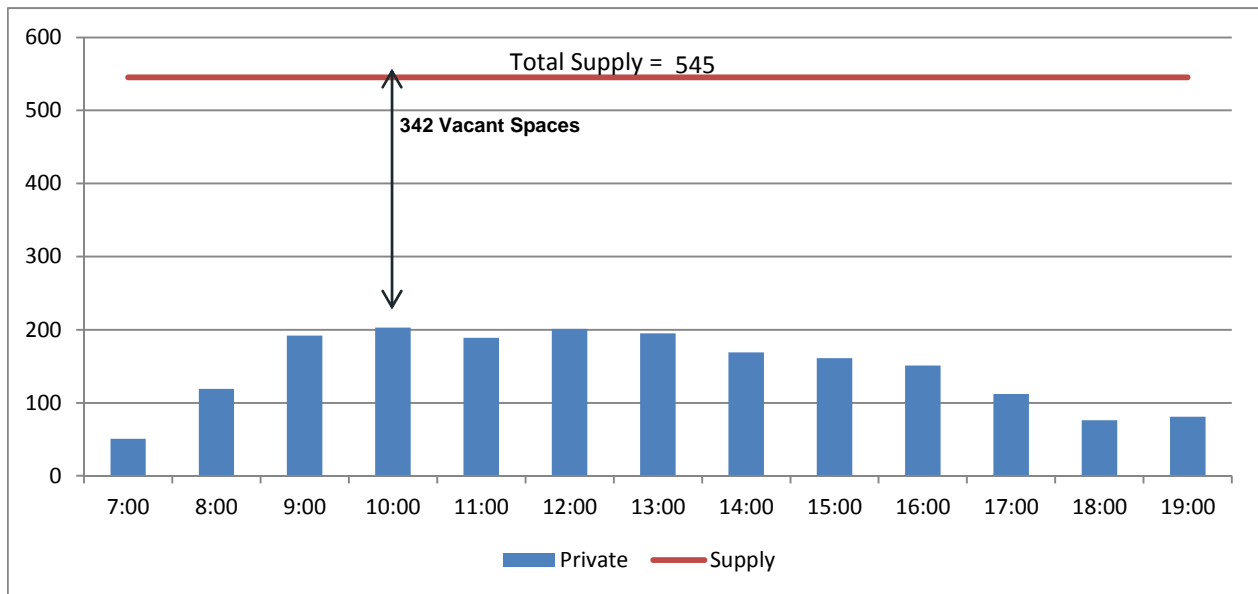
FIGURE 42 — BROADWAY — ON-STREET PARKING DEMANDS



5.1.2 Private Parking

There are a total of 545 private parking spaces available within Broadway. As illustrated in Figure 43, the peak private parking demand was observed at 10:00am (203 spaces) with an occupancy of 37%. An additional 342 private spaces are available during the busiest daytime period.

FIGURE 43 — BROADWAY – PRIVATE PARKING DEMANDS



5.1.3 Broadway – Key Findings

A summary of the key findings within the Broadway study area are as follows:

Supply

- There are a total of 1,382 parking spaces located within the Broadway study area.
- Sixty-one percent (61%) of the total parking supply (837 spaces) is available for public use (i.e. on-street parking).
- It is notable that this is the one segment of the entire study area where the municipality plays the predominant role in the supply of parking (i.e. the majority of the area parking supply (70%) is controlled by the City).

Demand

- Fifty-seven percent (57%) of the total parking supply is in use during the busiest period (1:00 pm).
- Seventy percent (70%) of the total publicly available parking (excluding private parking) is in use during the busiest period (1:00 pm – 590 spaces).
- An additional 247 spaces are available for public use during the peak period.

Capital Project #2407 – North Commuter Parkway and Traffic Bridge – Construction Update

Recommendation

That the information be received.

Topic and Purpose

This report is to provide the Standing Policy Committee on Transportation with an update of the North Commuter Parkway and Traffic Bridge project construction progress.

Report Highlights

1. At the Traffic Bridge, Graham Commuter Partners (GCP) is continuing construction of the new Pier 3 (south in-river pier), and over the next several months will be constructing the new bridge abutments and erecting Span 4 (south bridge span).
2. Final permits necessary to commence in-river construction for the new North Commuter Parkway bridge were received in late March, following which berm construction immediately proceeded and was completed in early April. Over the next several months, GCP will be constructing the new Pier 1 (west pier) and west bridge headslope.
3. Clearing of the roadway alignments for McOrmond Drive and Central Avenue has been completed and topsoil stripping in these areas is ongoing.
4. Intersection upgrades at the intersection of Central Avenue and Attridge Drive and the intersection of Wanuskewin Road and Marquis Drive are planned to be undertaken over the 2016 Spring/Summer construction season.
5. Modifications have been made to the limits of the sound attenuation along Central Avenue based on feedback from the community.

Strategic Goal

Construction of the North Commuter Parkway and Traffic Bridge supports the Strategic Goal of Moving Around as it will optimize the flow of people and goods in and around the city.

Background

At a special meeting held on September 8, 2015, City Council awarded the RFP for the North Commuter Parkway and Traffic Bridge, naming GCP the Preferred Proponent. At its meeting on November 23, 2015, City Council received information regarding the financial details of the Project Agreement (PA) with GCP.

A construction update was last provided to the Standing Policy Committee on Transportation on February 9, 2016.

Report

Design Status

GCP commenced detailed design of the project immediately following execution of the PA. At this time, 60% detailed designs for much of the new infrastructure have been reviewed by the project team and comments returned to GCP for their attention in further developing its designs.

Traffic Bridge Construction Status

Demolition of the south two spans and northernmost span of the Traffic Bridge was successfully conducted in January and February 2016. Over the next five months, GCP will be constructing the new Pier 3 (south in-river pier), north bridge abutment, and south bridge abutment, and erecting Span 4 (south bridge span).

Demolition of the last original bridge span is scheduled for October/November 2016.

North Commuter Parkway Construction Status

Final permits necessary to commence in-river construction for the new bridge were received in late March and berm construction was completed by April 9. Over the next five months, GCP will be constructing the new Pier 1 (west pier) and west bridge headslope.

Clearing of the roadway alignments for McOrmond Drive and Central Avenue has been completed and topsoil stripping in these areas is ongoing. Over the next five months, GCP will be constructing new drainage utilities along Central Avenue, intersection upgrades at the intersection of Central Avenue and Attridge Drive, and intersection upgrades at the intersection of Wanuskewin Road and Marquis Drive.

Sound Attenuation along Central Avenue

Sound attenuation was included along the east side of Central Avenue from Somers Road at the north of Silverspring neighbourhood and extending south to the 600 block of Haslam Crescent. A petition has been received from residents on the 400, 500 and 600 blocks of Haslam Crescent stating their opposition to the construction of a sound attenuation wall on the berm near their homes. The Administration has reviewed this request and will modify the southern limit of the wall to end near the 300 block of Haslam Crescent.

Public and/or Stakeholder Involvement

Stakeholder involvement will be required at various stages of the project. Three public open house events have been completed since December 2015. Community events will be planned in order to engage and educate the citizens. The Administration will coordinate these activities with applicable stakeholders as necessary.

Communication Plan

The PA includes various communication requirements to be completed by GCP during both the construction and operating periods of the project. In addition, a communications agency has been retained through the Technical Advisor for the

project, and a phased-in communications plan has been developed for the life of the project. Webpages for the North Commuter Parkway and Traffic Bridge have been updated and various community events will be planned in order to engage and educate citizens. Regular project updates are being provided to the general public.

Financial Implications

Capital Project #2407 has been approved for funding in the amount of \$238.8M.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

The North Commuter Parkway and Traffic Bridge project is scheduled for substantial completion in October 2018.

Public Notice

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

Report Approval

Written &

Reviewed by: Dan Willems, Director of Major Projects

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

TRANS DW – CP2407 – NCP and TB – Construction Update – May 9, 2016

Montgomery Place Neighbourhood Traffic Review

Recommendation

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

1. That the Neighbourhood Traffic Review for the Montgomery Place neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process;
2. That the speed limit on all local roads within the Montgomery Place neighbourhood be reduced from 50 kph to 40 kph; and
3. That the City Solicitor be requested to prepare the appropriate bylaw amendment to Bylaw No. 7200, The Traffic Bylaw.

Topic and Purpose

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

Report Highlights

1. A Neighbourhood Traffic Plan for the Montgomery Place 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.
2. A speed limit reduction is recommended on the residential local roads in Montgomery Place neighbourhood.

Strategic Goal

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

Background

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

Report

The development and implementation of the 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;

Montgomery Place Neighbourhood Traffic Review

3. Present the draft traffic plan to the neighbourhood at a follow-up meeting; circulate the plan to other civic divisions for feedback; make adjustments as needed and present the plan to City Council for adoption; and
4. Implement the proposed measures in a specific time frame, short-term (1 to 2 years), medium-term (3 to 5 years), or long-term (more than 5 years).

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

Neighbourhood Traffic Plan

The Administration is recommending the following modifications to improve safety in the Montgomery Place neighbourhood:

- 40 kph residential speed limit on neighbourhood local streets
- Relocate bus stop
- Speed display board
- 20 kph speed signs
- 40 kph speed signs
- Bollards (to restrict driving over curb)
- Standard crosswalks
- Zebra crosswalks
- Parking restrictions
- Stop signs
- Sidewalk
- Speed enforcement
- Wayfinding signs for the Landfill
- Additional traffic counts (spring 2016)
- Community Pace Car Program

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, posted speed limit
Medium-term (3 to 5 years)	Permanent traffic calming devices, realignment, sidewalks (in some cases), major intersection reviews
Long-term (5 years plus)	Roadway realignment, sidewalks

The Montgomery Place NTR is included in Attachment 1.

If approved by City Council, all of the temporary traffic calming measures will be installed in 2016. The annual report on the NTRs will provide an update on the status of converting the temporary measures to a permanent condition.

Speed Limit Reduction

A review of the traffic and neighbourhood characteristics identified that a speed limit reduction in the Montgomery Place neighbourhood would help to improve the overall safety for motorists and pedestrians. The cross-section for all inner streets are unique to the City of Saskatoon because they have ditches for drainage, and therefore, do not allow space for sidewalks. In most cases pedestrians are forced to walk on the street with vehicular traffic.

The average 85th percentile speeds (the speed at which 85% of the vehicles are travelling at or below) measured on all inner streets in Montgomery Place neighbourhood was 47.5 kph (excluding school zone times), which is higher than the city-wide average for local residential streets which was 44.1 kph.

Reducing the speed limit in Montgomery Place will not have a significant impact on the rest of the city as it is separated from adjacent neighbourhoods by the rail line on the south (11th Street on the north and Circle Drive South on the east) with very few access points.

Options to the Recommendation

“Share the Road” advisory signs are recommended if the 40 kph residential speed limit is not approved by City Council. The Administration recommends reducing the speed limit as it will be more effective in reducing speeds in this neighbourhood.

Public and/or Stakeholder Involvement

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

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

Communication Plan

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

Environmental Implications

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

Policy Implications

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

Financial Implications

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

Category	2016	Beyond 2016
Speeding/Shortcutting	\$ 7,700	\$ 5,000
Pedestrian Safety	5,850	-
Intersection Safety	10,000	-
Parking Signs	3,000	-
Sidewalk	-	104,800
TOTALS	\$26,550	\$109,800

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

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

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 2016 construction season.

Public Notice

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

Attachment

1. Montgomery Place Neighbourhood Traffic Review, April 12, 2016

Report Approval

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

CITY OF SASKATOON
2015 NEIGHBOURHOOD TRAFFIC REVIEWS

Montgomery Place

April 12, 2016

Montgomery Place Neighbourhood Traffic Review

April 12, 2016

Authorization

Prepared By:



Justine Nyen, P.Eng.,
Transportation Engineer

Checked By:



Shirley Matt, P.Eng.,
Senior Transportation Engineer

Acknowledgements

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

- Montgomery Place residents
- Montgomery Place Community Association
- Saskatoon Police Service
- Saskatoon Light & Power
- Saskatoon Fire Department
- City of Saskatoon Environmental Services
- City of Saskatoon Transit
- City of Saskatoon Planning & Development
- City of Saskatoon Public Works
- City of Saskatoon Community Standards
- City of Saskatoon Transportation
- Great Works Consulting
- Councillor Pat Lorje

Cover Photograph Kara Toews

EXECUTIVE SUMMARY

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

A public meeting was held in June of 2015 to identify traffic concerns and potential solutions within the Montgomery Place neighbourhood. As a result of the meeting a number of traffic assessments were completed to confirm and quantify the concerns raised by the residents. Based on the residents input and the completed traffic assessments, a Traffic Management Plan was developed and presented to the community at a follow-up meeting held in December 2015.

A summary of recommended improvements for the Montgomery Place 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.

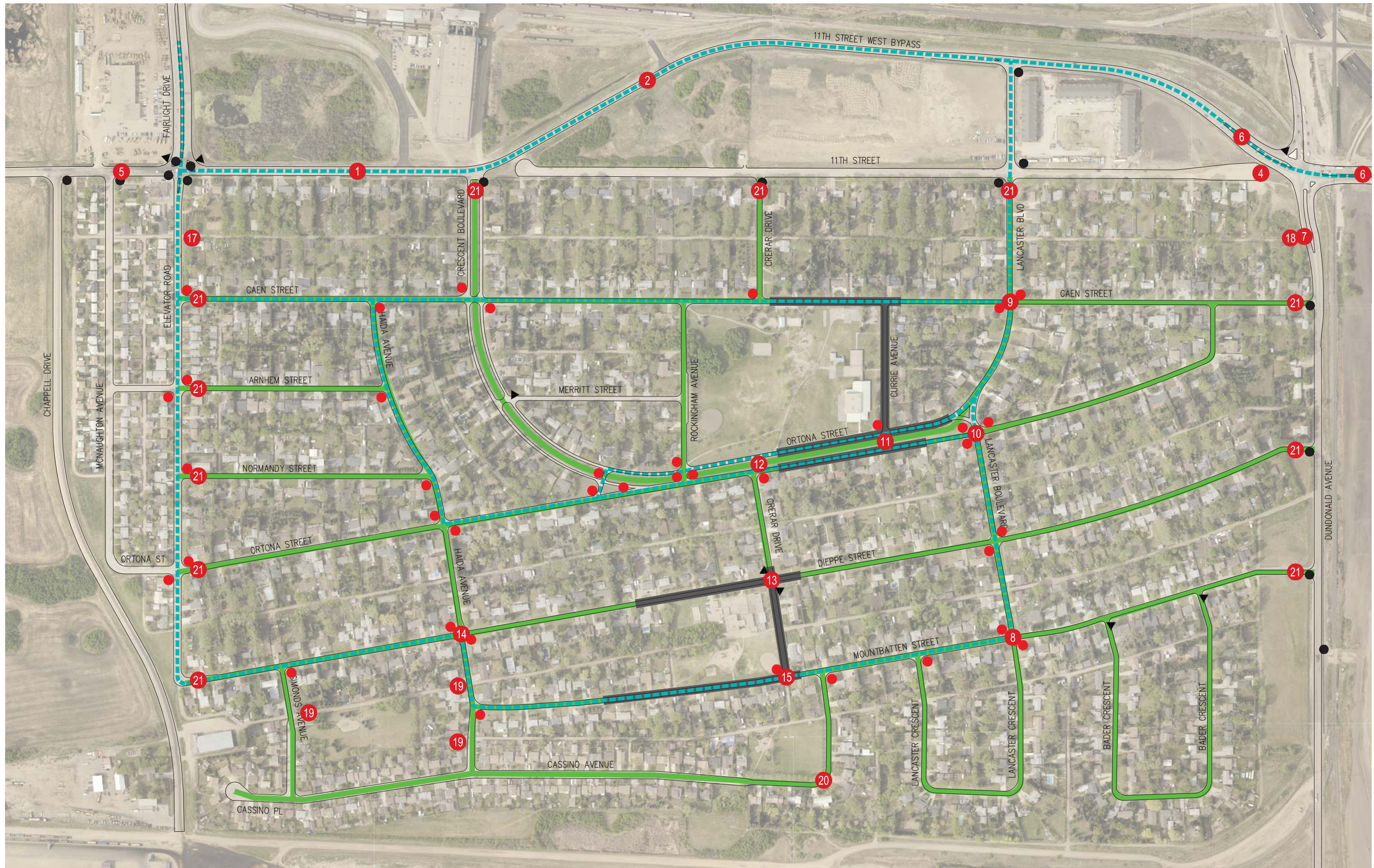
The resulting proposed Montgomery Place Traffic Management Plan is illustrated in **Exhibit ES-1**.

Table ES-1: Montgomery Place Neighbourhood Recommended Improvements

Item	Location	Recommendation	Reason
1	11 th Street Bypass (130m west of Crescent Boulevard)	50 kph speed sign (facing westbound)	Reduce driver speed (ensure drivers are aware of speed limit)
2	11 th Street Bypass (250m east of Crescent Boulevard)	Speed display board (facing westbound)	Reduce driver speed (ensure drivers are aware of speed limit)
3	11 th Street Bypass (Lancaster Boulevard to Chappell Drive)	Enforcement	Reduce driver speed
4	11 th Street & Cul-de sac on east end	Bollards/posts	Restrict driver access onto 11 th Street Bypass/Circle Drive
5	11 th Street (west of convenience store next to Fairlight Drive)	"No parking" signs	Enhance sightlines
6	11 th Street (west of Dundonald Avenue & east of Circle Drive)	Wayfinding signs for Landfill	Enhance guidance & reduce number of drivers coming into neighbourhood
7	Dundonald Avenue between 11 th Street & Caen Street	Sidewalk (on west side)	Improve pedestrian safety
8	Mountbatten Street & Lancaster Boulevard	"No parking" signs on southeast corner to indicate 10m from intersection	Enhance sightlines
9	Caen Street & Lancaster Boulevard	Stop signs & standard crosswalk	Improve pedestrian & intersection safety
10	Ortona Street & Lancaster Boulevard	Standard crosswalk & move bus stop from centre of intersection	Improve pedestrian & intersection safety
11	Ortona Street & Currie Avenue	"No Stopping" signs at centre of intersection along median & zebra crosswalk on west side	Enhance sightlines & improve pedestrian & intersection safety
12	Ortona Street & Crerar Drive	Zebra crosswalk, extend park pathway to intersection & move mailbox	Improve pedestrian & intersection safety
13	Dieppe Street & Crerar Drive	Zebra crosswalks & "No parking" signs	Improve pedestrian safety & enhance sightlines
14	Dieppe Street & Haida Avenue	Traffic count in spring 2016	Intersection safety (determine if stop signs are warranted)
15	Crerar Drive & Mountbatten Street	Traffic count in spring 2016	Intersection & pedestrian safety (determine if crosswalk & traffic control signage is warranted)
16	All intersections along bus route	Change yield signs to stop signs	Improve intersection safety
17	Back lane south of 11 th Street (access from Elevator Road)	20 kph speed sign	Reduce driver speed
18	Back lane south of 11 th Street (access from Dundonald Avenue)	20 kph speed sign	Reduce driver speed

Table ES-1 Continued

Item	Location	Recommendation	Reason
19	Back lane accesses near Lt. Gen. GG Simonds Park	20kph speed signs	Reduce driver speed
20	Cassino Avenue at corner near Lt. Col. D. Walker Park	"No parking" signs	Allow adequate roadway width
21	All accesses from Dundonald Avenue, Elevator Road, & 11 th Street	"Share the Road" sign (pedestrian)	Improve safety for pedestrians walking on road (due to lack of sidewalks)
22	Neighbourhood-wide	Pace Car Program (Community-driven)	Reduce speed
23	All inner neighbourhood streets (bound by 11 th Street, Dundonald Avenue, Elevator Road)	Reduce speed limit to 40kph	Reduce speed



LEGEND

- EXISTING STOP SIGN
- ▼ EXISTING YIELD SIGN
- BUS ROUTE
- █ SCHOOL ZONE
- Ⓜ EXISTING TRAFFIC SIGNAL
- REDUCED 40KPH SPEED LIMIT
- PROPOSED STOP SIGN

Exhibit ES-1

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1 INTRODUCTION

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

The Montgomery Place neighbourhood is located on the west side of the South Saskatchewan River and is bound by the Canadian National (CN) rail yards to the south, Circle Drive to the east, 11th Street to the north, and Chappell Drive to the west. The area use is mostly residential, with elementary schools on Currie Avenue (Montgomery School) and Crear Drive (St. Dominic School).

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

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

This report present the study findings and recommendations.

2 IDENTIFYING ISSUES, CONCERNS, AND POSSIBLE SOLUTIONS

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

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

2.1 Concern 1 – Speeding and Shortcutting

Shortcutting occurs when non-local traffic passes through the neighbourhood on streets that are designed and intended for low volumes of traffic (i.e. local streets). In the case of Montgomery Place, the bordering arterial streets (11th Street) are designated to accommodate larger traffic volumes.

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

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

- Ortona Street:
 - Around the school zone between Currie Avenue and Rockingham Avenue
 - Around the curve between Lancaster Boulevard and Currie Avenue
 - Shortcutting through parks (Ortona Street & Rockingham Avenue)
- Caen Street:
 - Near Ortona Street
 - 3200 block (between Lancaster Boulevard & Crerar Drive)
- Mountbatten Street:
 - Dundonald Avenue to Haida Avenue
 - South of St. Dominic School, west of Crerar Drive (speeding, including city buses, especially when school zone is not in effect)
- Dieppe Street:
 - long stretch with no stops
 - Taking corner fast onto Elevator Road

- Crerar Drive: narrow road south of Ortona Street
- Casino Avenue:
 - Speeding at 8am and 8pm
 - Speeding around curve near park
 - Cars kick up asphalt onto lawns near curve
- Currie Avenue: congested in front of school
- Crescent Boulevard: speeding past school, around curve
- Dundonald Avenue
- Rockingham Avenue
- 11th Street: speeding near Fairlight Drive
- Back lanes:
 - South of 11th Street
 - West of Dundonald Avenue
- 11th Street at cul-de-sac near Dundonald Avenue: drivers are going over curbs/driving through cul-de-sac to get to 11th Street Bypass
- Vacant land between Elevator Road & Chappell Drive: cutting across
- Neighbourhood-wide:
 - Buses speeding
 - East-west streets are of most concern for speeding; long stretches with no stops; drivers are avoiding 11th Street because of police setting up speed traps
 - Cars racing

Proposed solutions identified by residents:

- Add trees or large rocks to eliminate shortcutting through parks
- Install speed bumps
- Alternate direction of yield signs
- Install concrete medians
- Add centre lines at Elevator Road & Dieppe Street
- One-way street (Crerar Drive south of Ortona Street; Currie Avenue going southbound)
- Install signs indicating “Not a Through Street” (Dundonald Avenue)
- Extend school zone (at Montgomery School to include Rockingham Avenue)
- 11th Street at cul-de-sac near Dundonald Avenue – install barricades
- Implement 40 kph speed limit
- Pilot project for reduce speed limit
- Enforcement
- Set up enforcement in resident driveways to catch speeders
- Install wayfinding signs for the Landfill. Many drivers drive into Montgomery looking for landfill and have to do U-turns

2.2 Concern 2 – Pedestrian Safety

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

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

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

Neighbourhood concerns regarding pedestrian safety were at the following locations:

- Ortona Street & Currie Avenue: dangerous crossing, poor visibility
- Mountbatten Street & Lancaster Boulevard: crossing improvements needed
- Dieppe Street & Crerar Drive: drivers not stopping for pedestrians
- Dundonald Avenue: pedestrians walking in curb lane because there's no sidewalks
- Rockingham Avenue: kids walking on street
- Neighbourhood-wide:
 - Missing sidewalks
 - Missing crosswalks
 - Potholes cause drivers to swerve; causes concerns for pedestrians on road

Proposed solutions identified by residents:

- Ortona Street at Crerar Drive: Install pedestrian lights
- Dieppe Street & Crerar Drive: Install crosswalk signs or possibly striped crosswalk; install pedestrian device
- Dieppe Street & Haida Avenue: Install standard or zebra crosswalk
- Dieppe Street & Lancaster Boulevard: Better marked crosswalks
- Dundonald Avenue: Multi-use pathway needed on west side from 11th Street to Mountbatten Street (connect to Meewasin Trail)
- Neighbourhood-wide:
 - Reduce speed limit due to lack of sidewalks
 - Public education to walk facing traffic (on road due to no sidewalks)
 - Change school zone times from dawn to dusk rather than certain hours; extend to all year round
 - School should provide insert in newsletters to encourage walking on one side of the street
 - Implement 30 kph speed limit when passing pedestrians

2.3 Concern 3 – Traffic Control

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

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

Neighbourhood concerns regarding traffic controls were at the following locations:

- Mountbatten Street & Lancaster Boulevard: accidents
- Dieppe Street & Haida Avenue: near misses
- Lancaster Boulevard: no one yields, collisions, near misses
- Lancaster Boulevard & Ortona Street: confusing intersection
- Dundonald Avenue & Mountbatten Street: road has poor visibility
- 11th Street & Fairlight Drive / Elevator Road
- 11th Street & Crescent Boulevard: chevron signs obstruct driver's view
- East-west streets: no one obeys yield signs

Proposed solutions identified by residents:

- Alternate direction of signs:
 - Ortona Street & Currie Avenue
 - Ortona Street & Rockingham Avenue
 - Dieppe Street & Crerar Drive
 - Dieppe Street & Haida Avenue

- Install four-way stop:
 - Caen Street & Lancaster Boulevard
 - Mountbatten Street & Lancaster Boulevard
 - Dieppe Street & Crerar Drive
 - Dieppe Street & Haida Avenue
 - Lancaster Boulevard & Caen Street

2.4 Concern 4 – Parking

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

Neighbourhood concerns regarding parking were at the following locations:

- Parking obstructs drivers sightlines:
 - Mountbatten Street & Lancaster Boulevard (including commercial vehicles parking)
 - Dieppe Street in front of St. Dominic School (west of Crerar Drive)
 - Crescent Boulevard
 - 11th Street at McNaughton Avenue & Elevator Road (large trucks)
- Dieppe Street in front of St. Dominic School (west of Crerar Drive): improve parking
- Cassino Avenue: parking on curve makes road narrow (one-way)
- Neighbourhood-wide:
 - Difficult to park when residents rope off, place rocks, or barricade in front of property
 - On-street parking narrows road, restricting traffic flow

Proposed solutions identified by residents:

- Dieppe Street in front of St. Dominic School (west of Crerar Drive): implement pick-up/drop-off zone; install a paved bus lay-by for school
- Montgomery School: implement parking and pick-up/drop-off area at back of school; inside lane for buses
- Crescent Boulevard: should be no parking on boulevard

2.5 Concern 5 – Maintenance

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

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

Neighbourhood concerns regarding maintenance were:

- Lancaster Blvd – icy conditions make road dangerous
- Potholes (cause drivers to swerve)
- 11th Street near Elevator Rd – poor road condition/potholes
- Trees or hedges obstruct driver's view at intersections
- Snowbanks in the ditches require pedestrians to walk on the street

2.6 Concern 6 – Major Intersections & Corridors

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

Neighbourhood concerns regarding major intersections:

- 11th Street Bypass & Lancaster Boulevard: merge lane is poor because sound wall obstructs drivers view; can't see until half way through intersection; slowing down flow eastbound due to right turn
- 11th Street / 11th Street Bypass: increased traffic due to Circle Drive South; semi traffic has increased; increased traffic noise
- 11th Street & Dundonald Avenue: difficult to turn left because your crossing 3 lanes of traffic and can't tell who's going straight or turning; southbound right turn can't see because of southbound through lanes

Proposed solutions identified by residents:

- 11th Street / 11th Street Bypass:
 - Should be extended to bypass original 11th Street from the 3100 block to the 3400 block.
 - Re-align 11th Street to the north, add another lane for "Ag Pro"
 - Re-align roadway west of Viterra
 - Bump over 11th Street to the north and make existing 11th Street a private road
 - Lancaster Boulevard –merge lane needed to continue eastbound
 - Eliminate truck route
 - Crescent Boulevard – painted left turn lane (for southbound) so traffic doesn't get backed up; add merge lane for right turn (eastbound)
 - Investigate truck traffic – trucks should only be using route to get to Viterra
 - Increase height of sound wall

2.7 Concern 6 – Trains

Montgomery Place is enclosed by railway lines on the north, east, and south. The two major connections into Montgomery Place via 11th Street are Circle Drive South and Fairlight Drive. Both of these connections have railway crossings. Residents expressed concerns for traffic delays due to trains.

Neighbourhood concerns regarding trains:

- Traffic blockage by trains: sometimes both accesses are blocked at the same time
- Trains cause long queues
- 11th Street & Circle Drive South/Dundonald Avenue: red light is on with a train but straight and right lanes are safe to go but cannot (south & west)
- Wait times up to 40 minutes around 4:30pm, completely blocks Circle Drive and Dundonald Avenue
- Trains constantly moving back and forth

Proposed solutions identified by residents:

- Circle Drive and Fairlight Drive need to reconnect or make a south connection out of Montgomery Place onto the freeway to bypass trains and allow emergency vehicles
- Trains need to take and drop off cars at a higher efficiency

3 ASSESSMENT

3.1 Methodology

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

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

The following sections provide details on the data collected for traffic volumes (peak hours, daily, and weekly), travel speed, and pedestrian movements. A map of the traffic data collection is shown in **Appendix B**.

3.2 Travel Volumes and Travel Speeds

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

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

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

Travel speeds were measured to determine the 85th percentile speed, which is the speed at which 85 percent of vehicles are travelling at or below. The speed limit in the Montgomery Place neighbourhood is 50 kph, except for school zones where the speed limit is 30 kph from September and June, 8:00am to 5:00pm, excluding weekends.

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

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

Street	Between	Class	Average Daily Traffic (vpd)	Speed (kph)
Elevator Road	11 th Street & Caen Street	Local	1,988	50.4
Ortona Street	Currie Avenue & Crear Drive (school zone)		816	school= 36.6; regular= 49.6
Ortona Street	Haida Avenue & Crescent Boulevard		278	46.4
Dieppe Street	Haida Avenue & Crerar Drive (school zone)		576	school= 30.1; regular= 41.4
Crescent Boulevard	Caen Street & Merritt Street		522	50.2
Mountbatten Street	Haida Avenue & Crerar Drive (school zone)		505	school= 36.5; regular= 48.4
Caen Street	Lancaster Boulevard & Crerar Drive (school zone)		445	school= 39.7; regular=49.1
Cassino Avenue	Haida Avenue & Mountbatten Street		244	47.2
11 th Street	Fairlight Drive & Crescent Boulevard		Arterial	6,610

3.3 Traffic Control Assessments

Yield, stop, and all-way stop controls need to meet City of Saskatoon Council Policy C07-007 *Traffic Control – Use of Stop and Yield Signs*, January 26, 2009.

Turning movement counts were completed to determine the need for an all-way (i.e. three-way or four-way) stop control. Criteria outlined in Council Policy C07-007 that may warrant an all-way stop include a peak hour count greater than 600 vehicles or an ADT greater than 6,000 vehicles per day or when five or more collisions are reported in the last twelve month period and are of a type susceptible to correction by an all-way stop control.

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

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

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

Table 3-3: All-Way Stop Assessments

Location	Peak Hour Count	Average Daily Traffic (vpd)	# of Collisions within most recent 12 months	% of Traffic from minor street	All-Way Stop Warranted
Ortona Street & Crerar Drive	120	1,220	0	21%	All-Way Stop Not Warranted
Ortona Street & Currie Avenue	227	2,340	0	8%	
Caen Street & Lancaster Boulevard	317	3,770	0	29%	
Mountbatten Street & Lancaster Boulevard	185	2,540	0	47%	
Dieppe Street & Crerar Avenue	133	1,350	0	29%	
Dieppe Street & Haida Avenue	111	1,160	0	49%	
Ortona Street & Lancaster Boulevard	315	3,900	0	26%	

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

3.4 Pedestrian Assessments

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

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

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

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

Table 3-4: Pedestrian Assessment

Location	Number of Pedestrians Crossing During Peak Hours	Results
Ortona Street & Crerar Drive	54	Pedestrian Device Not Warranted
Ortona Street & Currie Avenue	84	
Caen Street & Lancaster Boulevard	29	
Mountbatten Street & Lancaster Boulevard	28	
Dieppe Street & Crerar Drive	60	
Dieppe Street & Haida Avenue	20	
Lancaster Boulevard & Ortona Street	32	

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

3.5 Collision Analysis

The most recently available five year collision statistics (2009 to 2013) were provided by SGI. High-collision locations, typically noted as the locations with an average of two or more collisions per year, were reviewed in more depth to identify trends. These include:

- 11th Street & Fairlight Drive
- Mountbatten Street & Dundonald Avenue
- 11th Street & Lancaster Boulevard

There were no collisions involving pedestrians recorded between 2009 and 2013. Details of the collision analysis are provided **Appendix E**.

4 PLAN DEVELOPMENT

4.1 Methodology

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

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

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

4.2 Speeding and Shortcutting

As stated in Council Policy C07-007 *Traffic Control – Use of Stop and Yield Signs*, January 26, 2009, “stop signs are not to be used as speed control devices.”

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

Table 4-1: Recommended Speeding and Shortcutting Improvements

Location	Recommendation	Justification
11 th Street Bypass (130m west of Crescent Boulevard)	50kph speed sign (facing westbound)	Reduce driver speed (ensure drivers are aware of speed limit)
11 th Street Bypass (250m east of Crescent Boulevard)	Speed display board (facing westbound)	Reduce driver speed (ensure drivers are aware of speed limit)
11 th Street Bypass (Lancaster Boulevard to Chappell Drive)	Enforcement	Reduce driver speed & promote awareness
11 th Street & Cul-de sac on east end	Bollards/posts	Restrict driver access onto 11th Street Bypass/Circle Drive
11 th Street (west of Dundonald Avenue & east of Circle Drive)	Wayfinding signs for Landfill	Enhance guidance & reduce number of drivers coming into neighbourhood
Back lane south of 11 th Street (access from Elevator Road)	20 kph speed sign	Reduce driver speed
Back lane south of 11 th Street (access from Dundonald Avenue)	20 kph speed sign	Reduce driver speed
Back lane accesses near Lt. Gen. GG Simonds Park	20 kph speed signs	Reduce driver speed near park
Neighbourhood-wide	Pace Car Program (Community-driven)	Reduce speed
All inner neighbourhood streets (bound by 11 th Street, Dundonald Avenue, Elevator Road)	Reduce speed limit to 40 kph	Reduce speed

At the follow-up meeting residents were presented with a plan to install pinch points at key locations in the neighbourhood. However, the pinch points were generally not supported by the residents, and the recommendation was removed from the plan.

During the public consultation a majority of residents expressed interest in implementing a 40kph reduced speed limit throughout the neighbourhood. The cross-section for all inner neighbourhood streets in Montgomery Place (i.e. area bound by Elevator Road, 11th Street, Dundonald Avenue, & the rail yard) are rural in nature, which is unique within the City of Saskatoon for a local street, and include small ditches for drainage. No sidewalks are included, and there is no space to retrofit the cross-section and add sidewalks. Accordingly, in most cases pedestrians are forced to walk on the street with vehicular traffic. No other neighbourhood in Saskatoon has a similar condition.

Pedestrian statistics state the chance of survival of a collision with a vehicle travelling at 40 kph versus 50 kph is twice as likely. It should be noted there were no collisions involving pedestrians in the most recent collision history provided by SGI (2009 to 2013).

The average 85th percentile speeds measured on all inner neighbourhood streets in Montgomery Place was 47.5 kph (i.e. excluding school zone times). The Administration reviewed all speed studies completed on local streets since 2013 as part of the Neighbourhood Traffic Reviews and the average 85th percentile speed was 44.1 kph.

The location of Montgomery Place is ideal for a reduced speed limit, as it is located in the far southwest end of the city, separated from adjacent neighbourhoods by the rail line on the north and Circle Drive on the east, with very few accesses and no through traffic.

It should be noted that signs are not physical devices that will force drivers to reduce their speed. Significant enforcement is required for a reduced speed limit to be effective. A request will be sent to Saskatoon Police Service to provide enforcement; however this is at their own discretion.

The Administration does not recommend a pilot project, or testing period, of a 40kph speed limit. The recommendation is for a permanent change to 40 kph.

It should also be noted that if the 40 kph speed limit is approved, the “Share the Road” signs (listed in **Table 4.2**) may be removed from the plan.

For more information on the Pace Car Program refer to the City of Saskatoon’s Traffic Calming Guidelines Manual, 2016.

4.3 Pedestrian Safety

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

Table 4-2: Recommended Pedestrian Safety Improvements

Location	Recommendation	Justification
Dundonald Avenue between 11 th Street & Caen Street	Sidewalk on west side	Improve pedestrian safety
Caen Street & Lancaster Boulevard	Standard crosswalk on north side	Improve pedestrian safety (school route)
Ortona Street & Lancaster Boulevard	Standard crosswalk on south side & move bus stop from centre of intersection	Improve pedestrian (near school)
Ortona Street & Currie Avenue	Zebra crosswalk on west side	Improve pedestrian safety (near school)
Ortona Street & Crerar Drive	Zebra crosswalk on east side, extend park pathway to intersection & move mailbox	Improve pedestrian safety (school route)
Dieppe Street & Crerar Drive	Zebra crosswalks on east & west sides	Improve pedestrian safety (near school)
All accesses from Dundonald Avenue, Elevator Road, & 11 th Street	"Share the Road" sign (pedestrian)	Improve safety for pedestrians walking on road (due to lack of sidewalks)

Poor street lighting at the intersection of Ortona Street & Lancaster Boulevard was also identified as a pedestrian safety concern. The area was reviewed by Saskatoon Light & Power and they have committed to the installation of an additional street light in spring 2016.

4.4 Traffic Control

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

Table 4-3: Recommended Traffic Control Improvements

Location	Recommendation	Justification
All intersections along bus route	Change yield signs to stop signs	Improve intersection safety (according to Policy C07-007: Traffic Control - Use of Stop & Yield Signs, stop signs are warranted along bus routes)

4.5 Parking Improvements

As per Traffic Bylaw 7200, vehicles are not to be parked within 10 metres of the intersection unless otherwise indicated by a sign or pavement markings. This is to ensure adequate sightlines for a driver entering the roadway from the side streets. The recommended improvements to parking that will improve the level of safety are detailed in **Table 4-4**.

Table 4-4: Recommended Parking Improvements

Location	Recommended Improvement	Justification
11 th Street (west of convenience store next to Fairlight Drive)	"No parking" signs	Restrict large trucks from parking on 11 th Street near convenience store & Fairlight Drive to enhance sightlines
Mountbatten Street & Lancaster Boulevard	"No parking" signs on southeast corner (Mountbatten Street side)	Enhance sightlines (as per Traffic Bylaw 7200)
Ortona Street & Currie Avenue	"No Stopping" signs at centre of intersection along median	Restrict drivers from parking on centre median to enhance sightlines
Dieppe Street & Crerar Drive	"No parking" signs on all corners (Dieppe Street side)	Enhance sightlines (as per Traffic Bylaw 7200)
Cassino Avenue at corner near Lt. Col. D. Walker Park	"No parking" signs	Allow adequate roadway width

4.6 Additional Traffic Counts – Spring 2016

During the traffic data collection (June 2015 to October 2015) there was construction on Dundonald Avenue. Residents were concerned that the data collected at a few locations was not accurate. Therefore these locations will be counted again in spring 2016. The locations for additional counts are listed in **Table 4-5**.

Table 4-5: Recommended Parking Improvements

Location	Recommendation	Justification
Dieppe Street & Haida Avenue	Traffic count in spring 2016	Intersection safety (determine if stop signs are warranted)
Crerar Drive & Mountbatten Street	Traffic count in spring 2016	Intersection & pedestrian safety (determine if crosswalk & traffic control signage is warranted)

4.7 Major Intersection Reviews & Corridor Studies

Typically the mandate for the Neighbourhood Traffic Management Reviews is to focus on neighbourhood streets such as local roads and collector roads. As almost all neighbourhoods are bound by arterial streets, such as 11th 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. Also arterial streets are typically on the border between neighbourhoods; therefore the concerns and opinions of the residents on all sides should be taken into consideration.

