PUBLIC AGENDA
SASKATOON ACCESSIBILITY ADVISORY COMMITTEE

Friday, November 10, 2017, 12:00 p.m.
Committee Room E, Ground Floor, City Hall
Committee Members:

Mr. J.D. McNabb, Chair
Ms. J. Dawson, Vice Chair
Councillor H. Gough
Councillor Z. Jeffries
Ms. M. Baxter
Ms. G. Kozlow
Director of Community Development L. Lacroix
Director of Facilities & Fleet Management T. LaFreniere
Ms. O. Nicholson
Ms. C. Warlow

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 the Regular Meeting of the Saskatoon Accessibility Advisory Committee held on October 13, 2017, be adopted.

5. UNFINISHED BUSINESS

6. REPORT OF THE CHAIR [File No. CK. 225-70]

The Chair will provide a verbal update.

Recommendation
That the information is received.

7. COMMUNICATIONS

7.1 Saskatoon Transit and Accessibility for People with Disabilities [File No. CK. 225-40] 5 - 7

A letter dated October 16, 2017 from Devin Hein is provided.

Recommendation
That the information be received.

8. REPORTS FROM ADMINISTRATION

8.1 Verbal Update Report - Disabled Parking Accessibility [File No. CK. 6120-1]

The Committee, at its meeting on September 8, 2017, had requested for updates from Administration on the number of items related to disabled parking.

Administration will be present to provide updates on the following:

- Development regulations;
- The design aspect of the parking spots, curb ramps and complete streets considerations;
- The overall design and functionality of the parking spots; and
- The number of available and designated parking spots.

Recommendation
That the information be received.

8.2 Report of the Access Transit Manager (CK. 225-70)

A verbal update will be provided.

Recommendation
That the information be received.

8.3 Complete Streets Design and Policy Guide [File No. CK. 6330-1and TS. 6330-1] 8 - 108

At its meeting held October 23, 2017, City Council considered a report of the A/General Manager, Transportation and Utilities Department. The Committee resolved that a copy of the report be forwarded to this committee for information.

Recommendation
That the information be received.

8.4 Special Needs Garbage Collection Service [File No. CK. 7830-3 and PW. 7830-1] 109 - 118

At its meeting held October 23, 2017, City Council considered a report of the A/General Manager, corporate Performance Department. The Committee resolved the following:

1. That through the Waste Utility consultation, the Administration engage with relevant stakeholders such as senior and disability services organizations as well as the Saskatoon Accessibility Advisory Committee to address accessibility needs as well as any updates required to the Special Needs Garbage Collection Service; and
2. That the report of the A/General Manager, Corporate Performance Department, dated October 10, 2017 be forwarded to the Saskatoon Accessibility Advisory Committee for information.

A copy of the report is provided.

Recommendation
That the information be received.

8.5 Request for Term-Limit and Tracking on Loading Zones in Residential Areas [File No. CK. 6145-1] 119 - 124

At its meeting held August 15, 2017, the Standing Policy Committee on Transportation considered a report of the A/General Manager, Transportation and Utilities Department, for information. The Committee resolved that a copy of the final report be forwarded to this committee.

Recommendation
That the information is received.

8.6 Saskatoon Transit 2016 Annual Report [File No. CK. 6320-1] 125 - 148

At its meeting held on June 12, 2017, the Standing Policy Committee on Transportation considered a report of the General Manager, Transportation and Utilities Department, for information. The Committee resolved that a copy of the final report be forwarded to this committee.

Recommendation
That the information be received.

9. MATTERS FOR FOLLOW UP (CK. 225-70) 149 - 155

The Matters for Follow Up as of November 1, 2017, is provided to the

Committee to review.

Recommendation
That the information is received.

10. STATEMENT OF EXPENDITURES (CK. 1704-5) 156 - 156

Attached is the current statement of expenditures.

Recommendation
That the information be received.

11. ADJOURNMENT

From: City Council
Sent: Monday, October 16, 2017 3:55 PM
To: Thompson, Holly (Clerks); Gardiner, Angela (TU - Transportation)
Cc: Kozushka, Flo (Transportation & Utilities)
Subject: Email - Communications - Hein - Saskatoon Transit & Accessibility for People with Disabilities - CK. 225-70

Re: Communications
From: Devon Hein
Date: October 12, 2017
Subject: Saskatoon Transit and Accessibility for People with Disabilities

The referenced communication from Devon Hein is being referred to both the Secretary of the Saskatoon Accessibility Committee and to the Administration for consideration and any further handling as to those matters which fall under your purview.

Debby Sackmann on behalf of
Joanne Sproule, City Clerk

/drs

From: first last [mailto:saskatoonme@hotmail.com]
Sent: Thursday, October 12, 2017 3:53 PM
To: Web E-mail - City Clerks <City.Clerks@Saskatoon.ca>
Subject: Saskatoon Accessibility Advisory Committee - Re: transit attain holly

October 12, 2017

Dear Accessibility Advisory Committee:

I am writing you regarding Saskatoon Transit and accessibility for people with disabilities.

Many people with visual, hearing, mobility and a variety of other disabilities currently do not have equitable access to public transit.

Over the past four months I have raised the issue of new bus stops in Stonebridge and other communities not being accessible with various Transit Customer Service personnel and Supervisors. The issues involve design of stops and lack of accommodations necessary to make the stops accessible for people with disabilities. Such accommodations are widely used in many other cities. Here are a few recommendations to consider:

(1) Brail on Bus Stop signs at a level that can be reached by all;
(2) Non-grass, concrete or asphalt like surfaces, even and properly graded to drain, as access points for mobility impaired persons;
(3) Stops at the doors of important civic centres and high traffic shopping venues. This includes at the front of the Field House, leaving the stops at Place Riel and not moving them to College Drive, and negotiations with companies such as Wal-Marts to allow closer approach of Buses to their doors. Currently stops for these centres could be much closer in most instances. The Field House stop for example is several hundred feet away from the doors and there is no properly maintained paths for mobility impaired persons despite rehabilitation programs and equipment being centred in such facilities. While the current layout in front of the Field House emphasizes parking right up to the building, road could easily be paved through to connect College Drive to the doors of the facility and new ice rink being constructed. The idea that the City funded in part the new Rink without stipulating better access for transit is a problem. Making the building accessible, but not the access is tantamount to discrimination just the same as if the building wasn't

accessible. On Betts, the stop is at least half a kilometre or more from the doors of the many stores including the heavily used Wal-Mart which remains off limits to mobility impaired and other disabled person due to the extreme distances, particularly in Winter.
(4) Proper maintenance of audible announcements on buses as many do not work and are failing.
(5) Proper GPS systems on buses to ensure tracking is possible for persons with disability to ensure more equitable abilities in access. Currently at least 1/4 of buses do not have working GPS or the GPS is not being turned on properly - a situation that needs to be managed and supervised more stringently to ensure disability accessibility ;
(6) Driver training to ensure awareness of Safe Stop, drop off at points between official stops - possible creation of unique transit cards that transit drivers could identify for a mobility impaired person to hold up and request pickup at the next safe place to pull over for a driver between stops. It cannot be emphasized strongly enough how important it is for the elderly and mobility impaired to have consideration of their different abilities in getting to formal bus stops. During Winter, such issues raise serious health & safety concerns. Safe Stop is also imperative in communities such as Saskatoon owning to very high rates of organized criminal activity. Studies show that disabled persons are over three times more likely to be targeted by criminals for a violent attack or street robbery. The long distances between stops in Saskatoon render disabled persons more vulnerable to safety concerns;
(7) Annual performance review for managers and planners duties and responsibilities relating to transit design and accessibility for those with disabilities.

Review of all transit driver's adherence to job duties and regulations relating to job description of Transit Operator/Driver. This includes specifically understanding that drivers are responsible for route information including route schedules in the on-bus-pockets for schedules and route information as the few buses that still have number placards on the backs of buses that do not have digital displays to assist mobility impaired persons with identifying buses. Regular cleaning of electronic displays on the buses for the same reason. Because people with visual and mobility impairments do not have the same ability at times relating to being able to see or move around to see which bus is which, such signage is imperative to providing equitable access. Many drivers say this is just too hard to do and some Supervisors in past have said its also too difficult. This underscores the need for more time to be built into routes to make it possible to ensure accommodation of the disabled.

On more than one occasion, drivers have mistreated persons with visual impairments asking for information not realizing the person had a visual impairment because they were accustomed primarily to the numerous questions of able-bodied persons. A Customer Service issue really, but one that reflects poorly on whether the City provides equitable access to persons with disabilities.

Banning Driver use of cell devices and smartphones. Drivers often race through a route to arrive at stops early so they can spend some time on the cell devices. This also causes drivers to leave late. This erratic observance of schedules creates significant problems for disabled persons that have varying degrees of difficulty getting to and from stops. A disabled person that needs more time to go to their destination is done a disservice by a driver that is late on a route. Many times this abuse of smartphones on the job causes people to miss their transfers, and this is exceptionally so the case for people with mobility impairments and visual impairments that require more time to move between buses.

There are a large number of types of disabilities. Mobility, visual and hearing impairments are just a few. Planners are focussing on streamlining routes for speed and cost saving. While this is important, the law is clear accessibility for persons with disabilities comes first. At many of the community meetings held over the past three or four years, the displays and big pasteboards and overhead displays during seminars had one group of citizens: Healthy, young, able bodied. There wasn’t a single mobility impaired person depicted in these displays or seminars. There wasn’t a single visually impaired person depicted in these sessions. There wasn’t a hearing impaired person depicted, nor any other type of disabled person. No aged person was depicted.

Every bus stop in Saskatoon must be assessed relating to accessibility and equitable access for people of all types of disabilities. it is clear that most stops have never been assessed for this issue and even more clear that many stops that are being built today or within the past few years are either not being built to city accessibility standards or were never properly assessed by city managers and staff that signed off on the design and construction.

It has been nearly 25 years since Huck v. Odeon Theatres, 1983. The Supreme Court of Canada regularly refers to Huck v Odeon in decisions relating to responsibilities of bodies like Cities to ensure accessibility and equitable access. Today, the city of Saskatoon is not accessible. Many of the Bus Stops are dangerous and cause injuries to people with mobility impairments such as seniors. For example, a senior stepping off a bus where the doors open onto a traffic entry ramp into a business may have a step as high as 18 inches to make. With snow on the ground this can be deceptive as a distance. Despite numerous complaints relating to such stops, the Transit system and City have changed nothing.

Along with assessing every stop for accessibility and safety, supervisors and managers at transit would benefit from new, strengthened regulations that provide clear guidance on responsibilities with the law such as through Huck v. Odeon and various Supreme Court rulings.

It is rumoured an engineer or planner has recently been hired to Saskatoon to redesign the transit routes once again. It is important that the starting point for this redesign be around accessibility and equitable access for all, not just access for the able bodied or young. It is

important that during the middle of these planning phases and consideration of such route redesigns, accessibility and equitable access be central to all processes. And it is important that at the final stage accommodation of persons with disabilities and equitable access for all including the elderly, mobility impaired, visually impaired, hearing impaired, and others come ahead of cost saving and time saving in route design and Transit planning. Any other approach would forgo creation of a transit system accessible to all and the additional revenues that the many disabled persons bring if they can use the Transit equitably.

It is fundamentally clear that the Transit system in Saskatoon has been overly focussed on monetary issues, and has sacrificed quality and accommodation and equitable access. Such an approach should not prevail. It is important that the City of Saskatoon understand that it has a legal responsibility defined in Huck v. Odeon and subsequent Supreme Court Rulings to balance it's goals of efficiency with other legal responsibilities; to date, those responsibilities relating to accommodations for disabled have not been met after almost 25 years.

In economics there is a principle called "Opportunity Cost." What advantage or benefit to you forgo or lose in order to do another thing. By neglecting the disabled community, the city is forgoing a huge opportunity to be an inclusive community and the revenues that the numerous persons in the disabled category of persons bring. By making the stops further apart, the buses may run 1 or 2 percent faster on a route, but you might lose 5 percent of the riders and make access for a disabled person impossible. The transit system in Saskatoon is well below being an accessible transit system and it has being going the wrong way for several years under the guise of efficiencies and cost saving. In truth, the cost savings measures have resulted in increased losses to revenue and have driven immigrants out of Saskatoon who find the Transit System unusable during the Saskatoon Winters, which are by far amongst the worst in Canada. Brampton, Ontario by comparison never gets below 0, except during the rare two or three day storm. Victoria has 9 months a year of frost free weather. Anyone who has had to stand outside at a bus stop for 30 minutes waiting for the next bus can attest that for every single one of those 30 minutes they have asked themselves, "Why am I here." And for immigrants, who come to Canada with no car, and who provide growth and sustainability to a community, if they leave as soon as their term is up due to wintering compounded by bad transit experiences, Saskatoon and Saskatchewan have become the victim of a transit system that may be streamlined and cost effective, but that drives away new Canadians and serves only able-bodied persons.

In the end, Huck v. Odeon, caused the closure of the Odeon Cinemas on Albert Street in Regina. The managers and owners were embarrassed for life over their failures and the positions they took. That avoidable outcome reveals the need for all to consider carefully the activities undertaken.

Dev Hein
hereinsask@hotmail.com

STANDING POLICY COMMITTEE ON TRANSPORTATION

Complete Streets Design and Policy Guide

Recommendation of the Committee

1. That the Complete Streets Design and Policy Guide be adopted in principle;
2. That the Administration proceed with preparing a Council Policy based on the Complete Streets Design and Policy Guide provided in the report of the A/General Manager, Transportation & Utilities Department;
3. That the implementation plan be approved; and
4. That the report of the A/General Manager, Transportation and Utilities Department dated October 10, 2017, be forwarded to the Traffic Safety Committee and the Saskatoon Accessibility Advisory Committee for information.

History

At the October 10, 2017 Standing Policy Committee on Transportation meeting, a report of the A/General Manager, Transportation & Utilities Department dated October 10, 2017 was considered.

Attachment

October 10, 2017 Report of the A/General Manager, Transportation & Utilities Department

Complete Streets Design and Policy Guide

Recommendations
That the Standing Policy Committee on Transportation recommend to City Council:
1. That the Complete Streets Design and Policy Guide be adopted in principle;
2. That the Administration proceed with preparing a Council Policy based on the Complete Streets Design and Policy Guide provided in this report; and
3. That the implementation plan be approved.