4.8 Follow Up Consultation – Presentation of Traffic Management Plan

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

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

5 RECOMMENDED PLAN & COST ESTIMATES

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

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

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

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

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

Table 5-1: Speeding & Shortcutting Improvements Cost Estimate

Location	Device	Cost Estimate		Time Frame
		Temporary ¹	Permanent	
11 th Street Bypass (130m west of Crescent Boulevard)	50 kph speed sign	\$250	NA	1 to 5 years (traffic calming devices will be installed temporarily until proven effective)
11 th Street Bypass (250m east of Crescent Boulevard)	Speed display board	\$1,500	\$5,000	
11 th Street Bypass (Lancaster Boulevard to Chappell Drive)	Enforcement	NA	NA	
11 th Street & Cul-de sac on east end	8 - Bollards/posts	\$1,200	NA	
11 th Street (west of Dundonald Avenue & east of Circle Drive)	4 - Wayfinding signs for Landfill	\$1,000	NA	
Back lane south of 11 th Street (access from Elevator Road)	20 kph speed sign	\$250	NA	
Back lane south of 11 th Street (access from Dundonald Avenue)	20 kph speed sign	\$250	NA	
Back lane accesses near Lt. Gen. GG Simonds Park	2 – 20 kph speed signs	\$500	NA	
Neighbourhood-wide	Pace Car Program (Community-driven)	NA	NA	
All inner neighbourhood streets (bound by 11th Street, Dundonald Avenue, Elevator Road)	11 – 40 kph speed sign	\$2,750	NA	
Totals		\$7,700	\$5,000	

1 - including all signs & pavement markings

Table 5-2: Pedestrian Safety Improvements Cost Estimate

Location	Device	# of Devices	Cost Estimate	Time Frame
Caen Street & Lancaster Boulevard	Standard crosswalk	1	\$600	1 to 2 years
Ortona Street & Lancaster Boulevard	Standard crosswalk	1	\$600	
Ortona Street & Currie Avenue	Zebra crosswalk	1	\$750	
Ortona Street & Crerar Drive	Zebra crosswalk	1	\$750	
Dieppe Street & Crerar Drive	Zebra crosswalks	2	\$150	
All accesses from Dundonald Avenue, Elevator Road, & 11th Street	"Share the Road" sign (pedestrian)	12	\$3,000	
Total			\$5,850	

Table 5-3: Intersection Safety Cost Estimate

Location	Device	Number of Signs	Cost Estimate	Time Frame
All intersections along bus route	Stop signs	40	\$10,000	1 to 2 years
Totals		2	\$10,000	

Table 5-4: Parking Signs Cost Estimate

Location	Device	Number of Signs	Cost Estimate	Time Frame
11 th Street (west of convenience store next to Fairlight Drive)	"No parking" sign	2	\$500	1 to 2 years
Mountbatten Street & Lancaster Boulevard	"No parking" sign	1	\$250	
Ortona Street & Currie Avenue	"No Stopping" sign	3	\$750	
Dieppe Street & Crerar Drive	"No parking" sign	4	\$1,000	
Cassino Avenue at corner near Lt. Col. D. Walker Park	"No parking" sign	2	\$500	
Totals		9	\$3,000	

Table 5-5: Sidewalk Installation Cost Estimate

Location	Length (m)	Cost Estimate	Time Frame
Dundonald Avenue between 11 th Street & Caen Street	170 (concrete)	\$74,800	1 to 5 years (depending on available funding)
Ortona Street & Crerar Drive	20 (asphalt)	\$30,000	
Totals	170 / 20	\$104,800	

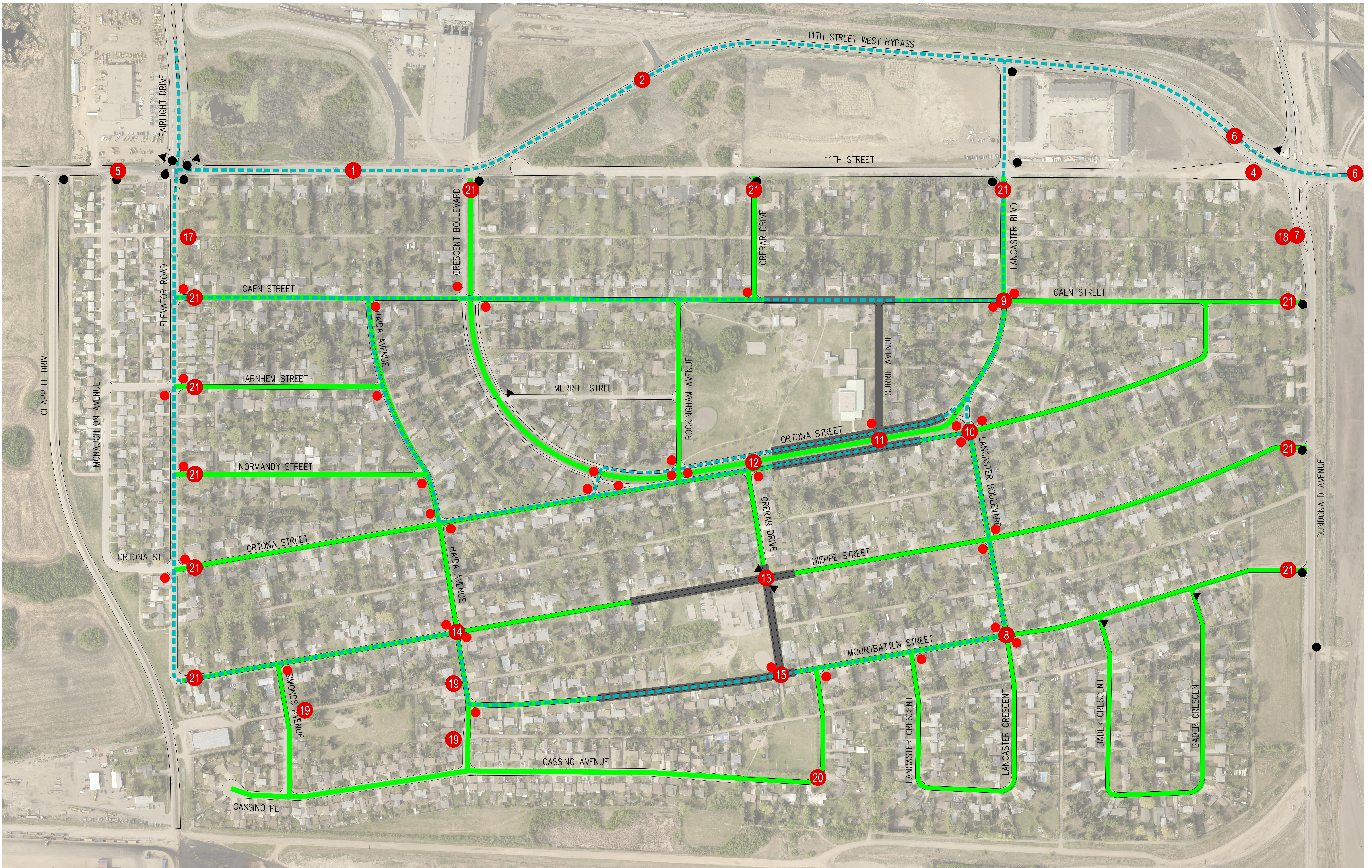
Table 5-6: Total Cost Estimate

Category	Signing, Temporary Traffic Calming & Traffic Counts	Permanent
Speeding/Shortcutting	\$7,700	\$5,000
Pedestrian Safety	\$5,850	\$0
Intersection Safety	\$10,000	\$0
Parking	\$3,000	\$0
Sidewalk	\$0	\$104,800
Totals	\$26,550	\$109,800

The total cost estimate for the signage and temporary traffic calming to be installed in 2016 is \$26,550. The total cost estimate for the installation of future permanent devices, including sidewalks, is \$109,800.

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 Montgomery Place Neighbourhood Traffic Management Plan is illustrated in **Exhibit 5-1**.



- LEGEND**
- EXISTING STOP SIGN
 - ▼ EXISTING YIELD SIGN
 - BUS ROUTE
 - SCHOOL ZONE
 - ⦿ EXISTING TRAFFIC SIGNAL
 - REDUCED 40KPH SPEED LIMIT
 - PROPOSED STOP SIGN

Exhibit 5-1

Table 5-7: Montgomery Place Neighbourhood Recommended Improvements

Item	Location	Recommendation	Reason
1	11 th Street Bypass (130m west of Crescent Boulevard)	50 kph speed sign (facing westbound)	Reduce driver speed (ensure drivers are aware of speed limit)
2	11 th Street Bypass (250m east of Crescent Boulevard)	Speed display board (facing westbound)	Reduce driver speed (ensure drivers are aware of speed limit)
3	11 th Street Bypass (Lancaster Boulevard to Chappell Drive)	Enforcement	Reduce driver speed
4	11 th Street & Cul-de sac on east end	Bollards/posts	Restrict driver access onto 11th Street Bypass/Circle Drive
5	11 th Street (west of convenience store next to Fairlight Drive)	"No parking" signs	Enhance sightlines
6	11 th Street (west of Dundonald Avenue & east of Circle Drive)	Wayfinding signs for Landfill	Enhance guidance & reduce number of drivers coming into neighbourhood
7	Dundonald Avenue between 11 th Street & Caen Street	Sidewalk (on west side)	Improve pedestrian safety
8	Mountbatten Street & Lancaster Boulevard	"No parking" signs on southeast corner to indicate 10m from intersection	Enhance sightlines
9	Caen Street & Lancaster Boulevard	Stop signs & standard crosswalk	Improve pedestrian & intersection safety
10	Ortona Street & Lancaster Boulevard	Standard crosswalk & move bus stop from centre of intersection	Improve pedestrian & intersection safety
11	Ortona Street & Currie Avenue	"No Stopping" signs at centre of intersection along median & zebra crosswalk on west side	Enhance sightlines & improve pedestrian & intersection safety
12	Ortona Street & Crerar Drive	Zebra crosswalk, extend park pathway to intersection & move mailbox	Improve pedestrian & intersection safety
13	Dieppe Street & Crerar Drive	Zebra crosswalks & "No parking" signs	Improve pedestrian safety & enhance sightlines
14	Dieppe Street & Haida Avenue	Traffic count in spring 2016	Intersection safety (determine if stop signs are warranted)
15	Crerar Drive & Mountbatten Street	Traffic count in spring 2016	Intersection & pedestrian safety (determine if crosswalk & traffic control signage is warranted)
16	All intersections along bus route	Change yield signs to stop signs	Improve intersection safety
17	Back lane south of 11 th Street (access from Elevator Road)	20 kph speed sign	Reduce driver speed
18	Back lane south of 11 th Street (access from Dundonald Avenue)	20 kph speed sign	Reduce driver speed

Table 5-7 Continued

Item	Location	Recommendation	Reason
19	Back lane accesses near Lt. Gen. GG Simonds Park	20kph speed signs	Reduce driver speed
20	Cassino Avenue at corner near Lt. Col. D. Walker Park	"No parking" signs	Allow adequate roadway width
21	All accesses from Dundonald Avenue, Elevator Road, & 11 th Street	"Share the Road" sign (pedestrian)	Improve safety for pedestrians walking on road (due to lack of sidewalks)
22	Neighbourhood-wide	Pace Car Program (Community-driven)	Reduce speed
23	All inner neighbourhood streets (bound by 11 th Street, Dundonald Avenue, Elevator Road)	Reduce speed limit to 40kph	Reduce speed

APPENDIX A: MEETING MINUTES

Montgomery Place LAP Meeting #2
Traffic Meeting
St. Dominic School Gym
3301 Dieppe Street
June 10, 2015
7:00 pm

Attendees: Barb Biddle, Brian Dent, Donna Dent, Karen Bent, Lorna Chapman, Tara Christison, Leanne Hahn, Jessica Leith, Fred Ozirney, Mike Peace, Wendy Rosen, Katie Rosen, Cheryl Royer, Ben, Schmidt, Trish Schmidt, Doug Siemens, Lalena Simon, Margie Tucker, Rene Jalbert, Betty Bohmann, Linda Bley, Vern & Darlene Sane, Walter Katelnikoff, Tony Hnatiuk, Edna Silverthorn, Dave Allan, Barb Kowaliuk, Kali Kitzul, Burt & Tracey Harper, Leslee Newmann, Emillee Kowaliuk, Kelvin Kitzul, Wally Penner, Irv Stevens, Ruth Stevens, Joe Dudiak, Verdynne & Dale Gilchrist, Pat Elliott, Eric Karmark, Bernie Bodnar, Harley Alton, Juanita Kitzul, Konrad Andre - Senior Planner, Ellen Pearson - Planner, Rebecca Mount & Lindsay Herman - Summer Students from Business Licensing, Shirlene Palmer – Recording Secretary

1. Welcome, Introductions & Agenda

Meeting called to order at 7:00 p.m.

Konrad Andre introduced Mitch Riabko and Kathy Dahl from Great Works Consulting who will facilitate tonight's meeting. Thank you to St. Dominic School for hosting the meeting.

Mitch Riabko & Kathy Dahl's Opening Comments

Great Works Consulting is a small partnership that helps facilitate meetings. They help you get to where you want to be. There are a number of traffic concerns that will be looked at tonight. First we will start with sharing information through a short presentation so everyone is on the same page followed by small group work and there will then be a time for questions. Attendees were asked to please hold all questions for the question and answer period. It is hoped everyone will walk away with something tangible – not only discuss the issues but what are some solutions that may address them. The attendees are asked to please follow the Foundations of Success – be respectful and raise your hand to ask a question.

This meeting is to discuss what you, as a community, want and don't want for your neighbourhood in regards to traffic. Welcome Barb Biddle, Community Association, Councillor Pat Lorje, and Constables Gabruch and Osachuk, Saskatoon Police Services.

2. Foundations for Success

Foundations for Successful Meetings specify how the meeting will be conducted. They are used to ensure that we feel comfortable sharing their concerns, opinions and ideas with the group here tonight.

The Foundations for Success are:

- 1. Information Sharing & Gathering**
 - Share what you think is important
 - Everyone works together to make decisions
- 2. Respect**
 - Respect every comment or idea that comes forward
 - Respect each other's opinions and perceptions
- 3. Integrity**
 - Speak your mind respectfully
 - Honesty is the best policy!
 - Your voice is not heard if you don't participate
- 4. Fair and Equal Representation**
 - Everyone will have their opportunity to share
 - Everyone has something important to contribute
 - Strive for equal representation from all stakeholders within the area
- 5. No Repetitive Discussion**
 - There is limited time within meetings, discussion of topics already covered may have to occur outside scheduled meeting time
- 6. Orderly Participation**
 - Listen when others are speaking
 - Please raise hand to share your thoughts

3.a. Traffic Management Presentations

Justine Nyen, Transportation Engineer, Transportation Division

The goal is to work together to develop a neighbourhood-wide plan that is safe, efficient, and enjoyable for all road users and residents! The City recognizes the frustrations but want to find the best solution for issues.

1. Neighbourhood Traffic Reviews

- August 2013 - A new process began where the City now receives individual concerns for speeding, shortcutting traffic, pedestrian safety, intersection safety, followed up with study. Now focus on complete neighbourhood opposed to issue by issue.
- Mandate - Reduce & calm traffic, improve safety within neighbourhoods. There are 8 reviews per year.
- 2014 - The last review of 2014 was completed in May.
- 2015 - The first review of 2015 is Montgomery Place and that is what brings us all here today.

2. Timeline for Montgomery Place Review

Stage 1 - Identify issues and possible solutions through community consultations. This will be done from June to fall 2015 where we will collect traffic data,

assessments, community suggestions, etc. Comments will be collected until July 10.

Stage 2 - A draft traffic plan will be developed.

Stage 3 - The draft traffic plan will be presented to community for feedback. This meeting will take place Fall 2015. The plan will then be revised accordingly; if only minor revisions are required will be presented to City Council for final approval. If there are substantial revisions it may be necessary to present back to community again prior to City Council.

Stage 4 - Implement the changes over time.

3. Sources of Information

- Past studies which include pedestrian, stop & yield, speed & traffic volumes to determine traffic calming needs.
- Collision Analysis
- Feedback from public consultation (meeting correspondence, Shaping Saskatoon discussion)
- Traffic Counts (speed studies, traffic volume counts, intersection counts, pedestrian counts) & Assessments

4. Past Studies/Concerns Received

- Dieppe & Mountbatten Street (south of St Dominic School) – speeding including city buses, especially when school zone is not in effect.
- 11th Street & Fairlight Dr - speeding, dangerous intersection, should consider installing speed bumps, lower speed limit and enforcement.
- Missing crosswalks - many areas, especially by schools, are missing crosswalks for pedestrian safety.

5. Description of Traffic Calming & Pedestrian Safety Devices

There are various devices that are intended to slow speeds, reduce collisions, enhance safety (including pedestrians) and reduce shortcutting traffic. There is Traffic-Calmed Neighbourhood signage to notify anyone entering the neighbourhood.

Traffic

- Speed Display Boards - shows speed someone is traveling or a message thanks for driving safely.
- Curb extensions - Decrease speeds, improve pedestrian crossings, landscaping to improve appearance
- Raised median islands - Reduce speeds; improve pedestrian crossing by creating a refuge area at centre of intersection and decrease crossing distance
- Roundabouts - Reduce speeding and discourage shortcutting. Provide the opportunity to enhance the look of a neighbourhood with features such as landscaping
- Diverter - Directs traffic the way you want them to go

- Right in/Right out island - Directs traffic in and out of a neighbourhood
- Directional Closure - Large curb extensions with one-way street eliminates shortcutting
- Raised Median Through Intersection - Allows traffic to only turn one way.
- Full Closure

Pedestrian

- Standard crosswalk
- Zebra Crosswalks - Improve visibility; increase pedestrian safety
- Active Pedestrian Corridor - activates flashing yellow lights to allow crossing
- Pedestrian-Activated Signal - activates a red light to allow crossing

3.b. Jay Magus, Manager Transportation Division

6. 11th Street Corridor Study

Why are we doing a Corridor Study?

- Increased traffic since Circle Drive South opened
- Desirable connection between West Sector and downtown
- Complex as it becomes residential east of Avenue P
- The offset Avenue W's
- Development applications
- Plan will inform and guide decisions on infrastructure improvements in an orderly fashion

Study Objectives

- Develop a transportation plan for 11th Street Corridor
 - Immediate improvements required to address existing transportation demand
 - Staged improvements required over 10 years to meet future transportation demands along the corridor
- Identify strategies to divert traffic away from 11th Street residential to Avenue P – 17th Street Corridor
- Identify other potential routes through area

Limits of Study

- Full Corridor Study: 11th Street from Circle Drive South to Avenue H
- Consideration of Redirecting traffic: Avenue P from 11th Street to 17th Street, 17th Street from Avenue P to Avenue H
- Consideration of Alternate routes in Southwest Sector (West Industrial Concept Plan)

Study Outcomes

- Existing Traffic Assessment
- Identification of Immediate Improvements:

- Pedestrian improvements
- Intersection improvements
- Identification of Future Improvements:
 - Number of lanes
 - Pedestrian accommodation
 - Type of traffic control (signals vs. signs)
 - Type of intersection (roundabout vs. conventional)
 - Access Management o Other?

What is Access Management? It is the ways in and out that cause the least problems.

Schedule

Item	Project Items	Complete By
1	Preliminary Data Collection	Complete
2	Analysis of Existing Conditions	Complete
3	Public Meeting #1	Complete
4	Additional Data Collection (if required)	August 31, 2015
5	Assessment & Development of Options	December 31, 2015
6	Public Meeting #2	January, 2016
7	Plan Refinement based on Feedback	February, 2016
8	Presentation to City Council	April, 2016

Comments from First Public Meeting

- Liked the idea of 17th Avenue Extension...but want details
- Avenue W's – Signals? Stop Signs?
- Liked the 3-Way Stop at Avenue P and 17th Street...keep it
- Promote the 11th Street – Avenue P – 17th Street Corridor
- No sidewalks, bike lanes on 11th Street
- Pedestrian Crossings east of Avenue P (between schools)

7. Railways

What we know...

1. Director of Transportation and Saskatoon Fire Department Chief are meeting regularly with CP and CN to discuss:
 - a) Long-term plan to reduce conflicts
 - b) Short-term issues such as reinstating Dundonald at grade crossing
2. We are working with Fire Department and looking at new technologies to provide advance warnings on blockages such as tracking of trains so we will know that in 6 minutes this intersection will be closed so will use another one.

West Connector Route Study

1. Study shared between City, RM of Corman Park and Ministry of Highways.
2. How can we connect Highway 16 northwest of City to Circle Drive South?
3. Initial Open House later this year.

**4. Saskatoon Police Service
Constables Gabrush & Osachuk
Traffic Section**

There were no specific questions for the Constables but they will be available for individual queries during the evening.

5. Small Group

Seeking Your Ideas and Solutions!

The attendees were divided into tables with facilitators and asked to discuss the following by using the maps supplied at each table and document their issues/suggestions.

1. What ideas or solutions do you have to improve traffic flow/safety in your neighbourhood or on 11th Street (what's working or not working)?
2. Identify additional traffic issues and solutions in Montgomery Place and 11th Street.

6. Report Back

Group 1 (City Facilitator – Mariniel Flores)

1. Crescent Boulevard – speeding past school, around curve; should be no parking on boulevard, narrows road and obstructs view
2. Rockingham to Caen – speeding; kids walking; extend school zone to include Rockingham Ave
3. Lower speed limit throughout community; no sidewalks so should have lower speed limit
4. Dieppe St – long stretch with no stops; install 4-way stop (at Crerar or Haida); install speed bumps; change direction of yield signs; install concrete median; drivers not stopping at crosswalks at Crerar and signs are required, or possibly stripes; Elevator Rd - take corner fast and go into other lane, add lines (yellow centre line)
5. Public education to walk facing traffic due to no sidewalks
6. Caen St – speeding
7. Mountbatten St – speeding
8. McNaughton – cars park on both sides of Elevator Rd; difficult to get from stop up to speed to 11th Street
9. 11th Street:
 - a. Store on 11th St – big trucks cause decreased visible; patching always needed
 - b. Elevator Road – large trucks obstruct visibility for vehicles coming off of McNaughton Ave

10. Vehicles cutting through parks (Ortona and Crerar to Rockingham); add trees and big rocks
11. Cutting across vacant land at Elevator Rd to get to Chappell Drive
12. Dundonald Ave – shared pedestrian/cyclist pathway needed on west side from 11th Street to Mountbatten St (street is wide enough)
13. School zone – change from dawn until dusk rather than certain hours; extend hours all year
14. Noise from Circle Drive and truck traffic on 11th Street; increase height of sound wall on Dundonald Ave; investigate trucks on 11th St Bypass, should only be trucks going to Viterra
15. 11th St – gets backed up because too many lights and stop signs; very heavy traffic; pavement is so poor it cannot handle the volumes (Ave P to Dawes Ave); westbound traffic light coordination needed
16. Trains – red light is on with a train but straight and right lanes are safe to go but cannot (south & west); trains cause long queues

Group 2 (City Facilitator – Eric Westberg)

1. 11th Street:
 - a. Avenue P – large trucks turning left coming into opposite oncoming traffic. Tandem trailers. Going to get much worse if people are encouraged to this direction; round corners to make it easier for trucks (wider radius) going south on Ave P; 3 turns as opposed to 1
 - b. Avenue W – sign needed for turn north just past Ave W. When you get to the intersection to turn north, you miss it. They then drive into Dundonald, turn around. Semi's back into the field or residential to turn around.
2. 11th Street Bypass – lacking lanes for entry into neighbourhood
 - a. Lancaster Blvd - merge lane is very bad because soundwall obstructs view, cannot see until half way through intersection; slowing down flow eastbound due to right turn; merge lane needed to turn right and continue eastbound
3. Re-align 11th Street to the north, add another lane needed for “Ag Pro”; 11th Street needs to be bumped over for current road to be private; difficult to turn left onto Dundonald Ave because crossing 3 lanes and can't tell who's going straight or turning;
4. 11th Street & Crescent Boulevard – painted left turn lane (for southbound) so traffic doesn't get backed up; add merge lane to right turn to eastbound
5. Bus routes – concern with competition between traffic, bus, & trailers. What routes do buses take to start their shifts? Concern over bus speed and pedestrian safety.
6. 40kph speed limit – especially for bus; no sidewalks in community; conduct pilot project to see change; pilot for one year due to summer/winter
7. Bottleneck turning on 22nd Street; turning radius' are too sharp causing drivers to go over curbs. Move back roughly 4ft.

8. Landfill west of the dump into the ditch because it's no longer the road to the dump. Many people don't know that.
9. Ramp going onto Circle Drive is very difficult in the winter. Not designed to make the turn from the east. Very easy coming from the west; guardrail for onramp to Circle Dr is needed. Not enough grading in winter. Takes out an entire lane.
10. Dundonald Avenue – pedestrians walking in curb lane because there's no sidewalks
11. Mountbatten St & Cassino – must slow people down; install speed bumps
12. Potholes cause drivers to swerve, then danger for pedestrians; chunks of pavement end up on residents lawn
13. Back lanes – shortcutting due to poor sightlines
14. Billboard at tire shop obstructs vision
15. Large shrubs obstruct vision
16. Trains – wait times up of 40 min, around 4:30pm; completely blocks off Circle Drive and Dundonald Avenue; constantly moving back and forth; need to take and drop cars at a higher efficiency
17. Very difficult when people corner off city property to park. Using rocks. Limits street to 1 driving lane. They do this to protect their lawn
18. Montgomery School – inside lane for buses, same set up for vehicles so can angle park

Group 3 (City Facilitator – Konrad Andre)

1. Lower residential speed limit
2. On-street parking restricting traffic flow/safety issues/fire truck access
3. Speeding in back alleys
4. 11th Street:
 - a. Near Fairlight Dr – move to secondary/eliminate truck route on 11th Street
 - b. Intersection east of Fairlight – blind spot when turning left into terminal
 - c. Re-align 11th Street to the north, closer to elevators.
 - d. Lancaster Blvd – sound wall obstructs view; have to pull into intersection to see
 - e. Circle Dr on ramp – change to flyover
 - f. 11th St cul-de-sac – barricades needed because drivers are going over curbs
5. Dundonald Ave:
 - a. Speeding
 - b. Bike route to connect to Meewasin
 - c. Mountbatten – road is poorly visible; issues worse in winter
 - d. signs indicating “not a through street” from 11th Street
6. Lancaster Blvd:
 - a. Caen St – 4-way stop
 - b. Ortona St – confusing intersection; needs review
7. Ortona St:

- a. Currie Avenue – dangerous; poor visibility; bad crossing
- 8. Dieppe St
 - a. Crerar Ave – improve crossing
 - b. Improve parking, pick-up/drop-off, and visibility in front of St. Dominic School (west of Crerar)
- 9. Mountbatten & Crerar – improve crossing
- 10. Crerar Ave (east of St. Dominic School) – narrow road; change to one-way (southbound)
- 11. Caen St – speeding near Ortona St
- 12. Currie Ave – should be one-way (southbound)
- 13. Montgomery School – implement parking and pick-up/drop-off area at back of school

Group 4 (City Facilitator – Justine Nyen)

- 1. East/West streets throughout Montgomery are speedways, shortcuts. They're long streets with no stops. No one obeys yield signs. Drivers are avoiding 11th Street. Using east/west streets to get to Dundonald Avenue. When police set up on 11th Street everyone re-routes through neighbourhood. High collisions. Cars racing. Set up enforcement in resident driveways to catch speeders. Alternate direction of yield signs.
 - a. Caen Street (especially 3200 block)
 - b. Ortona Street – concerns around school zone; speeding around curve; alter direction of signs at Currie and Rockingham; pedestrian lights needed at Crerar
 - c. Mountbatten Street (especially 3100, 3200, & 3500 blocks)
 - d. Dieppe Street (especially 3200 block); alternate direction of signs at Crerar and Haida; near misses at Dieppe St & Haida; standard or zebra crosswalk, or pedestrian device needed at Dieppe & Crerar because no one yields to pedestrians
 - e. Back lane south of 11th Street
- 2. 11th Street:
 - a. Driving through cul-de-sac over curb to get the 11th Street bypass
 - b. 11th Street Bypass & Lancaster – improvements needed; make it better to deter shortcutting on other streets
 - c. Fairlight Drive – increasing traffic volume due to new Circle Drive South; semi traffic has increased
- 3. Cassino – parking near park on both sides makes street narrow (one-way traffic); pedestrian concerns; speeding around curve eastbound; cars kick up asphalt onto front yards
- 4. Lancaster Boulevard – no one yields; collisions; narrow street; icy conditions in winter make issues worse
 - a. Lancaster Blvd & Ortona St – near misses

5. Lack of sidewalks throughout Montgomery – pedestrian safety concern, especially due to narrow roads; kids walking on street; installing sidewalks isn't necessarily the answer; reduce the speed limit to 40kph to improve pedestrian safety but must have more than just signs, enforcement will be required; in the winter, snowbanks are in ditches, leaving no place for pedestrians but on the roadways; schools should provide insert in newsletters to encourage walking on one side of the street; implement 30kph speed limit when passing pedestrians
6. Residents roping off (or placing rocks or rubber curbing) area in front of property, which is City right-of-way, to prevent parking on lawns. This pushes parking further into street causing drivers to go around.
7. Currie Avenue – congested in front of elementary school
8. Wait to do traffic counts in the fall

Group 5 (City Facilitator – Jay Magus)

1. Dieppe St:
 - a. Lancaster to Dundonald – speeding; better marked crosswalks at Lancaster
 - b. Lancaster to Crerar – speeding
2. People westbound blow through intersection
3. 11th Street:
 - a. West of Viterra Elevator – re-alignment needed; speeding
 - b. Truck traffic is an issue, is it a truck route?
 - c. Crescent Boulevard – install roundabout; chevrons are in the way
4. Cassino Avenue – speeding at 8am and 8pm; speeding around curve
5. Lancaster & Dieppe – install crosswalks
6. St. Dominic School - paved bus lay-by for school on Dieppe St
7. 11th Street & Lancaster - can't see past sound wall; shortcutting throughout neighbourhood to avoid this intersection
8. Ortona St - traffic volumes have increased
9. 11th Street & Lancaster Blvd - drivers don't slow down to turn westbound to southbound left
10. Caen Street – increased volumes and speed
11. Buses speeding (transit)
12. And consideration for the 11th Street/Dundonald Ave
13. 11th Street & Dundonald Ave - southbound right turn can't see because of southbound through lanes
14. Off Circle Dr want to turn left, but cars cut the corner
15. Mountbatten & Lancaster - accidents, parking on the street restricts visibility, commercial vehicle parking
16. Back lane west of Dundonald Ave - rip rap needed
17. Support for 17th Street extension
18. 11th Street - issues with empty trucks blocking Ave W South at driveway; make it proper 4-lane road east of Ave W; alley traffic/shortcut west of Ave W

19. Super-elevation of on ramp to Circle Drive South

Councillor Lorje Comments

It is fascinating going around and hearing what each group is discussing. Everyone seems so sensible in their suggestions, really great to see the City taking notes and really hearing the unique concerns in the community. She is proud to hear what the community is saying. She asked the City when designing to please over design rather than under design in order to not run into the same problems that we have, for example, on Avenue P and 11th Street even after it was redesigned.

Listening to the people, the largest problem is the trains. We need to come to a solution so the people of the community have a way in and out of the wonderful neighbourhood. If you missed passing something on feel free to contact her by phone or email (306-227-1411 or pat.lorje@saskatoon.ca).

7. Next Steps?

1. Continue monitoring traffic issues in your neighbourhood
2. Mail-in or email comments no later than July 10/15
3. Additional public input via City on-line Community Engagement webpage no later than July 10/15: <http://shapingsaskatoon.ca>
4. Traffic count data collection – summer/fall 2015
5. City review of public input and data collected from traffic studies and prepare draft Traffic Plan
6. Follow-up public input meeting to provide input on draft
7. Determine revisions and finalize Traffic Plan
8. Present Traffic Plan to City Council for approval

For more information and status updates visit:
www.saskatoon.ca
Search “Neighbourhood Traffic Reviews”

Questions:

- **What is the push back to lower the speed limit in the neighbourhood? If you would ask at least 80% if not more people would want it lowered.**

Jay stated recommends are not done by neighbourhood, it has to be done city wide otherwise would make it difficult to enforce as well as costly to change (signs for example). Ontario has done a study lowering residential speed limits and we are just waiting to find out their results. The City of Edmonton also did a trial to lower their speed limit in several neighbourhoods but now all have gone back to the original speed.

Comments:

- If all the residential neighbourhoods in the city have to have everything the same than why don't we have sidewalks, shouldn't we if we are to be the same as every neighbourhood.
- Speed is a huge problem on 11th Street especially once you get to Fairlight Drive. Vehicles do rolling stops so not properly stopping. During the day semis and buses rush by and then in the evening it is bike races which causes a dust storm for residents close by. Need to clean road and enforce road use.
- Take issue that speed cannot be changed due to visitors not knowing the speed. There would be signs posted just like when you go from a 60 km road down to 50 km.
- Did research on Edmonton and found a couple of the communities did keep their speed limits lower so then made a bylaw speed could be done community to community as long as they have a 75% or more vote.

Jay stated he will check further regarding the outcome of the Edmonton pilot project.

Questions:

- **Who is in charge of the department? Who makes the decision of what the speed limit in residential is? Who do we need to talk to in order to have this changed?**

Jay stated when they get an inquiry in regards to changes they first have to see if there is any cost to it. It is then brought back to community to see if majority vote in favour of change. Then it is brought to City Council for discussion and vote on approval.

- **Why would there be such a large cost involved with changing the speed limit?**

Jay noted there would be the cost of doing a study as we would need to ensure it will make a difference as well as ensure majority approve this change, also a cost would be changing the signs from 50 to 40 km.

Mitch noted the community is very passionate about this topic and Jay will make a note of this to look into further.

- **Do we know what is going to happen with the switching of the trains once north downtown lanes get closed? I heard they would be switching here.**

Jay stated he didn't know the answer but would find out.

Comments:

- A community survey was done a while ago in regards to speed limit and 85% of people were in favor of it being lowered.
- Community Association had also agreed they were willing to pay for an automated speed board to help in the enforcement of the speeds.

Questions:

- **Early in presentation heard something about the possibility of Dundonald Avenue being reopened. Is this at the tracks?**

Jay noted this was just one of the short term initiatives that could be reinstated. One question is whether it would be for public use or just emergency vehicles. If it were for emergency vehicles only, the arm would remain down unless an emergency vehicle required it to go up. This was just one suggestion but has not been decided.

Counsellor Lorje stated CN took advantage when the crossing was closed for the South Bridge project to close it permanently. They don't like level crossings. She was told at a previous meeting there was discussion if Federal Government and City jointly decided a project is needed to improve rail safety then under legislation CN would be responsible to pay 30% of cost.

Comments:

- The majority of trains that block 11th Street are so long that they also block Dundonald so that would not be much use.

8. Closing

Konrad thanked all for attending the second LAP meeting. There will be no meetings over the summer. The next meeting will take place in September. Currently is still not booked but will advertise in the Community Association newsletter as well as email to all on the contact list. Some topics that will be discussed are: second traffic meeting, parks, neighbourhood safety and south west sector plan.

Please feel free to contact Konrad if you have any questions over the summer.

Upcoming Meetings: Fall 2015

Meeting adjourned at 9:00 pm.

Montgomery Place LAP Meeting #6
Traffic Meeting #2
St. Dominic School Gym
3301 Dieppe Street
December 8, 2015
7:00 pm

Attendance: Dave Allan, Sherri Buckle, Lorna Chapman, Brian Dent, Donna Dent, Joe Dudiak, Wendy Evers, Karen Farmer, Zenia Gabrush, Rosalyn Kirkham, John Meredith, Joel Miniely, Delores Olsen, Fred Ozirney, Janice Peace, Mike Peace, Allan Potter, Katie Rosen, Wendy Rosen, Cheryl Royer, Dorothy Shillington, Irv Stevens, Ruth Stevens, Marjie Tucker, Lyle Willson, Abe Wolfe, Sharon Wolfe, Gwen Wuschke, Barb Biddle, Bonnie Davenport, Murray Davenport, Pat Elliott, Steve Elliott, Juanita Kitzul, Barry Larson, Deana Larson, Leslee Newman, Chris Roslinsky, Agnes Scotland, Doug Siemens, Rick Strouts, Bill Weir, Mark Zielke, Bill Schmidt, Lorraine Schmidt, Ron Fehr, Leroy Schmidt, Darlene Michalycia, Blaine Henderson, Len Gegsner, Doug Gryba, Mary Woodsworth, Peter Richten, Dan Prefontaine, Doug Meier, Anne Meier, Darryl Sopher, Henry Kucharski, Jan Ostlund, Jeannine Nykiforuk, Barb McAllister, Priscilla Mah, Barb Kowaliuk, Fred Hettinga
Melissa Austin, Mark Emmons, Paul Whitenect - Senior Planners; Ellen Pearson – Planner; Justine Nyen, Shirley Matt, Goran Lazic - Traffic Engineers; Jay Magus - Transportation Manager; Constable Mark Zoorkan - Saskatoon Police Services; Councillor Pat Lorje; Shirlene Palmer – Recording Secretary

1. Welcome, Introductions & Agenda

Meeting called to order at 7:00 p.m.

Mitch Riabko & Kathy Dahl from Great Works Consulting will facilitate tonight's meeting.

Opening Comments - Mitch Riabko

As part of developing the LAP for Montgomery Place neighbourhood, there were a variety of traffic issues to resolve. The first meeting was held in June and attendees were asked to provide feedback on traffic issues and more importantly, identify solutions.

Feedback collected from the meeting, observations over the last few months, as well as information collected via email, phone calls and online were analyzed and considered by City staff when creating this proposed Traffic Plan.

Tonight a presentation will be given to attendees regarding the proposed Traffic Plan and everyone will be asked to provide your feedback. The goal of this meeting is to hear what residents have to say about the proposed recommendations.

At the June meeting, it was brought up that traffic is not the only issue in the neighbourhood but also there was a lot of traffic violations that added to the problems. Constable Mark Zoorkan is with us tonight to help answer any questions that might arise.

The purpose of tonight's meeting:

1. To present the new neighbourhood Traffic Plan based on input received from the community;
2. Provide reasoning for decisions, and
3. Gain focused feedback from the community about each plan proposal.

Tonight is about working with your neighbours to come up with the best possible Traffic Plan for Montgomery Place. A reminder to express yourself respectfully within the larger, as well as within the smaller group. The idea is for everyone to walk away knowing what the City is proposing and what is happening with the information you are providing.

Opening Comments - Kathy Dahl

The presentation will be first. The key is the proposed Traffic Plan. Jay will go over some city wide initiatives and speed reduction. Justine will go over what information was gathered and what recommendations are being proposed. It is important to ensure everyone has the same information when they go to the smaller groups for discussion.

2. Foundations for Success

Foundations for Successful Meetings specify how the meeting will be conducted. They are used to ensure that we feel comfortable sharing their concerns, opinions and ideas with the group here tonight.

The Foundations for Success are:

1. Information Sharing & Gathering

- Share what you think is important
- Everyone works together to make decisions

2. Respect

- Respect every comment or idea that comes forward
- Respect each other's opinions and perceptions

3. Integrity

- Speak your mind respectfully
- Honesty is the best policy!
- Your voice is not heard if you don't participate

4. Fair and Equal Representation

- Everyone will have their opportunity to share
- Everyone has something important to contribute
- Strive for equal representation from all stakeholders within the area

5. No Repetitive Discussion

- There is limited time within meetings, discussion of topics already covered may have to occur outside scheduled meeting time

6. Orderly Participation

- Listen when others are speaking
- Please raise hand to share your thoughts

3.a. Traffic Initiatives

Jay Magus, Manager, Transportation Division

1. North Commuter Parkway and Traffic Bridge

- This work has already begun
- City led construction project
- Construct new bridge connecting Marquis Drive with McOrmond Drive through northeast
- Reconstruct old Victoria Avenue Bridge (Traffic Bridge)
- Both open by fall 2018

2. Saskatoon Freeway (Perimeter Highway)

- Province led planning study
- New freeway connecting Highway 11 south of the City with Highway 7 west of the City
- This is an entirely new high speed, no access road.
- More information can be found at www.highways.gov.sk.ca

3. West Connector Road

- City/Province/RM planning study (shared cost)
- Provide connection between Highway 16 north of City with Circle Drive South west of river
- Could be combination of existing and new roads
- There was an open house held on December 2, 2015
- Next public meeting early summer 2016
- More information can be found at:
www.highways.gov.sk.ca/Saskatoon_west-connector

4. Active Transportation Plan

- City led planning study
- Purpose is to increase transportation choices within the city, and to establish long-term vision for walking and cycling
- Currently finalizing draft plan
- Have your say! Visit www.growingfwd.ca/activetransportation to review the draft long-term plan and provide your feedback on the recommendations

being considered for Saskatoon's first ATP. Survey closes at midnight on Wednesday, December 9, 2015

5. 11th Street Corridor Study

- City led planning study
- Assessing 11th Street between Avenue H and Circle Drive South
- Have since added 17th St extension to the study
- Identifying both short and long term improvements
- Meeting #2 is expected late April, 2016

6. Update on Railway Delays

- Early 2015 a Steering Committee was formed: City, CP, CN, Chamber of Commerce, NSBA, BID's, SREDA
- September 25, 2015 Letter was sent to Transport Canada requesting clarification of jurisdiction and enforcement on 11th Street spur
- This was followed up with Transport Canada in light of recent delays
- Six locations for further investigation into future grade separations:
 - 22nd Street at Avenue F
 - Marquis Drive
 - Idylwyld Drive at 25th Street
 - 11th Street at Dundonald Avenue
 - Central Avenue at Gray Avenue
 - Preston Avenue
- The Transportation Division was not overly involved so do not have much in regards to details.

3.b. Traffic Management Presentations

Justine Nyen, Transportation Engineer, Transportation Division

Neighbourhood Traffic Management Program

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

How We Got Here

- June 2015 - Initial Traffic Meeting
- June to November 2015 - gathered feedback, conducted traffic studies, collected data and developed traffic plan

- December 2015 - Follow Up Traffic Meeting - present proposed Traffic Plan and gather feedback.