Topic and Purpose
The purpose of this report is to adopt the Complete Streets Design and Policy Guide (the Guide) and implementation strategy as the basis for the development of new policies and standards that includes consideration for all transportation modes during the design process of street building.

Report Highlights
1. The Guide provides information on how Saskatoon's streets can be designed for all modes and users of all ages and abilities.
2. The Guide is a supporting document of the Growth Plan to Half a Million.
3. The Guide includes principles on street design that complement land use and consider the transportation system as a whole.
4. The Guide includes a toolkit of street treatments that provides options for consideration by designers based on the intended function of the street.
5. The Guide includes the identification of implementation opportunities which includes programs, processes, policies, and monitoring.

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

Background
The Growth Plan was approved in principle by City Council in 2016. The directions of the Growth Plan provide guidance for civic investments in infrastructure and support programs over the short, medium, and long-term that will shape growth patterns and increase transportation choices, in order to achieve the social, economic, and environmental aspirations of the community. The Guide is a supporting document of the original Growth Plan work.

Report
Complete streets provide safe connections for users of all ages, abilities, and modes of travel where design is centered on the context of the street corridor. The Guide (Attachment 1) was developed to support street design that accommodates the safe

movement of people by multiple modes and of all ages and abilities, and to provide an explanation on how to accomplish that goal. The Guide includes transportation principles, links land use context and transportation, describes street types within Saskatoon, identifies a toolkit of street design treatments, and outlines strategies for implementation.

The Guide is a supporting document of the Growth Plan to Half a Million, Corridor Growth component, and supports the goals and vision laid out through that process. The Guide provides a strategy for achieving the goals of multi-modal transportation, identifying priority users for different street types, and linking land use to street function and user priority. These processes will be important in achieving the City's multi-modal transportation goals as opportunities for streets to be retrofitted arise throughout Saskatoon. The Guide can also be used to design new streets in new development areas so they can better serve the anticipated user groups, whether that be pedestrians, cyclists, personal automobiles, transit, or goods movement.

The policy derived from the Guide will be implemented as a part of the Saskatoon Transportation Strategy (Attachment 2) to ensure a consistent approach to transportation-related policies and plans. Other standards and policies will also be examined and modified to be consistent with the principles of Complete Streets. Some of the projects that will need to be completed, in addition to the implementation strategy outlined in the Guide, include:

- Incorporating policies from the Guide into the Saskatoon Transportation Strategy and Official Community Plan;
- Review and update of the City of Saskatoon Design and Development Standards Manual;
- Educate staff members about the direction for new and retrofit street design; and
- Develop a system for identifying opportunities for street retrofit.

A more detailed, long-term implementation strategy has been outlined in Section 6 of the Guide.

Public and/or Stakeholder Involvement

Public input into the development of the Guide was obtained through the Growth Plan to Half a Million engagement process, focusing primarily on the principles of Complete Streets.

Since much of what the Guide presents is technical, focusing on how to achieve the Complete Streets principles through a specific design approach and toolkit, stakeholder involvement was primarily focused on internal City stakeholder engagement. Appropriate internal divisions comprised the steering committee that led the development of the Guide.

Communication Plan

The Complete Streets Design and Policy Guide is an important tool for stakeholders involved in designing and developing new and future infrastructure. A communications

plan has been developed to ensure that land developers and community liaisons are aware of and understand the key issues identified in the guide, and are consequently able to inform members of the public of how these principles will be integrated in future project work. The campaign will begin in October and will centre around presentations and supporting materials for specific internal and external audiences, as well as general information updates in the City Manager's newsletter, and on the City's website.

The plan will also be communicated through the development and delivery of individual projects in order to help the public better understand the reasons why certain decisions are made in the design process.

Financial Implications

The Guide will be used to review and update the City of Saskatoon Design and Development Standards and also required changes to development levies. Cost estimates for individual projects will be developed during scope and design of specific projects.

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 Administration will prepare a Council Policy based on the Guide included in this report for presentation to the SPCT on Transportation in early 2018.

Public Notice

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

Attachment

1. Complete Streets Design and Policy Guide
2. Saskatoon's Transportation Strategy – Supporting Plans and Policies

Report Approval

Written by:	Chelsea Lanning, Transportation Engineer
Reviewed by:	Lesley Anderson, Director of Planning and Development Jay Magus, Acting Director of Transportation
Approved by:	Angela Gardiner, Acting General Manager, Transportation & Utilities

TRANS CL – Complete Streets Design and Policy Guide

COMPLETE STREETS DESIGN AND POLICY GUIDE

City of Saskatoon | GROWING forward! Shaping Saskatoon

September 2017
Prepared for the City of Saskatoon by Urban Systems Ltd.

City of Saskatoon | GROWING forward! Shaping Saskatoon

www.growingfwd.ca

Table of Contents

Table of Figures

PART 1: Introduction

For several decades, street corridors in many cities have been designed, managed and maintained in an increasingly auto-centric way. Some major roadways can have six or more wide travel lanes. Intersections are typically wider than travel lanes, with turn lanes and signal timing plans designed to minimize delays to vehicles. Public expectations have evolved to assume that roadways be designed and managed to limit congestion for vehicles. In other words, society has come to expect that city streets will be designed, operated and maintained in a way that supports safe and efficient movement of vehicles as their primary function.

Inadvertently, urban streets in many communities have now become barriers to healthy and balanced urban places, as illustrated in **Figure 1** below. Wide streets designed for vehicles often lack safe, comfortable walking and bicycling experiences, as travel speeds tend to increase on wider streets, with limited space and priority given to people of varying levels of mobility and confidence. These barriers also extend to transit; as driving is made more convenient, transit ridership is reduced, and increased levels of service less justifiable. On congested roadways, transit is often stuck in the same 'bottlenecks' as those driving personal vehicles, ultimately discouraging sustainable modes and encouraging driving.

Figure 1 shows a functioning street for its intended user, the motorist. This method of design will not be sustainable moving forward as the diversity of road users increases on streets. The challenge will be making the transition of cities from an auto-oriented street design to a complete street model that incorporates all the design factors that influence a street corridor.

Figure 1 - 'Incomplete' Street Example (22nd Street)

The challenges of traditional urban roadway design also affect the land uses that surround them. With auto-oriented development patterns, urban streets are less likely to be places where people will want to live, work or play. Major streets are often unaccommodating and become barriers to residential land uses. Retail and office developments are typically set back from the street, separated from the adjacent street by large parking areas. In turn, uses permitted in these areas tend to be lower density, with high parking requirements and design standards that ultimately promote driving.

A "Complete Streets" model is one of many strategies changing how cities are being planned and designed. In existing urban areas, guidelines for complete streets can help to encourage and support infill and densification on major roads, and balance accommodation for all modes of travel within the public right-of-way. For newer growth areas, the guidelines can be used to shape the City's street design standards, which may incorporate many of the principles and tools in the **Complete Street Design and Policy Guide (the Guide)**.

With this in mind, complete streets imply more than just physical changes to a community's streets. The implementation of a complete streets model must extend across planning, design, maintenance and funding for land use and transportation projects. A guide for complete streets can be achieved through clear policies and guidelines that influence land use and transportation plans, as well as include street design standards that will influence new and retrofit projects.

The Guide will direct planners and engineers to work collaboratively with the community and developers to consistently design the public right-of-way and ensure land uses are integrated, contributing to a people-oriented street environment that works for everyone.

The Guide is divided into six parts as follows:

Part 1	Introduction
Part 2	Vision for a Complete Street
Part 3	Context
Part 4	Complete Street Typologies
Part 5	Toolkit for Complete Street Design
Part 6	Opportunities for Implementation

Figure 2 - Policy and Design Guide Outline

1.1 How will the Guide be Used?

The Guide provides an updated way of looking at street design in Saskatoon, considering aspirations for both land uses and roadway planning, and intentionally connecting them through the selection of appropriate street treatments.

Planners and designers can apply necessary treatments to address street functions rather than simply service traffic patterns and needs. Moving away from standard templates, **the Guide** provides a customizable design tool for achieving the many goals of an individual street section.

The most impactful application for **the Guide** is on the existing street system. Individual treatments that are critical to creating a complete street can be implemented in Saskatoon over time as opportunities arise through redevelopment projects.

The current standard for street design in new neighbourhoods needs to be revised. **The Guide** will provide the justification, means, and information needed to effect change on the City's expanding street network.

The Guide is also meant to be an accessible resource for City staff, City Council and the residents of Saskatoon. **The Guide** will be a source of consistent information, using a common language that may be used by planners, designers and citizens to work collaboratively on design options for neighbourhoods and major streets throughout the City.

Complete street treatments may be developed through public engagement sessions to highlight what's possible and discuss treatments options and outcomes with the community. Designers can then use these discussions to create drawing standards for each treatment style to ensure safety and reliability of City Streets.

1.2 How Will Complete Street Treatments be Implemented?

The City's **Design and Development Standards Manual (the Manual)** provides the process and design information for streets and other utilities required for new subdivision development, as well as infill areas. **The Guide** can be used to update **the Manual** with design treatments that may be used in new areas of the City.

However, a more immediate need of **the Guide** is to retrofit existing streets. This need stems from the **Growth Plan to Half a Million (Growth Plan),** in which many of Saskatoon's streets and land uses are being transformed to support sustainable growth patterns and to reshape how people move around the community.

The complete street treatments contained in **the Guide** will be most effective for transforming the established areas of the City through ongoing initiatives such as:

- Existing road improvements to entire sections or localized changes to intersections;
- Road and sidewalk rehabilitation projects, providing opportunities to reallocate street space;
- Street operations and maintenance programs to better support specific travel modes, as well as mobility needs for all ages and abilities throughout the year and across the network; and;
- Infill or redevelopment projects in neighbourhoods and along major streets incorporated through to the roadway.

The City can use **the Guide** to work with residents on these and other initiatives to achieve a complete streets model in the most critical areas as identified in the **Growth Plan**.

PART 2: Vision for a Complete Street

Bicycle lanes, walkability, vulnerable user safety, and traffic volumes are all topics that are being discussed increasingly by the public, politicians and municipal staff in Saskatoon. These topics all make up components of a connected city and when consideration is given to each of them, the result is a complete street.

Complete streets provide safe connections for users of all ages, abilities, and modes of travel where design is centered on the context of the street corridor.

This section of **the Guide** outlines what a complete street 'is' and 'is not' as well as what success would look like in Saskatoon.

2.1 What a Complete Street Is

Complete Streets are streets designed to address the context of the street while providing safe access for all intended users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street. In support of the land uses they serve, complete streets help build strong, livable and vibrant communities.

Complete streets are unique, and so are the guides for each community. For Saskatoon, complete streets are designed to:

- ✓ **Enhance safety for all modes**. Appropriate facilities designed as separated or shared spaces enhance safety and comfort for everyone. For vulnerable users such as pedestrians and bicyclists, addressing perceived and real safety concerns will serve to not only reduce serious collisions, but will ultimately increase usage of these sustainable modes.

- ✓ **Expand transportation choice**. Visibility of attractive and comfortable pedestrian, bicycling and transit facilities will serve to create greater awareness of the transportation options available in Saskatoon. In turn, increased use of these facilities will motivate people to consider opportunities that can contribute toward personal and community goals.

- ✓ **Support universal accessibility**. At any point of a journey, everyone is a pedestrian. As such, the design of sidewalks, crossings and connections with private properties can create barriers for people with physical and/or cognitive disabilities. Universal accessibility is essential not only to support individuals with mobility challenges, but also to make public spaces comfortable for everyone.

- ✓ **Enhance connection to community**. Complete streets are complementary to the surrounding land uses. They provide space for people to move around, within, and between communities, as well as places for people to live, work, shop and play. They can also support the development and creation of a vibrant public realm, extending businesses into the street space with patios, parklets or simply with better access.

- ✓ **Develop a sense of place**. Ultimately, most community streets should be comfortable and desirable places for people. Rather than simply transport people, complete streets should be designed as comfortable and desirable public places for community to gather.

2.2 What a Complete Street Is Not

In addition to knowing what a complete street is, it is equally important to acknowledge what a complete street is not. This will ultimately assist in shaping **the Guide** and support discussions with the public, City Council and staff. For Saskatoon, complete streets are:

- × **Not focused solely on the automobile**. While there remains the need for some streets to serve the primary function of moving large volumes of traffic – such as on-ramps to highways – there are often other functions of a street that must be considered in the design and configuration of the network. Where vulnerable users, such as pedestrians and bicyclists are present, the street design should provide safe and comfortable facilities to enhance safety for all road users.

- **Not a 'one-size-fits-all' solution**. In every community, the public right-of-way for streets is often limited and even constrained. In other words, it is unlikely that the needs of all modes can be accommodated on one street. Although streets can be designed to share space in many instances, a network of varying streets types is often required to comfortably accommodate the individual needs of each mode. A grid system promotes a network approach where some streets may serve cars, transit and pedestrians effectively while parallel streets may prioritize pedestrians and bicyclists and serve lower volumes of traffic.

- **Not necessarily a prescriptive design.** In most built areas of Saskatoon, the available space and uses for the existing street network are already established. Rather than look for an off-the-shelf solution or design standard, complete streets are typically created by understanding the constraints and opportunities to yield unique solutions suited to context and based on guidelines or a toolkit of best practices.

- **Not an 'all or nothing' proposition**. Building new streets and retrofitting existing ones can be expensive. Beyond the obvious surface works, underground and above-ground utilities and property can dramatically increase the cost for even the smallest road projects. Rather than commit to the full implementation of retrofit projects, a phased approach toward implementing a complete street will enable the more critical matters to be dealt with in the short-term and other features to be added over time as resources become available. In this regard, complete streets may be achieved in stages, particularly when managing funding to transform existing roadways. It is important that the community understand that a phased implementation is possible or likely depending on the individual project. Phasing a project can also help create early community support, allowing users to experience the change as a low-cost trial before making a full investment in the ultimate solution.

2.3 What Can Be Achieved?

Saskatoon's **Growth Plan** requires more choices for getting around the community, sustainable land uses, as well as creating livable and vibrant communities. The City seeks to enact policies and objectives for building and retrofitting safe, economically productive, cost-effective, and active street space. A flexible **Guide** will provide a blueprint for designing, building (retrofitting), operating, and maintaining complete streets. This approach also creates longevity, adaptability, and allows for effective implementation in order to achieve the vision for complete streets.

The Vision

> "Saskatoon will plan, design, operate and maintain existing and new streets to effectively support movement of people of all ages and levels of mobility by: providing appropriate facilities that support pedestrians, bicyclists, transit vehicles as well as motor vehicles; and integrating the street environment with existing and future land uses."

In support of the vision, a complete streets approach for Saskatoon seeks to develop a transportation network that will better serve and support sustainable growth through all seasons.

Principle 1: Serve and support existing and planned land use and built form context.

Streets in Saskatoon will be designed to create active environments that support surrounding land use patterns and accommodate the built form of the sites. Additionally, land use patterns along many corridors will be better integrated with the street system supporting an active pedestrian environment and providing attractive connections with other modes.

Principle 2: Encourage people to travel by walking, bicycling and transit.

Even where automobiles and heavy vehicles are significant, steps will be taken to ensure that accessible and attractive pedestrian, bicycle and transit facilities and treatments are provided along key corridors.

Principle 3: Provide transportation options for people of all ages and abilities through universal design.

The transportation system will be designed to support the needs of all segments of the population including children, youth, seniors, and those with mobility challenges.

Principle 4: Enhance the safety and security of urban streets.

The safety and security of all street users, especially the most vulnerable people (children, the elderly, and those with mobility challenges) and modes (pedestrians and bicyclists), will be integral to the design of every street.

Principle 5: Create a network of streets that offers mobility options for all users.

A dense network of local, collector and arterial streets will provide attractive facilities that support walking, bicycling, transit, vehicles and goods movement. In urban areas of the City, a grid system of streets will provide options to prioritize and allocate shared or dedicated space for each user group throughout the network as opposed to all on one street.

Principle 6: Provide opportunities for improved health and recreation to people in the community.

Complete streets not only contribute to the quality of life within a community, they are necessary to improve personal health. From sidewalks and bicycle lanes to accessible bus shelters, complete streets can improve pedestrian safety while reducing congestion and emissions. Complete streets encourage people to walk and bike for short trips, and support social interactions within the street that will strengthen the sense of community. By improving travel safety, complete streets have a positive effect on the health of both the community and the people living in it. Increased walking and bicycling lowers the risk of obesity and the host of health problems that come with it.

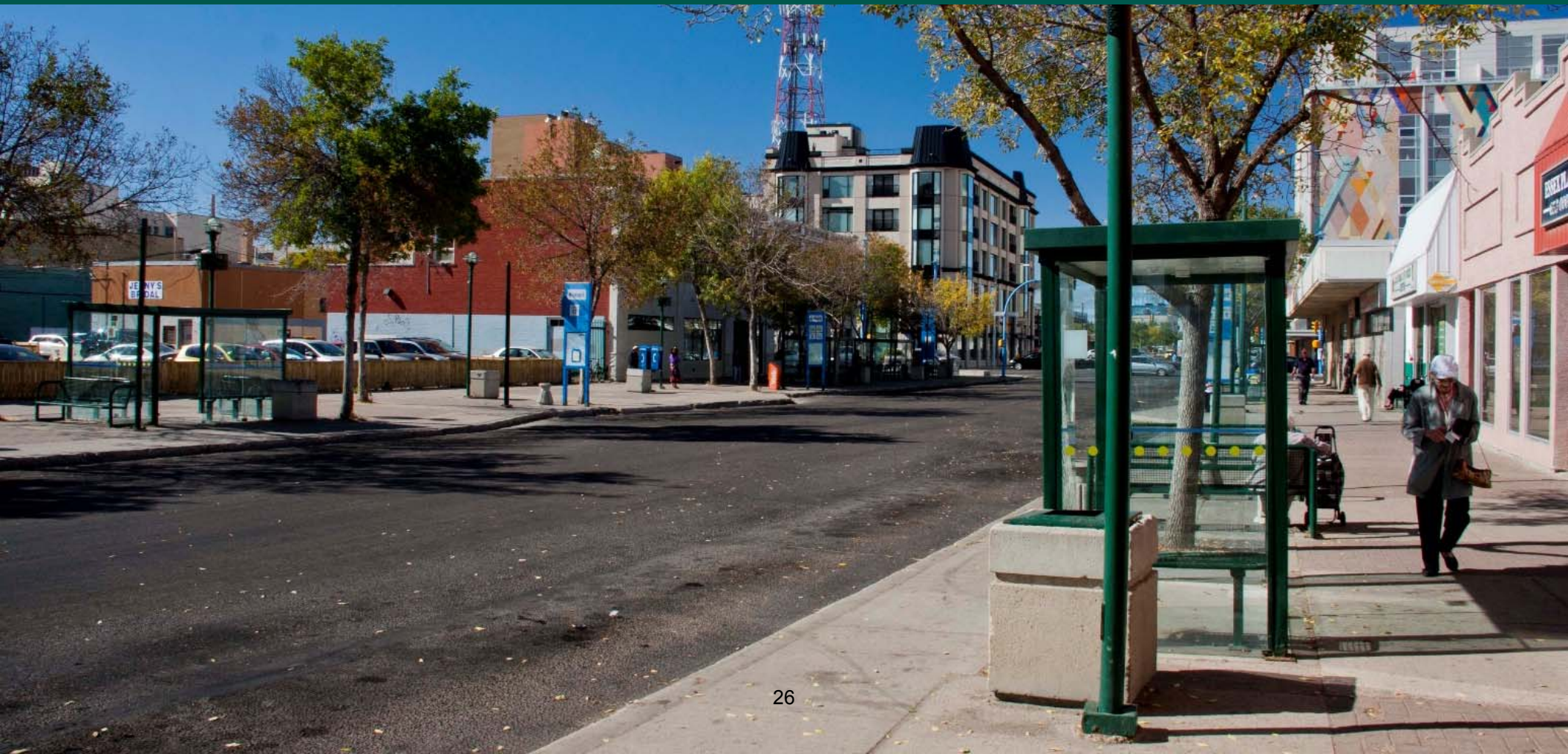
Principle 7: Promote the economic well-being of both businesses and residents.

Complete streets will be designed to encourage street activity by creating a place for people to socialize, deepening a sense of community. An urban street redevelopment project is a proven method for revitalizing an area and attracting new development. In turn, complete streets can boost the economic value for businesses and can increase property values for both business owners and residents, who are generally willing to pay more to live in walkable communities.

Principle 8: Create public space within the street corridor.

Complete streets can provide a space where people feel comfortable to congregate and, in some cases, form an extension of other public-oriented spaces.

PART 3: Context



Community context is one of the most central, yet frequently overlooked, parameters in designing streets. Through implementation of **the Guide**, the City aims to ensure that the context of adjacent communities and future land uses are first understood, and then incorporated in the street design process, impacting the desired character of the public realm.

The context for complete streets in the long-term begins with what currently exists combined with the City's current plans for communities that may include new suburban neighbourhoods, redevelopment areas and neighbourhood infill. The context also includes consideration of both area and corridor specific development plans that will shape aspirations for specific streets. Both area and corridor specific context may be used to define the functions that streets should serve and support – or typologies. The street typologies in turn provide guidance on priorities for each travel mode and subsequently shape the selection of complete street treatments.

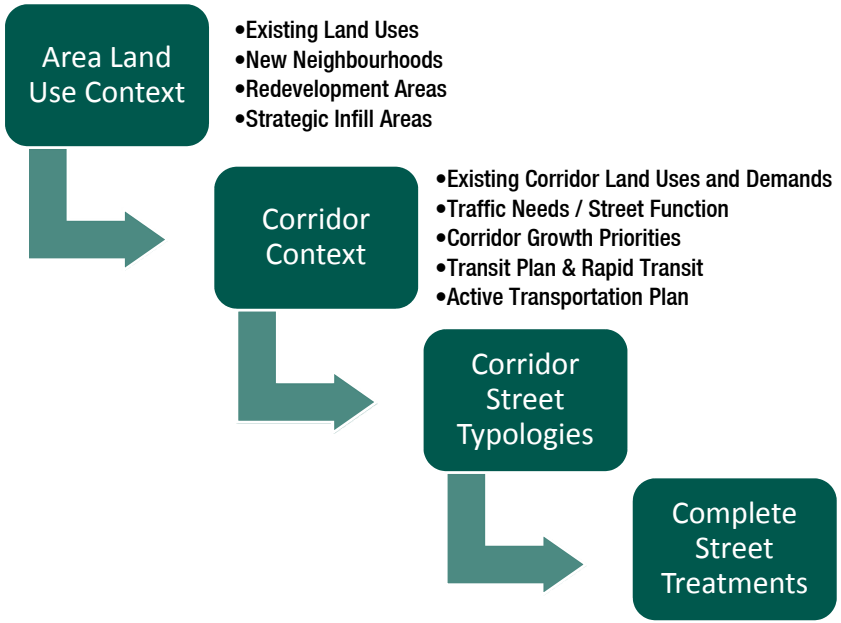


Figure 3 - Complete Streets Process Diagram

Today, Saskatoon's streets have been designed to support the growing needs for automobiles and heavy vehicles, particularly on major roadways. This approach has in turn affected how new and existing roadways are being designed, operated and maintained.

As a basis to consider streets differently, the City must not only incorporate complete street treatments, but also change how streets are planned and designed based on their 'context'. A more holistic approach will shift the current emphasis away from traditional thinking of streets as a 'utility' within the community, aiming to advance priorities for transit, pedestrian and bicycle facilities. This is essential to advance aspirations for sustainable growth and mobility as presented in the **Growth Plan.**

This section of **the Guide** is intended to position 'context' as the foundational element of the City's street design process moving forward.

3.1 What Exists Today

The City of Saskatoon is committed to realizing an increasingly sustainable community, with an enhanced quality of life consistent with the vision and core strategies of the City's Strategic Plan. Over time, the built form of the community has been shaped by a variety of sector plans, neighbourhood concept plans and local areas plans **(Figure 4)**. In determining the context for complete streets, there is much that can be derived from the land uses, built form and transportation networks that exist today.

Consistent with many communities across North America, Saskatoon uses a conventional hierarchy of roadway classifications to design and operate streets. Freeways and expressways are designed to carry significant amounts of passenger cars and trucks across the City at higher speeds and do not generally support walking, bicycling or transit. Major and minor arterials accommodate large volumes of traffic between neighbourhoods with remaining space allocated to accommodate walking and bicycling. Collectors and local streets facilitate all modes of travel to, from and within neighbourhoods. **Figure 5** illustrates the existing roadway classification system in Saskatoon.

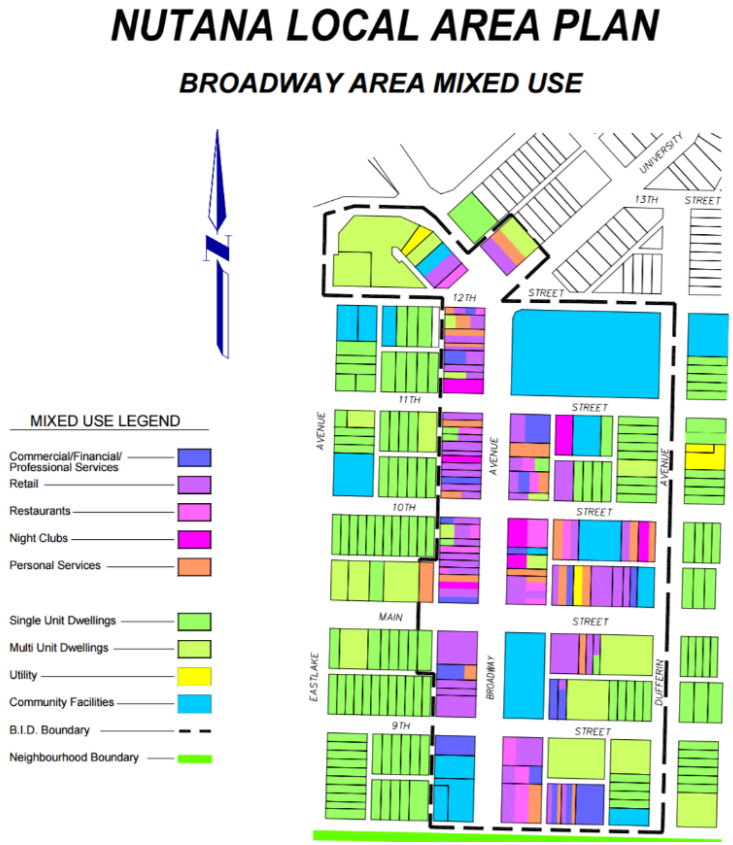


Figure 4 - Typical Local Area Plan

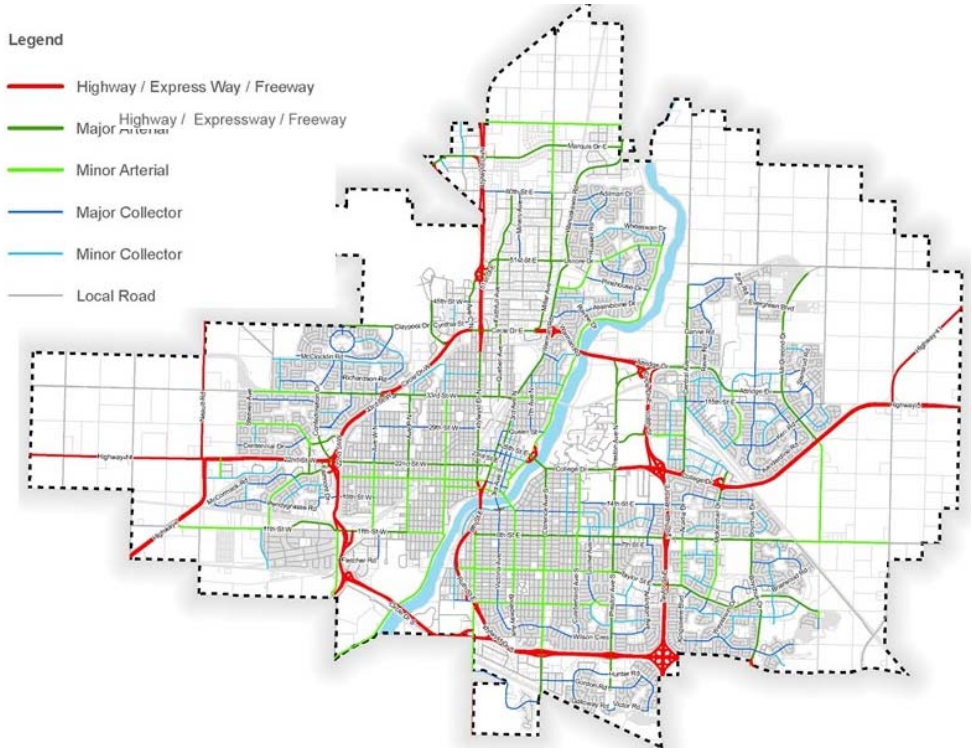


Figure 5 - Existing Street Classifications

Since most streets in Saskatoon have been classified based on their vehicle serving functions – such as daily traffic volumes and patterns – design decisions are meant to accommodate the largest vehicles and highest traffic volumes. For example, the expressways and major arterials in Saskatoon typically carry four to six lanes of traffic at higher speeds with wide travel lanes. Parking is restricted in favour of long-term mobility and safety for traffic. Provisions for walking, bicycling and transit have traditionally not been integral to the design and are at best given secondary consideration in capital projects for new and existing roadways. However, the City's existing pedestrian, bicycling and transit facilities can inform the context of specific streets. The land uses that surround the corridor are considered as impacts on the roadway network rather than integral to the street design and treatments.