What We Heard

1. Speeding/Traffic Volumes
 - East-west streets (Ortona St, Caen St, Mountbatten St, Dieppe St)
 - Cassino Ave
 - Back lanes south of 11th St
 - Dundonald Ave
 - Rockingham Ave
 - Crescent Blvd
 - 11th St Bypass
2. Pedestrian Safety
 - Lack of sidewalks
 - School zones / parks
 - Dundonald Ave
3. Intersection Safety
 - Ortona St & Currie Ave
 - Ortona St & Rockingham Ave
 - Caen St & Lancaster Blvd
 - Mountbatten & Lancaster Blvd
 - Dieppe St & Crear Dr
 - Dieppe St & Haida Ave
 - Lancaster Blvd & Caen St
 - Lancaster Blvd & Ortona St
 - 11th St Bypass & Lancaster Blvd
 - 11th St & Fairlight Dr / Elevator Rd
4. Parking
 - Narrow streets
 - Schools
 - Intersections
5. Other Issues
 - Potholes, poor road conditions
 - Trees
 - Barriers in front of property
 - Short cutting through parks / cul-de-sac

What We Did

- Collected data
 - Past study
 - Comments from initial meeting
 - Resident responses (phone calls, emails, letters)
 - Comments from Shaping Saskatoon discussions

- 8 intersection/pedestrian counts
- 9 - 7 day traffic count (24 hour) & Average Speed measurements
- Collision history
- Field Reviews
- Assessed the issues
- Generated proposed recommendations

What We Propose

- Stop signs
- Standard crosswalk
- Zebra crosswalk
- Speed signs
- “Not a Through Street” sign
- Parking restrictions
- Median island
- Speed display board
- Enforcement
- Pathway extension (in park)
- Move mailbox, bus stop & signs
- "Pinch Points"
- Community Programs:
 - Pace Car - The Pace Car program is a locally delivered, nation-wide program that focuses on raising awareness around speed reduction in the community, especially in school zones and pedestrian-dense areas. See more at: <http://www.parachutecanada.org/programs/item/pace-car>

 - Pace Car Grants 2015-2016 - Parachute awarded grants (\$1,000 each) to “Pace Car Communities” across Canada. These grants will be used to help organize launch events, promote the program and resources, and conduct an evaluation of the Pace Car Program in the community from September 2015 to April 2016.

 - Speed Display Board - informs drivers when they are speeding and displays message to slow down.

Each of these will all be discussed in more details in the smaller groups.

3.c. Speed Reduction **Jay Magus, Manager, Transportation Division**

In December 2011, a request came from City Council asking the Administration to review if speed reduction was a viable option. Comments provided at that time are still valid.

- Some study results discovered at that time.
 - USDOT study results:
 - Raising / lowering speed limit had little effect on driver’s speed choice, less than 3.2 kph change in mean speed
 - Did not lead to changes in either total or severe collisions

- Edmonton study results:
 - Vehicle speeds reduced by approximately 4kph
 - 65% of drivers exceeded speed limit, compared with 39% before
 - A change of 3 to 4kph has no effect on the distance travelled during perception time, reaction time, and braking distance
 - Some drivers will obey while others won't, disrupting uniform traffic flow, harder to judge speeds, potentially lowering safety
 - Driver compliance decreases, placing more burden on law enforcement
- We will include these discussions in our summary report but measured speeds in Montgomery Place are the lowest than in any other neighbourhood in the city (40-50 km) although perception of speed remains unfavourable which may be due to no sidewalks.
 - Although there were some discussions about installing sidewalks it was agreed this is not the answer but might want to look at doing something like the bike lanes installed in the downtown.
 - Recommendations that will reduce speed:
 - Pace Car Program to raise neighbourhood awareness
 - Community Speed Reader Board
 - Series of pinch-points

Councillor Pat Lorje's Comments

Councillor Lorje noted this is an important process and she is looking forward to hearing the recommendations being proposed by the City.

She also noted there has been some progress with the railway issues. Former Fire Chief Dan Paulsen has achieved a lot of CN cooperation and continues to work with them. In the long term, would like to see the freight yards moved to the other side of Perimeter Road. Although this is a large project the process needs to begin.

In closing, if anyone has any concerns they can call or email.

4. Small Groups:

The attendees were broken into 7 groups and asked to review the recommendations and provide comments to facilitators.

Each facilitator will present a brief summary of what each group discussed.

Individual group comments, [See Appendix A](#)

5. Next Steps

Jay Magus, Manager, Transportation Division

1. Mail-in or email comments no later than January 8, 2016.
2. Additional public input via Shaping Saskatoon no later than January 8, 2016.
www.shapingsaskatoon.ca/discussions/montgomery-place-neighbourhood-traffic-meeting

3. Additional consultation if required
4. Present Traffic Plan to City Council for approval

Councillor Lorje noted Council has recently supported proposed changes to the Traffic Calming Guidelines and Tools document to include that major roadway modifications are made on a temporary basis for at least one year, at which time the Administration will evaluate impacts to traffic and collect community feedback to determine the level of support for maintaining the changes.

6. Questions & Comments

Questions:

- **Administration is not recommending lower speed limit but the majority of residents do want it. Community has done door to door survey on this question with 60% participation, of which 86% were in favour of lower speed limit. What more can the community do if they want to continue to pursue this?**

Jay stated the community could create a report and present to City Council with a petition regarding speed reduction.

- **The Willows have no sidewalks and they have a speed limit of 30 kph. How do they get away with this?**

Jay noted he is unsure, maybe it is annexed but he will check into it.

Councillor Lorje stated she thinks this is a private condo development so they are able to post speed limits as they wish.

- **Does this mean the City Administration will not get involved with organizing something?**

Jay noted the report will state a reduction in speed is not recommended by Administration along with reasons for this. But it will also state the community is still in favour of a reduction. Any information the community would like included in the report can also be included if sent to him.

- **What is the City's plan for paving roads in Montgomery? Lancaster, Dundonald and Crescent Boulevard are badly in need of repair especially.**

Jay stated the Public Works Department has a Road Rehabilitation Program. Projected 2015-2017 Roadway Preservation Plan schedule can be found on City website: www.saskatoon.ca/sites/default/files/webprojected_2015-2017_-_april_23_2015.pdf

Councillor Lorje stated the weather beat EllisDon to repave Dundonald Avenue, but she has a commitment from them that it will be repaved first thing in spring 2016.

- **So to clarify, the report will not support reduction in speed?**

Jay stated that is correct.

Comments:

- Thinks reducing speed limit will work.
- Concern is not the speed but the safety and if school zones can have speed limit reduction, Montgomery Place should be able to as well.
- Lowering the speed limit may increase speeding but we then need to enforce it.

Constable Mark Zoorkan will bring the enforcement needs forward to Saskatoon Police Services.

- A lot of focus has been on reduction of the speed even though evidence shows this would not be effective. City has put forward the "Pinch Points" recommendation which has proven effective but the community isn't even willing to try.

Questions:

- **Behind the old CN road, is it a berm being built or is it a road on top?**

Jay stated to his knowledge it is just a berm. There will be a road constructed further to the south of the berm, used only for CN vehicle access.

Jay put the question to the attendees who would be in favour of installing a couple temporary Pinch Points within the neighbourhood. There were 16 yes, 28 no and 1 indifferent.

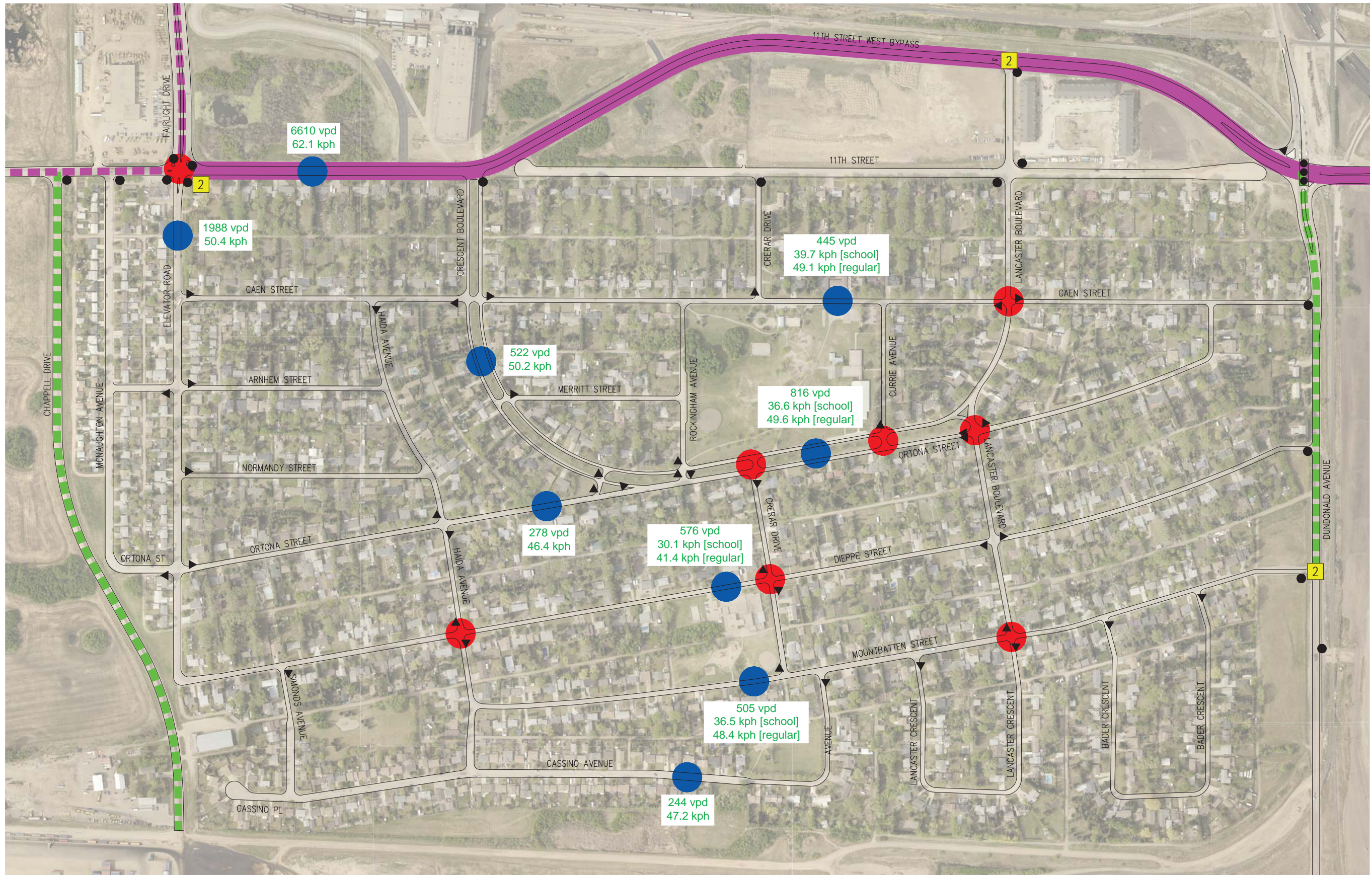
7. Closing

Melissa thanked everyone for coming out to the meeting.

She noted there is no meeting scheduled in January and she is currently working on scheduling the February meeting.

Meeting adjourned at 9:25 pm.

APPENDIX B: TRAFFIC DATA COLLECTION



LEGEND

-  EXISTING STOP SIGN
-  EXISTING YIELD SIGN
-  EXISTING TRAFFIC SIGNAL
-  PEDESTRIAN ACTUATED SIGNAL LOCATION
-  MAJOR ARTERIAL
-  MINOR ARTERIAL
-  MAJOR COLLECTOR
-  MINOR COLLECTOR
-  AVERAGE NUMBER OF COLLISIONS PER YEAR (2009-2013)
-  TRAFFIC MOVEMENT COUNT
-  SPEED STUDY
-  NUMBER OF VEHICLES PER DAY
-  85th PERCENTILE SPEED

MONTGOMERY PLACE TRAFFIC DATA



APPENDIX C: ALL-WAY STOP ASSESSMENTS

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

Step 1:

The following conditions must be met for all-way stop control to be considered:

i) The combined volume of traffic entering the intersection over the five peak hour periods from the minor street must be at least 25% of the total volume for a three-way stop control, and at least 35% of the total volume for a four-way stop control.

ii) There can be no all-way stop control and traffic signal within 200 metres of the proposed intersection being considered for all-way stop control on either of the intersecting streets.

Location	Condition 1: % of Traffic from minor street	Condition 2: Traffic Signals or all-way stop within 200m	All-Way Stop Warrant
Ortona Street & Crerar Drive	21% - condition NOT met.	No	Conditions NOT met
Ortona Street & Currie	8% - condition NOT met.	No	Conditions NOT
Caen Street & Lancaster	29% - condition NOT met.	No	Conditions NOT
Mountbatten Street &	47% - condition met.	No	Conditions met.
Dieppe Street & Crerar	29% - condition NOT met.	No	Conditions NOT
Dieppe Street & Haida	49% - condition met.	No	Conditions met.
Ortona Street & Lancaster	26% - condition NOT met.	No	Conditions NOT

Provided the above conditions are met, the following criteria, singly or in combination, may warrant the installation of all-way stop signs:

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

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

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

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

Location	Criteria 1: 5 or more collisions in most recent 12 months	Criteria 2: total number of vehicles entering the intersection from all approaches averages at least 600 per hour for the peak hour	Criteria 3: total intersection entering volume exceeds 6,000 vehicles per day	Results
Mountbatten Street & Lancaster Boulevard	0 – Condition NOT met	185 – Condition NOT met	2,540 – Condition NOT met	Four-way stop NOT warranted.
Dieppe Street & Haida Avenue	0 – Condition NOT met	111 – Condition NOT met	1,160 – Condition NOT met	

APPENDIX D: PEDESTRIAN DEVICE ASSESSMENTS

Appendix D: Pedestrian Actuated Signal Warrant

Ortona Street & Crerar Drive:

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	15	15										
8:15	32	47										
8:30	29	61	9		6		15	12	12	732		
8:45	24	53							12	636		
9:00		24										
9:15												
9:30												
9:45												
AM Totals	100		9		6		15					
11:30	31											
11:45	23	54										
12:00	17	40	8				8	8	8	320		
12:15	10	27							8	216		
12:30	8	18										
12:45	16	24	7		3		10	8.5	8.5	204		
13:00	11	27							8.5	230		
13:15	8	19										
Noon Totals	124		15		3		18					
14:00												
14:15												
14:30												
14:45												
15:00	11	11										
15:15	15	26										
15:30	21	36	5		1		6	5.5	5.5	198		
15:45	16	37							5.5	204		
16:00	16	32										
16:15	16	32	4		11		15	9.5	9.5	304		
16:30	17	33							9.5	314		
16:45	19	36										
17:00		19										
17:15												
17:30												
17:45												
18:00												
18:15												
18:30												
18:45												
19:00												
19:15												
19:30												
19:45												
20:00												
20:15												
20:30												
20:45												
PM Totals	131		9		12		21					
Totals	355		33		21		54					
			61%		39%		100%					
			West Crosswalk =				21					
			East Crosswalk =				33					

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

SUMMARY

Total Warranted PC Points: or / period
 Highest PC point value: 732 at
 Average PC point value: 224
 No. of periods warranted:

Ortona Street & Currie Avenue:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts						P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods	
			Total Both Sides				Factored Counts					
	15 min.	30 min.	Child	Teen	Adult	Senior/ Impaired	Total	15 min.	30 min.			
7:00												
7:15												
7:30												
7:45												
8:00	18	18										
8:15	31	49										
8:30	46	77	11		12		23	17	17	1,309		
8:45	33	79							17	1,343		
9:00		33										
9:15												
9:30												
9:45												
AM Totals	128		11		12		23					
11:30	61		25		28		53	39				
11:45	31	92							39	3,588		
12:00	16	47										
12:15	9	25										
12:30	7	16	1		3		4	2.5	2.5	40		
12:45	11	18							2.5	45		
13:00	12	23										
13:15	7	19										
Noon Totals	154		26		31		57					
14:00												
14:15												
14:30												
14:45												
15:00	8	8										
15:15	10	18										
15:30	22	32		2			2	1.34	1.34	43		
15:45	18	40							1.34	54		
16:00	12	30			2		2	1	1	30		
16:15	13	25							1	25		
16:30	17	30										
16:45	16	33										
17:00		16										
17:15												
17:30												
17:45												
18:00												
18:15												
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18:45												
19:00												
19:15												
19:30												
19:45												
20:00												
20:15												
20:30												
20:45												
PM Totals	116			2	2		4					
Totals	398		37	2	45		84					
			44%	2%	54%		100%					
			West Crosswalk =				60	<<< install crosswalk on this side of the int.				
			East Crosswalk =				24					

SUMMARY

Total Warranted PC Points: or / period
Highest PC point value: 3,588 at
Average PC point value: 432
No. of periods warranted:

Caen Street & Lancaster Boulevard:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts					P.C.		Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods
			Total Both Sides					Factored Counts			
	15 min.	30 min.	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.	Points	
7:00											
7:15											
7:30											
7:45											
8:00	64	64									
8:15	85	149	5	4			9	7.68	7.68	1,144	
8:30	100	185	2	5			7	5.35	13.03	2,411	
8:45	68	168							5.35	899	
9:00		68									
9:15											
9:30											
9:45											
AM Totals	317		7	9			16				
11:30	42										
11:45	41	83									
12:00	37	78	2				2	2	2	156	
12:15	39	76							2	152	
12:30	36	75									
12:45	37	73									
13:00	30	67									
13:15	39	69									
Noon Totals	301		2				2				
14:00											
14:15											
14:30											
14:45											
15:00	71	71									
15:15	95	166									
15:30	57	152	1	2	3		6	3.84	3.84	584	
15:45	65	122							3.84	468	
16:00	66	131									
16:15	78	144									
16:30	76	154			5		5	2.5	2.5	385	
16:45	65	141							2.5	353	
17:00		65									
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	573		1	2	8		11				
Totals	1,191		10	11	8		29				
			34%	38%	28%		100%				
			North Crosswalk = 18				<<< install crosswalk on this side of the int.				
			South Crosswalk = 11								

SUMMARY

Total Warranted PC Points: or / period
Highest PC point value: 2,411 at
Average PC point value: 437
No. of periods warranted:

Dieppe Street & Haida Avenue:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts					Factored Counts		P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods
			Total Both Sides									
	15 min.	30 min.	Child	Teen	Adult	Senior / Impaired	Total	15 min.	30 min.			
7:00												
7:15												
7:30												
7:45												
8:00	14	14	2				2	2	2	28		
8:15	34	48							2	96		
8:30	49	83	1				1	1	1	83		
8:45	14	63							1	63		
9:00		14										
9:15												
9:30												
9:45												
AM Totals	111		3				3					
11:30	17											
11:45	20	37	2				2	2	2	74		
12:00	10	30							2	60		
12:15	13	23										
12:30	12	25										
12:45	7	19										
13:00	6	13										
13:15	7	13										
Noon Totals	92		2				2					
14:00												
14:15												
14:30												
14:45												
15:00	23	23										
15:15	49	72										
15:30	25	74										
15:45	21	46										
16:00	28	49	2				2	2	2	98		
16:15	15	43							2	86		
16:30	30	45	1				1	1	1	45		
16:45	28	58							1	58		
17:00		28										
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	219		3				3					
Totals	422		8				8					
			100%				100%					
			West Crosswalk =				4					
			East Crosswalk =				4					

SUMMARY

Total Warranted PC Points: or / period
 Highest PC point value: 98 at
 Average PC point value: 46
 No. of periods warranted:

Lancaster Boulevard & Ortona Street:

Time (15 minute intervals)	Vehicle Counts		Pedestrian Counts						P.C. Warrant Points	Periods Wrnt'd (1=Yes)	Points of Wrnt'd Periods	
			Total Both Sides				Factored Counts					
	15 min.	30 min.	Child	Teen	Adult	Senior/ Impaired	Total	15 min.	30 min.			
7:00												
7:15												
7:30												
7:45												
8:00	64	64										
8:15	76	140										
8:30	100	176	4		6		10	7	7	1,232		
8:45	75	175							7	1,225		
9:00		75										
9:15												
9:30												
9:45												
AM Totals	315		4		6		10					
11:30	40				2		2	1				
11:45	40	80							1	80		
12:00	43	83										
12:15	41	84										
12:30	42	83	2				2	2	2	166		
12:45	25	67							2	134		
13:00	32	57										
13:15	27	59										
Noon Totals	290		2		2		4					
14:00												
14:15												
14:30												
14:45												
15:00	52	52										
15:15	67	119			6		6	3	3	357		
15:30	65	132			7		7	3.5	6.5	858		
15:45	49	114			5		5	2.5	6	684		
16:00	61	110							2.5	275		
16:15	67	128			2		2	1	1	128		
16:30	59	126			2		2	1	2	252		
16:45	79	138							1	138		
17:00		79										
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	499				22		22					
Totals	1,104		6		30		36					
			17%		83%		100%					
			North Crosswalk =				14					
			South Crosswalk =				22					

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

SUMMARY

Total Warranted PC Points: or / period
Highest PC point value: 1,232 at
Average PC point value: 369
No. of periods warranted:

Appendix D: Pedestrian Actuated Signal Warrant

Ortona Street & Crerar Drive:

Location & Roadway Classification: Ortona & Crear - local-local
 Date of Count: Day of wk: Wed Mth, Day, Yr: Sep 1-2/15
 Weather: fair
 Traffic Control Devices: yield signs (facing Crear)
 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 1,000 m
 Location: NA
 Type: _____
 Is the orientation of this crosswalk(s) N-S? y (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	33	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	732	at	
Adult:	21	Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	27		
Vehicles passing through crosswalk(s):	355				

ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

****Install device at the East Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00		5	4	6									
8:15		15	8	9									
8:30		16	4	9	2		3			3			7
8:45		13	9	2									
9:00													
9:15													
9:30													
9:45													
AM Totals		49	25	26	2					3			7
11:30		18	2	11									
11:45		15	2	6									
12:00		8	6	3	3								5
12:15		4	3	3									
12:30		3	4	1									
12:45		5	4	7	2		2			1			5
13:00		5	2	4									
13:15		5	1	2									
Noon Totals		63	24	37	5					1			10
14:00													
14:15													
14:30													
14:45													
15:00		7		4									
15:15		5	5	5									
15:30		12	4	5			1						5
15:45		6	3	7									
16:00		8	3	5									
16:15		3	6	7	2		6			5			2
16:30		11	2	4									
16:45		12	3	4									
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		64	26	41	2		12			5			7
Totals		176	75	104	9		12			9			24
West Crosswalk =								21	East Crosswalk =				33

Ortona Street & Currie Avenue:

Location & Roadway Classification: Ortona & Currie - local-local
 Date of Count: Day of wk: Wed Mth, Day, Yr: Sep 3/15
 Weather: fair
 Traffic Control Devices: yield signs (facing Currie Ave)
 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 1,000 m
 Location: NA
 Type: _____
 Is the orientation of this crosswalk(s) N-S? y (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	37	Total Warranted PC Points:		or	/ period
High School:	2	Highest PC point value:	3,588	at	
Adult:	45	Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	28		
Vehicles passing through crosswalk(s):	398				

ACTIVE PEDESTRIAN CORRIDOR NOT WARRANTED
PEDESTRIAN ACTUATED SIGNAL NOT WARRANTED

****Install device at the West Crosswalk ****
 (Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	2	6		10									
8:15	7	15		9									
8:30	16	17		13	3		4			8			8
8:45	13	6		14									
9:00													
9:15													
9:30													
9:45													
AM Totals	38	44		46	3					8			8
11:30	17	22		22	25		26			2			
11:45	6	17		8									
12:00	1	8		7									
12:15	1	5		3									
12:30		3		4						3			1
12:45	2	5		4									
13:00	2	6		4									
13:15		4		3									
Noon Totals	29	70		55	25					5			1
14:00													
14:15													
14:30													
14:45													
15:00	1	6		1									
15:15	1	5		4									
15:30	2	13		7		2							
15:45		9		9									
16:00		8		4						2			
16:15	1	4		8									
16:30		11		6									
16:45		12		4									
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	5	68		43		2				2			
Totals	72	182		144	28	2	30			15			9
West Crosswalk =								60	East Crosswalk =				24

Caen Street & Lancaster Boulevard:

Location & Roadway Classification: Caen & Lancaster Blvd - local-local
 Date of Count: Day of wk: Wed-Thurs Mth, Day, Yr: Sep 16-17/15
 Weather: fair & rainy
 Traffic Control Devices: yield signs (facing Caen St)
 Current Pedestrian Control: none
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes
 Is there a physical median in this crosswalk(s)? n (y or n)
 Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit
 Distance to nearest protected crosswalk 1,000 m
 Location: NA
 Type: _____
 Is the orientation of this crosswalk(s) N-S? n (y or n)
 Duration of pedestrian count 5 hrs

Elementary:	10	Total Warranted PC Points:		or	/ period
High School:	11	Highest PC point value:	2,411	at	
Adult:	8	Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	31		
Vehicles passing through crosswalk(s):	1,191				

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	11	31	9									
8:15	22	17	38	8	5	2					2		
8:30	32	11	49	8	2	5							
8:45	14	7	41	6									
9:00													
9:15													
9:30													
9:45													
AM Totals	81	46	159	31	7	7					2		
11:30	19	8	12	3									
11:45	8	6	22	5									
12:00	14	6	13	4									2
12:15	12	12	15										
12:30	8	7	16	5									
12:45	12	8	13	4									
13:00	13	4	11	2									
13:15	14	9	13	3									
Noon Totals	100	60	115	26									2
14:00													
14:15													
14:30													
14:45													
15:00	34	16	16	5									
15:15	23	11	48	13									
15:30	12	13	27	5		1	2			1	1	1	
15:45	25	13	17	10									
16:00	31	12	14	9									
16:15	26	18	23	11									
16:30	25	22	18	11			1			4			
16:45	35	15	12	3									
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	211	120	175	67		1	3			5	1	1	
Totals	392	226	449	124	7	8	3			5	3	3	
North Crosswalk = 18								South Crosswalk = 11					

Mountbatten Street & Lancaster Boulevard:

Location & Roadway Classification: Mountbatten & Lancaster Blvd - local-local
 Date of Count: Day of wk: Wed/Thurs Mth, Day, Yr: Sep 30-Oct 1/15
 Weather: fair
 Traffic Control Devices: yield signs (facing Lancaster)
 Current Pedestrian Control: none
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes

Is there a physical median in this crosswalk(s)? n (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 1,000 m
 Location: NA
 Type: _____

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

Duration of pedestrian count 5 hrs

Elementary:	2	Total Warranted PC Points:		or	/ period
High School:	6	Highest PC point value:	999	at	
Adult:	20	Active Ped Corridor Points:			
Senior:	2	Pedestrian Actuated Signal Points:	29		
Vehicles passing through crosswalk(s):	642				

**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	10	13	8	10									
8:15	9	9	6	9									
8:30	9	14		19			1			1			
8:45	13	6	3	18									
9:00													
9:15													
9:30													
9:45													
AM Totals	41	42	17	56						1			
11:30	7	3		6									
11:45	8	4	4	8			1						
12:00	9	5	1	2			1			1			
12:15	10	3	4	7									
12:30	19			7									
12:45	10	4		5									
13:00	8	4	2	5									
13:15	13	4		3			2		2				
Noon Totals	84	27	11	43						1			
14:00													
14:15													
14:30													
14:45													
15:00	21	3	2	5									
15:15	16	5	2	26		6	8			5			
15:30	27	4	6	9									
15:45	16	8	1	6									
16:00	25	5	3	4	2								
16:15	31	3	3	8									
16:30	24	4	1	13									
16:45	30	3	2	5									
17:00													
17:15													
17:30													
17:45													
18:00													
18:15													
18:30													
18:45													
19:00													
19:15													
19:30													
19:45													
20:00													
20:15													
20:30													
20:45													
PM Totals	190	35	20	76	2	6	13		2	5			
Totals	315	104	48	175	2	6	13		2	7			
West Crosswalk =								21	East Crosswalk =				9

Dieppe Street & Crerar Drive:

Location & Roadway Classification: Dieppe & Crear
 Date of Count: Day of wk: Tues/Wed Mth, Day, Yr: Oct 6/15
 Weather: fair
 Traffic Control Devices: yield signs (N-S)
 Current Pedestrian Control: standard
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes

Is there a physical median in this crosswalk(s)? n (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 1,000 m
 Location: NA
 Type: _____

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

Duration of pedestrian count 5 hrs

Elementary:	38	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	1,435	at	
Adult:	21	Active Ped Corridor Points:			
Senior:	1	Pedestrian Actuated Signal Points:	30		
Vehicles passing through crosswalk(s):	428				

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

****Install device at the West Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	1	3	4	9									
8:15	2	15	3	14	8		2			1			2
8:30	9	12	7	20	6								
8:45	2	7	4	19									
9:00													
9:15													
9:30													
9:45													
AM Totals	14	37	18	62	14					1			2
11:30	5	7		3									
11:45	6	5	3	11									
12:00	3	1	2	5	8		3						
12:15	4	2	1	5									
12:30	4	3	1	8									
12:45	2		1	3									
13:00				3									
13:15		4	2	2									
Noon Totals	24	22	10	40	8								
14:00													
14:15													
14:30													
14:45													
15:00	6	11	3	8									
15:15	10	8	7	18	5		3			2			4
15:30	3	6	3	7									
15:45	2	3	1	3									
16:00	2	5	2	11									
16:15	6	10	2	3									
16:30	6	6	1	11	3		8		1	2			2
16:45	1	9	14	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	36	58	33	74	8		16		1	4			6
Totals	74	117	61	176	30		16		1	5			8
West Crosswalk =								46	East Crosswalk =				14

Dieppe Street & Haida Avenue:

Location & Roadway Classification: Dieppe & Haida - local-local
 Date of Count: Day of wk: Tues Mth, Day, Yr: Oct 6/15
 Weather: fair
 Traffic Control Devices: yield signs (facing Haida)
 Current Pedestrian Control: none
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes

Is there a physical median in this crosswalk(s)? n (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 1,000 m
 Location: NA
 Type: _____

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

Duration of pedestrian count 5 hrs

Elementary:	8	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	98	at	
Adult:		Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	28		
Vehicles passing through crosswalk(s):	422				

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

****Install device at the East Crosswalk ****

(Note: Standard and Zebra crosswalks can be installed on both sides if pedestrian volumes are approximately equal.)

Time (15 minute intervals)	Vehicle Counts				Pedestrian Counts								
	SB	WB	NB	EB	West Crosswalk				East Crosswalk				
					Child	Teen	Adult	Senior / Impaired	Senior / Impaired	Adult	Teen	Child	
7:00													
7:15													
7:30													
7:45													
8:00	1	1	6	6									2
8:15	4	8	10	12									
8:30	4	7	15	23	1								
8:45	2		8	4									
9:00													
9:15													
9:30													
9:45													
AM Totals	11	16	39	45	1								2
11:30	1	1	6	9									
11:45	2	9	4	5									2
12:00	2		4	4									
12:15	1	2	4	6									
12:30	3	3	2	4									
12:45	1	2	1	3									
13:00			4	2									
13:15		1	4	2									
Noon Totals	10	18	29	35									2
14:00													
14:15													
14:30													
14:45													
15:00	2	1	5	15									
15:15	4	17	15	13									
15:30		7	7	11									
15:45	3	1	9	8									
16:00	4	4	10	10	2								
16:15	2	4	6	3									
16:30	4	3	10	13	1								
16:45	6	4	8	10									
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	25	41	70	83	3								
Totals	46	75	138	163	4								4
West Crosswalk =									4	East Crosswalk =			4

Lancaster Boulevard & Ortona Street:

Location & Roadway Classification: Lancaster Blvd & Ortona St
 Date of Count: Day of wk: Tues/Wed Mth, Day, Yr: Oct 13-14/15
 Weather: fair
 Traffic Control Devices: yield signs
 Current Pedestrian Control: none
 Other Notes: _____

Number of travel lanes passing through the crosswalk(s) 2 lanes

Is there a physical median in this crosswalk(s)? y (y or n)

Speed limit (or 85th percentile speed) 50 km/h
 85th percentile (check one)
 Posted Limit

Distance to nearest protected crosswalk 1,000 m
 Location: NA
 Type: _____

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

Duration of pedestrian count 5 hrs

Elementary:	6	Total Warranted PC Points:		or	/ period
High School:		Highest PC point value:	1,232	at	
Adult:	30	Active Ped Corridor Points:			
Senior:		Pedestrian Actuated Signal Points:	28		
Vehicles passing through crosswalk(s):	1,104				

**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	17	2	34	11									
8:15	19	8	32	17									
8:30	24	2	38	36	3		3			3			1
8:45	15	3	34	23									
9:00													
9:15													
9:30													
9:45													
AM Totals	75	15	138	87	3					3			1
11:30	17	4	8	11			1			1			
11:45	17	4	13	6									
12:00	13	3	18	9									
12:15	15	8	13	5									
12:30	14	1	16	11									2
12:45	6	1	14	4									
13:00	15	1	10	6									
13:15	14	1	7	5									
Noon Totals	111	23	99	57						1			2
14:00													
14:15													
14:30													
14:45													
15:00	25	2	21	4									
15:15	15	4	21	27						6			
15:30	32	4	20	9						7			
15:45	27	4	12	6			5						
16:00	30	6	17	8									
16:15	37	4	17	9						2			
16:30	30	9	17	3			2						
16:45	46	3	14	16									
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	242	36	139	82			11			15			
Totals	428	74	376	226	3		11			19			3
North Crosswalk =								14	South Crosswalk =				22

APPENDIX E: COLLISION ANALYSIS

Appendix E: Collision Analysis

Street 1	Street 2	Ugrid	All Collisions (2010 to 2014)	All collisions - 2014	Right Angle, Left Turn, Right Turn only	Right Angle, Left Turn, Right Turn only - 2014	Average (2010 to 2014)
11th St	Fairlight Dr	A9-4	12	3	1	0	2
Mountbatten St	Dundonald Ave	C10-7	8	3	0	0	2
11th St	Lancaster Blvd	B9-2	8	4	2	1	2
Caen St	Crescent Blvd	A10-7	7	3	5	2	1
11th St	Crescent Blvd	A9-2	4	1	1	0	1
Mountbatten St	Lancaster Cres	B10-32	3	1	3	1	1
Caen St	Dundonald Ave	C10-3	2	0	2	0	0
11th St	McNaughton Ave	AA9-6	2	0	1	0	0
Dieppe St	Lancaster Blvd	B10-1	2	0	2	1	0
Ortona St	Haida Ave	A10-11	2	2	2	2	0
11th St	Crear Dr	B9-4	1	0	0	0	0
Caen St	Currie Ave	B10-31	1	0	0	0	0
Caen St	Elevator Rd	A10-30	1	0	0	0	0
Elevator Rd	Normandy St	A10-36	1	0	0	0	0
Ortona St	Lancaster Blvd	B10-11	1	0	1	0	0
Mountbatten St	Crear Dr	B10-37	1	0	0	0	0
Mountbatten St	Haida Ave	A10-32	1	0	0	0	0
Dieppe St	Dundonald Ave	C10-4	1	0	1	0	0
Dieppe St	Crear Dr	B10-7	1	0	0	0	0
Caen St	Crear Dr	B10-6	0	0	0	0	0
Arnhem St	Elevator Rd	A10-37	0	0	0	0	0
Dieppe St	Haida Ave	A10-29	0	0	0	0	0
Caen St	Lancaster Blvd	B10-3	0	0	0	0	0
Caen St	Haida Ave	A10-19	0	0	0	0	0
McNaughton Ave	Arnhem St	AA10-8	0	0	0	0	0
Arnhem St	Haida Ave	A10-2	0	0	0	0	0
Haida Ave	Normandy St	A10-28	0	0	0	0	0
Elevator Rd	Ortona St	A10-25	0	0	0	0	0
Ortona St	Rockingham Ave	A10-1	0	0	0	0	0
Ortona St	Crerar Dr	B10-26	0	0	0	0	0
Mountbatten St	Bader Cres (east)	B10-22	0	0	0	0	0
Mountbatten St	Bader Cres (west)	B10-33	0	0	0	0	0
Mountbatten St	Lancaster Blvd	B10-17	0	0	0	0	0
Mountbatten St	Cassino Ave	B10-34	0	0	0	0	0

APPENDIX F: DECISION MATRIX

Decision Matrix - Items proposed at December 8, 2015 meeting

Item	Location	Proposed Measure	Reason	Group 1: Mark	Group 2: Paul	Group 3: Goran	Group 4: Ellen	Group 5: Shirley	Group 6: Melissa	Group 7: Jay	Decision
11th St West Bypass											
1	11th St Bypass & Fairlight Dr	Move store billboard on west side of intersection	Improve visibility of stop sign	perhaps lift sign higher. Not sure if it's an issue.	The group felt this would have no effect. This intersection was viewed as a major problem though.	CN trucks bigger issue.		Not a big issue.	Support, no issues		Removed.
2	11th St Bypass (130m west of Crescent Blvd)	Install 50 kph speed sign	Ensure drivers are aware of 50kph speed limit			Also install westbound west of Dundonald Ave.			Signage needs to be placed closer to Fairlight - proposed location was too far down 11th St; another sign be place going westbound as well.		Carried. Existing 50 kph signs eastbound (east of Fairlight Dr, east of Crescent Blvd, east of Lancaster Blvd) & westbound (west of Dundonald Ave, west of Lancaster Blvd). Only section of 11th Street Bypass without 50kph signs between two intersections is Crescent Blvd to Fairlight Dr (westbound); therefore all other sections have have adequate signing.
3	11th St Bypass & Crescent Blvd	Move chevron signs	Improve visibility	Need more lanes at intersection. Unclear where people are going. Paint turning lanes	Would have no effect				Completed? Group thought this may have already been done.		Completed in fall 2015.
4	11th St Bypass (250m east of Crescent Blvd)	Install speed display board	Reduce driver speed	Maybe a median needed. Widen turning lanes. Designated turning lanes. Selected location would be good for eastbound traffic. Consider location shown as #5 for westbound.	The display board is a good idea; it should be moved around, or perhaps have a few. A question was posed about whether the Community Association could purchase their own.	Westbound is most important	More relevant inside the neighbourhood		Support, no issues		Carried.
5	11th St Bypass & Lancaster Blvd	Install median island & additional stop sign on south side	Enhance visibility of stop sign; ensure drivers are reducing speed to turn left from 11th St onto Lancaster Blvd	Island would get in the way unless widened. Trucks need space.	Felt this was a good idea; apparently its quite dark at this location.	Perhaps move the sound wall. No westbound acceleration.	Not in favour. Lane width is enough to slow.		Wait to install the median island until the major intersection review is complete		Documented comments. Will be reviewed as part of Intersection Improvements.
6	11th St Bypass & Lancaster Blvd	Add to major intersection reviews	Review westbound lane configurations	Intersection is too narrow. Wider corners needed & wider lanes. Poor visibility.		Merge lanes east-west		Poor visibility. Sign for lanes westbound on 11th St.	Support the review - group expressed their concerns turning onto 11th St Bypass (no visibility)		Documented comments. Will be reviewed as part of Intersection Improvements.
7	11th St Bypass (Lancaster Blvd to Chappell Dr)	Enforcement	Reduce driver speed				Currently plenty of enforcement; maintain (don't reduce)		Support, no issues		Carried

Caen St											
8	Caen St & Lancaster Blvd	Install standard crosswalk on north side	Improve pedestrian safety	Also in support of sidewalk here.	Agreed, but felt it should be a zebra crosswalk and suggest that the yield sign be converted to a stop sign, or even make it a four-way stop.		Crosswalk may be irrelevant (no sidewalks); light may be better option; move north where there are sidewalks		Support, no issues	Carried. According to Polciy C07-007: Traffic Control - Use of Stop and Yield Signs, a two-way stop is warranted where the total number of vehicles entering the intersection exceeds 3,500 vehicles per day. The intersection count was 3,770 vpd, therefore a two-way stop will be added to the recommendations. Four-way stop study indicated it is not warranted.	
11th St											
9	11th St & Cul-de sac on east end	Install bollards	Restrict driver access onto 11th St Bypass/Circle Dr		No one has seen this and didn't think it could be done; but support bollards if this is a problem. Also, the group felt that people can still get through the barricades at the other end of the street (by #3 on the map); should look at this site too.				Support. Concerns with people using the COS vacant parcel to short-cut to the lane.	Carried.	
Dundonald Ave											
10	Dundonald Ave (south of 11th St)	Install "Not a Through Street" sign	Ensure drivers are aware of road ending			Needs to be more visible than existing sign	Sign should be earlier (left lane on 11th)	Sign is in place already	Support, but think additional signage is needed on the north and west sides of the intersection (before people turn onto Dundonald)	Best place so people can see, have signs directing to landfill (add "landfill access" to directional signs at Circle Dr southbound before 11th St; landfill guide signs)	Carried. Existing "Local Traffic Only" sign is a temporary sign included in the Dundonald Ave construction plan. Additional signs for the landfill also recommended.
Elevator Rd											
11	Elevator Rd & Caen St	Install median island	Reduce driver speed	Ensure buses can turn. Not sure if needed.		Big trucks parked around the corner. Make sure it fits (bus route too).	Parking issues; didn't work last time	Move back to Arnhem St instead	Do not agree with location, and don't believe its even warranted	May require parking restrictions	Removed.
Back lane south of 11th St											
12	Back lane south of 11th St (access from Elevator Rd)	Install 20 kph speed sign	Reduce driver speed				Speed is still an issue		Group felt that it wasn't necessary to post speed limits in lanes, and if Transportation was do to so, to make the speed limit less than 20kph	Not sure if this will be effective	Carried.

13	Back lane south of 11th St (access from Dundonald Ave)	Install 20 kph speed sign	Reduce driver speed				Speed is still an issue		Group felt that it wasn't necessary to post speed limits in lanes, and if Transportation was do to so, to make the speed limit less than 20kph	Not sure if this will be effective	Carried.
Mountbatten St											
14	Mountbatten St & Lancaster Blvd	Install "no parking" signs on southeast corner to indicate 10m from intersection (according to the Traffic Bylaw 7200, drivers are not to park within 10m of an intersection due to safety)	Enhance visibility		Agreed. There are some hedges on one of the corners that is a problem as it reduces visibility.		Not a problem		Support, no issues		Carried. Forwarded tree trimming request to Parks.
Ortona St											
15	Ortona St & Lancaster Blvd	Install standard crosswalk on south side	Improve pedestrian safety						Support, no issues		Carried.
16	Ortona St & Lancaster Blvd	Move bus stop from centre of intersection	Improve safety		Not sure where it would go; this is a difficult site, and not sure there is a better location at this intersection	Make sure new location is accessible (maybe sidewalk).		Lighting needed; change yield signs to stop signs	Support, no issues		Carried. According to Polciy C07-007: Traffic Control - Use of Stop and Yield Signs, a two-way stop is warranted where the total number of vehicles entering the intersection exceeds 3,500 vehicles per day. The intersection count was 3,900 vpd, therefore a two-way stop will be added to the recommendations. Comments forwarded to SL&P to consider additional street lighting.
17	Ortona St & Currie Ave	Install "No Stopping" signs on east side median	Enhance visibility & improve pedestrian safety	School needs better drop-off zone	Need to consider this further. Unsure of how people would pick up their kids if they couldn't stop here. Thought this area was for stopping.		Create a stopping zone instead		Support, no issues		Carried. The parking restrictions will be installed temporarily to assess. The school will be notified prior to installation.
18	Ortona St & Currie Ave	Install zebra crosswalk on west side	Improve pedestrian safety						Support, no issues		Carried.
19	Ortona St & Crerar Dr	Extend park pathway to intersection (approximately 20m)	Improve pedestrian safety by encouraging pedestrians to cross at intersection						Support, no issues	Re-align path at park	Carried.

20	Ortona St & Crerar Dr	Install standard crosswalk on east side	Improve pedestrian safety		Agreed, but should install a zebra crossing not a standard crossing.			Upgrade to zebra	Support, no issues Group felt that intersection improvements are warranted - it was proposed that centre blvd line up more appropriately with Crerar Dr		Changed to zebra crosswalk due to high pedestrian count and vicinity of school. Boulevard cannot be moved due to location of lamppost. Configuration will remain as is.
21	Ortona St & Crerar Dr	Move mailbox from centre median	Improve safety		Agreed, but should widen the boulevard at this location so people can get off the road when they stop to use the mailbox.		Not a safety issue; highly visible	Keep mailbox just move across.	Support, no issues		Carried. Request will be sent to Canada Post to move it to a nearby location, where it's convenient to access and allows adequate space for drivers to pass.
Dieppe St											
22	Dieppe St & Crerar Dr	Install "no parking" signs on northwest & southeast corners to indicate 10m from intersection (according to the Traffic Bylaw 7200, drivers are not to park within 10m of an intersection due to safety)	Enhance visibility		Agreed, but do so on all 4 corners.				Support, no issues		Carried. Additional signs will be placed on southwest & northeast corners (all signs are on Dieppe St) to ensure crosswalk is visible.
23	Dieppe St & Crerar Dr	Install zebra crosswalks on east and west sides	Improve pedestrian safety						Support, no issues		Carried.
24	Dieppe St & Haida Ave	Change north-south yield signs to east-west stop signs	Traffic count indicated higher traffic volumes on Haida Ave; stop signs recommended on all bus routes	Local residents don't like it. Others do.	Would prefer a 4-way stop.				Group felt that high traffic does not occur within this area of the neighbourhood and stop signs are not warranted. It was noted that construction was occurring on Dundonald Ave when some counts were happening. Group felt that a recount may be needed.		Construction on Dundonald Avenue may have effected the traffic counts. Intersection will be re-evaluated in spring 2016.
All Transit Routes											
25	All intersections along bus route	Change yield signs to stop signs	According to Policy C07-007: Traffic Control - Use of Stop & Yield Signs, stop signs are warranted along bus routes		They should be stop signs at all the intersections with Elevator Road, and potentially even some four-way stops at some of these intersections. Neutral for the other sites, but assume it would help.				Support, but Group felt enforcement was needed (particularly for bus drivers)		Carried. Four-way stop locations must meet criteria outlined in Policy C07-007.

Neighbourhood-wide traffic calming											
26	All accesses from Dundonald Ave & 11th St	Install "Traffic-calmed neighbourhood" signs	Reduce driver speed/driver awareness		The group was not in favour of pinch points (7-2 vote). They felt they would have the same problems as speed bumps (noise, etc.), and concerns people would play chicken and race through. They would just slow traffic for that one block; everyone would just speed up after anyway. Group felt education was the key to slowing traffic out here.		Irrelevant; not going to address the problem	Ok as long as there's some kind of traffic calming devices.	Group would support some type of signage that notifies those coming into the neighbourhood to slow down. IF 40 kph is not an option.	"Watch for pedestrians" or "pedestrians on road"	Carried. A similar sign such as "Share the road" will be included in recommendations.
27	See map for locations	Install pinch point	Reduce driver speed	Concerns with snow removal. Visibility concerns due to lack of lighting. Not in support. Roads aren't wide enough.	Same comment as above - not in favour	Speed eastbound more of an issue. Focus around school zones. Or curb extensions at intersections. If going ahead with the pinch points move the Dieppe St and Mountbatten locations away from the curves off of Dundonald Ave further west into neighbourhood.	Try a pinch point at Crerar Dr & Caen St as a test run; don't install all of them at once	Not in favour. Safety concerns with kids on street because no sidewalks. Roads are too narrow. Prefer speed humps instead. Maybe speed display boards. Stop signs may be sufficient.	Group does not support any pinch points in the neighbourhood		Removed. General support was not received.
Community Programs											
28	Neighbourhood-wide	Pace Car Program	Reduce driver speed	Uncertain. Need more information on how it could work.	The group felt they didn't have enough information on this, and were skeptical it would work anyway. They felt the Community Association should look at it further before the neighbourhood decides what to do. The group felt reducing the speed to 40 kph was the better solution.	Willing to give it a try.	No interest.		Support, and would be willing to volunteer. Group would encourage the CA to look into the grants currently being offered.		Carried. Will be included in the recommendations but this is a community-driven program.
29	Neighbourhood-wide	Speed Display Board	Reduce driver speed		Agreed; very much in favour of these display boards, and there should be a number of them around the neighbourhood including around the schools.	Would like to see more around schools.			Group was in full support of having these signs up in the neighbourhood		This is a community-driven program. No further recommendations included as part of this review.

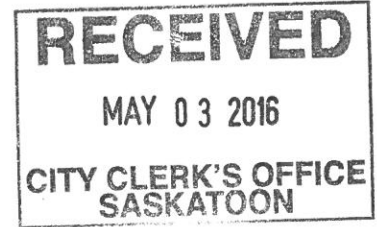
Decision Matrix – Additional Issues Raised at December 8, 2015 Meeting

Item	Location	Comment/Concern	Decision
1	Neighbourhood-wide	In support of 40 kph speed limit; perhaps trial project; four-way stops; speed bumps	More information will be provided in the report on the 40 kph speed limit in residential areas. Four-way stop locations must meet criteria outlined in Policy C0-007. Speed bumps have adverse effects such as noise and issues with emergency vehicles. No further recommendations at this time.
2	Back lanes near Simmons Park	Parking; 20 kph signs needed; shortcutting	Parking wasn't an issue during site check and lanes were wide to allow passing. 20 kph speed signs will be posted at all access points.
3	Ortona St south of Montgomery School	Allow parking drop-off/pick-up area along median	Pedestrians have the right-of-way at all intersections. Allowing parking in the centre of intersections creates a sight obstruction and therefore a pedestrian safety concern. Parking along a median is not recommended.
4	School zones	Install flashing beacons; speed humps	Flashing beacons in school zones is currently being reviewed as a city-wide initiative. As previously stated, speed bumps, as well as speed humps, have adverse effects such as noise and issues with emergency vehicles. No further recommendations at this time.
5	Dundonald Ave	Water & sewer work; detour signs left behind	Site check determined signs were removed.
6	Dundonald Ave	Sidewalk south of 11th St needed; also improve lighting	Site check indicated foot path on west side of Dundonald Ave between 11th St & Caen St. Add sidewalk to recommendations. Street lighting is adequate.
7	Accesses along Dundonald Ave & 11th St into neighbourhood	Trees obstruct driver's view; trimming needed	Trees were trimmed at the time of the site check.
8	Crerar Dr - Dieppe to Mountbatten St	Make it one-way because it's too narrow (southbound in the morning and afternoon)	One-way streets create the potential for speeding and traffic volumes are low on this street. No further recommendations.
9	Haida & Ortona	stop signs	There's a peak time bus route through this intersection. According to Policy C07-007, stop signs are warranted along a bus route. Recommendation is already included to install stop signs at all intersections along Transit route.
10	Fairlight & Elevator Rd	Cars come out of the parking lot at the store and add confusion. There are lots of semi's travelling through this intersection; and sight lines are hampered due to semi's parked all along 11th Street at this location.	Parking is restricted in front of store (on 11th St) due to driveways. Restrict parking further west of site (in front of treed area) to improve sightlines. Policy is being developed to address driveway spacing near intersections.

11	11th St	too many semis were shortcutting along 11th Street; some enforcement needed as they are clearly shortcutting; sight lines, etc. As well, the new pavement along 11th Street was torn up due to the amount of semi traffic.	Recommendations outlined during December meeting will address the issues. Review of pavement conditions determined condition was good.
12	Cassino Ave	curve by the park is a problem. The road narrows at the corner, and people using the park (sports fields) park along this area making it almost impossible to get through. Should consider no parking at the corner on both sides of the park.	Parking restrictions will be added on corner.
13	Crerar Dr & Mountbatten St	Consider zebra crosswalk	Pedestrian & traffic study in spring 2016 to determine usage.
14	Lancaster Blvd	Collisions at Caen, Ortona, & Dieppe	Collision analysis determined there were 0 collisions per year on average between 2010 and 2014. Therefore no further recommendations.
15	11th St Corridor Study (outside neighbourhood)	traffic westbound miss turn going north to Circle Dr and will do a U-turn by tracks; signage needs to be clear	Signage will be reviewed as part of 11th Street Corridor Study.

6320-1

To: Bryant, Shellie (Clerks)
Subject: RE: Transportation Committee Meeting



-----Original Message-----

From: b.r.biddle@sasktel.net [mailto:b.r.biddle@sasktel.net]
Sent: May 03, 2016 7:40 AM
To: Bryant, Shellie (Clerks) <Shellie.Bryant@Saskatoon.ca>
Subject: Transportation Committee Meeting

Good Morning Shellie, I would like to confirm that I wish to speak at the Transportation Committee meeting on Monday morning May 9th regarding the traffic report for Montgomery Place.

I would like to display a picture (which I have attached) on my laptop at this meeting if at all possible. I am not technologically savvy so if it was allowable I would need assistance connecting my laptop to your system in order to do this.

Please confirm whether I may speak and whether I may display this picture.

Thank you
Barb Biddle, President of Montgomery Place Community Association

3101 Ontario Street
Saskatoon, SK S7M 3R3

Inquiry – Councillor A. Iwanchuk (Installation of Street Light - Entrance to Crosswalk at Dickey Crescent)

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016, be forwarded to City Council for information.

Topic and Purpose

This report is to provide information in response to an inquiry from Councillor A. Iwanchuk regarding pathway lighting and drainage for the walkway (connecting Dickey Crescent to the pedestrian overpass across 22nd Street West in the Pacific Heights neighbourhood).

Report Highlights

1. Pedestrian/cyclist data was collected and used to determine that the walkway serves as a pedestrian connection.
2. The installation of pathway lighting to improve visibility is recommended.
3. Improvement to drainage is recommended as ice accumulates in the walkway during winter and water pools in the spring months.

Strategic Goal

This report supports the Strategic Goal of Moving Around with well-planned neighbourhoods that encourage walking and cycling.

Background

The following inquiry was made by Councillor A. Iwanchuk at the Regular Business Meeting of City Council held on September 29, 2014:

“Would the Administration please report back on the feasibility and cost of installing one street light at the entrance to the overhead crosswalk at Dickey Crescent which leads to Blairmore.”

Report

Pedestrian and Cyclist Data

The Dickey Crescent walkway serves as an active transportation connection from the Pacific Heights neighbourhood to the Blairmore Suburban Area, Bethlehem Catholic High School, Tommy Douglas Collegiate and the Shaw Centre.

The Dickey Crescent walkway is aligned north to south. The exit points are to Dickey Crescent in the Pacific Heights neighbourhood, and to the pedestrian overpass across 22nd Street West. The location of the walkway is shown in Attachment 1.

Inquiry – Councillor A. Iwanchuk (Installation of Street Light – Entrance to Crosswalk at Dickey Crescent)

Pedestrian/cyclist data was collected at the walkway over a 24-hour period on a weekday and Saturday in October 2015. The data was used to compare pedestrian usage during daylight hours versus hours after sunset, and weekend versus weekday. A summary of the 24-hour pedestrian and cyclist counts is provided in the table below:

Date	Number of Pedestrians and Cyclists over 24-Hour Period	Number of Pedestrians and Cyclists from 6:00 PM to 8:00 AM	Peak Hours
Saturday, October 3, 2015	59	10	3:00 PM to 4:00 PM
Wednesday, October 7, 2015	577	44	8:00 AM to 9:00 AM 12:15 PM to 1:15 PM 2:45 PM to 3:45 PM

A review of the information provided in the table yields the following observations:

- The pedestrian/cyclist activity is higher during the weekdays than weekends, which is attributed to users accessing Tommy Douglas Collegiate and Bethlehem High School.
- There is pedestrian activity after sunset between 6:00 PM to sunrise 8:00 AM.
- The peak hours for pedestrian/cyclist usage vary during the 24-hour periods.
- The weekday peak hours coincide with the start of school, lunch break, and end of school.

Lighting

A Crime Prevention Through Environmental Design (CPTED) Safety Audit Review of the Dickey Crescent walkway was undertaken in November of 2015 (Attachment 2). During the review, participants had an opportunity to use the walkway after sunset. It was identified by the participants that visibility was limited.

As this walkway is well-used by residents after sunset and before sunrise, it is recommended that pathway lighting be installed. The need for pathway lighting was supported by 83% of the participants in the CPTED Safety Audit.

Drainage

The participants of the CPTED Safety Audit review observed wet and icy conditions on the walkway during winter, and pooling of water in the spring months from inadequate drainage. There were also concerns with inconsistent snow removal in the walkway which causes ice to form. This concern has been brought to the attention of the Public Works division and has been included in the regular Winter Maintenance program since January 2016.

As a result of the review, it is recommended that the Dickey Crescent walkway be graded to improve drainage. A detailed topographical survey of the walkway will be required prior to grading.

Public and/or Stakeholder Involvement

The CPTED Safety Audit Review of the Dickey Crescent walkway was undertaken in November of 2015, which provided the opportunity for Pacific Heights residents, Pacific Heights Community Association and City of Saskatoon employees to participate in the review and provide comments.

The community had eight members participate in the safety audit walk-through and four people provided comments via email.

Comments focused on maintenance and lighting; 83% of the participants felt that lighting should be installed in the walkways, 65% of the participants felt that overall maintenance was inadequate.

Communication Plan

If adopted, residents in the Pacific Heights neighborhood will be informed of the recommendations of this report through the Community Consultant.

Policy Implications

The recommendations in this report align with the procedures in Policy C07-017, Walkway Evaluation and Closure.

Financial Implications

Implementation of the recommendations will have financial implications. The estimated costs are summarized in the following table:

Item	Estimated Cost
Drainage	\$ 30,000
Lighting	30,000
TOTAL	\$ 60,000

Funding of these recommendations is typically provided by Capital Project #2234 – Walkway Management. A funding request of \$60,000 for this project will be included in the 2017 proposed capital budget, funded from the Traffic Safety Reserve.

Environmental Implications

Improvements to walkways are expected to have positive greenhouse gas emission implications. Walkways will reduce the total vehicle mileage and improve the walkability in the community.

Safety/Crime Prevention through Environmental Design (CPTED)

A CPTED Safety Audit was completed with the Pacific Heights Community on November 12, 2015, in which eight community residents participated in a walk-through of the walkway.

Other Considerations/Implications

There are no options, or privacy considerations or implications.

Due Date for Follow-up and/or Project Completion

If approved, and funding is made available through the 2017 capital project budgeting process, the recommendations will be implemented in 2017.

Public Notice

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

Attachments

1. Dickey Crescent Walkway Location
2. Dickey Crescent Walkway – CPTED Review Report, Dated February, 2016

Report Approval

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

TRANS MF – Inq Iwanchuk (Sept 29, 2014) Installation of St Light – Crosswalk Dickey Cres.docx

Dickey Crescent Walkway Location

Printed: February 18, 2016
Scale: 1:1,645



Disclaimer: This information is supplied solely as a courtesy and the City of Saskatoon makes no guarantee as to its accuracy. The recipient accepts all risks and expenses which may arise from the use of this information.

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CPTED REVIEW REPORT

crime prevention

Dickey Crescent Walkway CPTED Review Report



February, 2016 | Community Services Department, Planning & Development

Neighbourhood Safety Program

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1.0 General Background

Crime Prevention Through Environmental Design (CPTED) is a collaborative, multi-faceted approach to reducing opportunities for crime, improving perceptions of safety, and strengthening community bonds. CPTED emphasizes the relationship between the immediate physical environment and social behaviour related to crime. CPTED strategies are usually developed jointly by a number of trained individuals to ensure a creative and balanced approach to problem solving.

The principles of CPTED were adopted into the City of Saskatoon's Development Plan (now the City of Saskatoon Official Community Plan) in May 2008 and the Senior Management Team approved the CPTED Design Review Administrative Policy No. A09-034 in September of 2008.

Safe growth and the principles of CPTED are formally included within the City of Saskatoon's Official Community Plan (OCP). Community safety is recognized as a fundamental value in building a community with a sustainable quality of life" (Section 2.1). The principles of CPTED are an important aspect in creating a city form that supports the development safe and sustainable community and are embedded in Section 3.0 of the OCP.

This process was initiated through a Council inquiry, from Councillor Iwanchuck, at the September 29, 2014 City Council meeting. The inquiry asked about the "feasibility and cost of installing one street light at the entrance to the overhead crosswalk at Dickey Crescent which leads to Blairmore." According to City Council Policy C07-017 – Walkway Evaluation and Closure, a CPTED review must be carried out in order to understand the nature of the issues in the area, any lighting problem, and to determine the best solutions for this walkway. This report addresses the CPTED review section of that inquiry and recommends targeted improvements, including lighting and maintenance, for these walkways. This Pacific Heights walkway was not assessed in 2009 as a part of a larger walkway closure study undertaken by Infrastructure Services.

In this study many walkways were assessed across the city to determine if they should remain open. During this time, the Blairmore Suburban Centre was still under construction and this walkway was expected to see increased use after the completion of the Suburban Centre and the two high schools and leisure centre pool that were to be constructed. A technical safety audit and intercept survey, completed by civic staff, was done in 2008 to examine use of the walkways and how well they adhered to CPTED principles as part of a larger overpass/underpass study. This walkway was deemed essential in facilitating access between the new Blairmore Suburban Centre and the Pacific Heights neighborhood; specifically for students.

A CPTED Safety Audit Review of the identified walkway was undertaken on November 12, 2015 and the findings of this review form the basis of the recommendations in this report. This safety audit was included of the Pacific Heights Community Association, residents of the Pacific Heights neighborhood and City of Saskatoon employees. A total of eight people actively participated in the safety audit, while an additional person provided written comments that were dropped off at the meeting.



Figure 1: Walkway, at night, looking north towards Dickey Crescent (using a flash).



Map 1: Walkway and over pass between Pacific Heights Neighbourhood and Blairmore Suburban Centre

2.0 Significant Findings

2.1 Dickey Crescent Walkway Specifics

Although it is referred to as a walkway in this report, this is not a typical walkway. The walkway is a concrete sidewalk on the west side of the back lane exit from the long lane that runs on the south side of the Dickey Crescent lots. It connects up with the pedestrian overpass that spans 22nd Street West and facilitates access to the Shaw Centre and the Bethlehem and Tommy Douglas High Schools (Map 1). The sidewalk crosses the very long east west back lane and berm, along the south side of the residents, before connecting up with the pedestrian overpass that crosses over 22nd Street West. The north exit is between 226 and 230 Dickey Crescent and the south exit of the pedestrian overpass is adjacent to the north door of the Shaw Centre (Figure 2).



Figure 2: Path from Dickey Crescent to Shaw Centre over 22nd Street West showing back lanes, berm, and pedestrian overpass.

The pedestrian walkway is about 50 m long, from the Dickey Crescent south sidewalk to the top of the berm, and another 13 m to the entrance to the pedestrian overpass for a total of 63 m. The total distance from Dickey Crescent to the north door of the Shaw Centre is approximately 376 m with additional distance to either of the high schools to the east or west. The concrete sidewalk is about 1.5 m wide and the total back lane width is approximately 6.0 m wide. There are residential houses on the east and west side of the back lane exit to Dickey Crescent, and a back lane, berm, and 22nd Street West to the south (Figure 3).



Figure 3: Dickey Crescent sidewalk in the back lane.

This path is fairly open and sightlines down the sidewalk are good (Figure 4). However, it is impossible to see a person or a vehicle, moving along the east west back lane until you are right at the intersection due to the fencing. Safety audit participants identified speeding vehicles as an issue in the east west lane. The high fences on either side also make this intersection a good area for accosting someone due to its isolation. There is relatively little natural surveillance in this area (Figure 5).



Figure 4: Looking south down the walkway from Dickey Crescent



Figure 5: Sidewalk is on the right side of the back lane. It is poorly kept and not very visible.

Proper signage allows users to easily find the path to their destination. It is not clear at the Dickey Crescent entrance, where this path will lead and that it connects up with the pedestrian overpass to the Shaw Centre and the high schools

Maintenance along this pathway is also an issue. Grading of the site limits drainage of the intersection of the north south and east west back lanes. According to residents there is a big puddle that accumulates at the intersection and floods to the west of the intersection (Figure 6). It is quite deep and often prevents crossing. Ice also builds up in the catch basin that is to the west of this intersection.



Figure 6: According to residents, melting snow and rain water accumulate in this area and make the walkway impassable

In the winter, the sidewalk is lost and vehicles are not aware of it as it is covered in snow. Lack of snow removal on the sidewalk and walkway puts pedestrians at risk in slippery snow and ice conditions.

There are a line of trees and shrubs on the south side of the berm and the line runs east and west of the pedestrian overpass entrance (Figure 7). Trees and other foliage should be trimmed to ensure a clear view of the pedestrian overpass entrance.



Figure 7: Trees at the entrance to the pedestrian overpass.

Appropriate lighting can contribute to feelings of safety along the walkway. When the path is dark, there is poor visibility of others using the path and visibility of the path surface itself, which can be slippery when ice or snow is present. The sidewalk is not currently lit. An existing street light is located at the Dickey Crescent entrance but there are no light sources within the walkway itself. The ambient light from the Saskatoon entrance sign that is attached to the pedestrian overpass does make it easy to see on the overpass. However, the pathways to and from the pedestrian overpass, on both the north and south side are not well lit.

If the area is to be lit, the design and placement of the lights will be critical. Glare can be an issue if lighting is not targeted appropriately or can be an issue for the surrounding residential development. There is a street light at the Dickey Crescent end of the back lane but the light does not permeate very far south down the walkway.

Since lighting can influence feelings of safety in outdoor areas, it can be a useful aspect of a properly functioning walkway. However, the design and siting are critical or it has the potential to cause more issues rather than helping alleviate the existing ones.

2.2 Pedestrian Counts on Walkways

Pedestrian counts were done in October of 2015 and included a mid-week and a weekend pedestrian and bicyclist count. These counts utilized Miovision technology to accurately track 24-hour use of the walkways.

Tommy Douglas Collegiate High School and Bethlehem Catholic High school both opened with limited enrolment in 2007, and the first class to finish Grade 12 graduated in the 2010 school year. The Shaw centre opened to the public in two phases. Phase one of the centre was opened on January 14, 2007, while Phase two officially opened on September 12, 2009. The steady increases of services in the Blairmore Suburban Centre will correspond to greater pedestrian use of the walkways.

Pedestrian counts were conducted on Wednesday September 30, 2015 and Saturday October 3, 2015 to account for weekday and weekend use and the different natural lighting levels in the seasons (see attachment 6.3) The walkways were monitored for 24 hours with Miovision pedestrian counter technology to determine density of use.

Weekend use was, in total, 59 users within the 24-hour period. However, weekday use was much higher, with a total of 577 users during that period. Dramatic spikes in use were recorded between at 8am, noon, 2 pm, and 3 pm during the weekday count, while there were less significant spikes during the weekend counts. This coincides directly with the Tommy Douglas Collegiate and Bethlehem High School hours of operation and implies that students are a significant user group.

According to the pedestrian data, weekend night-time use of these walkways after 5:00 PM is minimal. The pedestrian counts averaged 22 users going north south and 8 going east west between 6 pm and 7 am. Nighttime use, between 6 and 8 pm, was 44 on the weekday count and only 10 on the weekend day.

Adding lighting to the walkways, with the increase in destinations south of Pacific Heights, may increase use in this walkway and an increase in legitimate users will support a safer environment.

2.3 Crime Activity

Attachment 6.1 shows selected 2014 crime incidents for the area in and around the Dickey Crescent walkway. Understanding what has happened in adjacent areas can assist in understanding the potential for incidents to spill over into this space; particularly if lights are installed.

There were relatively few reported incidents of crime adjacent to the walkway site in 2014. Many of the incidents are single incidents except at the two high schools where violence and drug related incidents are highest. Property crimes, such as break and enter and mischief related are higher in the surrounding residential area. Theft under \$5000 was very high in the Shaw Centre, slightly less at Tommy Douglas High School, and down to single reported incidents at Bethlehem High School and the surrounding residential.

One of the goals of this CPTED review is to mitigate the opportunity for crime to occur and to ensure that people feel safe in this space. The reported crime statistics from 2014 show that, aside from incidents of mischief, there was minimal criminal activity reported in the walkway area itself. However, persistent mischief incidents, such as graffiti vandalism or vandalism, can give off negative environmental cues which can affect the area users' feelings of safety. If people stop using the walkway then it becomes easier for illegitimate users to take over the space.

Crime maps are one tool that are used in identifying activity in an area, and can assist in determining if there are environmental changes that can be made to reduce the opportunity for crime to occur and increase feelings of safety. The recommendations in this report will help ensure that this walkway, and any proposed changes, incorporates all the applicable principles of Crime Prevention Through Environmental Design.

2.4 Community Input

Eight members of the community participated in a safety audit of the walkway on November 12, 2015. Unfortunately, safety audit books were only returned for half the participants. Participants were equally distributed between age groups, from 40 to 74 years of age, with a few more being between 40 and 44 years of age. 75% of the group was female and most came out because they felt the area was too dark and scary and not safe at night.

Comments were mainly focused on maintenance and lighting of the walkways. 83% of participants felt that lighting should be installed at walkway intersections, or at the entrance to each walkway, and 65% of respondents felt that overall maintenance was either poor or very poor. However, there is strong support for these walkways because of their use by students and in connecting residents to amenities in Blairmore Suburban Centre.

Participants indicated that the trees and shrubs at the overpass entrance blocked sight lines in the summer when the leaves are out and that there was no signage in the area to help orient users or to locate emergency assistance (Figure 7). Only one respondent could identify the building on the other side of the overpass and what the operating hours are.

The majority of respondents indicated that trimming bushes and trees and clearing snow would improve access and sightlines. Others felt lighting in the area would improve visibility and sightlines.

The Community Association has discussed light in this area and are in support of lighting the area. Garbage cans on either side of the walkway/overpass would help deal with litter. All responses from the community can be found in Attachment 6.2 of this report.

2.5 Alternate Routes

Audit participants felt that many use this area for active transportation and to cross 22nd Street because there are no close alternatives. However, recreation use is less when it is dark out.

Alternates to using this walkway and pedestrian overpass are not viable. Pedestrians and cyclists would have to go 2 km west, to Betts Avenue, or 2.5 km east, to Diefenbaker Drive, to access a formal crossing of 22nd Street West. This is excessive and would require quite a bit of back tracking if the final destination was the Shaw Centre or either of the high schools. This crossing is important and needs to function for the main users.

Because of the disparity in distances between different modes of transportation, Pacific Heights residents would be driving to Blairmore instead of walking if the walkway and pedestrian overpass did not exist. If residents do not feel safe using the walkway, or don't feel their family members are safe, then they will not use them and will choose to drive. This is an important and well-used walkway that links these adjacent areas and supports active transportation within the community.

This walkway is used despite concerns over maintenance and a lack of lighting. In fact, it is the only choice for some to travel from the Pacific Heights neighbourhood to the Blairmore Suburban Centre. Ensuring that this walkway is properly maintained will limit future property damage and increase use of the walkways.

This is not a typical walkway in that it is actually just a sidewalk in a back lane. It became a connector to the pedestrian overpass when the Shaw Centre and high schools were built as it was the only viable way to get people across 22nd Street West. This presents potential safety issues which are exacerbated by poor maintenance and visibility for the legitimate users of the path. In addition, users have to deal with vehicular traffic speeding down the east west back lane.

3.0 Summary

The Pacific Heights walkway is a valued addition to the neighborhood. Since the construction of the Blairmore Suburban Centre, the use has increased. The Dickey Crescent walkway is the most convenient way to access the new services and schools of the Blairmore Suburban Centre. The walkways encourage walking as a form of transportation, and increase pedestrian traffic within the neighborhood. This activates the sidewalks and walkways and puts more “eyes on the street”. The community’s primary concerns with these walkways are maintenance and lighting.

Currently, the maintenance, design, and snow removal does not facilitate proper drainage of the paths, which leads to dangerous snow and ice buildup. The walkways are cleared by Transportation & Utilities once per winter season, but more attention to these paths is needed considering the amount of use they get and the potential for inappropriate activity. Overall maintenance of the fencing along the walkway is good. Fencing appears to be maintained and free of graffiti vandalism.

Lighting the pathways was a solution initially identified by Pacific Heights community residents and prompted the Council Request. This solution was also echoed by Safety Audit participants. Winter months limit daylight and make it difficult to see the path in morning and evening hours. The walkway design is such that some form of lighting is needed to ensure users can see, particularly at the intersection of the two back lanes. There has been significant development, residential, institutional, and commercial, south of the Pacific Heights neighbourhood. There are opportunities for residents to access the high schools, a leisure centre, shopping, and places of employment. The walkways facilitate this access and also add an option to driving in this area.

Typically, lighting in walkways would not be considered. The combination of the rise in use, the significant development on the south side of Pacific Heights, Saskatoon as a winter city, and an increased emphasis on alternate forms of transportation all contribute to the addition of pedestrian lighting in this walkway as a reasonable option. However, this lighting, if approved, should have some unique qualities to add to the quality of life for all users and surrounding residents. The Parkridge walkways have been through a similar review and although not the same configuration it is a similar mix of uses, walkways and destinations.

3.1 Lighting

While lighting may not directly deter crime, it does have a direct link to fear levels. This walkway is well-used by residents of the neighborhood, but low-lighting conditions can contribute to feelings that the walkway is unsafe or for increased opportunities for crime to occur. Appropriate lighting can support to appropriate use of the walkways by filling them with legitimate users. This heightens an unwelcome feeling of surveillance for illegitimate users and increases natural surveillance in and around the walkways.

The safety audit participants were quite adamant that a light is needed in the north south path. They also indicated that they would like to see the east west pathway on top of the berm lit as well. Currently, there is enough users on the north south path to justify a light on this path. There does not appear to be significant use of the east west path; according to the count data (Attachment 6.2). However, the ongoing development of the Kensington neighbourhood, in particular, and the completion of the Blairmore Sector in general may increase the use of this pathway and eventually support lighting on the entire east west direction.

Regardless of what is chosen, the lights should be on timers. There is little reason to light any park or path between 11 pm and 6 am in the morning. Any lights on the Dickey Crescent walkway, or the east west pathway on the berm, should be on timers and the pathway signed to indicate when the pathway is lit and what the alternate paths are. This will ensure that users can safely use the walkways during times of high demand but the lights are not on when there is very little or no legitimate users. Walkway lights should be **off** from 11 pm to 6 am every day.

A decision will be required regarding the style and number of lights needed to adequately illuminate the path during use, balance the impact on adjacent homeowners, keep light trespass to a minimum, and not attract additional illegitimate users or uses. Saskatoon Light & Power should be consulted to ensure proper design and placement.

While appropriate lighting does not necessarily guarantee safety, it can do much to contribute to feelings of safety while walking in low-light conditions. Limited lighting coupled with the poor maintenance of this walkway does not contribute to feelings of safety. Addressing maintenance and lighting concerns would allow for greater ease of active transportation between the Pacific Heights and Blairmore areas and would contribute to feelings of safety for those using the walkway and pedestrian overpass.

4.0 Recommendations

The following recommendations address the neighbourhood's concerns regarding maintenance and feelings of safety. Community input identified the needs of the walkways through a safety audit.

- 4.1 That Neighbourhood Planning works with the Pacific Heights Community Association to produce an informational letter for residents adjacent to the walkways. This letter will identify how residents and adjacent landowners can help keep the walkway users safe and include:
 - Trimming trees that overhang or encroach on the walkway to ensure good natural surveillance for walkway users and adjacent resident;
 - Ensuring that fencing is in good repair to support a good image of the walkway;
 - Suggesting fencing alternatives to increase visibility into the walkway if an adjacent resident is considering replacement; and
 - Identifying the importance of removing graffiti vandalism immediately.
- 4.2 That Transportation & Utilities - Transportation apply to have this project identified under *Capital Project 2234 Walkway Management* to secure funding to re-establish proper back lane drainage.
- 4.3 That Neighbourhood Planning and Transportation & Utilities - Transportation meet with Transportation & Utilities – Public Works to discuss the recommendations from this safety audit and an improved schedule of snow removal for the walkways.
- 4.4 That Transportation & Utilities – Transportation monitor the walkways for one year once all the recommendations have been completed to ensure that the walkway and, if approved and installed, the lighting is functioning properly.
- 4.5 That the light in this walkway only be approved if it operates on a timer and is only operational from 6am to 11pm daily.
- 4.6 That Neighbourhood Planning distributes a letter in the Pacific Heights neighbourhood to inform residents of the timing schedule for the walkway lights.
- 4.7 That Transportation and Utilities sign the south entrance of the pedestrian overpass to inform users of the walkway lighting schedule and where the walkway leads.
- 4.8 That Transportation and Utilities sign the north entrance of the walkway, at Dickey Crescent, to inform users of the walkway lighting schedule, where the walkway leads, and the hours the Shaw Centre door is accessible.
- 4.9 That Transportation and Utilities arrange to have the trees and shrubs trimmed and tidied up to ensure good sightlines as users move in and out of the north end of the pedestrian overpass.
- 4.10 That Transportation and Utilities add a garbage can at the north and south entrance to the pedestrian overpass.

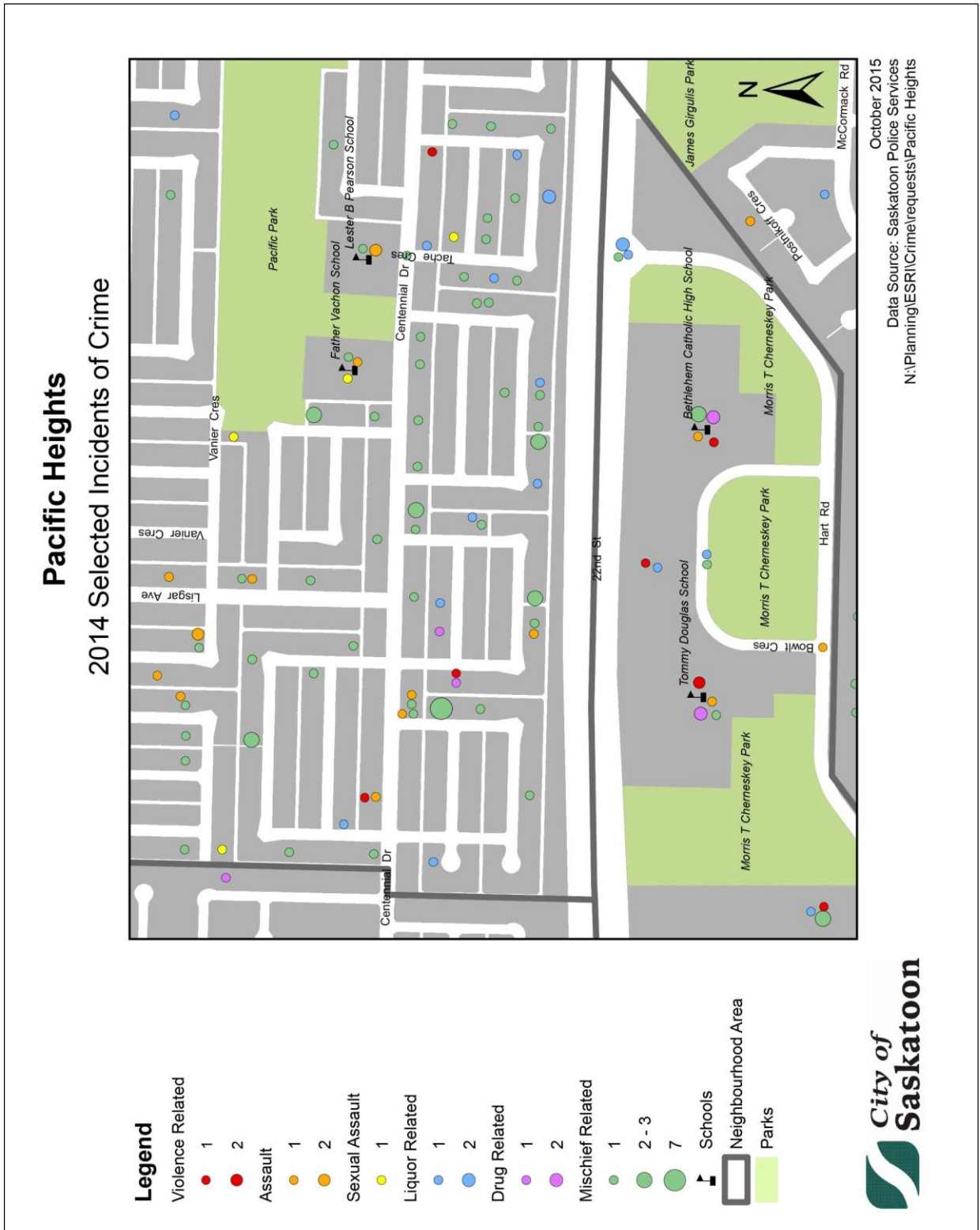
5.0 Implementation

This report was created in response to an inquiry from Councillor A. Iwanchuk dated September 29, 2014 regarding the potential installation of one light at the entrance to the pedestrian overpass that is connected to the walkway from Dickey Crescent. This report will form part of the response to this inquiry as it determines if additional lighting is warranted for the Dickey Crescent walkway after a CPTED Safety Audit of the area was completed. This report will be forwarded to Shirley Matt of Transportation for further review.

6.0 Attachments

- 6.1 Pacific Heights (Dickey Crescent) Walkway 2014 Selected Incidents of Crime
- 6.2 Summary of Dickey Crescent Walkway Safety Audit
- 6.3 Dickey Crescent Area Walkway Pedestrian Counts

Attachment 6.1: 2014 Selected Incidents of Crime



Pacific Heights 2014 Selected Incidents of Crime



- Legend**
- Break & Enter (Residential)
 - 1 (light blue dot)
 - Break & Enter (Business)
 - 1 (green dot)
 - Break & Enter (Other)
 - 1 (dark green dot)
 - Shoplifting
 - 1 (purple dot)
 - Theft under \$5000
 - 1 (small light purple circle)
 - 6 (medium light purple circle)
 - 14 (large light purple circle)
 - Theft of a Vehicle (over/under \$5000)
 - 1 (small dark purple circle)
 - 2 (medium dark purple circle)
 - Schools
 - (black triangle icon)
 - Neighbourhood Area
 - (black outline icon)
 - Parks
 - (green shaded area icon)



October 2015
 Data Source: Saskatoon Police Services
 N:\Planning\ESRI\Crimerequests\Pacific Heights

Attachment 6.2: Summary of Dickey Crescent Walkway Safety Audit

Audit Area: Dickey Crescent walkway and the entrance to Pacific Heights neighbourhood.

Date: Thursday, November 12, 2015

Time: 7:00

Description of Audit Group:

Size of audit group – 8

Age

- 3 out of 8 (37.5%) was between the ages of 40 and 44
- 1 out of 8 (12.5%) was between the ages of 25 and 29
- 1 out of 8 (12.5%) was between the ages of 20 and 24
- 1 out of 8 (12.5%) was between the ages of 55 and 59
- 1 out of 8 (12.5%) was between the ages of 65 and 69
- 1 out of 8 (12.5%) was between the ages of 70 and 74

Sex

- 6 out of 8 (75%) were female
- 2 out of 8 (25%) were male

Affiliation

- 4 out of 8 (50%) were residents
- 4 out of 8 (50%) were employees of the City of Saskatoon

General Impression:

- Consider a single light now (on a timer), and east-west lighting once Kensington is more developed
- Something should be done with this walkway, it is too dark to walk safely at night
- Dark, difficult to see sidewalk
- Dark, scary
- Dark
- This is very unsafe walking here
- Pools of dark, moments of fear walking in the dark – especially alone

Words to describe the place:

- Busy, Dark, Scary, Dangerous, Confined, Dark, Creepy, Noisy (traffic), Isolated, Dark, Unclean, Unsafe, Lonely, Uncertain, Spooky, No sound barrier

Lighting:

- 62.5% of respondents' impression of the lighting was very poor, and 25% thought that lighting was poor. 1 respondents' impression of the lighting in the back lane was simply 'too dark'.
- All respondents indicated that the lighting is 'uneven'.
- All respondents indicated they could not identify someone's face 25 paces away.
- Respondents identified the fact that there are no lights on the pathway, only street lighting and this lighting is often obscured by trees or bushes.
- 50% of respondents know who to contact to identify lighting issues in the area.
- Most respondents have a 'poor' or 'very poor' impression of lighting near the entrances, exits, alleys and walkway.