The safe and efficient movement of goods within and through the City is essential to economic development and the competitiveness of businesses within Saskatoon and the Region. The City's major goods movements routes **(Figure 6)** are another key parameter to be considered in shaping needs considerations within the broader aspirations and context for major roads.

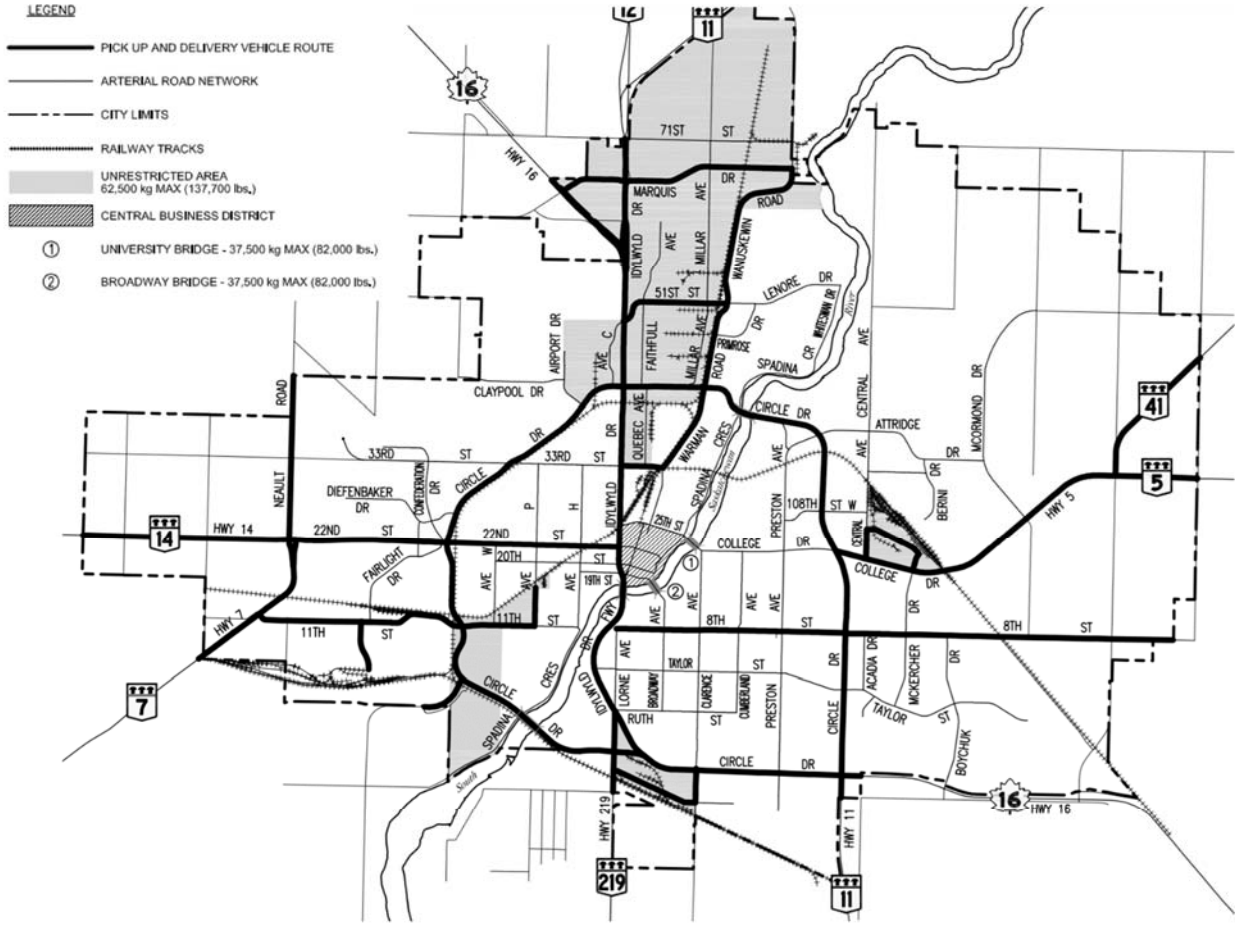


Figure 6 - Pick Up and Delivery Vehicle Routes

3.2 Future Street Context

The City has several clear and robust plans that will serve to shape area growth toward a population of half a million people within the existing municipal boundaries. In addition to the plans for new neighbourhoods in Blairmore, University Heights and Holmwood, the City has identified strategic infill areas for downtown, north downtown and the University of Saskatchewan where more compact, mixed-use growth is planned. The City has also developed an infill strategy to accommodate growth within established residential neighbourhoods where a higher mixture of uses is envisioned, and where major streets transition from barriers to becoming an integral part of the surrounding areas as shown in **Figure 7**.

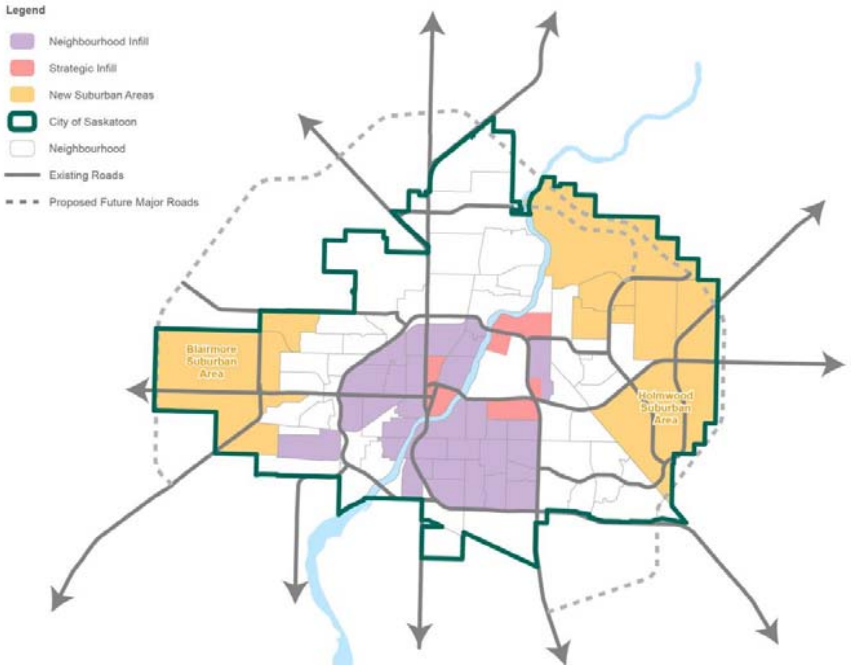


Figure 7 - Future Growth Areas

The context for complete streets is to be drawn out of these plans. In many areas, major roadways are preserved to support mobility for vehicle travel with enhanced accommodations for walking and bicycling. In the urban centres of neighbourhoods and strategic growth areas, major roadways are an integral part of the planned community and must be designed to enable movement to thriving neighbourhoods. Increasingly, major roadways through these areas must support broader mobility needs that prioritize pedestrians, bicyclists and transit.

The more immediate contexts when considering complete street treatments are aspirations for corridor land uses and mobility. The **Growth Plan** provides further direction for more sustainable growth adjacent to major corridors across the City, as well as aspirations for walking, bicycling and transit mobility. The **Growth Plan** identifies aspirations for mobility along several corridors across the City in terms of accommodating transit, walking and bicycle facilities. To determine the context of the street in the design process, the following key features of the **Growth Plan** need to be considered:

a. Corridor Growth: This must be designed to advance the City's commitment toward sustainable growth and provide more vibrant places that bring communities together (**Figure 8**). The high and moderate priority growth corridors rely on streets that support a vibrant and integrated environment with land uses that provide for users of all modes. If street design does not respond to the context, many of these major corridors will remain auto-centric and unwelcoming to sustainable forms of redevelopment and travel.

b. Bus Rapid Transit (BRT) and Frequent Transit Corridors: Defined within the Transit Plan (**Figure 9**), they form the spine of the transit system and provide transportation choices for people travelling across the City. For the BRT plan to be successful, these corridors must be surrounded by transit-oriented land uses as envisioned in the **Growth Plan**. The corridors themselves must be comfortable and accessible for transit passengers as well as pedestrians, with attractive connections to the bicycle network.

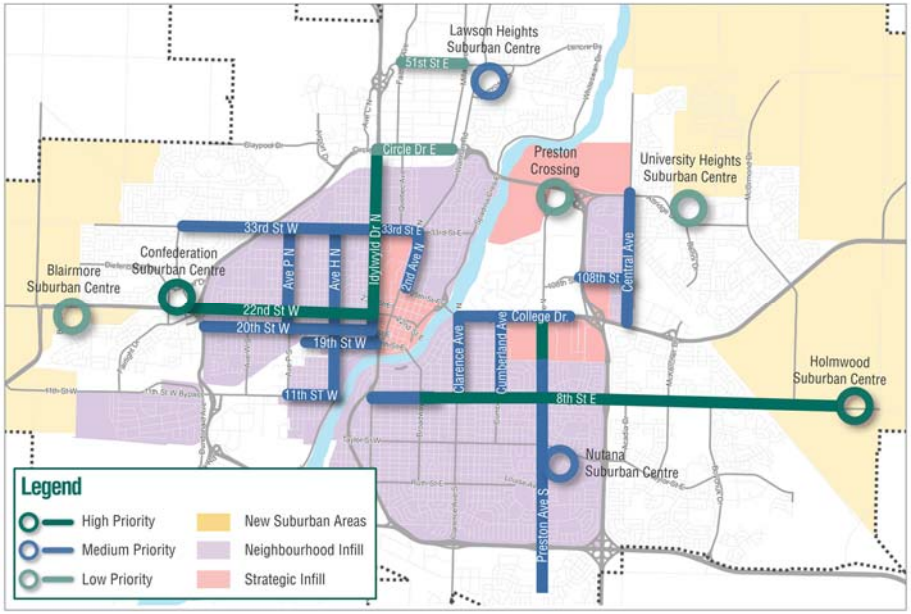


Figure 8 - Corridor Growth Priorities

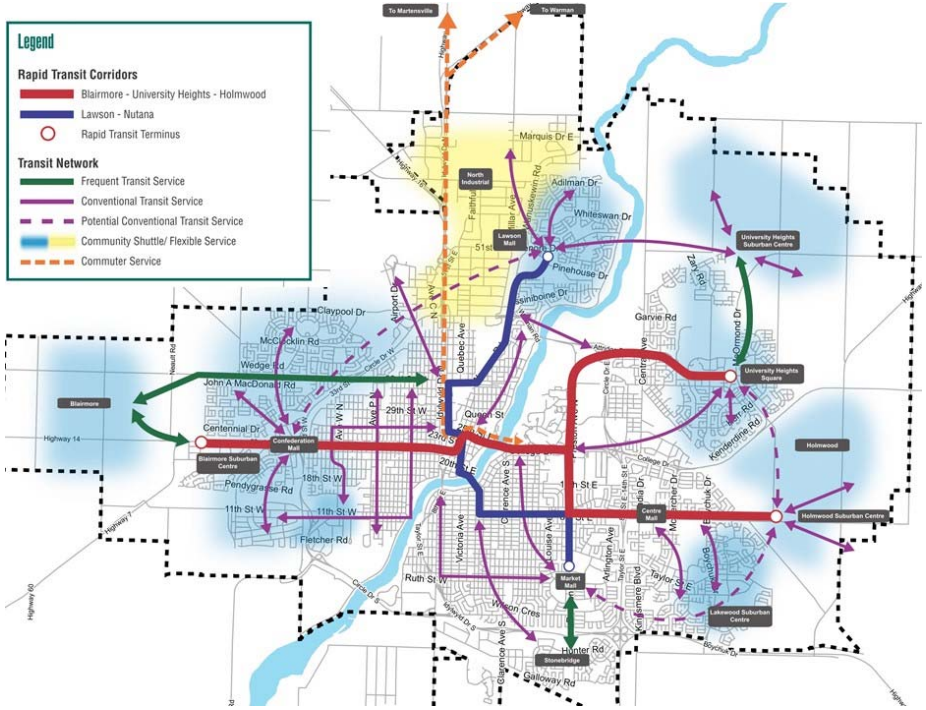


Figure 9 - Transit Plan

c. Active Transportation Corridors: To achieve many aspects of the **Growth Plan**, active transportation corridors are integral to success. The **Active Transportation Plan (AT Plan)** promotes walking and bicycling with a comprehensive plan of bicycle and pedestrian facilities across the City. An "All Ages and Abilities" (AAA) bicycle network supports bicycle facilities that are comfortable and attractive for all users and is identified in (**Figure 10**).

Recognizing that everyone is a pedestrian for all or part of each trip they take (regardless of mode), the **AT Plan** also identifies sidewalk gaps on major roadways across the City as they exist today (**Figure 11**). Higher vehicle volumes combined with speeds along these roadways – many of which include transit – create barriers to walking, particularly for more vulnerable persons like children, youth, seniors and people with physical and cognitive disabilities. More detailed maps can be found in the **AT Plan**.

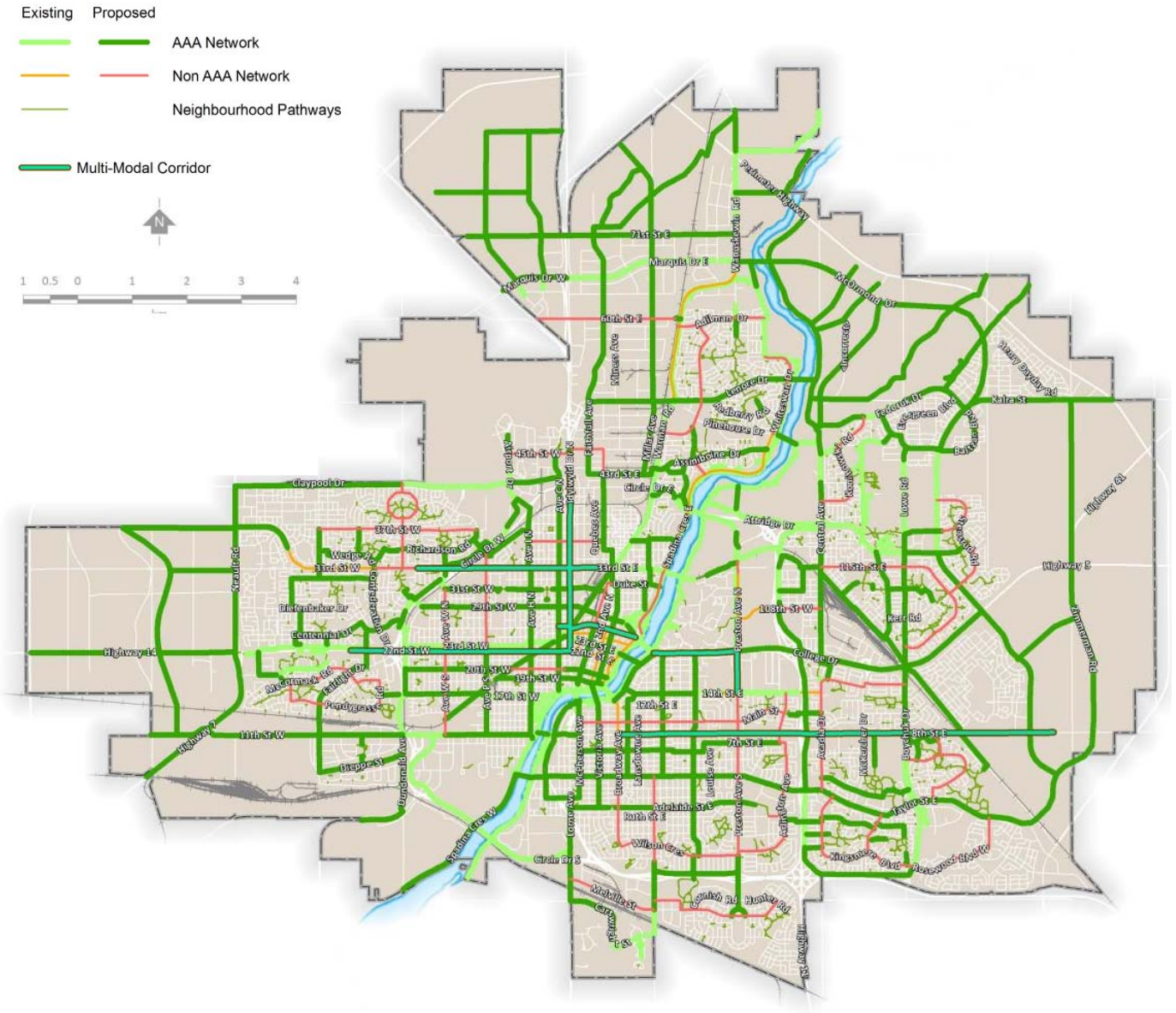


Figure 10 - All Ages and Abilities Bicycle Network

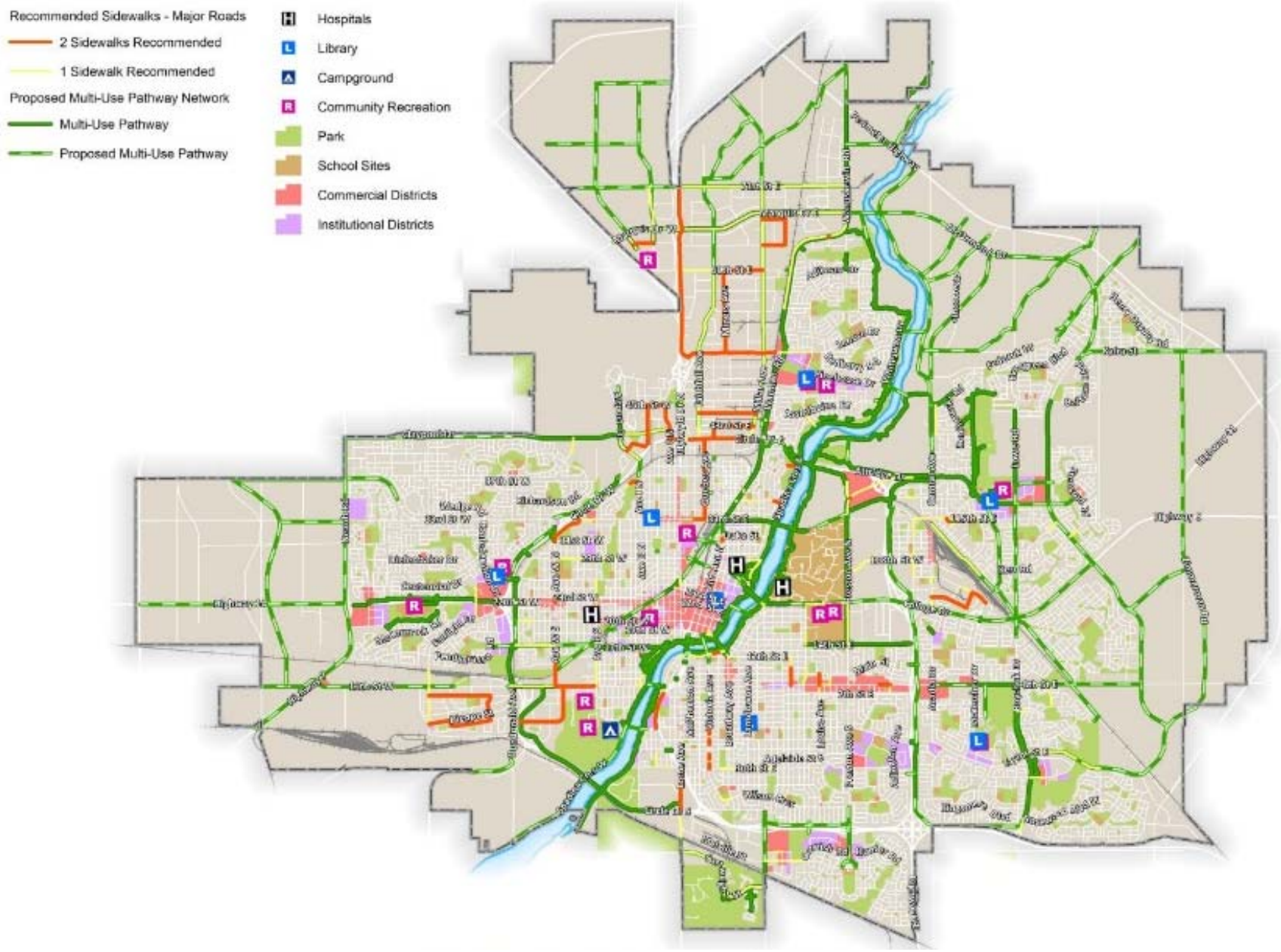


Figure 11 - Sidewalk Gaps on Major Roadways

3.3 Putting It All Together

As noted above, setting the context for a specific street or corridor is a process that starts with understanding the existing land uses and street classifications as well as the existing road, transit, bicycle and pedestrian networks – this is where the City is at today. Similarly, the process must also incorporate the City's plans to accommodate future growth and to evolve the transit, bicycle and pedestrian networks – this is where the City is going.

Putting it all together, the process of setting the context of the street involves the consideration of many different plans and technical inputs **(Figure 12).** In this way, the context of the street inherently places priority on the various land uses that are being served by the street as well as the travel modes that are required to make the street successful. The various combinations of land use and travel mode priority for the City's streets are defined through a suite of street typologies and are described further in **Section 4**.

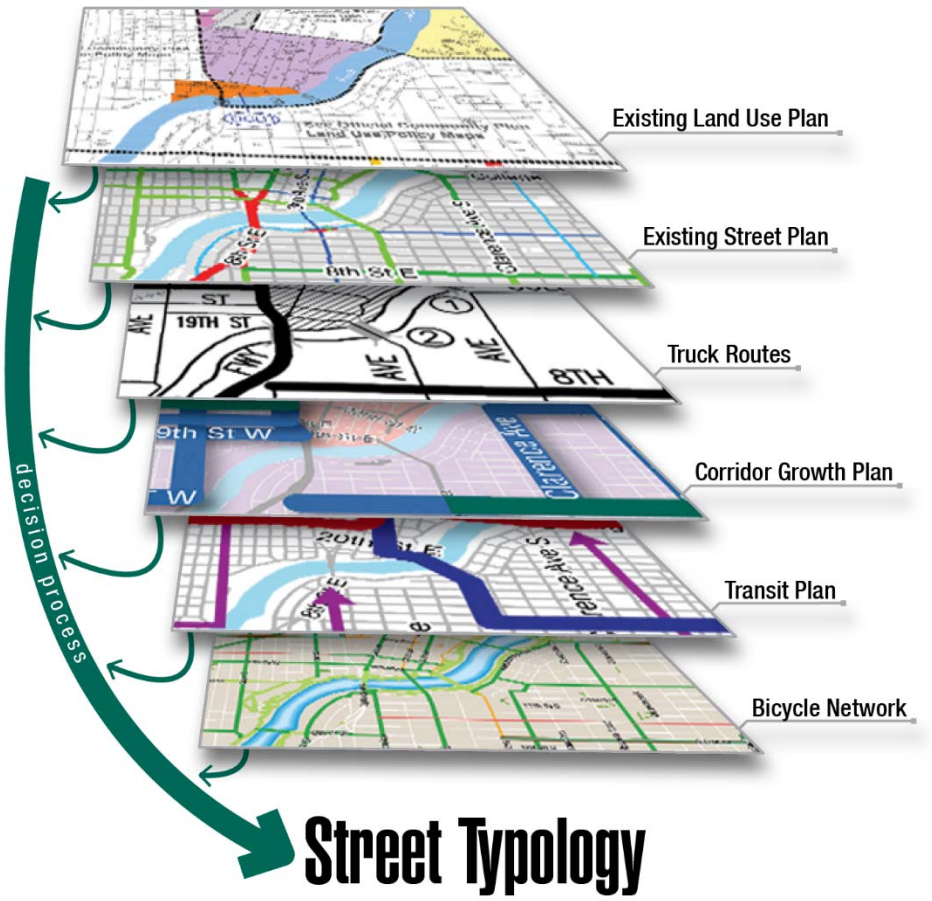


Figure 12 - Street Context Inputs

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PART 4: Complete Street Typologies

Strengthening the connection between street designs, land use character, and their multi-modal functions is important to the success of this complete streets initiative. To bolster this, the City may consider a new typology of streets that goes beyond the traditional street classifications. Unlike the existing street classification system, these street typologies capture the differing land uses and multi-modal conditions and expectations that exist along many major corridors.

As land use character and transportation functions of most major corridors vary from one end to the other, so too should the design and operation of the street. Much like an urban main street, sections of 22nd Street inside Circle Drive are expected to support a greater scale, density and mixture of land uses along with BRT and a much-improved pedestrian environment. West of Circle Drive, however, 22nd Street will continue to be surrounded by lower density suburban land use patterns and accommodate higher volumes of traffic. All elements of the street and land uses that surround them should be designed and operated accordingly.

Rather than alter the existing street classification system, this section of **the Guide** outlines a set of street typologies that may be used to reimagine and rebalance priorities on all new and existing urban roadways in Saskatoon. The street typologies refine and add definition to the generalized existing functional classification system.

The governing features of the complete street typologies being considered for Saskatoon are briefly described in **Figure 13**.

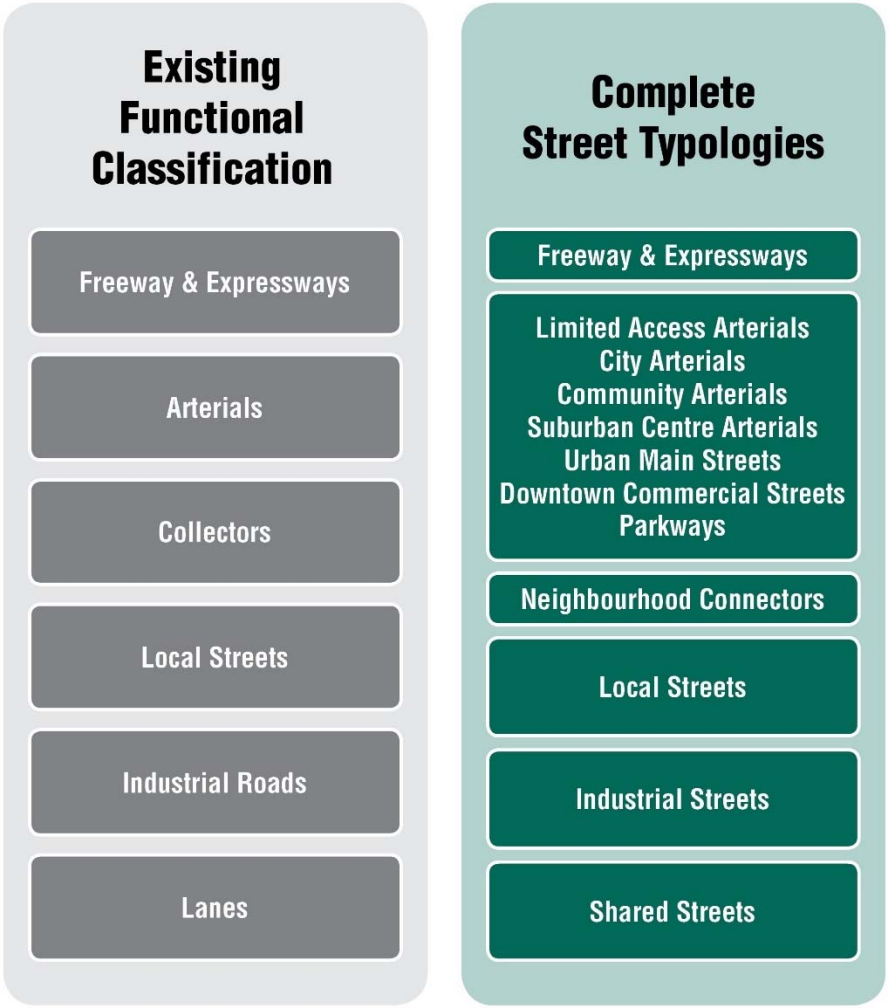


Figure 13 - Recommended Complete Street Typologies

When design is centred around the context of the surrounding area, it is important to identify the land uses that are being served and the modal priority that is required for the specific street. In this way, the role or purpose of the street is represented through the typology and the inherent prioritization of travel modes.