Comments:

- Going north-south, there is an area in complete darkness
- Can see at Dickey Crescent; however visibility is poor near the overpass.
- There are issues with bright lights farther away from the walkway, making it difficult for eyes to adjust to the dark.
- There is no light at the north end of the east-west walkway. The whole walkway is dark.
- It is difficult for residents to see the sidewalk and difficult to see the lane.
- There are no lights at the back lane adjacent to Dickey Crescent. The alleyway behind the houses is also dark.
- The bushes and trees do obscure lighting in the summer when they are filled out with leaves.
- All respondents have commented on their disappointment with the lack of lighting at this site.

Signage:

- All respondents indicated that there were no signs nearby to orient themselves, or signs to locate emergency assistance.
- All respondents indicated that there were no signs to direct to wheelchair access, or to identify where doors exit to.
- Only one respondent could identify building and site information stating legitimate hours on the site.
- The overall impression of signage of the area was mostly identified as 'Poor' or 'Very Poor'.

Comments:

- There should be signs on Dickey Crescent to slow traffic for pedestrians
- If lights on timers were installed, there would be signage to explain this.
- All walkways should have a phone number to call if there are any maintenance issues.
- There should be directional signage to schools & Shaw Centre, with signs showing the departing lane from the walkway. These should be located both inside and outside the building to address wayfinding issues in the area.

Sightlines:

- 7 out of 8 (88%) respondents indicated that they could not see what is up ahead.
- Respondents claimed that visibility was affected by the bushes, and fences in the back lane, as well as an overall lack of light.
- All respondents agreed that there are places for people to hide within the area. Visibility was limited due to trees, bushes, and the path design of the overpass, and the blind corners it creates.
- The majority of respondents indicated that trimming bushes and trees, and clearing snow would improve sightlines.
- Other comments reiterated the desire for lighting at this area to improve visibility and sightlines.

Isolation – Eye Distance:

- 5 of 8 (62.5%) respondents indicated that at the time of the audit the area felt isolated.
- Respondents indicated that there were either ‘Several’ or ‘Many’ people in the area during the early morning and during the day.
- The majority of respondents indicated that there are ‘Many’ or ‘A few’ people in the area in the evening and late at night.
- Most respondents agreed that it was not easy to predict when there were people around. None could identify a monitoring or surveillance system in the area.

Comments:

- Many use this area for active transportation to cross 22nd Street because there are no other alternatives. Recreational use is less when dark.
- One resident has a personal 24 hour surveillance system on their property.

Isolation – Ear Distance:

- The majority of respondents indicated that they did not know how far away the nearest person would be to hear a call for help.
- Most respondents did not know how far away the nearest emergency services were.
- All respondents also indicated that they could not see a telephone or sign directing them to emergency services/assistance.
- All respondents indicated that the area is not patrolled, or that they did not know if the area was patrolled.

Movement Predictors:

- 3 out of 8 (37.5%) respondents indicated that it is very easy to predict a person's movements.
- 4 out of 8 (50%) respondents indicated that it is somewhat obvious to predict a person's movements.
- 1 out of 8 (12.5%) respondents indicated that there was no way of knowing to predict a person's movements.
- The majority of respondents indicated that there was no alternative well-lit and frequently traveled route/path available.
- The majority of respondents indicated that they could tell what was at the other end of the path/tunnel/walkway.
- All the respondents indicated that there were corners/alcoves/bushes where someone could hide and wait for you.

Comments

- People can go on the street but it is very far around because of the fenced area on 22nd.
- Alley movement is unpredictable but overpass movement is predictable.
- It is possible to see the areas lit by the Shaw Centre, but it is hard to see the dark bends of the walkway or your own footing on the path.

Possible Entrapment Sites:

- The respondents indicated that the alley or laneway, and the bushes provided small, confined areas where people could be hidden from view.

Escape Routes:

- All respondents indicated that it would be very easy or quite easy for an offender to disappear.
- The majority of respondents indicated that there is more than one exit from the lane/street/walkway. There are exits on the lane and into the crescents.

Nearby Land Uses:

- The respondents indicated that the surrounding nearby land use were stores, residential houses and streets, restaurants, busy traffic, high schools, the Shaw leisure centre, and park space.
- 6 out of 8 (75%) respondents indicated that they could identify who maintains nearby land. The rest did not verify yes or no.
- 1 out of 8 (12.5%) of respondents' impression of the nearby land use was poor.
- 3 out of 8 (37.5%) of respondents' impression of the nearby land use was satisfactory.
- 3 out of 8 (37.5%) of respondents' impression of the nearby land use was good or very good.
- 1 out of 8 (12.5%) of respondents did not answer.

Maintenance:

- 5 out of 8 (62.5%) of respondents' impression of maintenance was satisfactory or good.
- 3 out of 8 (37.5%) of respondents' impression of maintenance was poor.
- The respondents had mixed opinions regarding their perceptions of litter lying around and half of the respondents knew who to report maintenance concerns to.
- There are concerns regarding drainage at the walkway entrance, stating that the area floods in spring and is usually muddy.

Factors That Make The Place More Human:

- The majority of respondents indicated that the area does feel cared for.
- The majority of respondents indicated that the area does not feel abandoned.
- The majority of respondents indicated that there were signs of graffiti vandalism, although the graffiti vandalism was not racist or sexist in nature.
- The majority of respondents also agreed that there are other signs of vandalism on the pathway.

Comments:

- The pathway is so dark that you cannot see the graffiti properly.
- The chain-link cage is depressing and shows signs of climbing/vandalism.
- During the winter time, there should be snow and ice removal.

Overall Design:

- The majority of respondents' impression of the overall design was satisfactory.
- Most respondents indicated that if you did not know their way around that it would be difficult to find your way around.
- The majority of respondents indicated that the place makes sense, and that the site is not too spread out.

Comments:

- The storm sewer at the alley intersection freezes over in spring and floods the alleyway.

Improvements:

- Lighting of the walkway and the entrances to the walkway – especially from Dickey Crescent.
- Signage to better address wayfinding in the area.
- Better screening of the overpass to prevent kids from climbing on top.
- Lighting that extends down the path towards the alley entrance for active transportation users.

General Comments/Specific Recommendations:

- The Community Association is in support of a light as discussed during their last meeting.
- Lights on a timer at this location, with the possibility of extending lighting on the path east-west when Kensington is more developed.
- The walkway should be properly maintained with drainage issues addressed in the winter and spring. The drain is plugged and water backs up into the alley. It is too dark to see the path or if it is icy.
- There is a tripping hazard upon entering the walkway from either end. Cement is raised above the walkway pavement.
- A 20 ft high sound barrier at the north end of the walkway in line with present fence.
- Regular maintenance in plowing the walkways. They are very slippery when not maintained.
- Garbage cans on either side of the walkway.

Attachment 6.3: Dickey Crescent Walkway Area Pedestrian Counts

Mid-week Pedestrian and Bicyclist Count

Time	Southbound	Westbound	Northbound	Eastbound	Total
8:00 AM	71	5	3	0	79
9:00 AM	5	1	3	0	9
10:00 AM	3	0	6	0	9
11:00 AM	1	1	6	4	12
12:00 PM	116	3	24	8	151
1:00 PM	12	3	5	1	21
2:00 PM	4	2	106	0	112
3:00 PM	2	5	74	7	88
4:00 PM	10	1	8	9	28
5:00 PM	4	6	13	1	24
6:00 PM	3	4	7	0	14
7:00 PM	3	5	2	0	10
8:00 PM	2	0	2	0	4
9:00 PM	0	0	1	0	1
10:00 PM	0	0	0	0	0
11:00 PM	0	0	0	0	0
12:00 AM	0	0	0	0	0
1:00 AM	0	0	0	0	0
2:00 AM	0	0	0	0	0
3:00 AM	0	0	0	0	0
4:00 AM	0	0	0	0	0
5:00 AM	0	0	0	0	0
6:00 AM	3	0	1	0	4
7:00 AM	7	1	3	0	11
Total	246	37	264	30	577

Nighttime 6pm to 8am 44

Weekend Pedestrian and Bicyclist Count

Time	Southbound	Westbound	Northbound	Eastbound	Total
8:00 AM	0	0	0	0	0
9:00 AM	1	0	4	3	8
10:00 AM	0	1	2	0	3
11:00 AM	0	0	0	0	0
12:00 PM	3	1	0	0	4
1:00 PM	2	1	3	1	7
2:00 PM	0	2	2	0	4
3:00 PM	7	1	7	0	15
4:00 PM	2	1	1	0	4
5:00 PM	1	0	3	0	4
6:00 PM	0	0	1	0	1
7:00 PM	0	1	0	0	1
8:00 PM	0	2	0	1	3
9:00 PM	0	1	0	0	1
10:00 PM	0	0	0	0	0
11:00 PM	0	0	1	0	1
12:00 AM	0	0	0	0	0
1:00 AM	0	0	0	0	0
2:00 AM	0	0	0	0	0
3:00 AM	0	0	0	0	0
4:00 AM	0	0	0	0	0
5:00 AM	0	0	0	0	0
6:00 AM	2	0	0	0	2
7:00 AM	0	0	1	0	1
Total	18	11	25	5	59

Nighttime 6pm to 8am 10

Inquiry – Councillor Z. Jeffries (Left-Turn Arrows-Attridge Dr., Kenderdine Rd., Berini Dr.) North- and Southbound Traffic

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016, be forwarded to City Council for information.

Topic and Purpose

The purpose of this report is to provide information on the assessment of installing northbound and southbound left-turn arrows at the intersection of Attridge Drive and Berini Drive/Nelson Road, and the intersection of Attridge Drive and Kenderdine Road/Lowe Road.

Report Highlights

1. The lane geometry, traffic characteristics and signal phasing at each intersection is outlined.
2. The intersection configuration and site conditions were reviewed for suitability to accommodate left-turn arrows, and traffic volumes and delays were analysed as part of the warrant for left-turn signal phases.
3. Analysis of traffic conditions indicate that neither the northbound nor southbound left-turn signals are warranted on Berini Drive/Nelson Road. At Kenderdine Road/Lowe Road, the northbound left-turn arrow has been scheduled for installation while the southbound arrow is not warranted.

Strategic Goal

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

Background

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

“Can Administration please report on the feasibility of installing left-hand turn arrows at the intersections of Attridge Drive and Kenderdine Road, as well as, Attridge Drive and Berini Drive for north- and southbound traffic. Increasing traffic volumes are making certain left-hand turn movements very difficult at certain times of the day without a turning arrow.”

Report

Intersection Characteristics

Attridge Drive is a major east-west arterial street, with a posted speed limit of 60 kph. Berini Drive/Nelson Road and Kenderdine Road/Lowe Road are classified as collector streets, with a speed limit of 50 kph.

Attridge Drive and Berini Drive/Nelson Road:

- Two through lanes and a dedicated left-turn storage lane on Attridge Drive in each direction.
- Two through lanes and a dedicated left-turn storage lane on Berini Drive (south leg) and Nelson Road (north leg).
- Daily traffic split through intersection (Attridge Drive 85%, Berini Drive 12%, Nelson Road 3%).
- The intersection is signalized.
- East-west left-turn signal phases (arrows) exist on Attridge Drive, but are currently not provided for the north-south left-turning traffic on Berini Drive or Nelson Road.

Attridge Drive and Kenderdine Road/Lowe Road:

- Two through lanes and a dedicated left-turn storage lane on Attridge Drive in each direction.
- Inside lane is shared by left-turn/through traffic and outside lane is for through/right-turn traffic on both Kenderdine Road (south leg) and Lowe Road (north leg).
- Daily traffic split through intersection (Attridge Drive 62%, Kenderdine Road 18% and Lowe Road 20%).
- The intersection is signalized.
- East-west left-turn signal phases (arrows) exist on Attridge Drive, but are currently not provided for the north-south left-turning traffic on Kenderdine Road or Lowe Road.

Lane Geometry and Feasibility Considerations

The City of Saskatoon uses the warrant criteria outlined in the Manual of Uniform Traffic Control Devices for Canada. Factors are taken into consideration that include: the average left-turn demand, percentage of turning traffic delayed more than one signal cycle, queue lengths, lane geometry, etc. Signalized intersections operate at maximum efficiency when left-turning traffic is separated from through traffic by the use of dedicated left-turn lanes. The objective of the warrant and review process is to determine whether considered changes would have an overall positive or negative impact for people using the intersection.

Intersection Conditions and Traffic Analysis

1. Attridge Drive and Berini Drive/Nelson Road:
The dedicated left-turn storage lanes that currently exist on Berini Drive and Nelson Road would allow the installation of left-turn arrows if warranted.

Traffic data was collected in October 2015, along with field observations during peak hours on Berini Drive.

During morning peak hours, a total of 35 vehicles turned left. The highest demand during the morning peak hour occurred between (7:20 a.m. to 7:40 a.m.), when the northbound left turning traffic did experience minor delays with a majority of the queues completely served within a single signal cycle. Congestion was brief from nearby elementary schools (École Forest Grove, St. Volodymyr, Dr. John G. Egnatoff, and Father Robinson) (8:35 a.m. to 8:40 a.m.) when northbound traffic south of the intersection increased and resulted in longer queues.

Based on traffic conditions, warrant calculations, and field observations, neither the southbound nor northbound left-turn signals are warranted at this intersection. One of the factors considered to warrant a left-turn depends on at least 25% of the turning traffic, in a given direction, is delayed more than one signal cycle. During the two-hour peak hour study period, 0.1% of the turning traffic was delayed more than one signal cycle. The highest delay was at 7.1% between (8:30 a.m. to 9:00 a.m.), demonstrated during three complete traffic signal cycles at the time elementary school traffic approached this intersection. This did not occur at any other time during the entire study period. In order to prevent delays, the demand for left-turn signal phase is warranted only when traffic is sufficient. Implementing a separate left-turn signal phase when the demand is not sufficient unnecessarily creates intersection delays.

2. **Attridge Drive and Kenderdine Road/Lowe Road:**

The existing lane configuration on Kenderdine Road and Lowe Road is not conducive to practical installation of left-turn signals since the left-turns share a lane with through movements. In order to add left-turn signals in both directions, dedicated left-turn lanes are required either through painting (pavement markings) and signage or reconstructing the intersection. Although inexpensive, pavement markings would not be visible during winter conditions where lack of compliance of drivers can be an issue.

The preferred but more costly solution is to widen the intersection to physically channelize turn bays using concrete centre medians. This would provide visual cues to drivers and better compliance with the lane assignment.

Access points and driveways are not recommended in close proximity as this shortens the length of left-turn storage lanes. The Fire Hall #9 access from Lowe Road is approximately 45 metres north of Attridge Drive, which limits the length of a left-turn lane to about 30 metres. At intersections where left-turn lanes are shorter and demand is high, the queues start to spill back into the adjacent through lanes increasing the potential for rear-end collisions.

Inquiry – Councillor Z. Jeffries (Left-Turn Arrows–Attridge Dr., Kenderdine Rd., Berini Dr) North- and Southbound Traffic

Based on the 2013 traffic count, the southbound demand was lower with 20 to 30 vehicles turning left during the morning and afternoon peak periods, therefore does not warrant a left-turn arrow. The northbound left-turn demand is considerably higher with 190 vehicles per hour turning left in the morning (which is about 35% of the northbound traffic), and sustained throughout the day. This high demand warrants the installation of the northbound left-turn signal phase (protected left-turn arrow). Adding this left-turn arrow would result in a situation where significant intersection upgrades would need to be made before adding an arrow in the opposing direction when it is needed.

The left-turn arrow for northbound left-turns at this intersection is scheduled to be completed by the end of June.

Communication Plan

Temporary signage will be placed to notify motorists of a change in traffic signal phasing.

Financial Implications

The cost of installing the necessary equipment to add a left-turn phase is approximately \$5,000. Adequate funding is available within existing operating budgets.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

The Administration will install the northbound left-turn arrow on Kenderdine Road and associated equipment early this summer.

Public Notice

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

Report Approval

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

TRANS GL – Inq Jeffries (Jan 25-16) Left-Turn Arrows-Attridge Dr-Kenderdine Rd-Berini Dr

Inquiry – Councillor E. Olauson (January 25, 2016) Programming Left-Turn Arrows

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016, be forwarded to City Council for information.

Topic and Purpose

The purpose of this report is to provide an assessment and recommendation on the feasibility of enabling all existing left-turn signal phases (arrows) to activate in every signal cycle at every intersection.

Report Highlights

1. This report outlines different operational methods of left-turn signal phases.
2. A comparison between different methods of left-turn signal operation to the Base Case (actuated) traffic demand method is illustrated through a case study.

Strategic Goal

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

Background

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

“Would the Administration please report on the feasibility, process, and cost of programming all left-turn arrows to activate EVERY signal cycle at every intersection which is so equipped.”

Report

Standard Operation and Criteria for Installation

Left-turn movements can be accommodated with either a permissive or protected method of operation.

- The Permissive Method allows left turns on a solid green light during gaps between the opposing traffic stream or on a yellow light.
- The Protected Method directs vehicles in a protective manner during the arrow portion of the green light, which also permits left turns during the solid green light during gaps in traffic or on a yellow light. The Protected Method can be either Actuated based on traffic demand or Pre-Programmed for every signal cycle.

The Protected Method is provided on approaches where exclusive left-turn lanes exist, and where left-turn demands are higher due to the volume of traffic than the opposing traffic gaps allow.

Traffic detector loops are placed in a location to engage the left-turn arrow when four or more vehicles are queued in the left-turn lane. It is expected that locations of a lesser demand (two or three vehicles) in the queue will discharge on the solid green light (when permissible) or amber interval and therefore do not require a separate protected signal phase.

A Protected Method left-turn phase may be considered under the following conditions (either singly or in combination):

- Left-turn volume exceeds 100 vehicles per hour;
- Left-turn is difficult over two consecutive cycles;
- Queues extend beyond the left-turn lane, blocking the through movement;
- Unacceptable collision rates are being experienced; and
- Difficult driver judgment due to speed of approaching traffic.

The City typically uses a combination of protected/permissive left-turn operations throughout the city. In a protected/permissive operation, the left turning driver is initially directed to turn left in a protected manner during a flashing green arrow phase, and is subsequently also permitted to turn during the solid green light should sufficient gaps in oncoming traffic permit.

Comparison of Different Methods

A comparison to illustrate three methods for accommodating left turns is outlined below. The scenario uses the current practice of providing protected/permissive left turns as the Base Case and includes five signalized intersections along a section of 8th Street. Traffic software (Synchro) was used to analyze the following methods:

1. Protected (Actuated Left-Turn) Method - operation of existing left-turn arrows (current practice);
2. Protected (Programmed Left-Turn) Method - pre-programmed left turns on all approaches, arrows served in every cycle; and
3. Permissive Left-Turn Method - left turns allowed only on solid green, no left-turn arrows.

Option 1 – Base Case – Actuated Left-Turn Method (Current Practice):

The actuated method results in an overall reduced level of service at an intersection compared to Option 3, since an additional signal phase is required for the left-turn arrow. Left turning movements are accommodated at the expense of the predominant through traffic, which in turn increases the overall delay and travel time along the corridor. However, the safety of left-turning movements is considerably improved by having a protected signal phase.

Option 2 – Programmed Left-Turn Method:

The protected method of pre-programmed left-turn arrows for all approaches (every signal cycle) resulted in the highest overall traffic delay, travel time and number of stops along a corridor. It is not practical to delay the predominant traffic flow when the left turning traffic demand is relatively low.

Option 3 – Permissive Left-Turn Method (No Arrows):

The permissive method yielded the highest overall intersection efficiency by providing longer green light time for predominant traffic which reduces delays, travel time, number of stops and limited interruption of the through traffic flow. However, the gained efficiency is often at the expense of traffic safety. Locations where left-turn demand is high would extend queues past the left-turn lane blocking through traffic making for unsafe conditions and long delays.

The table below illustrates the two options compared to Option 1 Base Case (current practice).

Left – Turn Methods	Delay per Vehicle		Travel Time % Difference	Stops % Difference
	(Seconds)	% Difference		
Option 1 - Base Case (Actuated Left-Turn) <ul style="list-style-type: none"> Protected phase provided where warranted and when demand is sufficient 	56	0%	0%	0%
Option 2 - (Programmed Left-Turn) <ul style="list-style-type: none"> Protected phase on all approaches where left-turn arrows are pre-programmed to come up all the time (served in every cycle) 	99	75%	20%	49%
Option 3 - (Permissive Left-Turn) <ul style="list-style-type: none"> No left-turn arrows; turn on solid green or yellow 	32	-44%	-12%	-26%

The study results determined that Option 3 (Permissive Left-Turn Method) provides the best overall operation in terms of efficiency alone. The Base Case (Actuated Left-Turn Method) provides a higher overall level of service compared to Option 2 (Programmed Left-Turn Method) during the peak hour. The benefits are further enhanced during off-peak hours when traffic movements are low and more sporadic than during peak hours.

The Administration recommends the continued use of the current practice (Actuated Left-Turn Method) to provide the best balance between traffic flow efficiency and safety on the network.

Feasibility and Recommendations

Enabling and activating left-turn arrows in every signal cycle at each intersection would be relatively inexpensive, and involves updating signal timing plans and programming the left-turn phases to operate on 'recall' (i.e. served in every cycle). Implementation can be two ways, either through a remote download to controllers from the traffic management centre (if currently connected to the system, possibly for about 25% of intersections) or manually by Traffic Signal Technicians at each intersection (if not connected to the system). The estimated cost to revise traffic signal timing plans and implement the changes is estimated at \$50,000.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

There is no due date for follow-up and/or project completion.

Public Notice

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

Report Approval

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

TRANS GL – Inq C. Olauson (Jan 25, 2016) – Programming Left-Turn Arrows

Plan for Saskatoon Transit 2016 – 2020 - Update

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016, be forwarded to City Council for information.

Purpose

The purpose of this report is to provide members of the Standing Policy Committee on Transportation and City Council an update on the 5-year plan for Saskatoon Transit. This report will cover some of the activities planned for the period 2016 – 2020, and future reports will further detail the status of the changes underway.

Report Highlights

1. Over-arching document to be used by Transit Administration as it develops subordinate Annual Business Plans.
2. High Level overview of major projects to be conducted over the next 5 years.

Strategic Goals

This report supports the Strategic Goals of Continuous Improvement and Moving Around including the 4-Year Priority to change attitudes around public transit and increase Saskatoon Transit ridership.

Background

In September, 2015, Saskatoon Transit presented the Standing Policy Committee on Transportation and City Council with a short report outlining an action plan for the 5-year period ending in 2020.

Since that report, Transit Administration has developed an over-arching document outlining the basic principles and guidance for Transit staff over the next 5 years.

Report

The attached 5-year plan has been developed over the last six months, taking guidance from the Strategic Goals, Corporate and Departmental Visions. Additionally, principles and strategies from similar Canadian transit properties and supporting principles from the Canadian Urban Transit Association's (CUTA) Vision 2040 were incorporated into the document.

The plan:

- Introduces a mission statement for Saskatoon Transit, "Connecting our community; providing professional, reliable, safe and affordable mobility options.";
- Sets out the following 5 strategic outcomes for Saskatoon Transit:
 - An Integrated, Affordable and Valued Mobility Choice;

- An Engaged, Diverse and Respectful Workplace;
 - Demonstrated Fiscal Accountability;
 - Being Open, Transparent and Understood; and
 - Effective Utilization of Infrastructure.;
- Introduces a series of Work plan Initiatives in order to assist Saskatoon Transit sections stay on track as they achieve the strategic outcomes above; and
 - Introduces a series of performance measures for Fixed Route, Demand Response, the Capital Program and the Workforce.

The plan lays out the make up of Annual Business Plans as well as the structure to follow on Annual Reports.

Public and/or Stakeholder Involvement

Public and stakeholder engagement is a key part of this plan. Building an internal culture of engagement and customer service and then expanding that to riders and potential riders is instrumental for Transit to succeed in this overall direction. Partners in the community such as Bus Riders of Saskatoon, Downtown Business Improvement District and Association for Equity of Blind Canadians will be asked for their continuing input as Transit moves forward.

Communication Plan

Communications will be ongoing throughout the five years covered by this plan. Most communications will be specifically tailored by the Transit Marketing Consultant and will align with this Plan, the Growth Plan's key project milestones and deliverables as well as Transportation & Utilities direction.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

This report will be followed up with an Annual Report each spring.

Public Notice

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

Attachments

1. Saskatoon Transit 5 year Plan 2016 – 2020
2. Transit Vision 2016 – 2020 - Driving Change!

Report Approval

Written by: Jim McDonald, Director of Saskatoon Transit
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

Saskatoon Transit 5 Year Plan 2016 – 2020



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Introduction

Public Transit services in Saskatoon began January 1, 1913 with the establishment of the Saskatoon Municipal Railway. Approximately 5,200 people used streetcars that first day of service. Over the years the types of vehicles changed as did the name, eventually becoming Saskatoon Transit. In July 2004 the next big chapter started when Access Transit was established as the Demand Response section of Saskatoon Transit. Access Transit is meant to provide service to those who are unable to use regular transit with safety and dignity. In 2013 Saskatoon Transit celebrated 100 years of making connections within the community and continues to do so today.

In 2015, ridership was 8.5 Million Fixed Route riders and 127,000 Demand Response trips. To provide that level of service, Saskatoon Transit used the following:

Terminals located at:

- Confederation Mall;
- Lawson Heights Mall;
- Centre Mall;
- Place Riel at the University of Saskatchewan;
- 23rd Street Transit Mall; and
- Market Mall.

A fleet of 184 buses:

- 158 Serving Fixed Route demands:
 - 142 conventional 40-foot diesel buses, of which there are still 39 High floor;
 - 10 articulating low floor 62-foot diesel buses;
 - 6 mid-sized low floor 26-foot diesel buses; and
- 26 mid-sized para transit diesel buses providing Access Transit Demand Response services.

A staff complement of 399 employees, working 365 days to provide:

- service on 22 Fixed Routes, totaling 276 KM on Saskatoon Streets, with 1668 bus stops; and
- support to 4,758 Demand Response registrants with 67% of trips provided to ambulatory (not confined to a wheelchair) and 33% provided to non-ambulatory riders.

There have been many studies undertaken to determine the best fit for Public Transit in Saskatoon, the most recent saw many changes to the routing structure when put in place in 2006. Additionally, there have been changes to the technologies used by Transit Agencies – CAD/AVL/ITS ¹and the Public – i.e. Transit APP, etc., that affect how Saskatoon Transit delivers service. Saskatoon Transit is at the forefront of those properties that have changed to CAD/AVL and electronic fareboxes.

In 2009, the City Manager appointed the Future Growth Team in order to build a picture of what Saskatoon might look like in the future and how we could start putting plans and policies in place to support that view. One of the conclusions the team reached was that the City should consider “fundamental changes” in its approach to transit, transportation, and land use. In 2011, further public

¹ Computer Assisted Dispatch (CAD)/ Automatic Vehicle Location (AVL)/Intelligent Transportation System (ITS)

consultation raised questions such as “Is the city growing in a way that meets the expectations of residents? Is the current plan sustainable? Does it reflect the community’s values?”

Based on the outcomes of both the Future Growth Team and the public input received during the Saskatoon Speaks process it became clear that, even if funding was not an issue, the shape and characteristics of the future Saskatoon would not meet citizen expectations. This led to the adoption of the Integrated Growth Plan (IGP) by City Council in 2012. The IGP includes nine strategies related to land use and transportation, guiding the sustainable growth of Saskatoon to a population of 500,000, while meeting the vision and expectations of our citizens. Two of those strategies directly relate to Transit:

- vi) Establish a Rapid Mass Transit (RMT) Corridor;
- vii) Reinvent the Bus Transit System based on the RMT Corridor;

In 2012, City Council also adopted the Strategic Plan 2012-2022. Two of the seven strategic goals presented, Moving Around and Sustainable Growth, were to be addressed directly through the development of the IGP which would consist of seven major components – one of which was Rapid Transit. Urban Systems Ltd was awarded the contract for the project in July of 2013 and another plan was added, the “Long Term Transit Plan” in January 2014.

Growing Forward! Shaping Saskatoon was created as the slogan for the public engagement component of the process, the product of which became the Growth Plan to Half a Million (Growth Plan).

Throughout its history Saskatoon Transit has developed new strategies and services to meet the needs of the community and 2016 will be no different. Part of the continuing role in providing Public Transit will see two basic tenets emphasized: customer mobility and customer focus. In combining these tenets with the principals found in the Growth Plan, this 5 Year Plan will provide Transit Staff with the crucial direction needed to rebuild this organization’s reputation as a leading provider of Public Transit in North America. Further, this 5 Year Plan is meant to be overarching; referencing yearly plans as we move ahead with transformation.

5 Year Plan Themes

This plan covers the years between 2016 and 2020 and serves:

- to reflect where we are today and as a starting point for the future,
- to focus resources on prioritized challenges and expectations,
- as a communication tool, supporting engagement among staff and customers, and
- to promote accountability, transparency and a culture of continuous improvement.

Follow on plans will build on best practice, successes and lessons identified or learned throughout the process. The intent is for the process to help develop continuity and consistency across the organization. The key theme for the 2016-2020 Plan is “Driving Change – Developing Saskatoon’s Mobility Options”. This theme reflects the immediate direction for Saskatoon Transit and builds on areas from the Growth Plan, setting the stage for themes in future years as noted below:

PLAN PERIOD	KEY THEMES
2016 – 2020	<p>Driving Change Bring focus and direction to the organization, optimize current resource allocations and increase service frequency, develop a customer focus attitude, and showcase Saskatoon’s mobility options.</p>
2021 – 2025	<p>Sustaining Change Set the ground work for future growth and translate long term Growth Plan goals into action.</p>
2026 – 2030	<p>Growing Together Build the future, maintain gains and continue the building process.</p>

The planning process supports prioritization and effective use of the resources available to Saskatoon Transit, focusing these resources on prioritized strategic outcomes for the benefit of customers. Further, the process supports transparency and accountability for the various outcomes. The process is defined by Figure 1 below.

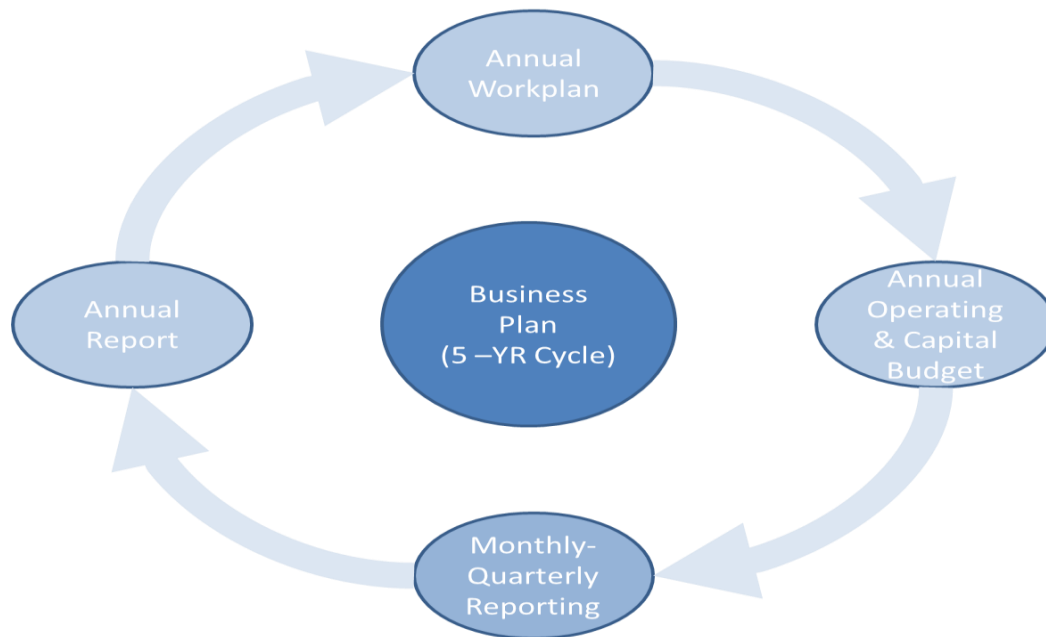


Figure 1 - Financial Cycle

Figure 2 is a graph showing where Saskatoon Transit sits when comparing funding and service hours per capita against other public transit providers in Canada and the US. The diagonal trend line identifies effectiveness and efficiency and when a system is on that line they are balancing both. When a system is below the line they may not have enough funding or they may not be as efficient as they should be with those resources. Saskatoon Transit is presently operating below this trend line and to be truly effective we need to move vertically from below the line towards the top (more efficient/effective use of the service hours we already have) before we move along the line to the upper right of the graph (more service hours). Part of the impetus to develop this 5 year plan is to ensure we are monitoring efficiency in an effort to move our “dot” up before increasing service hours.

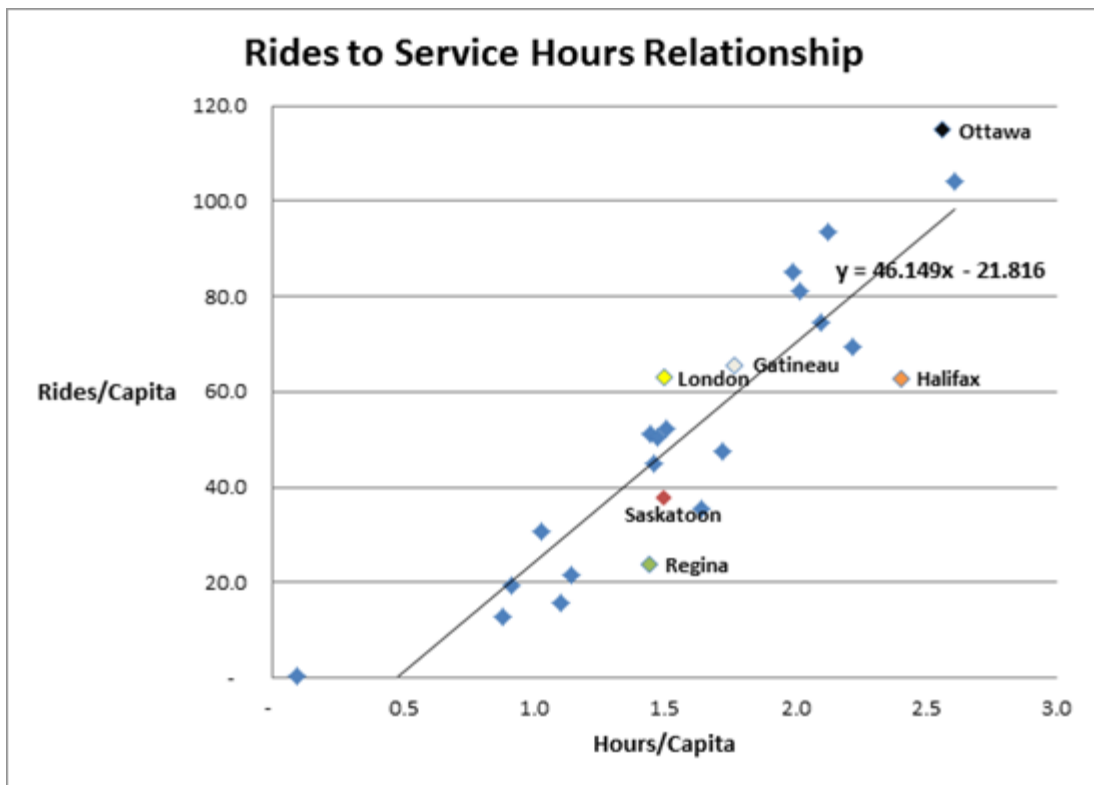


Figure 2 - Rides to Service Hours Relationship

Corporate Vision, Mission and Principles

A vision statement focuses on what an organization wants to be or hopes to achieve. The statement communicates the purpose or value of the organization. Transportation and Utilities vision and Saskatoon Transit’s mission are built on the higher goals and priorities found within the City of Saskatoon’s:

Corporate Vision - Saskatoon is a great place to live, where sustainable growth enables the community to invest for the benefit of all.

Corporate Mission - Our Corporation, the City of Saskatoon, exists to provide excellent local government through leadership, teamwork, partnership and dedication to the community. We will be innovative and creative in the efficient delivery of public services for the economic, environmental, social and cultural well-being of the community.

The Transportation and Utilities Department vision calls for Saskatoon Transit, as a Division of the Department, to:

(We) provide reliable, friendly and professional service.

Supporting Transit Vision 2040

The Canadian Urban Transit Association (CUTA), which Saskatoon Transit is a member of, has developed an industry vision that communicates public transit’s contribution to quality of life and the nature of change likely to take place in our communities by 2040. The implications these changes will have on public transit as well as strategic directions for action that can maximize transit’s contribution to quality of life are also included. The vision takes a long-term view, but is also intended to guide short term

actions by CUTA, its members, including Saskatoon Transit, and other stakeholders. The CUTA vision has been referred to and integrated into strategic planning efforts including the Growth Plan to 500,000 and is a fairly important in determining how Saskatoon Transit moves forward in supporting Saskatonians.

The CUTA Transit Vision is all about transit that is easy to use and improves the Quality of Life by:

- **Theme 1 - Putting Transit at the Centre of Communities.** Through stronger government policy and decision-making frameworks, and better community planning and design;
- **Theme 2 - Revolutionizing Service.** Through expansion and innovation, so transit systems can both encourage and service growing demands;
- **Theme 3 - Focusing on Customers.** Accelerating the delivery of flexible, integrated transit services to meet the needs of increasingly diverse and discriminating clientele;
- **Theme 4 - Greening Transit.** To further reduce the industry's ecological footprint – improved energy efficiency and limit greenhouse gas emissions;
- **Theme 5 - Ensuring the Financial Health of Transit.** Through enhanced transit infrastructure and operating investments by all orders of government, more progressive approaches to generating revenue and new efficiencies in service delivery; and
- **Theme 6 - Strengthening Knowledge and Practice.** So that Canada's transit industry can more effectively respond to future opportunities and challenges.
- **Theme 7 – Harnessing Technology and Innovation.** Developing a roadmap to prepare enabling infrastructure, priorities for investment, legislation and technical standards to deal with the disruptions and opportunities being presented by technology.

Saskatoon Transit's Mission

With the associated visions, strategic guidance, tasks and higher direction listed in the paragraphs above Saskatoon Transit has developed the following as its current mission statement:

Connecting our community; providing professional, reliable, safe and affordable mobility options.

Organization



Figure 3 Saskatoon Transit Organization Chart

To carry out the mission, and to provide a framework on which to layer services required by the Growth Plan to 500,000, Saskatoon Transit has been tasked with a number of initiatives. These initiatives are threefold:

- Rebuilding Relationships between:
 - Saskatoon Transit and Customers,
 - Saskatoon Transit and City Council, and
 - Saskatoon Transit and its employees.

How will Saskatoon Transit do this? By:

- Incorporating the Transportation & Utilities Vision into everything we do.
- Incorporating safety into everything we do.
- Improving the customer experience along every step of the journey.
- Increasing the range of transit services.
- Increasing the levels of service, the aim being to improve mobility options for Customers.
- Engaging with the public, our customer as frequently as possible.
- Moving from the current location in Caswell Hill to a new location at the Civic Operations Centre South of Montgomery Place.

Also identified is a need to have more importance placed on coordination of transit planning within the broader planning context of the City of Saskatoon, i.e. land use planning, Transit Oriented Development (TOD), etc.

Strategic Outcomes

From the above information we have developed five strategic outcomes, the definition of which follows:

1) An Integrated, Affordable and Valued Mobility Choice.

This outcome calls for development and delivery of accessible public transit services that are integrated with other modes of transportation, dynamic in nature and considered a valued investment to all stakeholders. The outcome requires:

- development of customer first approach to service delivery;
- continued use of proven technology supporting the effective, efficient delivery of transit services;
- on-going development of a safe, reliable, consistent, frequent and accessible public transit service that meets the needs of a growing, competing and changing city;
- working collaboratively with other city divisions on policies, programs and plans supporting transit friendly land use, mobility integration and development of transit priority measures;
- ensuring the system is affordably priced providing a valued return for stakeholders; and
- Reduce barriers to use different modes of transportation and address first/last mile concerns.

At the high level, progress respecting this outcome will be measured based upon:

- ridership change and total ridership;
- service hour change and total service hour investment; and
- customer satisfaction rating (survey to be completed every two years).

2) An Engaged, Diverse and Respectful Workplace.

This outcome calls for the development of a results oriented organization attracting, developing and retaining exceptional individuals creating an engaged, diverse and respectful workplace. This outcome includes:

- developing a culture that is inclusive, collaborative, respects individual dignity, promotes accountability and open communication;
- developing a learning organization supporting employees being successful in their roles, that recognizes performance and develops human resource capacity to ensure business continuity;
- developing a qualified and diverse work force, reflective of community demographics;
- creating a safe work environment and encouraging employee health and wellness; and
- effectively using technology to support employees in their roles.

A summary assessment or measurement of progress for this outcome will include:

- training and development hours, change and total hours;
- employee turnover rate (leaving service - excluding retirements, terminations and death); and
- employee satisfaction rating (survey completed every two years).

3) Demonstrated Fiscal Accountability.

This outcome calls for prudent fiscal and operational management supporting sustainability, competitive positioning, affordability and valued return on investment. The investment return includes social, economic and environmental returns. This outcome calls for:

- providing a high quality and economically sustainable transportation service;

- ensuring decisions regarding investment (both operating and capital) are evidenced-based, and are consistent with the goals and objectives of the organization and services;
- establishing a sustainable financial strategy, one that reflects the unique dynamics (characteristics) of each investment source;
- fostering an environment of continuous improvement that is, doing the right things at the right time in the most efficient and effective manner; and
- optimizing investment and utilization of existing and new technologies supporting the effective, and efficient delivery and management of the service.

Three high level measures will be utilized to assess progress on this outcome, they are:

- cost per service hour;
- investment share allocation (operating); and
- operating investment by function – fixed route, demand response, maintenance, fuel, facility, and administration.

4) Being Open, Transparent and Understood.

This outcome calls for all stakeholder communications to be conducted in an open, transparent, timely and inclusive manner supporting common knowledge and understanding. This outcome includes:

- developing informed relationships with all stakeholders both internal and external to Saskatoon Transit;
- employing a consistent brand, supporting clear, concise and timely communication;
- investing in and effectively utilizing a variety of communication forms and technology to build and sustain informed relationships; and
- building a respectful working relationship with local and national media.

At a high level, progress respecting this outcome will be measured based upon:

- number of communication tools employed;
- frequency of use of the communications tools; and
- stakeholder satisfaction rating (completed every two years).

5) Effective Utilization of Infrastructure.

The outcome calls for acquiring and maintaining required infrastructure supporting service reliability, noting infrastructure includes fleet, facility, technology and other fixed assets. This outcome includes:

- working with the Finance Division to ensure our facilities and equipment are fully incorporated in the corporate asset management system;
- linking asset planning and service planning;
- developing a life cycle costing methodology for assets;
- maintaining all assets in a state of good repair;
- effectively utilizing proven technology to meet business/service needs e.g. using technology to assist with the delivery of quality customer service;
- completing evidenced based assessments on the acquisition and maintenance of critical infrastructure; and

- continuous review and improvement of systems, processes and procedures supporting effective use of all assets.

Key high level measures of performance for this outcome will include:

- average fleet age remains at/or near 14 years;
- nature and extent of technology employed; and
- capital investment in new infrastructure (includes expansion and replacement assets).

Workplan Initiatives

Saskatoon Transit understands the importance of the service provided to customers. The 2016-2020 Plan has a number of key themes or directions reflected in each of the strategic outcomes; these themes should also be reflected in daily actions.

Progress towards attaining the strategic outcomes will parallel the outcome of work plan initiatives. The Annual Business Plans will set out the major initiatives requiring significant time and energy and/or considered critical to the development and growth of Saskatoon Transit both as an organization and a transit service. The Annual Business Plan reflects the direction of the vision and mission statements as well as the related strategic outcomes.

The work plan initiatives have critical impact on the short, medium and long term direction of Saskatoon Transit. Many of these initiatives will be multi-year in nature and will be prioritized and more detailed as they are incorporated into Annual Business Plans.

Discussion on a number of the overarching initiatives, many of which will carry throughout each of the five year periods, is set out below. Outcomes of many of the identified initiatives will generate further work plan initiatives.

Financial Plan

Saskatoon Transit falls within the City of Saskatoon's budgetary framework and follows a cycle that normally ends with City Council approval in December of each year for operational and capital use for the following calendar year. The Financial Plan referred to here will include any recommended changes to the fare policy, charter rates, reserve funds policy and program.

COC Management Plan

Saskatoon Transit will be moving into a new facility in 2017. In preparation for the move there will be a number of subsidiary events and plans that will have to happen to ensure that the move is conducted smoothly without interrupting service to customers. This move will require new ways of cutting buses into and out of service and will also require new ways and locations for operators to seat slide. Most importantly we will have to determine and document the setup and operations of the new Transit Control Centre in the COC. These and other details will be worked on throughout 2016 and will be finalized in consultation with the project team and our transition team.

IT Roadmap

As noted in a number of the strategic outcomes, optimizing investment and utilization of existing and new technologies in support of the effective, efficient delivery and management of the service is paramount. The direction will be the subject of a governing Technology Plan created in consultation with the IT Division. The plan will assess use of existing technologies, the migration of those technologies as well as new and emerging technologies supporting the direction and growth of Saskatoon Transit as an organization and a service.

Asset Management Plan

The City of Saskatoon is renewing its focus regarding asset management. As part of this renewal the principles of asset management will be embedded within Saskatoon Transit planning processes and management culture. In addition, Saskatoon Transit will formalize initiatives that have been included in existing council reports. The Fleet Renewal Strategy taken to City Council in June 2015 identified an aim to replace 10 buses per year and have the fleet 100% accessible by 2018. These initiatives will be included as part of this Asset Management Plan. Additional initiatives, like the P3 project to replace existing building infrastructure with a facility at the Civic Operations Centre are ways the City of Saskatoon is trying to ensure that we minimize the effect operations have on the mill rate.

Infrastructure Investment

- Utilize available federal and provincial funding to implement BRT + fleet/stations, stops, lanes.
- Partner with Public Works to prioritize full transit routes for road construction/repair/snow clearing.
- Emphasize more on buses as part of infrastructure. Bad roads adversely affect buses and create more operator injuries and passenger claims.
- Bus fleet rationalization and lowering the average age of the fleet to meet the industry average. Newer buses have more amenities and are 100% accessible, are more attractive to customers and experience less downtime.
- Other infrastructure – shelters, benches, terminals to meet customer expectations.

Migration to the Growth Plan and its Bus Rapid Transit (BRT) Strategy

Development and implementation of the Growth Plan will see changes to the base routing structure used by Saskatoon Transit. Once the Growth Plan to 500,000 has been approved by City Council and we move through parts of it, we will see increases in frequency along higher use corridors and rationalization of routes in other areas. Creation of a BRT strategy will be a multi-year undertaking as part of this plan and we can start preparing for it now. Over the next five years, significant time and resources will be applied to complete necessary environmental assessments, route reviews, development of service standards and the marketing of the related business cases seeking provincial and federal investment. The Growth Plan is an overall transition plan which will transform how Saskatoon Transit's services are delivered, and it starts with initiatives like the 8th Street Transit Corridor Review.

Annual Business Plans

While large and overarching projects will be described in the 5 Year Plans, Saskatoon Transit will still need to develop detailed Business Plans for each calendar year. These plans will provide detail about the following specifics:

- Service hour and schedule changes, which will normally take place in the July timeframe;
- Staffing resource changes, i.e. additional positions or organizational changes;
- Training requirements. The Annual Training Plan will incorporate inputs from all sections and will provide information on:
 - The schedule for hiring and training new operators, which will take into account manpower and equipment availability with the aim of not affecting day to day fixed route or demand response operations;
 - The schedule for professional development sessions; and
 - The schedule for any initial Training requirements, i.e. Collision Investigation Level 1 or basic supervisor training, or mechanic familiarization training, etc.
- A schedule outlining when growth or replacement buses should be ordered and deadlines for council reports;
- A schedule outlining when infrastructure projects are required to support changes to the Growth Plan concepts should be put in motion to meet year end deadlines,
- Bus Shelter refurbishment and replacement program targets for the year,
- A schedule of social media and engagement projects,

In the short to medium term given public perception, current service quality issues, fiscal constraints and the need to integrate Fixed Route and Demand Response transit services, annual service planning will take on an increased importance and urgency. Identifying and addressing priorities will be critical to both the maintenance and growth of ridership.

Marketing, Communications and Public Engagement

A formalized marketing plan and a divisional marketing strategy will be developed which will outline the development of the Saskatoon Transit brand, consistent and timely communication efforts and public engagement through the presence of the new Customer Support and Engagement Section. Marketing messages will be developed based on customer insights as well as industry standards, key campaign initiatives and Saskatoon Transit brand identity. The development of informed relationships with stakeholders will assist in shaping all aspects of Saskatoon Transit, including future marketing and communication efforts. Developing and fostering relationships with customers and stakeholder groups is fundamental to Saskatoon Transit's continued success.

Future marketing efforts will be based on the marketing strategy and will be supported by ongoing communication and customer engagement. Tactical marketing and communication plans will be developed for each initiative requiring support and will be reflective of the Saskatoon Transit brand. Continuously working from a solid marketing strategy, while maintaining brand consistency, will assist in changing public opinion around Saskatoon Transit and will assist in achieving the goals of increased ridership and customer satisfaction.

Review and Update of Hiring, Training and Development Programs

Saskatoon Transit operates in a dynamic, complex and (based on the whims of the economy) competitive environment. Developing as a learning organization supporting employees being successful is essential to ensuring the long term success and sustainability of the organization and the transit services provided. A key initiative in this regard is the review and updating of hiring, training and development programs and we are pleased to be able to partner with the Motor Carrying Passenger Council of Canada (MCPCC) on this initiative, which includes the Certified Professional Bus Operator (CPBO) qualification. The initiative, which started in late 2015, is targeted to continue well into 2016. Delivery of the renewed training programs will be appropriately phased in.

Continuous Improvement

A key City of Saskatoon initiative is continuous improvement. The process is an ongoing one that will be fundamental in rebuilding the organization and services over the next 5 years. Each year a number of processes/programs will be identified for review with the primary objective of ensuring the right things are done at the right time in the most efficient and effective manner. Data management associated with the AVL and scheduling systems, and the management (tracking, reporting and utilization) of kilometers travelled are planned for review in 2016. Further initiatives include:

- Continue to move ahead with the reduction to the average fleet age.
- Investigate options for alternative propulsion methods within the fleet – electric buses are significantly increasing in reliability and efficiency.
- Continue to participate in projects that affect GHG emissions – limited idle, etc.
- Improve the level of customer service and the effectiveness of communications in all areas.
- Continue to seek cost effective improvements to existing and future service.
- Investigate new technology and processes to enhance operations.
- Ensure the approach to citizen and stakeholder communications and engagement is integrated, proactive and professional.
- Work with the city project to provide a coordinated approach to customer service with quick and accurate responses.
- Create a culture of customer service!
- Continue to engage with CUTA, APTA and other transit properties to develop best practices, innovation and efficiencies.
- Create and encourage a workplace culture that encourages innovation and forward thinking

Performance Measures/Expectations

Performance measures and expectations for Fixed Route and Demand Response transit are set out in the following series of tables. The measures cover financial (both capital and operating) and operational expectations. The listed indicators will be used as a basis for assessing actual performance and benchmarking performance against Saskatoon Transit's peer group.

The establishment of performance indicators and assessment of same is an integral part of Saskatoon Transit's performance management program. The program defines where you are, where you're going and where you want to be. In other words, performance management is critical to focusing resources, setting direction and aligning decisions and actions with desired strategic outcomes.

While Transit has not determined the best way to collect and report on all of these measures at the outset of the period covered by this plan the expectation is to provide monthly/quarterly reporting for by the end of the period, i.e. 2020. Tasks, regarding development of these measures, will be issued in Annual Business Plans and Annual Reports will provide reporting of measures that have come on line in any given year.

Performance Measures Fixed Route Transit Services

DESCRIPTION	Measure
Selected service performance indicators:	
Ridership (millions)	Actual
Rides per Capita (61.9 by 2045)	Actual
Service Hours (millions)	Actual
Service hours per capita	Actual
Customers per revenue service hour:	
Flex Routes	8 – 15
Bus	15 – 40
BRT	>40
Service Reliability –KM between Changeovers	8000 – 11200KM
Preventable accidents/160,000 KMs	2.0 – 6.0
Service performance complaints/100,000 riders	<10
Operator performance complaints/100,000 riders	<10
Operator compliments/100,000 riders	>5
Schedule Adherence - % of trips on time	85%
Cost Effectiveness (Farebox recovery)	40%
Platform:Control Hours Ratio	1:135
Selected financial performance indicators:	
Total operating investment (millions)	Actual
Total operating cost per revenue service hour	Actual
Total operating cost per ride	Actual
City investment per ride	Actual
Source of investment:	
Fares– including charters	Actual%
Fare Subsidisation (discount passes, foregone revenue)	Actual%
Province of Saskatchewan (Ministry of Social Services - DCR Funding)	Actual %
City of Saskatoon (Mill Rate– includes Advertising revenue))	Actual%
	100.0%
Investment Allocation:	
Transportation services	Actual%
General Administration	Actual%
	100.0%

Performance Measures Demand Response (Access) Services

DESCRIPTION	Measure
Selected service performance indicators:	
Ridership (millions)	Actual
Rides per capita	Actual
Revenue service hours (millions)	Actual
Service hours per capita	Actual
Customers per revenue service hour – paratransit	2 - 8
Service Reliability –KM between Changeovers	8000 – 11200KM
Preventable accidents/160,000 KMs	2.0 – 6.0
Service performance complaints/100,000 riders	<10
Operator performance complaints/100,000 riders	<10
Operator compliments/100,000 riders	>5
Total bookings	Actual
Booking performance (based on eligible trips):	
Completed trips	Actual %
Rides over 1 hour	Actual %
Non accommodated trips	Actual %
No shows	Actual %
Cancellations	Actual %
	100.0%
Average trips per registrant	Actual
Selected financial performance indicators:	
Total operating investment (millions)	Actual
Total operating cost per revenue service hour	Actual
Total operating cost per ride	Actual
City investment per ride	Actual
Source of Investment:	
Fare Revenue	Actual %
Fare Subsidisation (discount passes, foregone revenue)	Actual %
Province of Saskatchewan (Ministry of Government Relations Funding)	Actual %
City of Saskatoon (Mill Rate)	Actual %
	100.0%
Investment Allocation:	
Transportation services	Actual %
General and administration	Actual %
	100.0%

Performance Measures Capital Program

DESCRIPTION	Measure
Basis of investment:	
Life cycle maintenance	Actual %
Service and system growth	Actual %
	100.0%
Investment allocation:	
Fleet	Actual %
Facilities	Actual %
Technology, equipment, service fleet	Actual %
	100.0%
Source of investment:	
City of Saskatoon (debt and capital levy)	Actual %
Provincial gas tax	Actual %
Federal gas tax (City)	Actual %
Federal Funding Programs	Actual %
Saskatoon Transit Capital Reserve	Actual %
	100.0%
Fleet size	184
Average fleet age in years	11.9

Performance Measures – Workforce Statistics

DESCRIPTION	Measure
Absenteeism Rate - Sick hours/ Exposure hours	Actual
Average # FTE Hours/ FTE Employee: Average # sick hours/ FTE Employee	Actual
Average # occurrences/FTE: YTD Sick hours/Average # FTE	Actual
Lost Time Frequency- # of incidents x 200000 Hours/ Total hours Worked	Actual
Medical Aid Frequency- # of incidents x 200000 Hours/ Total hours Worked	Actual
Hiring:	
# of Competitions	Actual
# of Applicants	Actual
# of New Hires	Actual
Average Age of New Hires	Actual
Cost of Hiring and Training:	
Conventional Operator	Actual
Access Operator	Actual
Demographics:	
Average Age	Actual
Average Years of Service	Actual
Gender ratio Male: Female	Actual
Retirements – in year	Actual
Resignations – in year	Actual
Terminations – in year	Actual
Retention Rate (Conventional and Access Operators):	

<ul style="list-style-type: none"> i. Successfully completed Training ii. Successfully completed Probation iii. Still with Saskatoon Transit at 12 month mark iv. Still with Saskatoon Transit at 60 month mark 	<p>Actual/New Hires</p> <p>Actual/i.</p> <p>Actual/ii.</p> <p>Actual/iii.</p>
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Some of the material in this plan is based on industry best practice outlined in the London Transit 2015-2018 Business Plan. A special thank you to London Transit for their assistance in the development of this plan.



Saskatoon Transit
301 24th Street West
Saskatoon, Saskatchewan
S7L 6R8
Telephone: 306-975-3108

Transit Vision 2016 – 2020 - Driving Change!

Saskatoon Transit will:

- Develop; bring focus and direction to the organization (5 year plan, section plans, growth plan) - 2016.
- Commence the reputation rebuilding process by continuing to work with our employees to develop commitment that makes the customers our focus (Passenger Pledge, IDPs/PD cycle,) – 2016 on.
- Develop alternate concepts to increase ridership:
 - Downtown businesses UPASS;
 - Engaging with School Boards to develop learning trip excursion passes, environment learning stream passes and other initiatives to attract students to transit as new riders;
 - Dial a Bus/Demand Response model for the North Industrial area; and
 - Community Shuttle style services connecting the Field House, Medical Arts District, Market Mall.
- Revitalize our organization by:
 - Moving transit operations to the Civic Operations Centre in early 2017.
 - Creating the Customer Support & Engagement Section as the organizational conscience regarding our customers (2016).
 - Offering reliable service reflective of the wants and needs of Saskatoon Residents:
 - 8th Street Transit Corridor – 2016,
 - 22nd Street Transit Corridor – 2017,
 - College Drive Transit Corridor, and Idylwyld Drive/Warman Road Transit Corridor – 2018.
 - Engaging positively, and often, with our passengers, our employees, our council and our city (Transit on Tap, BROS, AEBC, SCOA) - 2016 ongoing.
 - Providing our customers with technology that works (ITS, Transit App, new look Trapeze InfoView) – 2016/2017.
 - Helping our people succeed, reinforcing success and correcting for errors (change Supervisor focus, CPBO, Consistency/SOPs, holding everyone accountable for what they do) – 2016 on.
- Showcase Saskatoon’s mobility options:
 - Continue to implement the Fleet Renewal Strategy, approved in 2015 which will help achieve a 100% Accessible Fleet by 2018, and
 - Review the current Demand Response (Access Transit) model in 2017.
- Become a source of “Best Practice” (hiring & training plan, Court support (OC Transpo), MCPCC Transit Operator Training review, Investigation process) starting in 2016.
- Make safety a part of everything we do (Safety plan 16).

Working within the City of Saskatoon Strategic Goals and the Transportation & Utilities Department Vision, Saskatoon Transit’s mission is:

Connecting our community; providing professional, reliable, safe and affordable mobility options.

Idylwyld Drive Comprehensive Corridor Project and Streetscape Concept

Recommendation

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

1. That the General Manager, Community Services Department, be authorized to release a Request for Proposal based on the Terms of Reference presented in this report.

Topic and Purpose

The purpose of this report is to outline the proposed Terms of Reference for the Comprehensive Corridor Project and Streetscape Design for Idylwyld Drive, from 20th Street to 25th Street East.

Report Highlights

1. Traffic patterns and vehicle composition on Idylwyld Drive has changed.
2. Completing a design for Idylwyld Drive was identified in the City Centre Plan Implementation Plan and prioritized by the Transportation Division.
3. The purpose of the Comprehensive Corridor Project and Streetscape Design (Project) is to develop a conceptual plan to improve the function, safety, connectivity, and quality of the public realm along Idylwyld Drive, from 20th Street to 25th Street East.
4. Funding for this Project has previously been approved and will be provided by both the Planning and Development and Transportation Divisions.

Strategic Goal

This report supports the City of Saskatoon's (City) Strategic Goal of Moving Around by improving the safety of all road users (i.e. pedestrians, cyclists, and drivers) and also supports the following long-term priorities:

- to optimize the flow of people and goods in and around the city; and
- to develop an integrated transportation network that is practical and useful for motorists, transit-users, cyclists, and pedestrians.

Background

At its January 20, 2014 meeting, City Council received a report that identified Idylwyld Drive, from Senator Sid Buckwold Bridge to Circle Drive North, as a priority street for streetscape improvements. The report stated that redevelopment of the Idylwyld Drive streetscape would enhance its functionality as a multi-modal corridor and support recommendations and directions emerging from current planning projects (City Centre Plan, North Downtown, and Growth Plan). The report identified a phased approach to implementation that would prioritize improvements from Senator Sid Buckwold Bridge to 33rd Street.

At its October 13, 2015 meeting, the Standing Policy Committee on Transportation received a report that ranked corridors throughout Saskatoon requiring transportation functional planning studies. The selection criteria used to rank the corridors was based on traffic safety, traffic capacity, and opportunities to coordinate with other City initiatives. The selection process was used to quantify, compare, and identify the corridors that require geometric modifications to improve safety, increase capacity, improve operations, or enhance pedestrian infrastructure. Based on these criteria, Idylwyld Drive, from 20th Street to 25th Street East, was identified by the Transportation Division as a priority for a comprehensive corridor project.

Report

Idylwyld Drive Has Changed

Idylwyld Drive, classified as a major arterial roadway through the City Centre, serves as a key north-south travel corridor through Saskatoon. Further, it connects with 22nd Street and 25th Street East, both east-west major arterial roadways.

In the last four years, Idylwyld Drive was affected by two major infrastructure projects:

- a) the completion of Circle Drive South; and
- b) the extension of 25th Street East.

The opening of Circle Drive South significantly changed traffic volumes, composition, and patterns. Idylwyld Drive experienced decreases in traffic volumes as drivers moved their trips from 22nd Street and Senator Sid Buckwold Bridge to Circle Drive South. Specifically, the intersection of 22nd Street and Idylwyld Drive underwent decreases in the proportion of northbound left turns and eastbound right turns. Moreover, the City removed Idylwyld Drive and 22nd Street from its Long-Haul Vehicle Routes, dramatically decreasing the number of heavy trucks with trailers using Idylwyld Drive. The extension of 25th Street East, between 1st Avenue and Idylwyld Drive, also contributed to traffic pattern changes. Previously, traffic to and from the University Bridge dispersed through the Downtown to connect with Idylwyld Drive. Now, that same east-west traffic is concentrated at the intersection of 25th Street East and Idylwyld Drive.

The portion of Idylwyld Drive between 20th Street and 25th Street East, is a key linkage between many major uses and is bordered by four neighbourhoods and two Business Improvement Districts (BIDs). However, the current configuration of Idylwyld Drive poses a challenging environment for pedestrians to navigate, tending to divide rather than unite, the surrounding neighbourhoods and districts. Improvements to Idylwyld Drive would help link the neighbourhoods and the business districts, making it easier for people to get around using a variety of modes in Saskatoon's core area.

City Centre Plan Recommendation

Phase 3 of the City Centre Plan recognized the importance of Idylwyld Drive as a major urban thoroughfare. It recommended improved connections between areas in the City Centre and looked at the western area of Downtown (between Idylwyld Drive and 1st Avenue) as a significant growth area for mixed-use development. Feedback gathered through public engagement, Saskatoon Speaks, and through the development

of the Culture Plan, determined that greater pedestrian connectivity and improved linkages in the City Centre was essential. The City Centre Plan proposes Idylwyld Drive be enhanced through the provision of high-quality pedestrian amenities, including improved sidewalks and crosswalks, to allow for better linkages between the Downtown, Riversdale, and River Landing, while still providing efficient vehicular service.

Purpose of the Project

The purpose of the Project is to prepare a vision and develop a conceptual plan to improve the function, safety, connectivity, and quality of the public realm along Idylwyld Drive, from 20th to 25th Street East (see Attachment 1).

A ten-member steering committee has been established to prepare a Request for Proposals and direct the Project throughout the process. The steering committee is comprised of seven representatives from various civic divisions and sections, the executive directors from The Partnership and Riversdale BIDs, and a representative from Midtown Plaza.

The steering committee has prepared the following objectives to guide the outcome of the Project to:

- a) foster a unique sense of place by incorporating design elements, at both the pedestrian and motorized vehicle scale, that unify the corridor and create visual interest;
- b) provide a positive reflection of, and sense of arrival to, the City Centre;
- c) provide efficient access, support land uses in and near the corridor, connect adjacent neighbourhoods and districts, and connect people with their destinations along and across the corridor;
- d) support flexible land uses and encourage transition of land uses along and across the corridor;
- e) improve comfort and support daily activities;
- f) provide improved facilities for pedestrians; and
- g) create a safe and predictable environment for all users along and across the corridor.

A proposed Terms of Reference and a schedule have been prepared (see Attachment 2).

Options to the Recommendation

The option exists for City Council to defer consideration of this matter and/or to request amendments to the Terms of Reference for the Project, in which case, further direction would be required.

Public and/or Stakeholder Involvement

Stakeholder involvement is an important component in preparing the vision and developing the design for the corridor. As such, three external stakeholders are

members of the Project's steering committee. Continued stakeholder involvement and effective public input will be integrated into each phase of this Project.

Communication Plan

A variety of communication tools will be utilized to ensure that effective and consistent communication and messages are integrated into each phase of this Project. Examples include flyers, portable message boards, use of the Shaping Saskatoon website, and notifications through appropriate community associations and BIDs.

Financial Implications

Funding for the Project has previously been approved and will be provided by both the Planning and Development Division and the Transportation Division.

Funding provided by the Planning and Development Division has previously been identified and approved under Capital Project No. 2162 - Urban Design – BIDs. The Streetscape Reserve contains \$500,000 for streetscape improvement plans along Idylwyld Drive, from 20th Street to Circle Drive. This portion of the Project will require \$125,000 from this reserve.

Funding provided by the Transportation Division has previously been identified and approved under Capital Project No. 2436 - Corridor Planning Studies. Funding in the amount of \$75,000 was approved in the 2016 Capital Budget for this portion of Idylwyld Drive.

Therefore, the total budget for this project is set at \$200,000, which includes a contingency.

Safety/Crime Prevention Through Environmental Design (CPTED)

The CPTED process will be followed as the project proceeds through the design and implementation stages.

Other Considerations/Implications

There are no policy, environmental, or privacy implications or considerations at this time.

Due Date for Follow-up and/or Project Completion

If required, a report will be provided to City Council in the summer of 2016, requesting approval to enter into a consulting services agreement with the successful consultant to undertake the Project, and confirm the total cost of the project.

Public Notice

The Request for Proposals will follow the requirements of Purchase of Goods, Services and Work Policy No. C02-030.

Attachments

1. Project Area Map
2. Terms of Reference and Proposed Schedule

Report Approval

Written by: Danae Balogun, Senior Planner, Urban Design, Planning & Development Division
Marina Melchiorre, Senior Transportation Engineer, Transportation Division

Reviewed by: Alan Wallace, Director of Planning and Development
Angela Gardiner, Director of Transportation
Jeff Jorgenson, General Manager, Transportation and Utilities Department

Approved by: Randy Grauer, General Manager, Community Services Department

S/Reports/2016/PD/TRANS – Idylwyld Drive Comprehensive Corridor Project and Streetscape Concept/gs

Attachment 1



Terms of Reference and Proposed Schedule

Terms of Reference

1. Review Existing Conditions and Characteristics, and Prepare Vision
 - a. Review all existing information.
 - b. Prepare base plans showing existing conditions.
 - c. Prepare a vision for the future of the corridor with input from steering committee and stakeholders.

2. Transportation, Zoning, and Public Realm Assessment
 - a. Transportation Assessment

Evaluate the current and future operation of Idylwyld Drive and its cross streets, recommend modifications, and outline the potential to reduce the roadway cross-section width (curb-to-curb) to allow expansion of the public realm.

 - i. Gather traffic data;
 - ii. Conduct traffic capacity and level of service analyses;
 - iii. Itemize and address current and future operational challenges;
 - iv. Evaluate feasibility of reducing travelled way; and
 - v. Recommend basic geometric elements, such as lane widths, turn bay lengths, number of driving lanes, configuration of cross walks, accessibility ramps, and islands.

 - b. Zoning Assessment

Explore the long-term suitability and conduct a critical examination of the existing zoning districts along Idylwyld Drive, provide guidance on how they do or do not fit with the purpose and objectives of the corridor, and provide recommendations on how they may be modified, if necessary, to fit with the vision of the corridor.

 - c. Public Realm Assessment

Evaluate the feasibility of improving the safety, comfort, and aesthetics of the public realm and recommend improvements to the public realm that will achieve the purpose and objectives of the corridor.

3. Development of Alternatives

Development of design alternatives for deliberation representing a range of possibilities that meet the purpose and objectives for the corridor, including visual

representations of each alternative in the form of 3D renderings and conceptual cross sections.

4. Evaluation of Alternatives

Evaluate the design alternatives, based on a methodology formulated by the successful proponent, and arrive at a preferred alternative that meets the purpose and objectives of the Study, and takes into account stakeholder and public feedback.

5. Preferred Alternative

Based on results of the evaluation, prepare a functional design of preferred alternative.

6. Implementation Plan and Cost Estimate

Prepare recommended plan for implementation, including timelines, phasing strategies, and estimated costs.

7. Final Report and Design Concept

The final phase of the project will result in a detailed report summarizing all the work and findings from the course of the study and a design concept for the public realm.

Proposed Schedule

Date	Milestone
2016	
May 26	Release RFP
June 22	RFP Closes
August 16	Report for Award of RFP to SPC on Transportation
August 18	Report for Award of RFP to City Council
September 1	Start Up Meeting with Proponent
2017	
September 30	Delivery of Final Design and Report

Highway 16/Boychuk Dr. and McOrmond Dr./College Dr. Interchanges – Status Update

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016, be forwarded to City Council for information.

Topic and Purpose

The purpose of this report is to provide an update on the sound attenuation and the procurement of the two interchanges at Highway 16/Boychuk Drive and McOrmond Drive/College Drive.

Report Highlights

1. Sound attenuation studies were completed to determine noise impact of the interchanges and identified.
2. At Highway 16/Boychuk Drive, additional sound attenuation is required adjacent to Lakeview neighbourhood.
3. At McOrmond Drive/College Drive, additional sound attenuation is required adjacent to Arbor Creek neighbourhood.
4. Extension of sound attenuation beyond construction limits along College Drive, west of the McOrmond Drive/College Drive interchange, is required.
5. The Request for Qualifications (RFQ) will shortlist three Proponents to participate in the Request for Proposal (RFP) to be awarded in fall of 2016.
6. A de-scoping ladder must be established to mitigate the risk of a failure to award the project, in the event that all of the financial proposals result in pricing above the City's affordability threshold. A prioritized three-level de-scoping ladder is presented in this report.

Strategic Goal

This report supports the Strategic Goal of Moving Around by creating “complete communities” in new neighbourhoods that feature greater connectivity, both internally and externally. It also supports the goal of investing in infrastructure that improves connectivity for all travel modes.

Background

City Council, at its meeting held on October 27, 2014, approved a report from the General Manager, Transportation & Utilities Department to allocate \$2 Million of funding to hire an Owner's Engineer for the construction of interchanges at Highway 16/Boychuk Drive and McOrmond Drive/College Drive.

Report

The City's current policy for constructing sound attenuation walls is to mitigate noise levels adjacent to newly constructed major transportation infrastructure. To model the existing and projected noise levels upon completion of the interchanges, a noise attenuation study was completed at both locations.

Sound Attenuation Location Studies

1. Highway 16/Boychuk Drive:
The south end of the existing barrier will be extended with a minimum height of 1.8 metres along the west side of Boychuk Drive. The recommendation also includes the relocation and increase in height of the east end of the existing barrier along Highway 16 from 2.4 metres to 4.0 metres, while connecting it with a new 1.8 metre barrier. The recommended sound attenuation is shown in Attachment 1. The option of connecting the recommended soundwalls on the west side of Boychuk Drive and north of Highway 16 was considered but not feasible as the TransGas pipeline runs across at this location.
2. McOrmond Drive/College Drive:
Additional sound attenuation ranging from 1.9 metres to 2.9 metres is required near Arbor Creek adjacent to the interchange construction as shown in Attachment 2.

Sound Attenuation Beyond McOrmond Drive Interchange Construction Limits

The study identified that sound attenuation walls will be required along the north side of College Drive, beyond the construction limits of the interchange to the west. This section had previously been identified as requiring sound attenuation, but was not included in the sound wall program and was instead referred to the interchange project.

Approximately 1,000 metres of additional wall, over and above what is required adjacent to the interchange, will be needed and will vary in height from 2.3 metres to 3.7 metres along College Drive as shown in Attachment 3.

The estimated cost is \$2 Million to construct sound attenuation from the McOrmond Drive interchange construction limits west to the Canadian Pacific Railway overpass on College Drive. Given that this is outside of the construction limits for the interchange, funding for this additional sound attenuation will be provided from Capital Project #1522 – Traffic Noise Attenuation.

City Council previously approved borrowing \$15.45 Million for retrofitting sound attenuation at nine locations adjacent to existing neighbourhoods. The nine locations have been separated into two contracts:

1. East side locations combined into one contract with the tender closing on April 21, 2016; and
2. West side locations combined as another contract with the tender closing on May 13, 2016.

Depending on the final contract amounts for the nine previously approved locations, existing funding from Capital Project #1522 – Traffic Noise Attenuation may be sufficient to fund this additional sound attenuation along College Drive.

Status of Procurement

The RFQ for the interchange projects was released on March 10, 2016. The RFQ will shortlist three Proponents to participate in the RFP process. The RFP will be awarded in the fall of 2016. An honorarium for unsuccessful Proponents in the RFP process has been selected to be \$200,000. This amount has been included in the approved budget for this project. The honorariums are only paid to unsuccessful Proponents who submit a compliant final submission, and are intended to partially offset their pursuit costs, which are estimated in the range of \$800,000 to \$1 Million.

In comparison, the Disraeli Bridges project in Winnipeg has a capital budget of approximately \$200 Million, and an honorarium of \$500,000. The Warman and Martensville Interchange project has a capital budget of approximately \$125 Million, and an honorarium of \$200,000.

De-Scoping Ladder

The project team has developed a Design-Build RFP for the project. A major component of this work is to identify a list of potential de-scoping items to mitigate the risk of a failure to award the project. This list is required in the event that all financial proposals result in pricing above the City's established affordability threshold, and the project cannot be awarded unless a de-scoping ladder is used to reduce the project scope to within the City's affordability threshold. The project will be awarded to the lowest net present value financial proposal from all compliant technical proposals.

De-scoping of the project would only occur if all technically compliant financial proposals for the base scope are above the City's established affordability threshold, and City Council chooses not to add additional funding to the contract. Based on the recommendations of the City advisory team for the project, a de-scoping ladder representing approximately 10% of the total project capital value will be built into the RFP.

As the financial proposals must include a complete financial analysis for the various scope reduction levels, if the affordability threshold is exceeded at any level, it is important that the de-scoping ladder be established into logical bundles of items to limit the number of steps to the ladder. De-scoping items can be based on items that are considered optional, but the primary consideration is that the items be comprised of portions of work that can logically be separated from the main contract. The main purpose of de-scoping ladders is to provide industry with confidence that the project will be awarded.

Therefore, the de-scoping ladder has been prioritized as follows:

1. Scope Reduction Level One (estimated total capital cost \$3,500,000 to \$5,500,000)
 - Change the Project Completion Date from October 31, 2018 to October 31, 2019 with liquidated damages being applied after the new completion date.
2. Scope Reduction Level Two (estimated total capital cost \$1,500,000 to \$1,700,000)
 - Delete sound attenuation infrastructure adjacent to the Highway 16/Boychuk Drive interchange.
 - Delete sound attenuation infrastructure adjacent to the McOrmond Drive/College Drive interchange.
3. Scope Reduction Level Three (estimated total capital cost \$650,000 to \$800,000)
 - Delete the Street lighting along College Drive that isn't directly required for the interchange.

Regarding the Level One item, this would allow City Council the option of reducing project costs in the event initial bids exceed the affordability threshold. The other two levels are considered mandatory items and were selected because this required work can be logically separated from the main contract.

If all compliant bids are over the affordability threshold, the Administration will bring a report to City Council with options to either add funding to the project or activate the de-scoping ladder.

The decision on whether or not to activate a de-scoping level is made prior to knowing the resultant cost savings. Once the level is activated, there is no 'going back', since the successful proponent could change at each level of the de-scoping ladder.

Public and/or Stakeholder Involvement

In 2013, the functional plan for the interchange at McOrmond Drive/College Drive was presented at a public open house. The feedback at that time focused on the desire to expedite the construction of the interchange and to retain a free-flow movement for southbound traffic.

In March 2009, an open house was held in conjunction with the Ministry of Highways and Infrastructure, and the Rural Municipality of Corman Park as part of the Highway 16 Corridor Planning Study. The functional plan for the interchange was presented at that time.

Communication Plan

Information regarding the interchanges and sound attenuation walls will be made available on the City website. As the project progresses, specific information, including any construction or traffic flow impacts, will be shared via the City Daily Road Report, the City Service Alerts (saskatoon.ca/service-alerts), the online construction map

(saskatoon.ca/constructionmap) and through advertisements and public service announcements as appropriate.

Residents impacted by the construction of sound attenuation walls will be provided with information prior to construction, and will be kept updated as construction proceeds.

Financial Implications

The estimated cost for the Highway 16/Boychuk Drive interchange is \$45.15 Million. Funding is contingent upon approval from senior levels of government through the Building Canada Funding program. This cost includes the recommended sound attenuation which is estimated at \$410,000.

The estimated cost for the McOrmond Drive/College Drive interchange is \$52.5 Million and is fully funded by development. This cost includes the recommended sound attenuation which is estimated at \$987,500.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

The timing of construction for the McOrmond Drive/College Drive interchange is dependent on funding approval for the interchange at Highway 16/Boychuk Drive, as the two projects will be combined into one contract. If funding approval is obtained by the spring of 2016, an agreement will be in place with the Proponent in the fall of 2016 for construction to proceed.

The Administration will provide a report upon closure of the sound attenuation retrofit contracts. This report will provide information on the feasibility of using a portion of the borrowed funds from Capital Project #1522 – Traffic Noise Attenuation to extend the sound attenuation further west along College Drive.