Figure 14 highlights the transportation modes and land uses that each street typology prioritizes.

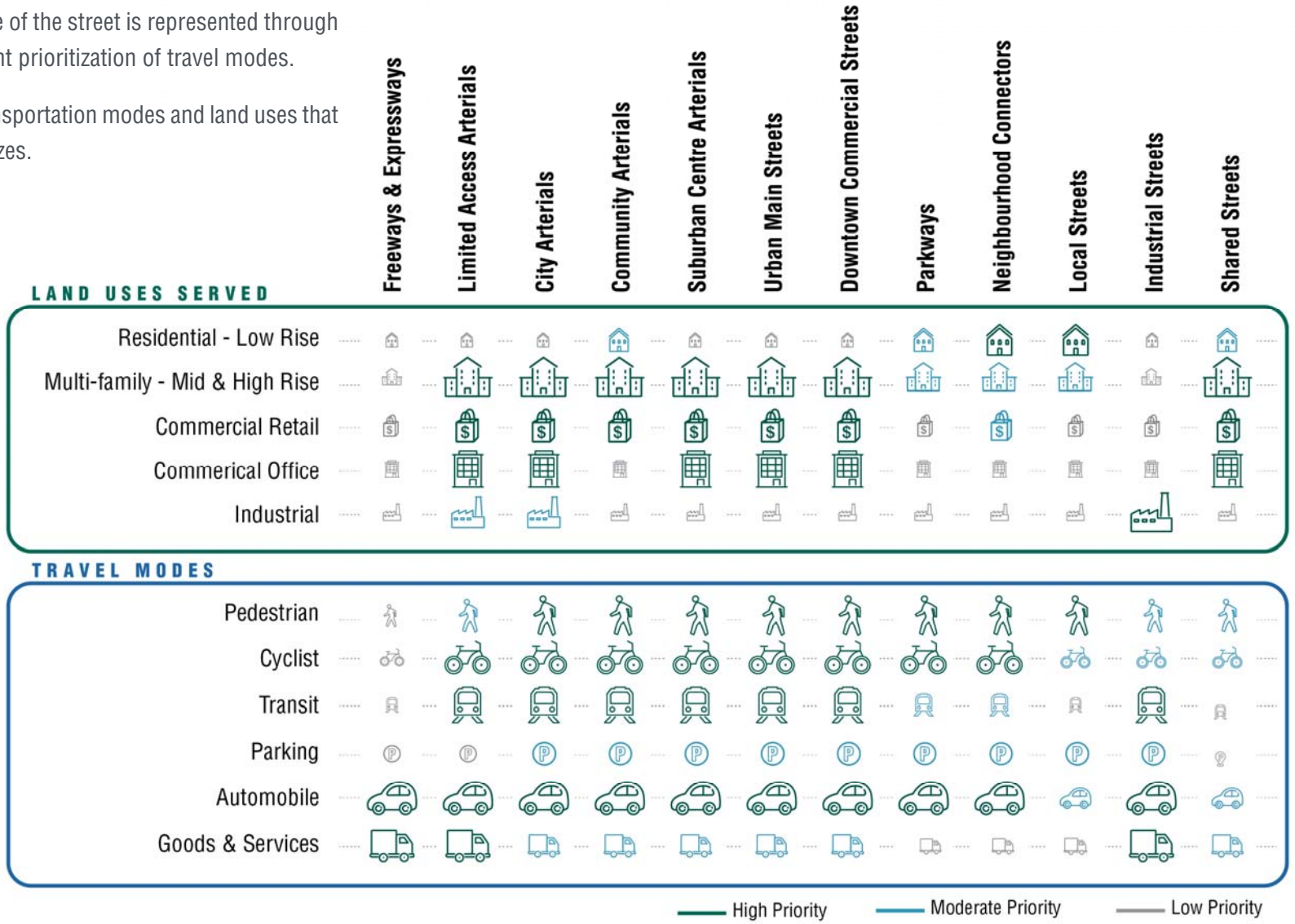


Figure 14 - Principle Features for Each Street Typology

FREEWAYS AND EXPRESSWAYS

Designed to support large volumes of traffic, freeways and expressways move vehicles to, from and through the city, rather than supporting or integrating with the localized land use patterns that surround them. This is generally achieved with several travel lanes and grade-separated interchanges providing connections to other freeways and expressways, city arterials, and limited access arterials.

They function as a primary route for passenger cars and heavy vehicles, and are essential for the reliable and safe movement of people, goods and services that support the economy of Saskatoon and the surrounding area. These roadways are largely located outside the established urban areas of the city and have large buffers or right-of-ways that separate them from surrounding land uses. As development increases around these areas, the main function of this typology should always be vehicle movement.

Land Uses	Separated with large buffer areas
Modes of Travel	Passenger cars and heavy vehicles Limited or no access for pedestrians and bicyclists Multi-use pathways for pedestrians and bicyclists
Access	Freeways, Expressways, and City Arterials No access to minor roads or individual properties
Built Form	Developments front away from right-of-way or are set back significantly Sound barriers should be considered adjacent to residential land use
Examples	Idylwyld Freeway south of 19th Street Circle Drive east of the river College Drive east of Preston Avenue

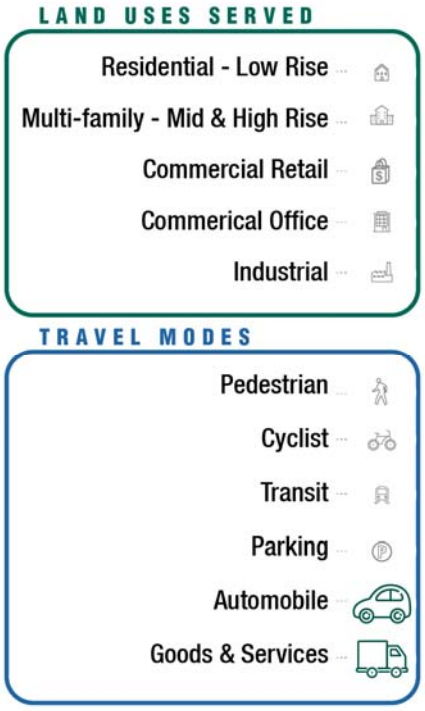


Figure 15 - Freeway & Expressway Typology Example

LIMITED ACCESS ARTERIALS

Limited access arterials are intended to connect the communities of Saskatoon, serving travel across the city, and providing connections to and from freeways and expressways and other major roadways. They serve large volumes of passenger cars and trucks throughout the day. In most cases, these corridors will support rapid transit services and facilities – such as bus only lanes – carrying passengers across the city. Attractive and accessible connections will be required to planned park-and-ride lots and rapid transit stations nearby limited access arterials.

Most limited access arterials will remain separated from the land uses that surround them with buffered areas in the form of greenspace in some suburban and urban areas of the city.

Land Uses	Retail, office, and residential
Modes of Travel	Passenger cars, heavy vehicles, and buses
	Multi-use pathways or sidewalks and protected bicycle lanes for pedestrians and bicyclists
Access	Community and Suburban Centre Arterials
	Limited access to individual properties
Built Form	Buffer provided between street and development
	Building orientation does not prioritize the street
Examples	Preston Avenue north of College Drive
	22nd Street west of Circle Drive
	Attridge Drive

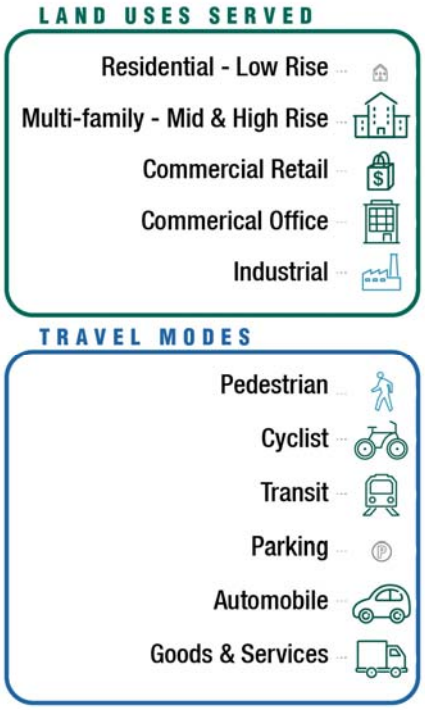


Figure 16 - Limited Access Arterial Example

CITY ARTERIALS

Intended to connect communities of Saskatoon, city arterials serve travel between the neighbourhoods and provide connections to and from freeways and expressways, serving large volumes of passenger cars and trucks. In many cases, they will include frequent transit services to local area land uses and travel across the city. In these cases, transit facilities should be accessible and attractive for people of all ages and abilities throughout the year.

Unlike limited access arterials, city arterials will maintain connections to surrounding land uses.

Land Uses	Integrated with mixture of retail, office, and residential
Modes of Travel	Passenger cars and heavy vehicles
	If transit is present, priority treatments required for stations and stops
	Multi-use pathways or sidewalks and protected bicycle lanes for pedestrians and bicyclists
Access	Community and Suburban Centre Arterials
	Access to individual properties to be managed
Built Form	Buildings should be street-oriented
	Building orientation could back the street but pedestrian linkages would be present
Examples	Idylwyld Drive between 20th and 38th Street
	25th Street east of Idylwyld Drive
	Central Avenue south of Attridge Drive

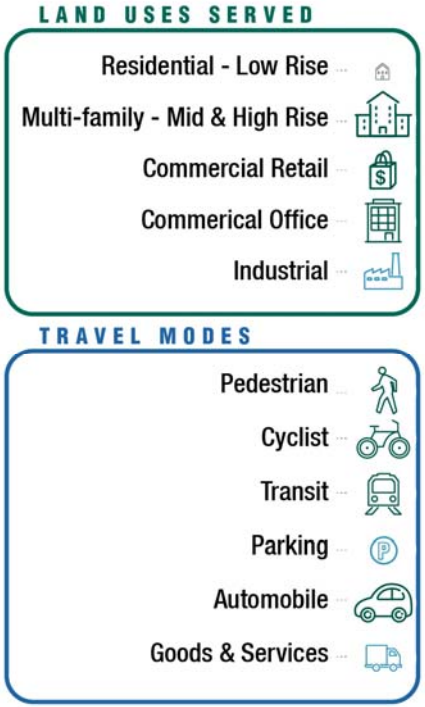


Figure 17 - City Arterial Example

COMMUNITY ARTERIALS

Community arterials serve travel needs between neighbourhoods in Saskatoon, rather than intra-city travel patterns. This street type is largely surrounded by and supports residential land uses, with small commercial nodes that are designed to serve local community needs.

Community arterials are designed to serve moderate volumes of traffic and support frequent, conventional and neighbourhood transit services. In many cases, these streets also form the spine of the active transportation system in Saskatoon with attractive and accessible pedestrian and bicycle facilities.

Land Uses	Medium to low density residential with commercial nodes
Modes of Travel	Passenger cars and transit Dedicated space for pedestrians and bicyclists Bicycle lanes and wide sidewalks Secondary route for delivery vehicles
Access	Other Arterials, Neighbourhood Connectors and Local Streets Direct access to adjacent land uses
Built Form	Residential buildings fronting the street Commercial nodes typically set back from the street with parking in front
Examples	Broadway Avenue south of 8th Street Taylor Street Avenues H, P, and W

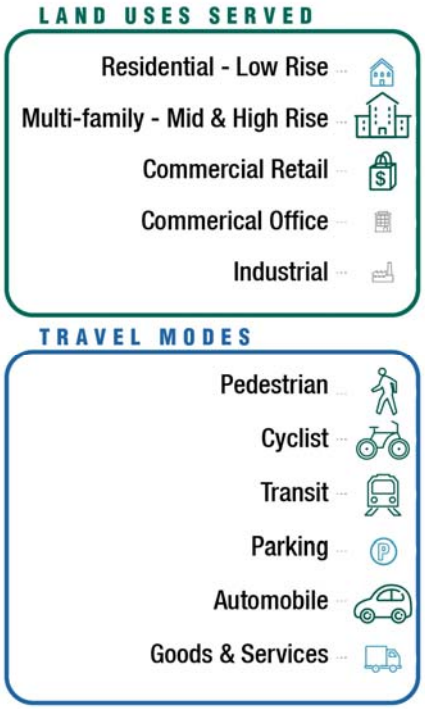


Figure 18 - Community Arterial Example

SUBURBAN CENTRE ARTERIALS

These are intended to support access to, from and within designated suburban centres from all areas of the city. Although most of these streets are generally auto-centric today, they need to provide multi-modal connections within suburban centres for large numbers of people walking, bicycling, driving and using transit. These street types will support frequent, and in some cases rapid, transit services planned for the city where dedicated lanes and unique stations may be integral to the corridor design.

Over time, land uses along suburban centre arterials may be closer to the street, but likely remain buffered by greenspace, sidewalks as well as multi-use pathways.