Public Notice

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

Attachments

1. Recommended Sound Attenuation at Highway 16 & Boychuk Drive
2. Recommended Sound Attenuation at McOrmond Drive & College Drive
3. Recommended Sound Attenuation along College Drive West of Interchange

Report Approval

Written by: Lanre Akindipe, Transportation Engineer, Transportation
Reviewed by: Jay Magus, Engineering Manager, Transportation
Reviewed by: Angela Gardiner, Director of Transportation

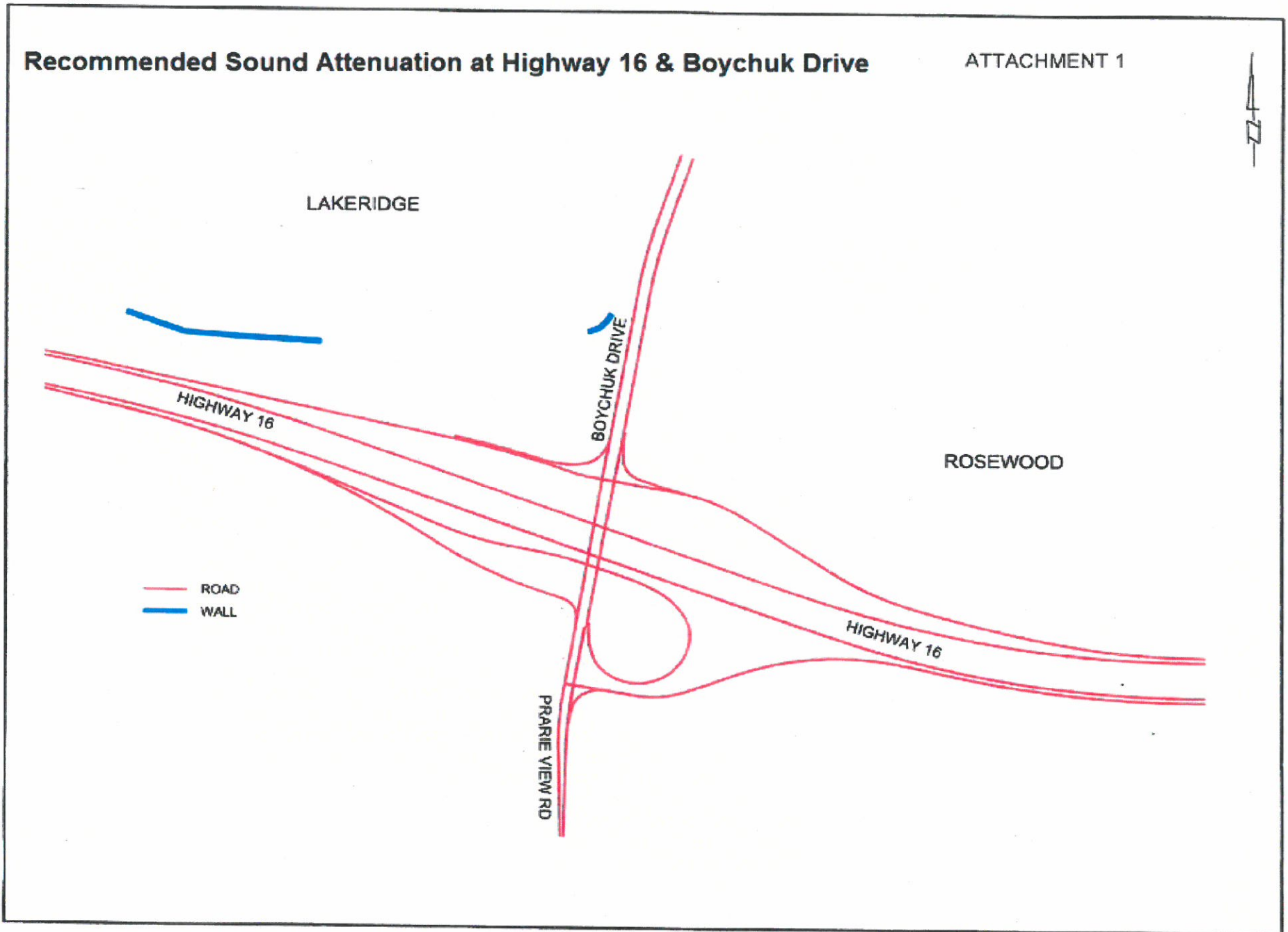
Highway 16/Boychuk Dr. and McOrmond Dr./College Dr. Interchanges – Status Update

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

TRANS LA - Hwy 16-Boychuk Dr and McOrmond Dr-College Dr Interchanges – Status Update

Recommended Sound Attenuation at Highway 16 & Boychuk Drive

ATTACHMENT 1



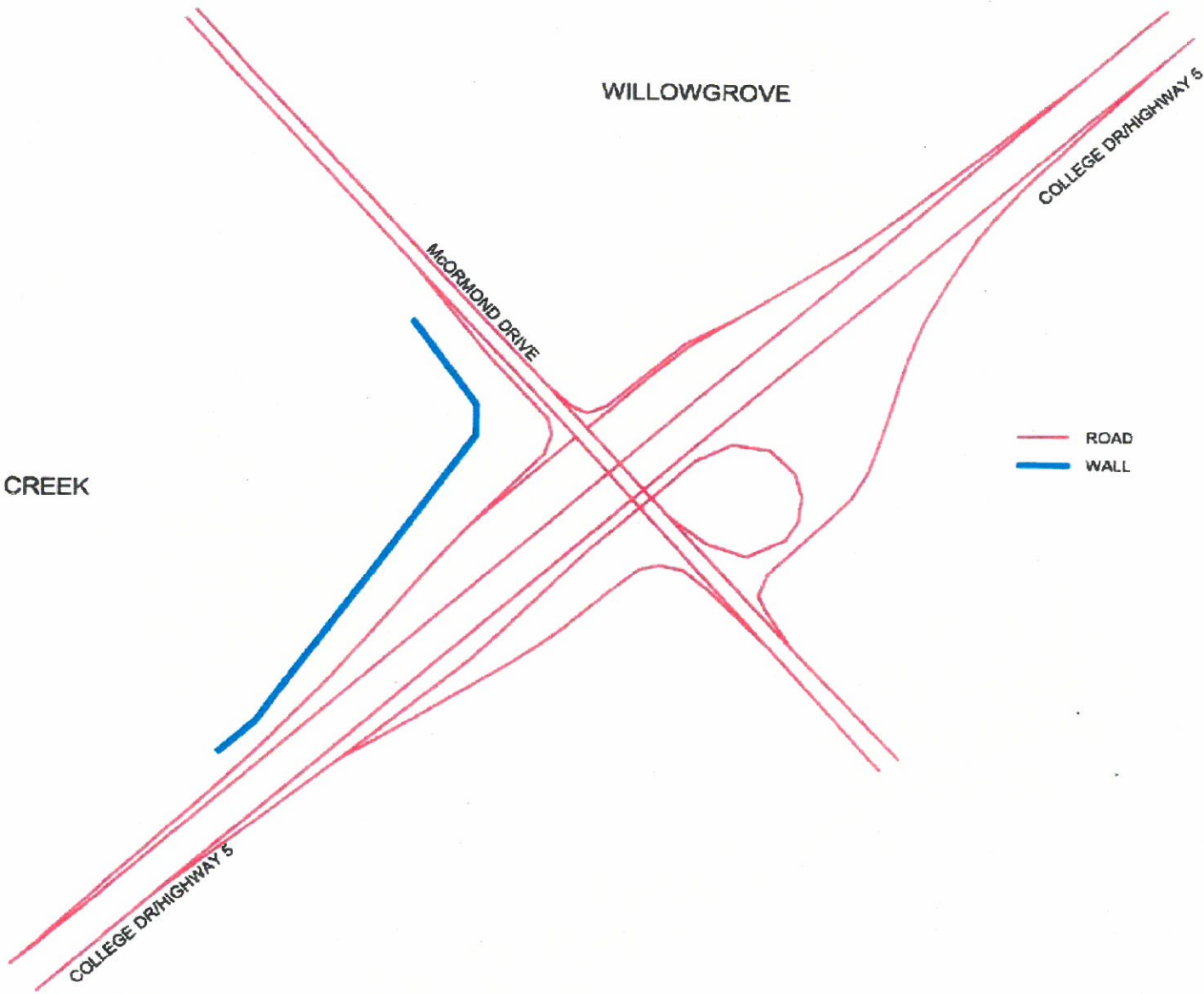
Recommended Sound Attenuation at McOrmond Drive & College Drive

ATTACHMENT 2



ARBOR CREEK

WILLOWGROVE



- ROAD
- WALL

Recommended Sound Attenuation along college Drive West of Interchange

ATTACHMENT 3



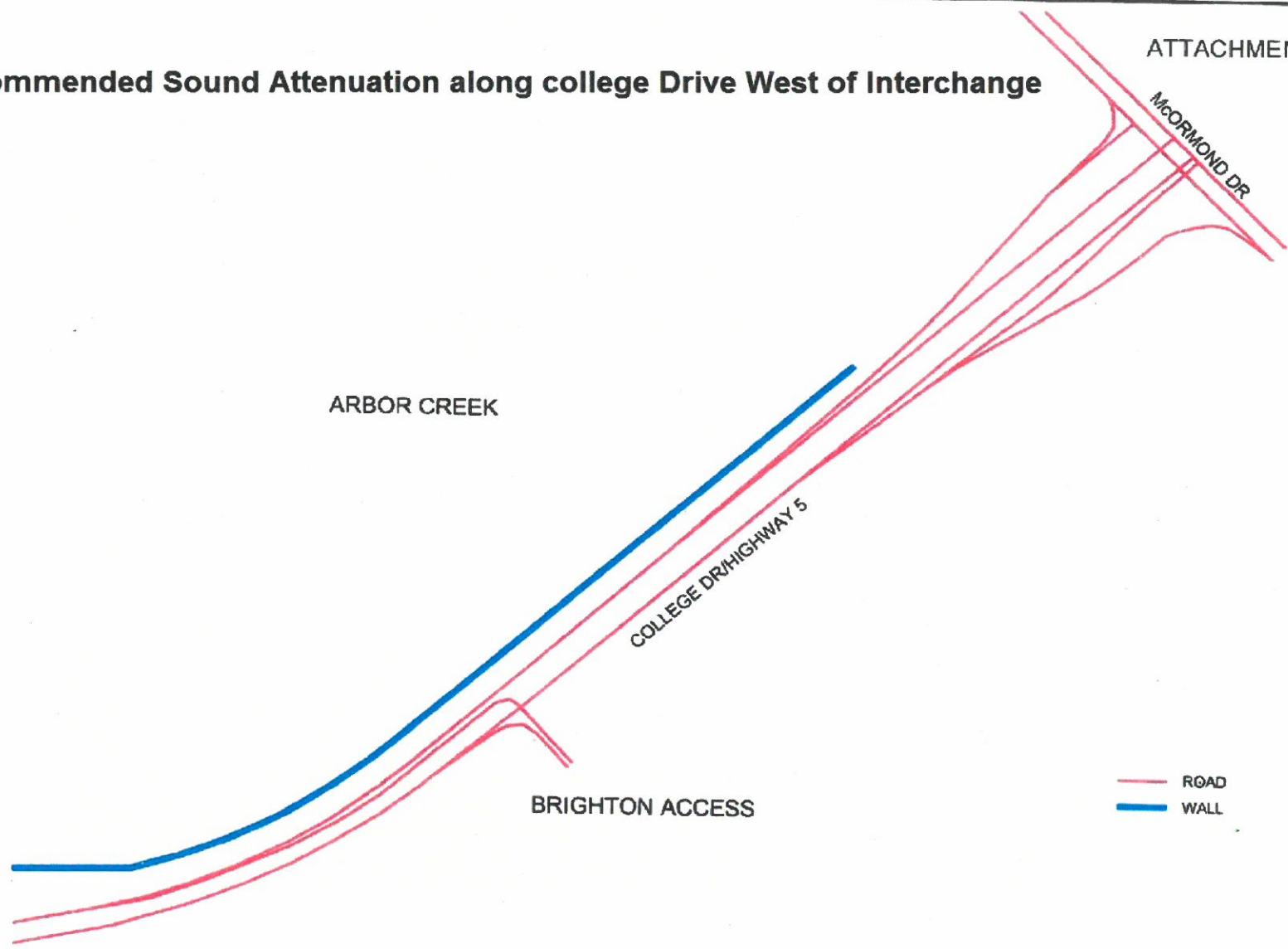
MCCORMOND DR

ARBOR CREEK

COLLEGE DR/HIGHWAY 5

BRIGHTON ACCESS

ROAD
WALL



Sidewalk Condition and Plan

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016, be forwarded to City Council for information.

Topic and Purpose

The purpose of this report is to provide information on the current condition of the City of Saskatoon's (City's) sidewalk network and describe the current treatment methods that are delivered by the preservation and maintenance programs.

Report Highlights

1. Saskatoon has a sidewalk inventory of 1,524 km of sidewalk with an estimated replacement value of \$722M.
2. Saskatoon's sidewalks are generally in "Satisfactory" condition based on current inspection data and the calculated Sidewalk Condition Index.
3. The Sidewalk Preservation Program is implemented on the sidewalks adjacent to the Roadway Surfacing Program. An estimated \$4.9M per year is required to allow for an average sidewalk intervention treatment cycle of 20 years using the current treatment approach. This funding is available within the current funding plan, due largely to lower than anticipated roadway resurfacing contract costs.
4. The Sidewalk Maintenance Plan has a budget of \$1.03M and addresses safety and maintenance issues throughout the remainder of the city. The 2016 plan is to address sidewalks with the poorest condition and highest pedestrian potential.

Strategic Goals

This report supports the Strategic Goals of Asset and Financial Sustainability and Moving Around. Actively preserving and maintaining the City's sidewalk network allows for mobility of all users, provides for a sustainable asset condition solution and supports pedestrians moving freely throughout the City.

Background

In previous reports, the Administration had reported that funding Level B would require an annual funding amount of \$2.7 Million. Since that time, a comprehensive sidewalk condition evaluation has been completed, and extensive contract work has been completed on sidewalks adjacent to roadway resurfacing projects.

Report

Inventory

The City's sidewalk network consists of a combination of combined curb and sidewalk, separate sidewalks and walkways. The network is separated into neighbourhood and primary categories consisting of the following equivalent lineal kilometers and valuation:

Walk Network		
Network	Eq. Lin. Km	Valuation (M)
Neighbourhood	1,012	\$502
Primary	512	\$220
Total	1,524	\$722

Current Condition

In 2014, the Asset Preservation Group of the Major Projects division revised the method in which sidewalk condition data was collected in order to develop a system that would allow both the Sidewalk Preservation Program and the Sidewalk Maintenance Program to be planned with the same condition data. Approximately 74% of the network was inspected in 2014 and 2015. Areas that were not inspected included newer neighbourhoods where the infrastructure remains under warranty, and those areas which are still being addressed by the Developer Sidewalk Levy.

A Sidewalk Condition Index was developed with a potential index rating of 0-100. Each distinct defect on a sidewalk panel triggers a deduct value to that panel. Overall, the average Sidewalk Condition Index for the entire City sidewalk network is 84.1 out of 100, in which is classed as a “Satisfactory” condition state. On a segment level (typically one city block), approximately 3% of the entire sidewalk network is rated in a poor to failed condition. The City has over one million sidewalk panels (approximately 1.5 metre lengths) in its network. Of those, less than 10% of the individual panels are in poor to failed condition.

Sidewalk inspection data shows that sidewalks are generally in satisfactory condition and that failed locations tend to be localized, with individual sidewalk panels requiring treatment rather than longer sidewalk lengths. The maintenance and replacement associated with sidewalks currently in “Fair” to “Failed” condition states is estimated at \$80M. More detailed information on condition can be found in Attachment 1.

The City Sidewalk Preservation and Maintenance programs are planned and managed by the Transportation & Utilities Department. The Preservation Program is planned by the Major Projects division and construction is delivered by the Construction and Design division. The maintenance program is managed by the Public Works division. The two programs are integrated in a collaborative manner by utilizing the same condition data and through a high level of direct communication between all groups involved.

Planned Preservation Practices and Prioritization

The Sidewalk Preservation Plan focuses on repairing sidewalks adjacent to roadways when they are resurfaced, which is the most cost-effective way to deliver this work. Therefore, the annually programmed work areas for the Sidewalk Preservation Program are aligned to the three-year road plan, which is published on the City’s website. Since the road program covers approximately 5% of the road network per year, equating to each road receiving preservation treatments once every 20 years, this allows the Sidewalk Preservation Program to have the same average cycle for return treatments.

Larger segments of severely deteriorated sidewalk that are in high pedestrian potential areas and outside of the roadway surface treatment program are also reviewed and collaborated between divisions to implement the best solution for repair or maintenance.

The planned 2016 preservation treatments performed adjacent to the roadway program consist of the following work:

- Sidewalk Replacement - sidewalk replacement is performed on panels that are severely deteriorated and meet replacement criteria. Estimated 2016 work is 10,500 metres of sidewalk replacement at an estimated cost of \$4.78M.
- Trip ledge cutting – trip ledge cutting is performed on sidewalks that don't meet the replacement criteria and have displacements between 10 millimetres and 40 millimetres in height. Estimated 2016 work is 4,785 metres of trip ledge cutting at an estimated cost of \$0.29M.
- Crack Filling – sidewalk crack filling is performed on sidewalk panels that don't meet the replacement criteria and have visible cracking between 5 millimetres and 30 millimetres in width. Crack filling is possible on panels with minimal deformation and panels with one or fewer cracks in each direction. Estimated 2016 work is 7,750 metres of crack filling at an estimated cost of \$0.24M.

A total of \$5.31M of preservation work is planned adjacent to the road program in 2016. Attachment 2, provides a description of the treatment selection criteria utilized by field staff to ensure consistent decisions are made during construction.

To achieve preservation treatment of the entire network an average of once every 20-years, a yearly budget of \$4.9M per year is required for the Sidewalk Preservation Program. This amount will be included in the Administration's proposed 2017 budget, which will be subject to review and approval during budget deliberations.

This funding level can be achieved with the final planned 2017 dedicated levy to the Roadway Reserve. Although this cost is higher than the original planned preservation investment for sidewalks, favourable roadway tender prices mean that for the same total annual investment, the City can achieve Level B funding for both sidewalks and roadways.

Planned Maintenance Practices and Prioritization

Attachment 3, outlines the planned Sidewalk Maintenance Program.

Public Works will be addressing maintenance through the Identify, Plan, Schedule, Execute, and Follow-Up maintenance process. In order to optimize efficiency, maintenance activities on sidewalks are conducted before replacements. This strategy allows for sidewalk panels (or sections) for which their condition has changed since inspection to be added to the replacement list.

The Public Works Sidewalk Maintenance Program will start in late June and will continue until mid-August; at which time the crews switch from the maintenance

program to sidewalk replacements, which includes those sidewalks identified as being in the worst condition. This includes sidewalks that are required to be replaced due to underground utility work, and those that are identified as below acceptable condition by customers through the Customer Service Centre.

The 2016 Public Works plan includes maintenance of over 6,000 sidewalk panels with an assessment Sidewalk Condition Index lower than 10% and are in higher pedestrian potential locations. The total budget for this program is \$1.03M. Public Works will not address sidewalk panels that are on the three-year Road Preservation Program, except to address serious safety concerns.

In 2015, approximately 2.3 km of sidewalks were addressed by asphalt overlays for safety concerns at a total cost of \$54,000. Unless otherwise directed by City Council, the Administration will continue to use Asphalt Overlays to treat sidewalks that require treatment.

In summary, the planned maintenance program will allow Saskatoon's sidewalks to be prioritized and maintained for safety until such time as the preservation program can be implemented in all areas. The current planned preservation program will allow each road and sidewalk in the City to receive an intervention treatment on an average 20-year cycle. The Administration will continue to report on condition and progress towards program objectives on a yearly basis.

Options to the Recommendation

The City could discontinue the use of asphalt overlays that are used each year as a safety measure on severely deteriorated sidewalks. In 2015, approximately 2.3 km of sidewalks were addressed for safety concerns at an estimated cost of \$54,000. In order to discontinue asphalt overlays, an additional \$1.1M of annual funding per year would be required.

Communication Plan

Residents and businesses adjacent to a sidewalk being repaired or replaced receive construction notices.

The Sidewalks webpage (under "Moving Around") outlines the sidewalk preservation and replacement criteria, contact information for citizens to report hazards relating to sidewalks, answers to frequently asked questions, and an explanation of the difference between damaged sidewalks and utility cuts. The page also contains images depicting damage to a sidewalk that requires repair and damage to a sidewalk requiring replacement.

Financial Implications

The report has no financial implication as the required funding has been allocated for the 2017 budget cycle through the remaining dedicated tax levy increment. Growth and inflation will be included on an annual basis.

Environmental Implications

The activities associated with the sidewalk preservation and maintenance program require the use of energy, equipment and materials, and the resulting generation of GHG emissions. However, effective delivery of the program will maximize the functional lifespan and allow for a reasonable replacement plan for these assets. The overall impact on greenhouse gas emissions is not known at this time.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

The Administration will report yearly on the sidewalk condition and plan, and will update the Standing Policy Committee on Transportation on the current state of funding as the plan progresses.

Public Notice

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

Attachments

1. 2015 State of Sidewalks – Surface Infrastructure Asset Management
2. 2016 Sidewalk Preservation Repair/Replacement Criteria
3. Sidewalk Maintenance Program

Report Approval

Written by: Rob Frank, Engineering Manager, Asset Preservation Section
Written by: Russ Munro, Engineering Manager, Logistics and Procurement
Reviewed by: Dan Willems, Director of Major Projects
Reviewed by: Celene Anger, Director of Construction and Design
Reviewed by: Trent Schmidt, A. Director of Public Works
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS RF – Sidewalk Condition & Plan

2015 State of Sidewalks

Surface Infrastructure Asset Management



Major Projects

Transportation & Utilities Department





EXECUTIVE SUMMARY

This report outlines the state of City of Saskatoon Sidewalk Network (Network) by providing information on inventory, valuation, network condition, treatment strategy and funding, and growth and funding levels.

The source of information is from the City's Geographic Information Systems (GIS), asset management database, and past construction contracts.

Inventory and Valuation

Sidewalk Network:

- *Combined Sidewalk*: A sidewalk that is directly attached to the curb. They make-up 75% of the walk inventory.
- *Separate Sidewalk*: A sidewalk that is separated from the curb by a grass boulevard or amenity strip. They make-up 23% of the walk inventory.
- *Walkway*: A sidewalk that is not adjacent to the roadway that connects pedestrian facilities. Walkways are often found between houses leading to parks or another street. They make-up 2% of the walk inventory.

Neighbourhood Network: Sidewalk that are adjacent to Local classified roads belong to the Neighbourhood Network.

Primary Network: Sidewalk that are adjacent to Collector, Arterial, and Expressway classified roads belong to the Primary Network.

These assets are estimated to have a replacement value of \$722 Million. This value includes the cost of:

- Replacing an asset by physical excavation and,
- Replacing with new approved materials and,
- Replacing curb when attached to sidewalks.

Table 1: Summary of Inventory and Valuation

Walk Network		
Network	Eq. Lin. Km	Valuation (\$M)
Neighbourhood	1,012	\$ 502.0
Primary	512	\$ 220.0
Total	1,524	\$ 722

Network Condition

Sidewalk Condition Index (SCI): The sidewalk surface condition was assessed and given a SCI, which was developed in-house and is based on the similar model to the international standard ASTM D 6433 used for roadway condition assessment. A numerical rating is assigned based on the 100 point scale from failed to good. Overall, the City's Network is considered in a satisfactory condition state with a SCI of 84.6 where 70.8% of the Network is in a Fair to Good category.

Table 2: Categorized SCI Ratings

Condition Description	Colour Code	SCI Pavement Index Range
Good		85 < SCI ≤ 100
Satisfactory		70 < SCI ≤ 85
Fair		55 < SCI ≤ 70
Poor		40 < SCI ≤ 55
Very Poor		25 < SCI ≤ 40
Serious		10 < SCI ≤ 25
Failed		0 < SCI ≤ 10

Table 3: Rated Walk Network Average SCI

Network	Average SCI	Condition Description
Neighbourhood	84.8	Satisfactory
Primary	84.1	Satisfactory
Total	84.6	Satisfactory



EXECUTIVE SUMMARY

Treatment Strategy and Funding

Treatment Strategy: The most effective way to achieve an improved sidewalk condition state is to utilize a balance of preservation and rehabilitation treatments. This balance is important to preserve our fair to good sidewalks so they do not drop into a worse category based on the SCI.

Funding: In order to reach the funding levels as outlined for the Level of Service B for sidewalks, capital funding has increased significantly from \$0.3 Million in 2011 to \$5.62 Million in 2016. The average sidewalk replacement cycle has improved from once every 2,000 years in 2011 to every 146 years in 2016.

Table 4: Capital Funding and Treated Network

Treatment Year	Capital Funding Budget (\$M)	Capital Funding Spent (\$M)	Replacement (Eq. Lin. Km)	Network (Eq. Lin. Km)	Average Replacement Cycle
2011	\$ 0.30	\$ 0.38	0.71	1,414	2000 years
2012	\$ 0.30	\$ 0.23	0.40	1,419	3333 years
2013	\$ 0.50	\$ 0.49	0.47	1,450	3333 years
2014	\$ 1.81	\$ 1.31	2.00	1,495	769 years
2015*	\$ 2.12	\$ 4.40	8.48	1,524	180 years
2016**	\$ 2.81	\$ 5.62	10.50	1,542	146 years

* 2015 required \$2.12M from Roadway Preservation Program
** 2016 qlys are estimated, requires \$2.81M in addition to the \$2.81M allotted

Prioritization: Currently the sidewalk preservation program is prioritized with the road preservation program. In order to prioritize sidewalk treatments outside of the roadway program, a Pedestrian Potential Index (PPI) was developed in-house to predict pedestrian activity and vulnerable user groups along segments. The PPI will be used by both Major Projects and Public Works to prioritize sidewalk maintenance/replacement works in pedestrian critical areas.

Funding Requirements

In the 2013 Investing in the Roads to Continued Prosperity Report, it was established by the Administration that in order to improve the paved roadway and sidewalk network and reduce the backlog slowly over time, \$28.98 Million (2013 dollars) in base funding was required. Of this, \$2.81 million was to be dedicated to sidewalks. The plan was for this base funding to be achieved by 2016. To maintain a lower tax increase in 2015, the timeframe to reach base funding was extended to 2017. For 2016, one-time funding was found to supplement the difference.

With a new condition assessment method in place and the preservation and maintenance criteria clearly defined, administration is currently projecting a \$78.8 Million backlog. Assuming that sidewalks have an average 50 year life cycle (or deterioration of 2% of the network per year) this equates to an estimated \$100M of sidewalk preservation work over a 20 year period. To match the average 20 year return period for both sidewalks and roads, a yearly budget of \$4.9M per year is recommended for the Sidewalk Preservation Program. The \$4.9M for sidewalks has been allocated for the 2017 budget and still requires approval during budget deliberations. The funding level can be achieved with the final planned 2017 dedicated levy to the roadway reserve and including variables such as growth, inflation, efficiencies of scale and process improvements on the road and sidewalk programs. Funding will be adjusted for inflation and growth on a yearly basis as we progress through the program.



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1 Introduction

This report outlines the state of the City of Saskatoon’s (the City) Sidewalk (Network), including information on inventory, valuation, condition, growth and inflation funding requirements, and preservation strategy.

2 Inventory

The Sidewalk Network inventory consists of two networks, a Neighbourhood Network and Primary Network that are based on the adjacent roadway classification. The Neighbourhood Network comprise of curb & walk alongside Local roads. These curb and walks serve primarily residents, or business within residential, commercial and industrial neighbourhoods. The Primary Network consists of curb & walk alongside roads classified as Collector, Arterial, and Expressway roads. These roadways serve a broader range of users.

A summarization of our current inventory can be seen in **Table 2.1**. The source of information for this inventory is the City’s Geographic Information Systems (GIS), asset management database.

Table 2.1: Sidewalk Inventory by Network Type

Network	Combined Walk (Eq. Lin. Km*)	Separate Walk (Eq. Lin. Km*)	Walkway (Eq. Lin. Km*)	Total (Eq. Lin. Km*)
Neighbourhood	837	139	36	1,012
Primary	307	206	0	512
Total	1,144	345	36	1,524

*equivalent lineal kilometre = walk area (m²) / 1.2m/avg walk width / 1000m/km



2.1 Inventory per Attribute Type

- **Combined Sidewalk** is where a sidewalk that is directly attached to the curb. As of 2015 there are 1,144 equivalent lineal kms of sidewalks which is 75% of all the sidewalks within the City. The average age of the Combined Sidewalks is 37 years.
- **Separate Sidewalk** is a sidewalk that is separated from the curb by a grass boulevard or amenity strip. As of 2015 there are 345 equivalent lineal kms of sidewalks which is 23% of all the sidewalks within the City. The average age of the Combined Sidewalks is 38 years.
- **Walkway** is a sidewalk that is not adjacent to the roadway that connects pedestrian facilities. Walkways are often found between houses leading to parks or another street. As of 2015 there are 36 equivalent lineal kms of walkways which is 2% of all the sidewalks within the City. The average age of the Walkways is 29 years.



Figure 2.1 displays the Sidewalk throughout the City.

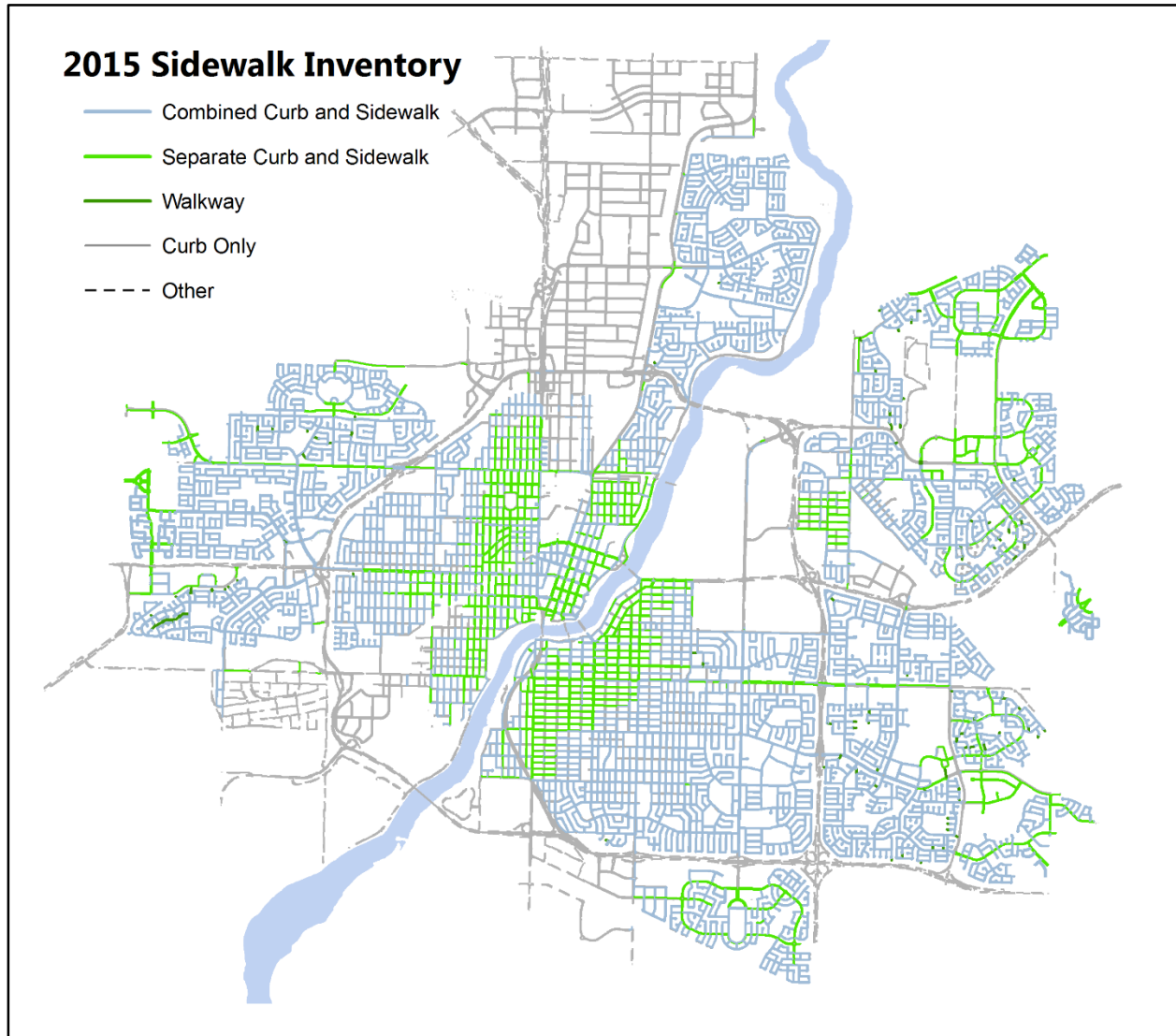


Figure 2.1: City of Saskatoon Sidewalk Inventory



Figure 2.2 shows the compilation of sidewalk construction per year.

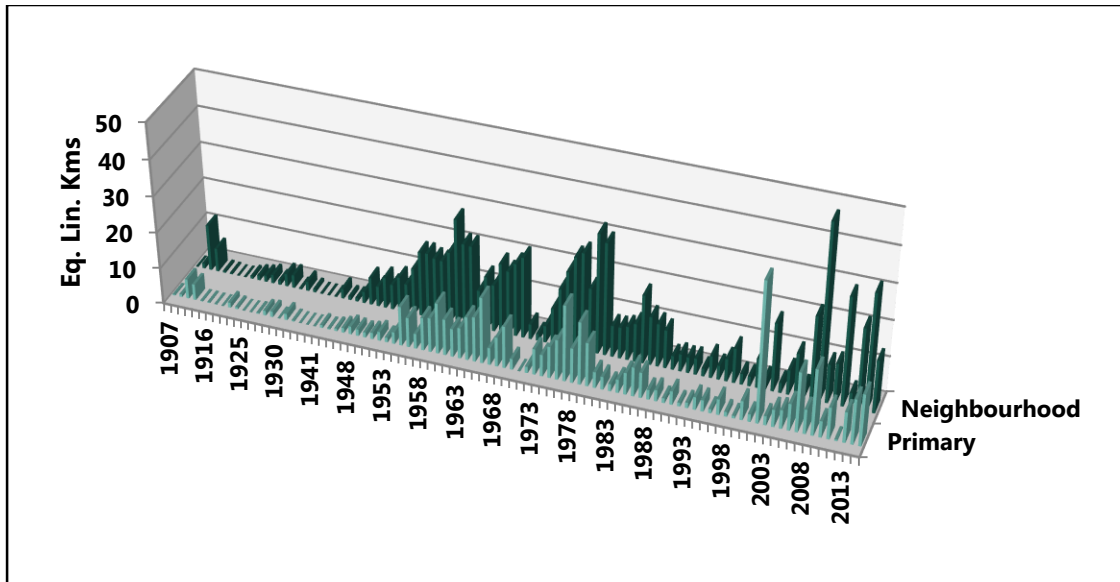


Figure 2.2: Sidewalk Construction per Year

Figure 2.3 illustrates the percent distribution of Sidewalk Network.

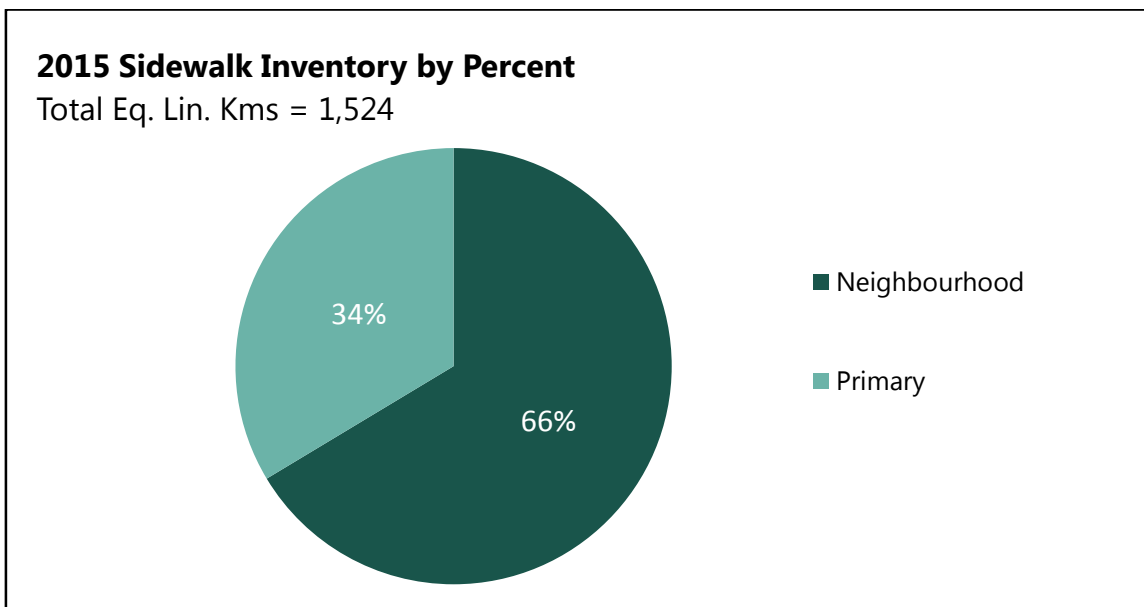


Figure 2.3: Sidewalk Distribution by Network



3 Valuation

The method used to value assets is to calculate the replacement value. This is an estimated cost of replacing an asset by physical excavation and, replacing with new approved materials

Past sidewalk replacement contracts were analyzed to determine an estimated cost of replacement of a particular curb and sidewalk type. The replacement value of the City Network is estimated at 722 Million dollars. This cost includes the removal and replacement of the sidewalk which involves excavation, subgrade preparation, base aggregates and concrete. Combined sidewalks also included the cost to replace the curb. **Table 3.1** outlines the replacement value for sidewalk for each network. **Figure 3.1** shows that the Neighbourhood Network has the largest Network costs due to higher inventory for sidewalks respectively.

Table 3.1: Sidewalk Inventory Replacement Value

Walk Network		
Network	Eq. Lin. Km	Valuation (\$M)
Neighbourhood	1,012	\$ 502.0
Primary	512	\$ 220.0
Total	1,524	\$ 722.0

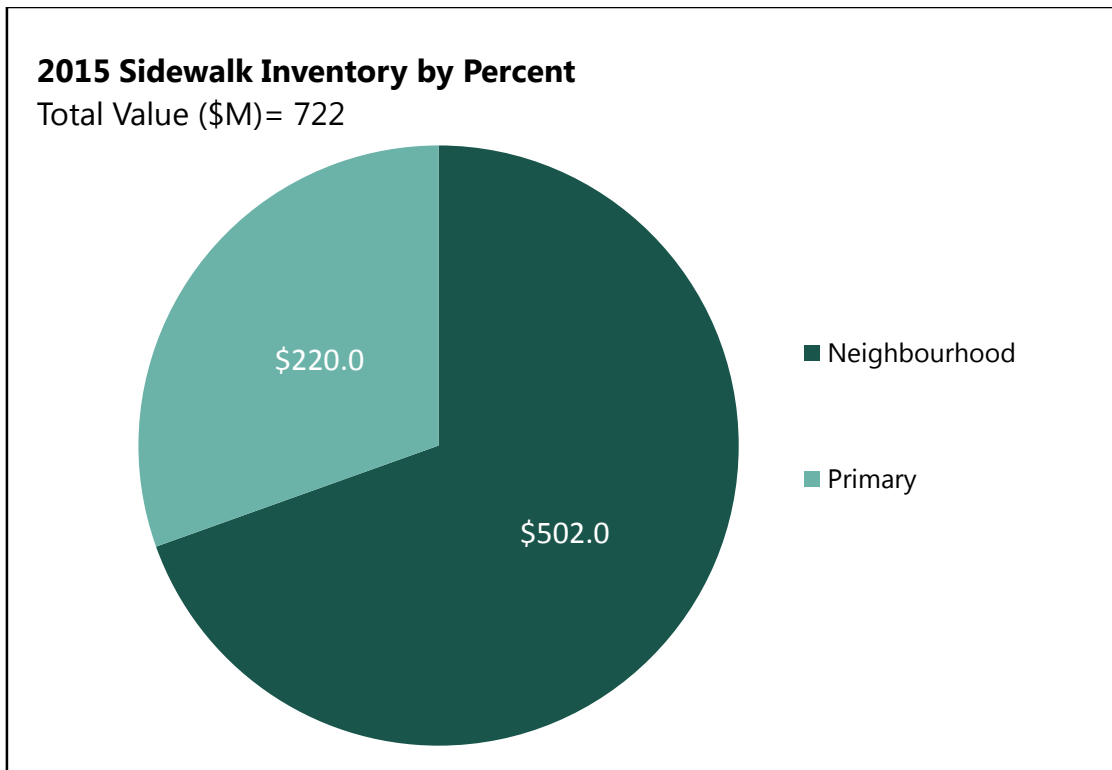


Figure 3.1: Replacement Value of Sidewalk Assets

4 Network Condition

In 2014, a new condition assessment method was created in house and piloted to better understand the City's Network condition. A team of eight (8) Network Condition Raters were hired in 2015 with the goal of completing a full Network assessment. In 2014 & 2015, the Asset Preservation Section completed 73.8% of the full Network assessment to determine our needs and help drive both preservation programs as well as maintenance programs. Outstanding areas are mostly in newer neighbourhoods with some sidewalk still under the neighbourhood warranty or developer levy programs.

The sidewalk surface condition was assessed and given a Sidewalk Condition Index (SCI). The SCI is only the rating of the surface condition of the concrete. Distresses in the surface condition however, may be symptoms of underlying structural issues. The SCI is used as the primary condition categorization of the Sidewalk Network.



4.1 Sidewalk Condition

There is no universal standard for rating sidewalks so a method of assessment was developed in-house and is based on the similar model to the international standard ASTM D 6433 used for roadway condition assessment. The sidewalk condition is evaluated by collection of extents and severity of individual surface distresses on an individual panel inspection. Each defect collected has a distinct deduct value based on severity and extent and is subtracted from 100 to produce the SCI score. The SCI Rating Scale, is a numerical rating from 0, being the worst possible condition, to 100, being the best possible condition, as shown in **Table 4.1**.

Table 4.1: Categorized SCI Rating

Condition Description	Colour Code	SCI Pavement Index Range
Good		85 < SCI ≤ 100
Satisfactory		70 < SCI ≤ 85
Fair		55 < SCI ≤ 70
Poor		40 < SCI ≤ 55
Very Poor		25 < SCI ≤ 40
Serious		10 < SCI ≤ 25
Failed		0 < SCI ≤ 10

The surface distresses that were assessed include distortion, cracking, missing, slopes, and surface. **Table 4.2** lists the average condition state for each walk network. The Neighbourhood Network is considered in a Satisfactory condition state with an average SCI of 84.8. The Primary Network is also considered in a Satisfactory condition state with an average SCI of 84.1. The City's Sidewalk Network as a whole is considered in a Satisfactory condition state with an average SCI of 84.6, with 70.8% of Segments of the Sidewalk Network are in a Fair to Good condition, whereas 3.0% of Segments of the Sidewalk Network are in a Poor to Failed condition. Although a low percentage, 9.8% of the panels in the Network are in a Poor to Failed condition and require treatment. Currently 26.2% of the segments are unrated and are typically new sidewalks and assumed to be in a Good and Satisfactory condition.

Table 4.2: Walk Network Average by SCI

Network	Average SCI	Condition Description
Neighbourhood	84.8	Satisfactory
Primary	84.1	Satisfactory
Total	84.6	Satisfactory



Figure 4.1 illustrates the SCI as a percent of length for each network by segment. This chart also includes the percentage of un-rated sidewalk segments.

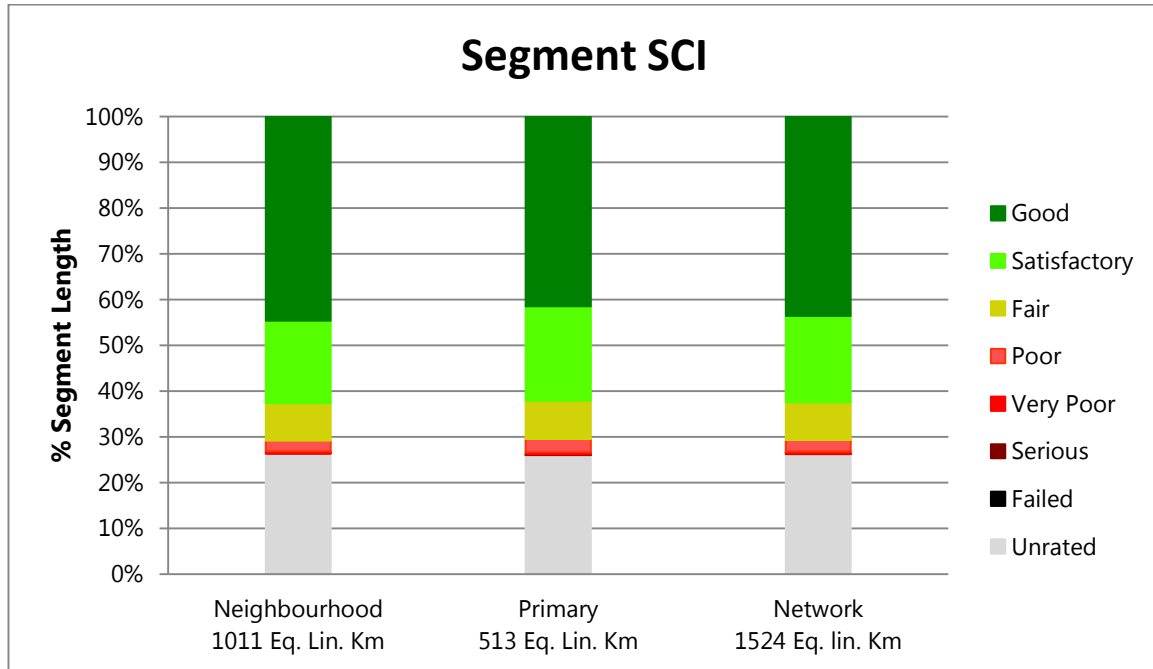


Figure 4.1: SCI by Percent Segment Length per Network



Figure 4.2 illustrates the SCI as a percent of length for each network by panels.

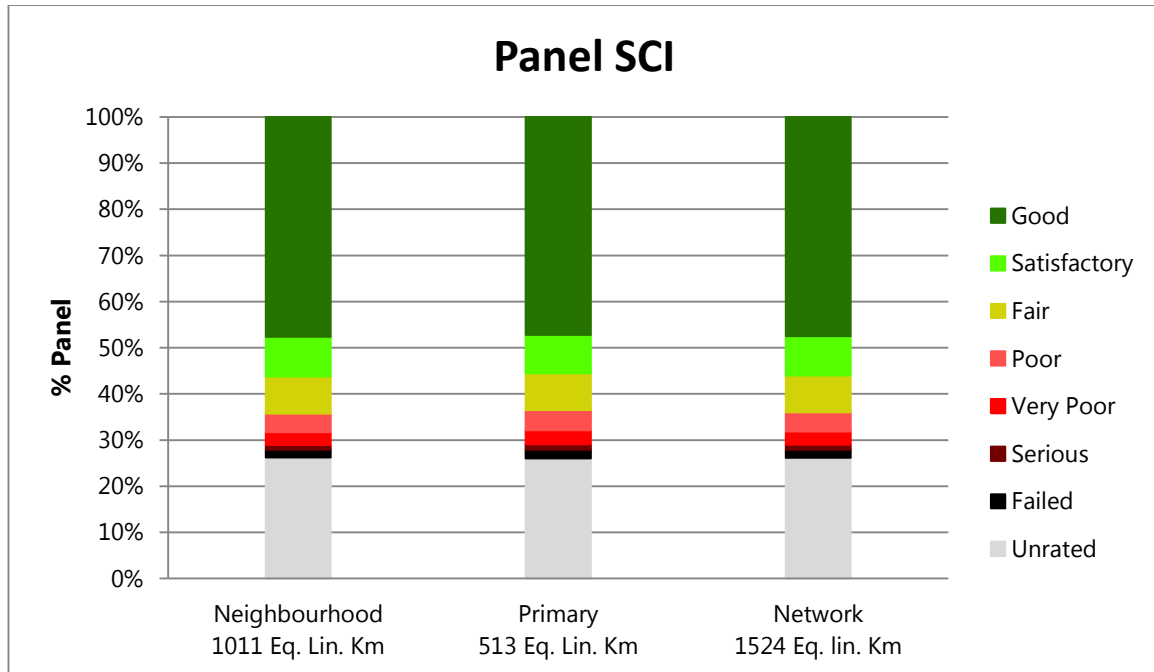


Figure 4.2: SCI by Percent by Panel Length per Network



Figure 4.3 displays the SCI by segment throughout the City.

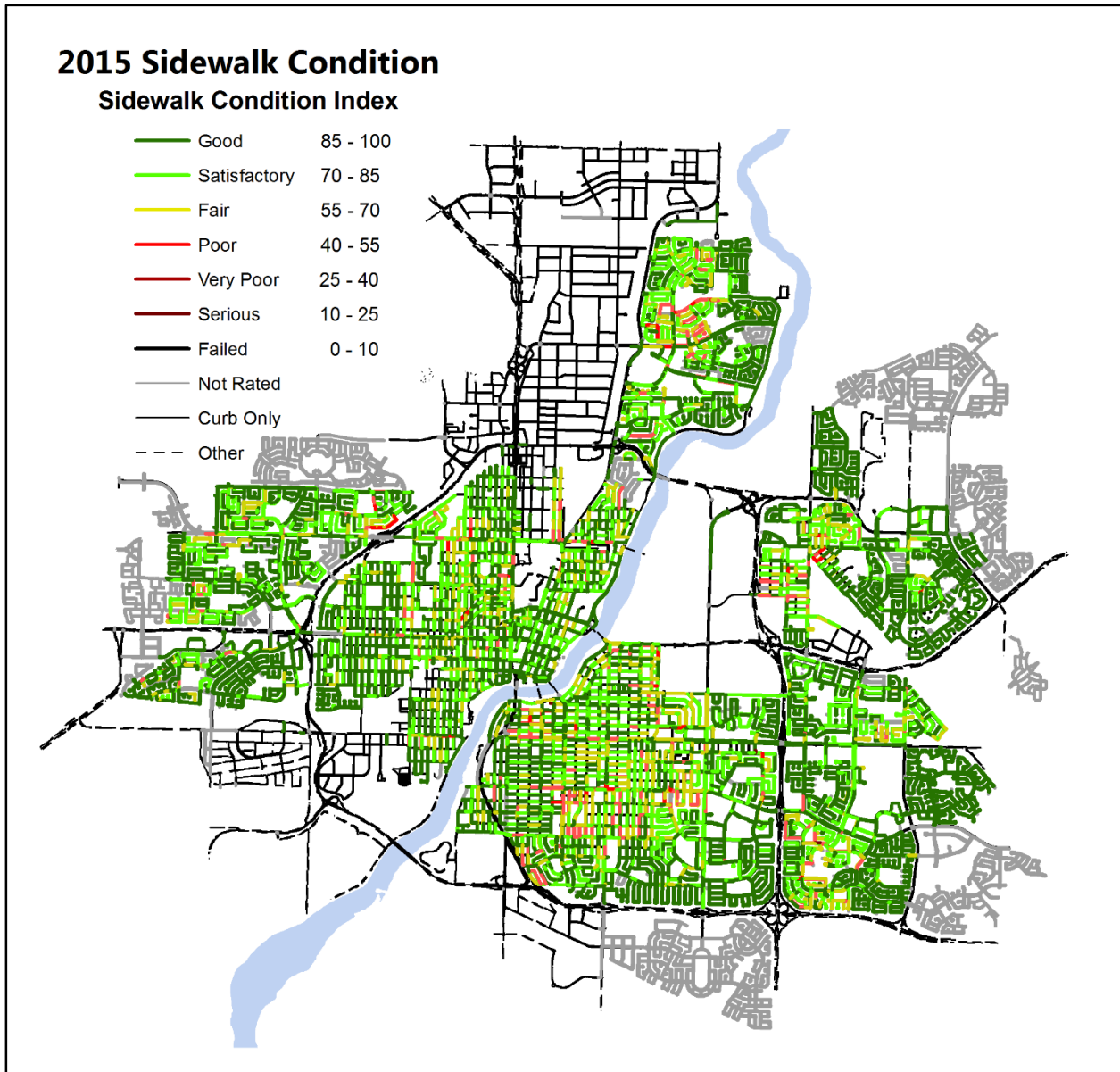


Figure 4.3: City of Saskatoon Sidewalk Condition Map by Sidewalk Segment



5 Treatment Strategy and Funding

The most effective way to achieve an improved Sidewalk Network condition is to use a balance of preservation and rehabilitation treatments. Preservation treatments are cheaper than the rehabilitation treatment. Using preservation treatments is important in order to preserve our fair to good sidewalks so they do not deteriorate further into a poorer category based on the SCI. Maintenance treatments are performed in higher pedestrian potential locations on severely deteriorated panels to address immediate safety concerns. **Table 5.1** shows the different preservation treatment strategies.

Table 5.1: Category of Treatment Types

Treatment Strategy	Treatment
Maintenance	MG-Krete
	Grinding
	Asphalt Overlays
Preservation	Crack Filling
	Trip Cutting
	MG-Krete Overlay
Rehabilitation	Replacement

In 2013, Council adopted the funding requirements to attain a Level of Service B based on the Neighbourhood and Primary Roadway and Sidewalk Preservation report and 2013 Investing in the Roads to Continued Prosperity report. This Level of Service is intended to improve the condition of our sidewalks and decrease the backlog of preservation work slowly over time. A three year dedicated tax levy plan starting in 2014 was set to achieve a base funding level by 2016. Although the funding level goal was not reached for 2016, one-time funding was available to supplement the difference and goal is expected to be reached by 2017. Prior to 2013, funding received resulted in a Service Level E where the condition of the Network was getting worse over time. This caused a backlog as outlined in the October 25, 2013 report presented to the Administration and Finance Committee.



Table 5.2 outlines and provides description of the Level of Service from A to F.

Table 5.2: Asset Service Levels

Level of Service	Asset Condition	Description
A	Getting Better Quickly	Sufficient expenditures to maintain and keep assets in optimal condition. Asset condition/value improves to optimal levels, eliminating any backlog.
B	Getting Better	Sufficient expenditures to increase asset condition/value and decrease backlog slowly over time. Once backlog is eliminated, the funding is sufficient to maintain condition without a backlog.
C	Maintained	Sufficient expenditures to keep assets in constant condition over time. The backlog remains constant.
D	Maintain Assets that are in Very Poor Condition	Sufficient expenditures to replace assets when they completely fail. Insufficient funding to treat all segments requiring preservation and restoration work, and the backlog will slowly increase with time.
E	Getting Worse	Insufficient expenditures to maintain asset condition. Asset condition deteriorates annually. Some assets may need to be closed or removed from service.
F	Getting Worse Quickly	Asset condition/value decreases rapidly. Assets are frequently removed from service due to deterioration as insufficient funding exists to replace all completely failed segments.

5.1 2011-2016 Preservation Strategy and Funding Levels

Capital funding spent on preserving sidewalks has increased significantly from \$0.3 Million in 2011 to a projected \$5.62 Million for 2016, as shown in **Table 5.3**.

In 2014, the preservation strategy changed from replacing stretches of severely deteriorated sidewalks to rejuvenating the roadway corridor as a whole and address sidewalks adjacent to the roadway preservation program. This surgical approach ranges from repairing panels where appropriate, replacing individual panels, or replacing full segments. This approach improves more sidewalk segments as a whole, thereby reaching the needs of more citizens. Matching the treatment cycle of roadways, average 20 year return cycle is the goal for maintaining the current Sidewalk Network. It should be noted that the treatment cycle does not mean that every sidewalk will be replaced; it



means each sidewalk will be preserved or replaced depending on the sidewalk’s current condition.

Major Projects developed a Sidewalk Repair or Replacement Criteria guideline to select treatments based on best practice of sidewalk preservation and to create consistent decision criteria for the Construction and Design division when delivering this work. The condition rating system was revised in 2014 to better align rating with maintenance, preservation, and replacement criteria, allowing Major Projects to better estimate the costs for the preservation program and in order to develop a system that would allow both preservation and maintenance programs to be planned with the same condition data.

Based on the 2011 funding levels, the average sidewalk replacement cycle was once every 2,000 years. In 2015, the funding levels and treatment selection strategy improved the average walk replacement cycle to approximately every 146 years, with the additional funding which was allocated from the roadway program.

Table 5.3: Capital Funding and Replaced Network

Treatment Year	Capital Funding Budget (\$M)	Capital Funding Spent (\$M)	Replacement (Eq. Lin. Km)	Network (Eq. Lin. Km)	Average Replacement Cycle
2011	\$ 0.30	\$ 0.38	0.71	1,414	2,000 years
2012	\$ 0.30	\$ 0.23	0.40	1,419	3,333 years
2013	\$ 0.50	\$ 0.49	0.47	1,450	3,333 years
2014	\$ 1.81	\$ 1.31	2.00	1,495	769 years
2015*	\$ 2.12	\$ 4.40	8.48	1,524	180 years
2016**	\$ 2.81	\$ 5.62	10.50	1,542	146 years

* 2015 required \$2.12M from Roadway Preservation Program

** 2016 qlys are estimated, requires \$2.81M in addition to the \$2.81M allotted



5.2 Prioritization

Although our current priorities for preservation and replacement are sidewalks adjacent to the roadway preservation program, a model was developed to better prioritize our sidewalk treatments outside of the roadway program. The Pedestrian Potential Index (PPI) model was developed in-house to predict pedestrian activity and vulnerable user groups along segments. The PPI will be used by both Major Projects and Public Works to prioritize our sidewalk repair/replacement efforts in pedestrian critical areas. There are five (5) key areas that are factors of the PPI:

- Adjacent Land Use – A score applied to a segment adjacent to properties;
 - Schools, Parks, Seniors, & Medical Facilities – a score is given to a buffer radius from the property;
- Transit – a score given to segments within a certain radius of a bus stop;
- Major Destinations – a score is given to segments within a certain radius of major destinations such as civic facilities, shopping centres, etc;
- Accessibility Action Plan Overall Score – a score given to neighbourhoods that have higher accessibility needs such as high population of seniors.

This model is intended to be updated yearly to account for change in any of the areas listed above.



Figure 5.1 displays the PPI Model developed in 2015 showing the category states ranging from low to high pedestrian potential.

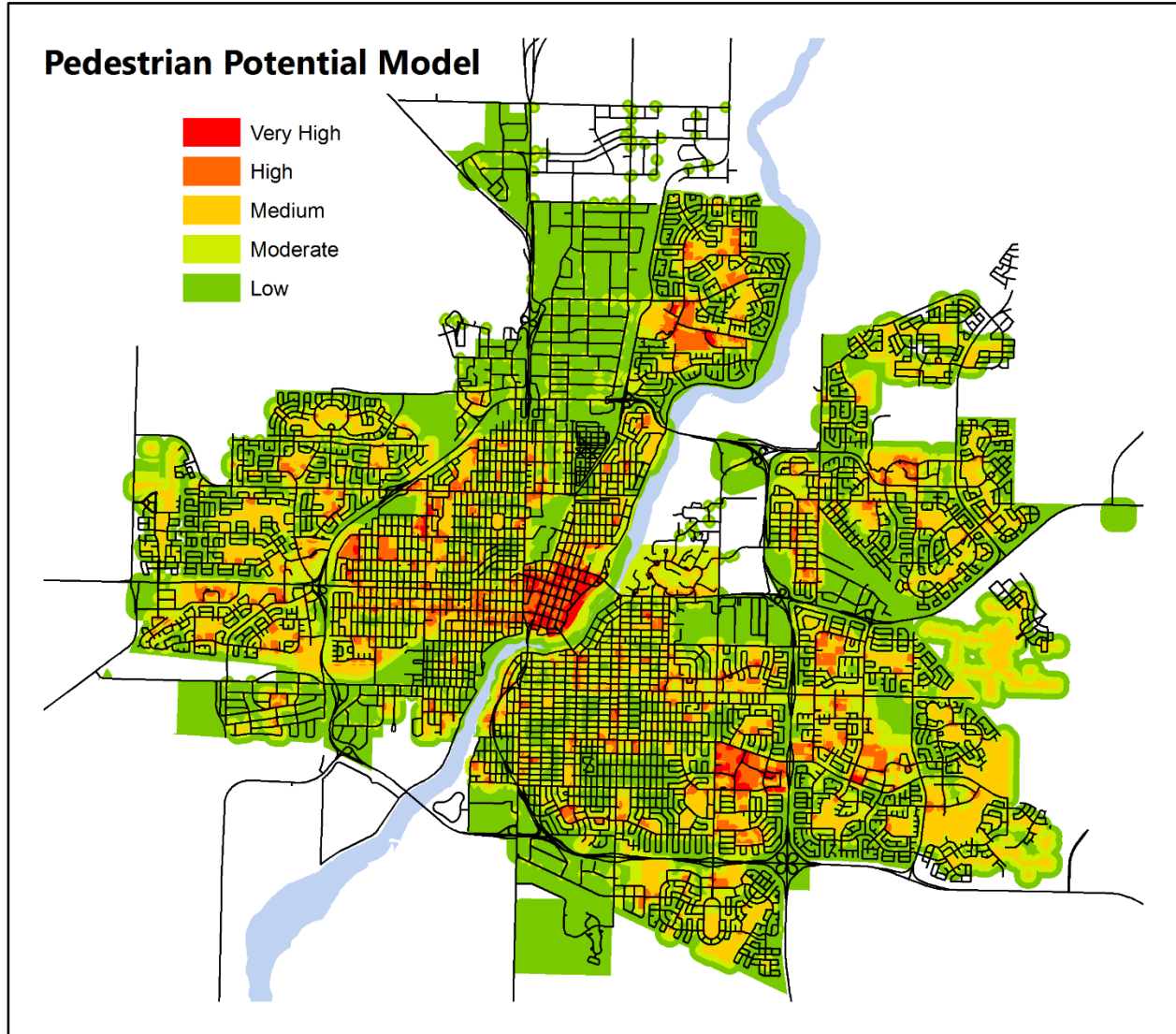


Figure 5.1: City of Saskatoon Pedestrian Potential Map



6 Funding Requirements

In the 2013 Investing in the Roads to Continued Prosperity report, it was established by the Administration that in order to improve the paved roadway and sidewalk network and reduce the backlog slowly over time, \$28.98 Million (2013 dollars) in base funding was required. Of this, \$2.81 Million was to be dedicated to sidewalks. The plan was for this base funding to be achieved by 2016. To maintain a lower tax increase in 2015, the timeframe to reach base funding was extended to 2017. For 2016, one-time funding was allocated to supplement the difference.

With a new condition assessment method in place and the preservation and maintenance criteria clearly defined, administration is currently projecting a \$78.8 Million backlog. Assuming that sidewalks have an average 50 year life cycle (or deterioration of 2% of the network per year) this equates to an estimated \$100 Million of sidewalk preservation work over a 20 year period. To match the average 20 year return period for both sidewalks and roads, a yearly budget of \$4.9 Million per year is recommended for the Sidewalk Preservation Program. The \$4.9 Million for sidewalks has been allocated for the 2017 budget and still requires approval during budget deliberations. This funding level can be achieved with the final planned 2017 dedicated levy to the roadway reserve and including variables such as growth, inflation, efficiencies of scale and process improvements on the road and sidewalk programs. Funding will be adjusted for inflation and growth on a yearly basis as we progress through the program.

2016 Sidewalk Preservation Repair/Replacement Criteria

Sidewalk preservation treatments are completed on a priority basis. Sidewalks along the roadway preservation program are currently our top priority for the sidewalk preservation program in order to rejuvenate streets as a whole.

This document serves as a guide for selection of sidewalk and curb treatment requirements based on defects or combination of defects. Field judgement is still required in order to ensure safe and maintained sidewalk and curb infrastructure for the pedestrian while staying within the project budget.

Trip Hazards

A trip hazard is when the sidewalk lifts or depresses causing a ledge of 20mm or more. Most trip hazards occur at the control joints but can also occur along a crack.

- Up to 40mm and less than 2m of trip length per panel - Grinding or Saw Cutting
- More than 40mm and > 2m per panel - Mud Jacking or Replacement



Repair – Grinding or Saw Cut



Mud Jack or Replacement

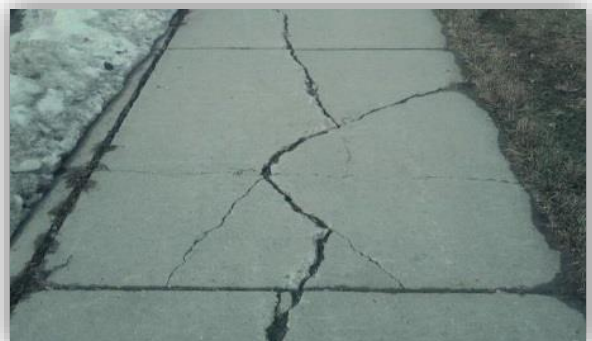
Longitudinal & Transverse Cracks

A Longitudinal crack is a crack that goes down the length of the sidewalk. A transverse crack is a crack that goes across the sidewalk other than control joints.

- Less than 3 connecting cracks or crack width less than or equal to 30mm - Crack Fill
- More than and including 3 connecting cracks or crack width greater than 30mm - Replacement
- More than and including 2 Longitudinal, 2 Transverse, or 2 Corner cracks – Replacement



Repair - Crack Fill



Replacement

Missing Sections

Missing sections are pieces of concrete that have chipped out of the sidewalk and cause an irregular surface potentially causing a trip.

- Less than and equal to 4dm² missing area – Repair
- More than 4dm² missing area or any missing due to a Utility Cut – Replacement



Repair



Replacement

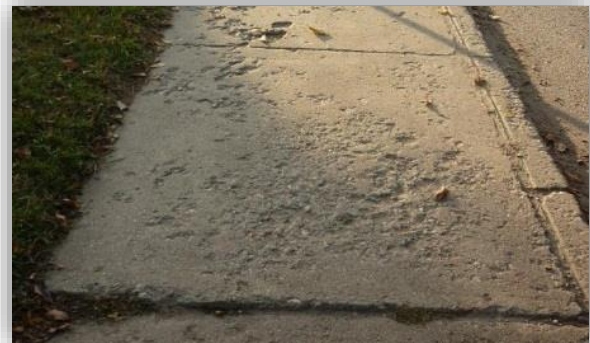
Scaling

Scaling is when the sidewalk becomes pitted due to poor concrete mixes. Concrete breaks down and creates an uneven surface.

- Light severity (3-6mm depth) – No Treatment
- Medium severity (6-10mm depth) with no cracks – MG Krete Overlay
- High severity (>10mm depth) – Replacement



Light Severity – No Treatment



Medium Severity – MG Krete Overlay



High Severity – Replacement

Cross Fall Slopes

Cross fall slopes are when the sidewalk panel tips either towards the property or towards the street. A typical sidewalk has a 2% cross fall slope towards the street. Cross fall slopes can cause poor drainage creating ponding or create an uncomfortable slant when walking along a sidewalk.

- Cross Fall Slope less than 5% towards the street or less than 3.5% towards property – No Treatment
- Cross Fall Slope more than 5% towards the street or more than 3.5% towards property – Mud Jacking or Replacement



Mud Jacking or Replacement

Crown and Swale Slopes

Crown and swale slopes are slopes that occur longitudinally down the sidewalk. These slopes create peaks or valleys along the sidewalk which make the sidewalks uneven.

- Any noticeable Crown or Swale – Replacement



Crown - Replacement



Swale - Replacement

Longitudinal Grade Slopes

Longitudinal Grade slopes are slopes that affect sidewalks in the direction of travel. When the grade, also called incline, is too high, sidewalks become difficult for wheelchairs and people with mobility issues.

- More than 8% Grade Slope - Replacement

Utility Settlements

Utility Settlements are when a sidewalk depresses due to settlement where a water and sewer connection connects to the property. Severe utility settlements where drainage is compromised will require panel replacement. Utility settlements may require up to 6 panels to be replaced to bring the sidewalk back to a safe walking surface without water ponding.

- Curb height greater than 50mm – No Treatment
- Curb height less than or equal to 50mm – Mud Jacking or Replacement
- More than 4% Grade Slope - Replacement



Utility Settlement – Mud Jack or Replacement

Tree Roots

Tree roots cause sidewalk panels to heave and therefore cause trip hazards or difficult slopes to navigate by those with mobility issues. Tree roots may require up to 6 panels to be replaced to bring the sidewalk back to a safe walking surface with acceptable slopes.

- More than 8% Grade Slope – Replacement



Tree Root – Replacement

Asphalt Overlays

Asphalt overlays were placed when panels required immediate attention due to sidewalk distresses mentioned above.

- Good Condition (no cracks-except control, no raveling, no delamination) – No Treatment
- Fair Condition (cracks, raveling, no delamination) – Replacement or Overlay/Seal

- Poor Condition (cracks, raveling, delamination) – Replacement



**Good Condition Asphalt Overlay
Curb Deteriorated - Replacement**



**Fair Condition Asphalt Overlay
Replacement or Overlay/Seal**



**Poor Condition Asphalt Overlay
Replacement**

- Any Condition, Curb Deteriorated – Replacement

Asphalt or MG Krete Patching

Asphalt or MG Krete patched sidewalks are considered temporary treatments and are used to maintain safety. All temporary treatments should be removed and permanent solutions implemented

- Asphalt/MG Krete Fillets – Remove and Repair or Replace
- Asphalt/MG Krete Patches – Remove and Repair or Replace



City of
Saskatoon

For more information contact:
Major Projects – Asset Preservation
Transportation & Utilities Department

222 3rd Avenue North Saskatoon SK S7K 0J5
Phone: (306) 975-2454
Fax: (306) 975-7712
Website: www.saskatoon.ca

SIDEWALK MAINTENANCE PROGRAM

Prepared by: Russ Munro, P.Eng.,MMP
Engineering Manager Logistics and Procurement
March 3rd, 2016

Public Works - Roadways

Background

The roadways section of public works is charged with the maintenance of civic sidewalks in the city of Saskatoon. Maintenance of sidewalks include activities that extend the life of the sidewalks, reducing the costs of rehabilitation, and more importantly removal of safety hazards for pedestrians and other sidewalk network users.

All maintenance activities consist of the following five steps:

1. Identification
2. Planning
3. Scheduling
4. Execution
5. Follow Up

This report will demonstrate how the sidewalk maintenance program progresses through these five steps.

Identification

Identification of sidewalk defects comes in two condition based ways, and one way from utility cut data. In 2014 and 2015 the asset preservation group inspected approximately 74% of sidewalk network, this inspection lead to a condition rating of the majority of sidewalks (sidewalks in new subdivisions that are under warranty or developer levy have not been inspected). Those sidewalks not scheduled for replacement as part of the road network preservation and rehabilitation program were turned over to public works for maintenance. Sidewalks are selected for maintenance based on a worst first system. The second way that sidewalk maintenance is identified is through inspection. Public works crews receive information from the customer service centre and will then inspect sidewalks to determine if they meet the criteria for maintenance and replacement. Work is also identified through the process of maintaining the sidewalks, pre and post maintenance inspections are conducted which may lead to identifying additional work. Lastly work can also be identified by needed repairs to sidewalks based on utility work that has been conducted.

The priority for sidewalk repair is based on defects found during the rating program some of these defects include cracking, ledges, and spalling. The condition assessment found that less than 10% of the sidewalks in the City were in poor to failed condition. These sidewalks will form the priority for public works maintenance. Those sidewalks that are in a condition requiring maintenance are then prioritized based on higher pedestrian potential first. The best condition of sidewalk in the maintenance program is 10% except in cases where there are adjacent defects. Any sidewalks identified through the customer service centre or found during pre and post work inspection that are in worse condition than noted above will be added to the end of the season maintenance plan. The 2016 public works maintenance plan include maintenance of 6,000 sidewalk panels at a cost of \$1 million.

Public Works - Roadways

Planning

The sidewalk maintenance program is planned out in the spring in advance of crews beginning their work.

Planning includes:

1. Determining the amount of resources required (staff and material) to meet the lowest condition sidewalks within the budget.
2. Once the sidewalks to be maintained are identified an optimal route is determined.
3. Volumes of Mg-Krete (repair compound) and length of grinding are then determined.
4. The maximum number of sidewalk panels to be maintained are determined based on worst first criteria with priority to higher pedestrian potential locations up to the total sidewalk budget.
5. Detailed maps are created for crews to follow.
6. A quality assurance program is also prepared to ensure that work done on sidewalks is improving the overall condition of the network.

Once the planning process is complete the work is then scheduled.

Scheduling

The Schedule is weather dependant as certain work cannot be conducted in the rain. In order to optimize the use of crews and the amount of work that gets completed a schedule based on maintaining the sidewalks first is created. Scheduling maintenance before replacements allows the addition of sidewalk sections that have deteriorated from a maintainable condition to a replacement condition to be added to the replacement schedule. Due to an available staff constraint in the roadways section sidewalk repairs begin on at the end of the curb to curb sweeping program. A general schedule of sidewalk maintenance is attached to this document in Appendix A. A detailed sidewalk maintenance schedule will be available in late June.

Execution

Once a section of sidewalk is scheduled for maintenance the work process on that segment is conducted over a three day period. During day 0, the day before the repairs are conducted, a technologist from Public Works inspects the sidewalks so they can mark and confirm the defects. During Day 1, the repair day, crews follow a preplanned route and complete grinding, and Mag-Krete filling of damaged sections. Currently sidewalk crack sealing is conducted outside of Public Works, future versions of this plan will include crack sealing on sidewalks. On Day 2, the day after the sidewalk repair is complete a Technologist from Public Works reviews the sections again and confirms the repairs were completed, notes any missed sections and confirms the maintenance crews findings if there are sections of sidewalk that need to be added to the replacement list. If sections need to be added to the replacement list the Technologist does this after the post maintenance inspection. Details on the types of maintenance that are conducted can be found in Attachment 1, the accompanying report to this one from Major Projects. Description of the three days of work on each sidewalk section can be found in Appendix B.

Public Works - Roadways

Follow Up

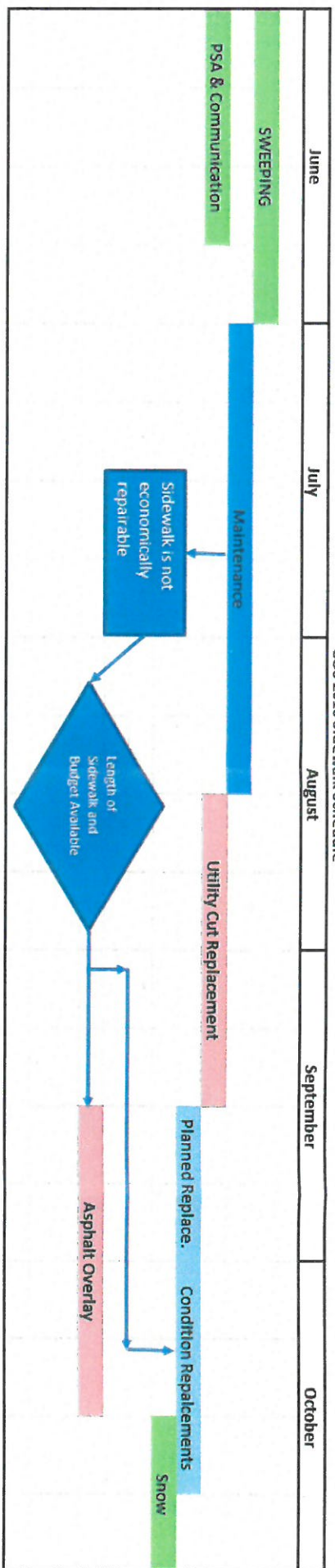
Maintenance program follow up is done using the Plan-Do-Study-Act (Shewhart) cycle. Several items are reviewed in order to find efficiencies for work in the next year's maintenance program, which includes:

1. Comparison of planned work to completed work.
2. Reassessment of the condition of repaired sidewalks to ensure that condition is being maintained or increased.
3. Quality assurance reports from the post maintenance inspection are reviewed for any consistency issues to inform updates to operating procedures and training.
4. Review of total materials used to prepare procurement for the next year.
5. Review of challenges faced by staff in executing the program and development of plans to address the challenges.

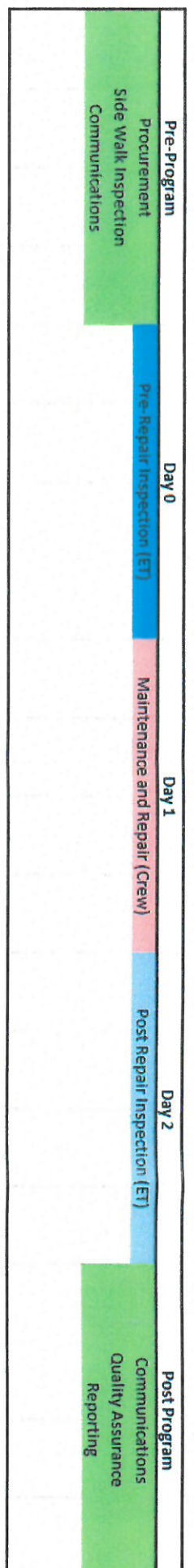
Conclusions

Public Works and Major projects have worked in close proximity to develop a sidewalk maintenance program that is efficient and effective. The program is designed on a worst first and pedestrian potential basis with pre-defined maintenance and replacement schedules to ensure effective delivery of the program.

APPENDIX A: General Sidewalk Maintenance and Replacement Schedule



APPENDIX B: Sidewalk Workflow



New Pavement Design Guidelines (Warranty Options)

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated May 9, 2016, be forwarded to City Council for information.

Topic and Purpose

The purpose of this report is to provide information on current City of Saskatoon (City) pavement contract warranties, warranty options offered in other Western Canadian Cities, discuss varying warranty periods and explanation of an industry sampling warranty period that was performed by the City.

Report Highlights

1. Saskatoon's current warranty practice is a two-year warranty on materials and workmanship.
2. The City incorporates reviews, inspections and testing in addition to the warranty requirement.
3. Other Western Canadian Cities carry similar bondable warranties as the City.
4. As time increases, it becomes increasingly difficult to differentiate between product performance and normal wear and tear.
5. Warranties that are not backed by a third-party guarantee are generally of little value, surety bonds are neither priced nor designed towards a long-term warranty solution.
6. The Administration plans to continue with our typical two-year warranty requirement.

Strategic Goal

This report supports the Strategic Goal of Asset and Financial Sustainability. A warranty period ensures that infrastructure quality and workmanship can be enforced during the warranty period and increases value for money.

Background

At its meeting held on September 29, 2014, City Council resolved, in part:

- “3) That the Administration provide a report to Committee on warranty options and facts.”

Report

Saskatoon's Current Warranty Practice

The City utilizes a two-year warranty on City contracted paving work. The warranty is bonded by surety companies as part of each contract and covers defects due to materials and workmanship that may become prevalent within two years of substantial completion of the project. The contractor pays a surety premium for each year of

additional warranty. Typical premiums for each year of warranty are in the range of \$1.00 to \$2.50 per \$1,000.00 of construction value.

All projects are inspected prior to the end of the two-year warranty, and items that can be attributed to defects in materials and workmanship are addressed prior to issuing a Final Acceptance Certificate. When defects can be attributed to materials and workmanship, they are typically addressed after the two-year warranty inspection and prior to final acceptance of the project. This process is administered on both the public and private development projects.

The City has the following protections to ensure a quality product outside of the warranty requirement:

- Review of water, sewer and roadway designs for general conformance.
- Construction inspection services during construction of both City and private development.
- Enforcement of City Specifications in relation to materials and workmanship.
- Standard testing on products and materials to ensure quality control and quality assurance.
- Yearly review and updating of roadway design standards.
- Yearly review and updating of material and workmanship specifications.
- Recent implementation of mandatory top lift paving for roadways (developer paves a top lift of asphalt two years after bottom lift asphalt is complete in order to address the majority of damages caused by neighbourhood build out).

In addition to the warranty process described, the City also has utilized Public Private Partnership projects. These projects typically require a maintenance period of 25-30 years with handback requirements to meet required performance standards and specifications. In essence, this method of contract delivery is a long-term warranty; this process requires strict performance and condition details in order to have a definable level of service during and at the end of the concession period. This process also has a yearly cost associated with the maintenance and rehabilitation requirements during the concession period. This delivery model would not be feasible in all construction contracts as additional funding and timeframe are required to procure this type of a project. This type of procurement is typically used on major infrastructure projects where large segments of infrastructure are brought together in one project.

Other Western Canadian Cities

The City has enquired with other Western Canadian Cities on the term of Warranty that is stipulated in typical land development contracts. Below is a summary of warranties utilized by other western Canadian Cities:

New Pavement Design Guidelines (Warranty Options)

City:	Paved Roads	Sidewalks	Watermains	Sanitary Sewer	Storm Sewer
Calgary	2*	2*	1	1	1
Red Deer	2**	2**	2	2	2
Edmonton	2	2	1	1	1
Saskatoon	2	2	2	2	2
Regina	2	2	2	2	2
Winnipeg	1	1	1	1	1
* winter seasons					
** front lot serviced developments range from 3 to 4 yrs					

As shown above, Western Canadian Cities that responded to our request have similar or lesser warranty requirements than the City's warranty process.

Varying Warranty Periods

The following discussion describes some of the benefits and disadvantages to providing extended warranties:

Benefits to extended warranties:

- Provides longer protection on infrastructure defects that can be attributed to material and workmanship.
- Protects the infrastructure owner from future costs that can be attributed to materials and workmanship.

Disadvantages of extended warranties:

- Defects found during the warranty may not be attributed to materials and workmanship; many infrastructure defects are caused by construction activity during build out of new neighbourhoods or maintenance activities during low visibility timeframes such as snow clearing.
- Long-term warranties will have a higher premium associated with construction and the cost to build infrastructure will increase.
- Long-term warranties are difficult to administer unless a robust system similar to a P3 model is implemented such as yearly payment and penalty structures to assist in managing the maintenance and condition of the assets.
- Not all contractors will still be active for the duration of the warranty period.
- Additional staff or consultants would be required to monitor and manage the long-term warranty process requiring all contracts to remain open and documents to be filed for a longer period of time.
- Most contractors would not qualify for extended warranties through their surety company significantly reducing competition and pricing competitiveness on projects.
- City infrastructure has a range of service lives that in some cases are expected to require additional treatments within a specified long-term warranty period. Depending on the warranty timeframe selected, some products may be expected to last for a shorter period than specified by the long-term warranty timeframe.

Industry Sampling

The City tested the market on extended warranties by preparing a tender with an optional five-year warranty on a roadway surfacing treatment project. Both contractors and sureties contacted the City to bring forward concerns with the extended warranties and the City received several letters and emails about the concerns. The Surety companies strongly recommended against using warranty periods exceeding our current two-year warranty period. A summary of the main concerns brought forward is listed below:

- Most bondable contractors qualify for warranty bonding of one to two years. Limited contractors would qualify for extended warranties, this obligation would significantly limit competition to projects with extended warranty timeframes.
- Surety/Bonding companies will not knowingly warranty items beyond one or two years. Bonds written on contracts with longer warranty requests will typically be amended to stipulate the surety's obligation to warranty the work will be limited to two years.
- A warranty that is not backed by a third-party guarantee (such as a bond) is generally of very little value.
- As time increases, it becomes increasingly difficult to differentiate between product performance and normal wear and tear.
- While surety bonds provide the best protection against contractor default, they were neither priced nor designed to provide a solution towards long-term warranty requirements.

Surety companies provide the assurance that construction warranties do not go in default. Attachment 1 provides additional information on the Surety Association of Canada's position on extended and long term warranties.

Conclusion

Based on the information presented in this report, the Administration plans to continue to utilize the current two-year warranty process on infrastructure projects in Saskatoon while continuing to use current checks and balances in terms of review, inspection and testing to audit quality product and workmanship on construction projects throughout the City. When a project is of sufficient size and scope, P3 partnerships will be considered to incorporate long term maintenance and specific hand back procedures.

Public and/or Stakeholder Involvement

This report details information that was collected by other western Canadian Cities as well as information collected through an industry sampling construction contract. No further public or stakeholder involvement was initiated.

Financial Implications

The recommendation has no financial implication as it is recommended to continue with current practices which are already considered under current funding strategies.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

There is no follow up planned for this report.

Public Notice

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

Attachment

1. SAC Position Paper – PP001 – Extended/Long Term Warranties

Report Approval

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

TRANS RF - New Pavement Design Guidelines - Warranty Options



SAC Position Paper – PP001

Extended / Long Term Warranties

Among the important features of the CCDC performance bond is the warranty protection it provides to owners against faulty workmanship and/or materials. While the CCDC bond intends to respond to the standard warranty period (one year from the date of substantial performance), it is neither designed nor priced to include protection for extended warranties. The Surety Association of Canada believes that it is inappropriate to impose extended warranty obligations upon both a contractor and a surety and that their respective responsibilities for long term warranties should reflect those set out in the CCDC contract documents which SAC endorses and promotes.

Construction purchasers often call for long term warranties in construction specifications that can range from five to twenty-five years. Often project owners look to the bonding companies to respond to these warranty requirements under the terms of their performance bond.

The CCDC documents which are endorsed by the Surety Association of Canada, deal with warranty issues. Section 12.3.1 of the CCDC 2 - STIPULATED PRICE CONTRACT states:

Except for extended warranties as described in paragraph 12.3.6, the warranty period under the Contract is one year from the date of Substantial Performance of the Work.

Section 12.3.6 goes on to say:

Any extended warranties required beyond the one year warranty period as described in paragraph 12.3.1, shall be as specified in the Contract Documents. Extended warranties shall be issued by the warrantor to the benefit of the Owner. The Contractor's responsibility with respect to extended warranties shall be limited to obtaining any such extended warranties from the warrantor. The obligations under such extended warranties are solely the responsibilities of the warrantor.

In addition, the **CCDC 221 - PERFORMANCE BOND** provides an additional restriction on a surety's responsibility for long term warranties under the terms of the suit clause which states:

...any suit or action must be commenced before the expiration of two (2) years from the earlier of (1) the date of Substantial Performance of the Contract as defined in the lien legislation where the work under the Contract is taking place, or, if no such definition exists, the date when the work is ready for use or is being used for the purpose intended, or (2) the date on which the Principal is declared in default by the Obligee.

However, it should be noted that the enforceability of the suit clause or indeed any warranty provisions can be limited by legislation in various jurisdictions which can override the provisions of any bond or contract. For example, most provinces have passed limitation legislation which can determine the time available to commence an action; notwithstanding the terms of set out in the performance bond..

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In any event, providing surety support for long term warranty periods is problematic both for sureties and contractors. As time passes after the point of project completion, it becomes more and more difficult to discern between defects in the work and simple wear and tear. In addition, surety companies are unwilling and unable to provide extended warranty protection beyond a reasonable time frame. Construction purchasers who call for surety bonds on extended warranties will likely find them unavailable to all but a select few firms. This will have the effect of minimizing competition and driving up construction costs.

To summarize, The Surety Association of Canada supports the position of our member companies and reinsurers. We will continue to suggest to the construction community that while surety bonds provide the best protection against contractor default, they are neither, priced nor designed to provide a solution to long term warranty requirements.

For More information, readers are encouraged to visit the Surety Association of Canada website at www.suretycanada.com, or contact the association directly:

Phone: 905-677-1353
Fax: 905-677-3345
Email: surety@suretycanada.com

This paper is intended to serve as a general guideline to assist members and other readers in responding to the issues discussed. Nothing contained herein should be construed as legal advice and readers are cautioned to consult with legal counsel for such advice.