Land Uses	Surrounded by commercial, retail, and office with medium density residential
Modes of Travel	Passenger cars, frequent or rapid transit with transit priority treatments Dedicated pedestrian and bicycling facilities required
Access	Other Arterials, Neighbourhood Connectors and Local Streets Some access to larger parcels, other access through side streets
Built Form	Buildings located close to street, buffered by and integrated with greenspace and sidewalks
Examples	Primrose Drive Confederation Drive south of Milton Street McEown Avenue

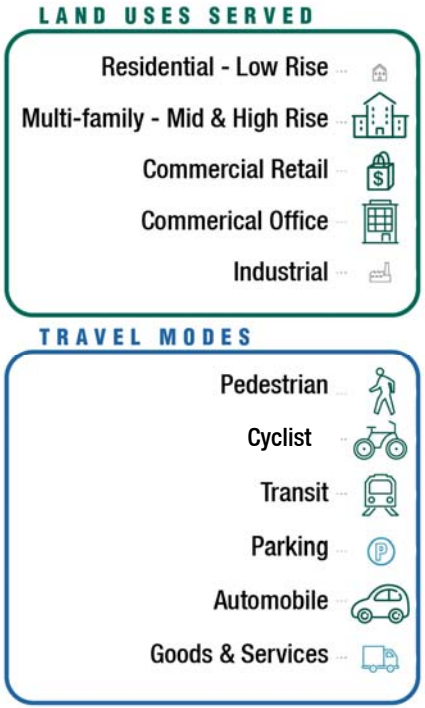


Figure 19 - Suburban Arterial Example

URBAN MAIN STREETS

Urban main streets will serve as the nucleus of local neighbourhoods and economies, providing residents with daily essentials that include businesses and services of all varieties. These streets are required to bring communities together, rather than function as barriers within them, therefore they need to support a vibrant public realm with street facing land uses.

Urban main streets may be of varying length and designed to prioritize walking, bicycling, transit, and in some cases, will accommodate short-term parking and loading for local shops and restaurants. In many areas, they will support the frequent and rapid transit services planned for Saskatoon. It is therefore essential that the street be accommodating to transit-oriented land use designs, with dense, mixed-uses surrounding the corridor and ground floor commercial retail uses.

Land Uses	Medium-density commercial, retail, office, and residential
Modes of Travel	Passenger cars and heavy vehicles permitted Priority treatments for pedestrians and bicyclists Along BRT corridors, dedicated bus lanes are essential with transit stations
Access	Other Arterials, Neighbourhood Connectors and Local Streets No direct vehicle access to land uses
Built Form	Buildings located close to and fronting street,
Examples	Broadway Avenue north of 8th Street 20th Street between Avenue E and Idylwyld Drive

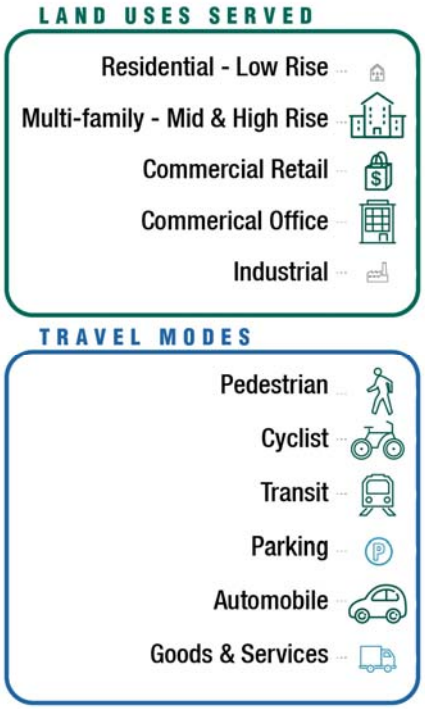


Figure 20 - Urban Main Street Example

DOWNTOWN COMMERCIAL STREETS

In Saskatoon, downtown commercial streets are concentrated in the City Centre and North Downtown areas and serve one of Saskatoon's primary employment areas, with a growing mixture of residential, retail and office land uses.

Although these streets can serve regional travel and their designs should support large volumes of traffic as well as frequent and rapid transit services, the streets themselves must be comfortable and accessible for people throughout the day and night. These downtown areas and streets are comprised of short blocks with crossings at intersections and mid-blocks as required.

The street design should reflect the character of the land uses and building architecture that surrounds downtown commercial streets.

Land Uses	Medium to high density mixed-use commercial, retail, office, and high density residential
Modes of Travel	Passenger cars and rapid transit with stations and priority treatments Priority treatments for pedestrians and bicyclists
Access	Closely spaced cross-streets and laneways or shared streets No direct vehicle access to land uses
Built Form	Buildings located close to and fronting street
Examples	Downtown Avenues including 1st, 2nd, 3rd, and 4th Downtown Streets 21st, 22nd, 23rd, and 25th

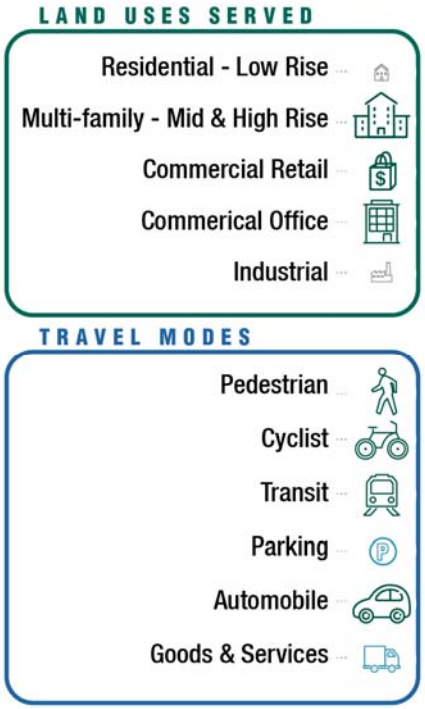


Figure 21 - Downtown Commercial Street Example

PARKWAYS

Generally characterized by long, uninterrupted stretches of roadway running alongside Saskatoon's open space corridors such as the South Saskatchewan River, parkways provide space for and support an extensive greenway system with trees that line much of the corridor.

With longer stretches of uninterrupted flow for traffic, it is essential to provide safe and accessible crossing locations for pedestrians and bicyclists. With limited land uses that directly surround parkways, transit is not typically provided along these corridors.

Land Uses	Park space and greenway
Modes of Travel	Passenger cars
	Multi-use pathways along corridor or sidewalks and bike lanes for pedestrians and bicyclists
Access	Limited or no access to adjoining land uses
Built Form	Few buildings with many trees
Examples	Spadina Crescent
	Saskatchewan Crescent

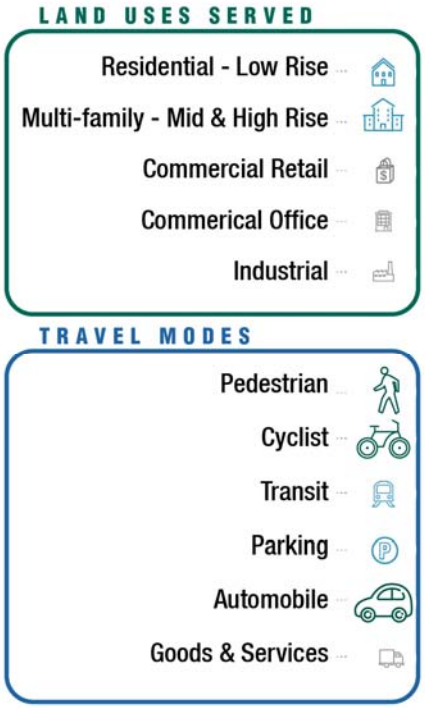


Figure 22 - Parkways Example

NEIGHBOURHOOD CONNECTORS

Neighbourhood connectors are through streets that traverse several neighbourhoods, carrying traffic within and between communities, and forming the spine of the walking and bicycling facilities connecting residential areas.

Neighbourhood connectors must balance the flow of people between neighbourhoods, and their street characteristics may be different across the City. They should generally be two lane roadways with comfortable and accessible pedestrian facilities as well as dedicated or shared space for bicyclists. Intersections should be designed for the comfort and safety of pedestrians and bicyclists.

Neighbourhood connectors will serve both conventional and community bus services connecting users to frequent and rapid transit corridors.

Land Uses	Low density residential with some connection to commercial activity
Modes of Travel	All modes with priority for pedestrians and bicyclists
Access	Local streets, arterials Driveway access
Built Form	Residential setbacks apply
Examples	29th Street West Stensrud Road Wilson Crescent

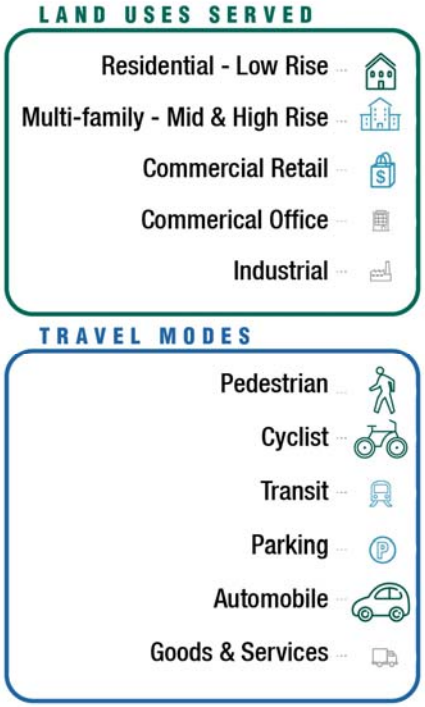


Figure 23 - Neighbourhood Connector Example

LOCAL STREETS

Typically surrounded by and providing access to residential land uses, local streets are perhaps the most abundant street type in the city, serving local trips, and characterized by having lower volumes of traffic traveling at slower speeds. These street types contribute toward the quality of life for area residents and are designed to maintain slow speeds as the streets are places to walk, bike and even play. Local streets provide connections to nearby parks and other community services as well as transit stops on the connector and arterial roadway system.

Local streets are generally narrow and do not serve through traffic. They are no more than two travel lanes with parking on one or two sides, depending on the road width.

Land Uses	Single and low density multi-family residential
Modes of Travel	Passenger cars with priority for pedestrians and bicyclists
Access	Neighbourhood Connectors, Arterials, Urban Main Streets Full driveway access
Built Form	Residential setbacks apply

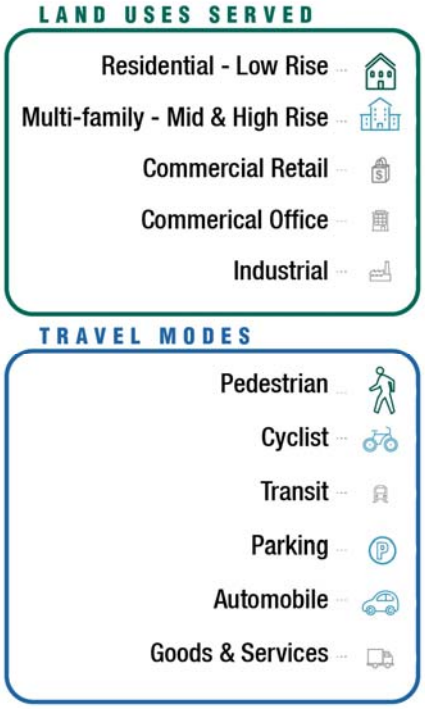


Figure 24 - Local Street Example

INDUSTRIAL STREETS

Providing access to and from the City's industrial areas, industrial streets are essential to support movement of goods and access for people working in these areas. These streets are essential for the City's economy both in established urban areas and the expanding North Industrial Area. They also need to provide transportation choices for area employees. Industrial zoning permits commercial and other land uses intended to support area businesses and industrial uses.

Industrial streets must generally support larger vehicles influencing the road width and turning radius at intersections. Additionally, these areas must be supported with attractive transit service and bicycling facilities, in addition to supporting comfortable and accessible pedestrian facilities.

When designing industrial streets, careful attention should be given to discourage and minimize cut-through traffic on nearby residential streets.

Land Uses	Light and heavy industrial
Modes of Travel	Heavy vehicle access is critical
	Buffered pedestrian and bicycle facilities
	Transit and sidewalk on both sides of street
Access	Full access to abutting properties
Built Form	Buildings set back from the street
Examples	Cynthia Street
	Faithfull Avenue
	Millar Avenue

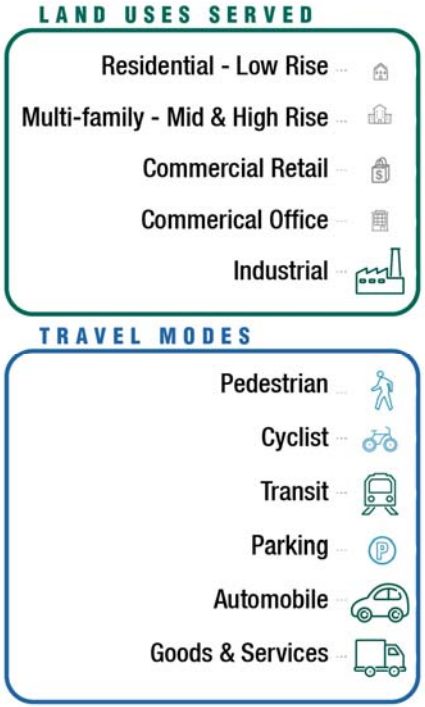


Figure 25 - Industrial Street Example

SHARED STREETS

Shared streets are provided in both residential as well as the downtown areas of Saskatoon. Within the downtown area, they provide access for service delivery vehicles, and support increasing numbers of walking and bicycling trips. Shared streets are used to access commercial buildings, office buildings, high rise residences, entertainment venues, and restaurants.

With their narrow width and limited delineation, shared streets are designed for slower speeds where all modes can safely intermingle. In the established downtown areas, street furnishings may be used to create attractive people places and increase street activity. In some cases, access to shared streets may be discouraged by passenger cars, with exceptions for taxis and other commercial vehicles. In residential areas, they provide access to rear yards and allow for service vehicles. They have not been designed for all users, but function as such.

Land Uses	High density commercial retail, office, and residential
Modes of Travel	Passenger cars, heavy vehicles, pedestrians, and bicyclists
Access	Full access to abutting properties
Built Form	Buildings located on or very close to property line

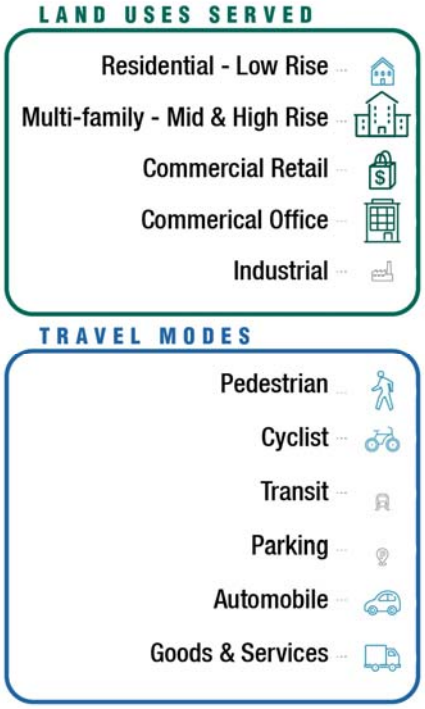


Figure 26 - Shared Street Example

For context purposes only, the street typologies that reflect specific functions for corridors as outlined in the **Growth Plan** have been broadly assigned to the City's existing roadway network and illustrated in **Figure 27**. In this regard, the street treatments described in **the Guide** may be applied to these street typologies when making capital investments or roadway rehabilitation as well as through redevelopment. The City should reference these street typologies when considering reclassification of the existing and new neighbourhood street systems.

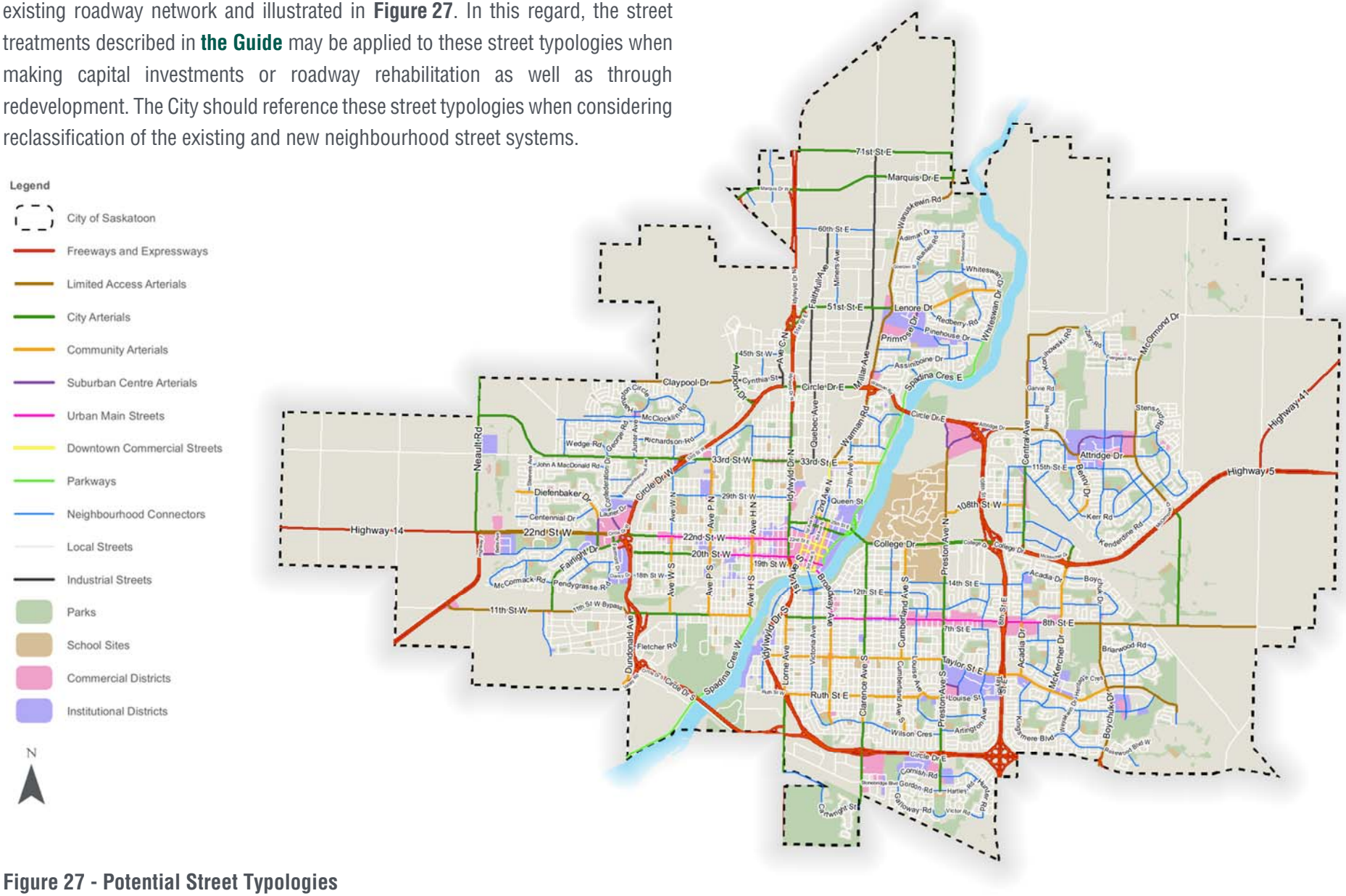
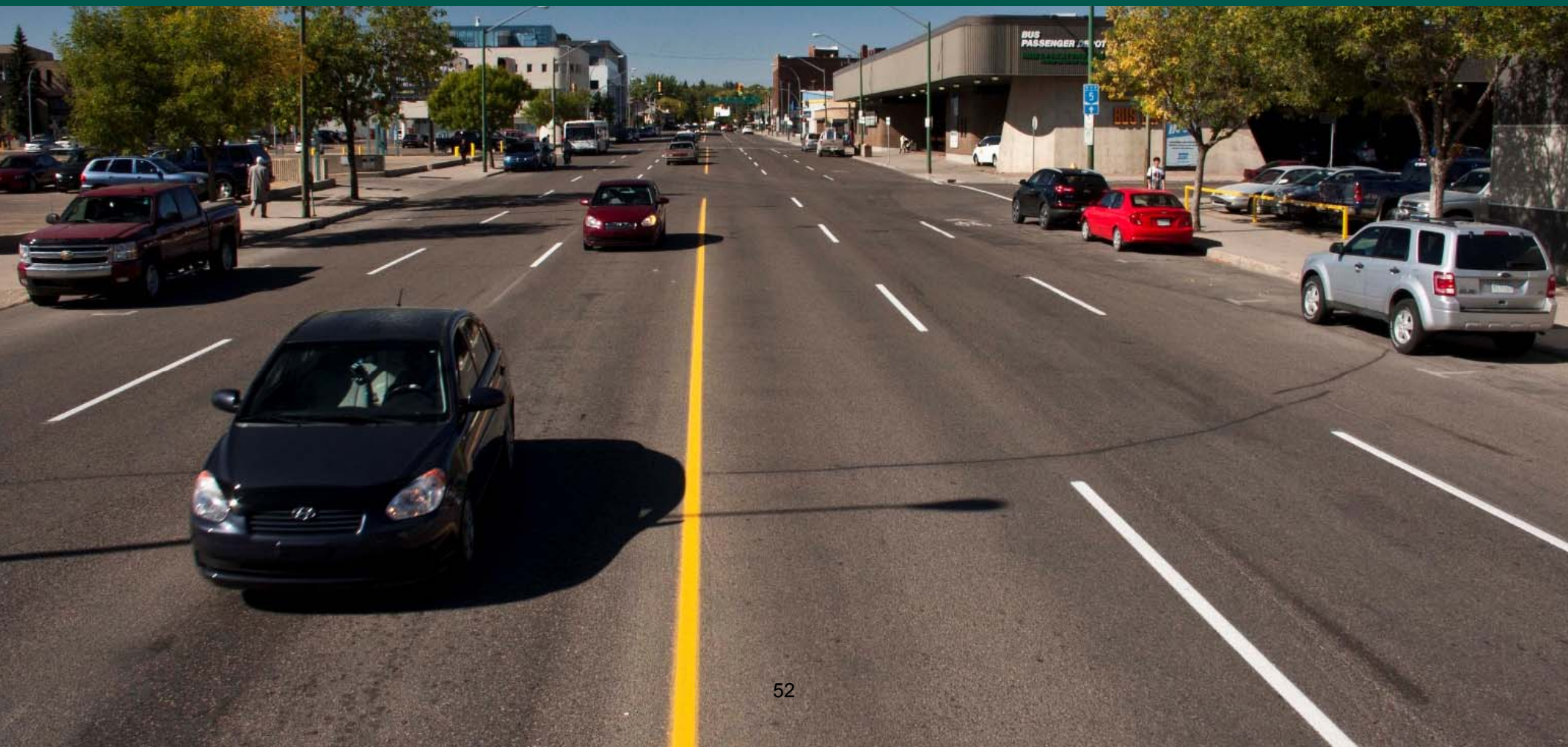


Figure 27 - Potential Street Typologies

PART 5: Toolkit for Complete Street Design



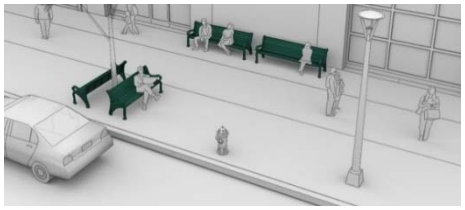
The design of streets in Saskatoon has evolved over the last 100 or so years. At one time, streets were designed for people to get around by streetcar, walking and bicycling. Street fronts and the uses that surrounded them were very much integrated with each other. As the City has grown, more and more people are driving and with vehicles increasing in size – particularly light and heavy trucks – street designs have become less friendly to people walking, bicycling and using transit. Additionally, land uses that surround these auto-centric corridors have turned away from the streets that serve them. With these land use patterns and street designs, fewer people are present on many of the major streets of Saskatoon.

Achieving the City's aspirations for sustainable growth, vibrant streets and a multi-modal transportation system requires a shift in how new streets are being built and changing the design of existing streets in Saskatoon. Within established areas of the City, roadways need to be redesigned over time through capital improvements focused on implementation of treatments for alternative modes. Completely rebuilding streets in Saskatoon to achieve a shift in modes is neither realistic nor practical. However, a 'toolkit' of complete street treatments may be used as a guide to achieve certain outcomes with certain street typologies.

This section of **the Guide** highlights some of the most important complete street treatments that will be critical to Saskatoon's success. The discussion of individual treatments is organized into three parts, including sidewalks (between the edge of curb and building or right-of-way), streets (between the street curbs) and intersections as summarized in **Figure 28**. For each treatment, conceptual illustrations are provided along with a description of the treatment and any specific design guidance and considerations for application in Saskatoon.

I. Sidewalks

- ✓ Sidewalk Areas
- ✓ Other Sidewalk Treatments



II. Streets

- ✓ Minimum Desired Lane Widths
- ✓ Transit Lanes
- ✓ Bicycle Facilities
- ✓ Neighbourhood Street Treatments
- ✓ Alternative Curbside Treatments

III. Intersections

- ✓ Intersection Geometry
- ✓ Pedestrian Facilities
- ✓ Bicycle Facilities
- ✓ Transit Priority

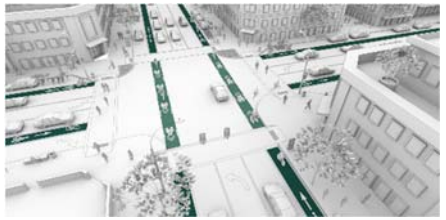


Figure 28 - Essential Complete Street Treatments

5.1 Sidewalks

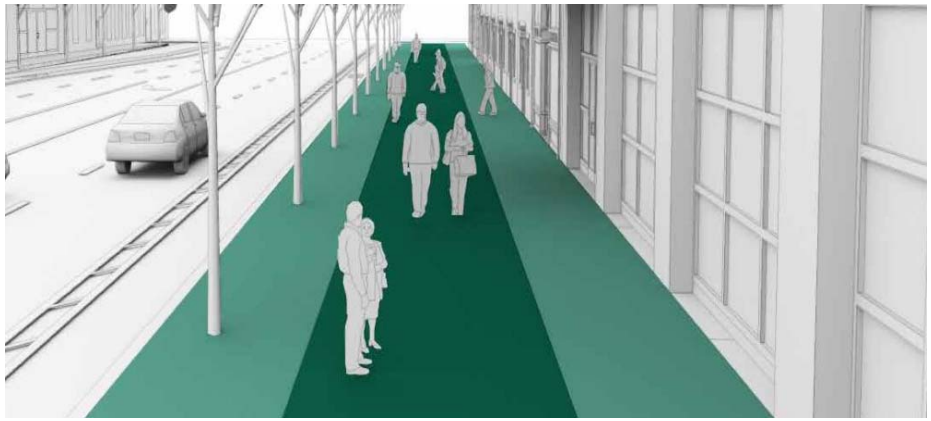
Every trip begins and ends with or is entirely made by walking. In their most basic form, sidewalks play a vital role in encouraging and facilitating people of all ages and abilities to get around the City. They can support a vibrant public realm and create a sense of place for people to interact, as well as connecting people on the street with adjacent land uses and enable us to use other modes such as bikes and cars as well as transit. Transit relies on an accessible and attractive sidewalk system to get passengers safely to and from their bus.

As part of the public realm, sidewalks will contribute to the vibrancy of urban areas in the City. They must be safe, comfortable and attractive to encourage people to linger and participate in face-to-face activities that in turn can support the businesses and community as a whole. Using the principles below, **the Guide** sets a high standard for accessibility, safety, comfort, aesthetics and environmental protection.

- ✓ **Accessible to All**. Regardless of age or physical ability, sidewalk areas and crossings must be supportive of people walking, using mobility aids, and/or pushing strollers. They must have continuous, unobstructed pathways for everyone to move.
- ✓ **All Weather Access**. Sidewalks should be capable of providing areas of shade during warmer months of the year and have neighbouring space for snow storage during winter periods.
- ✓ **Public Realm Opportunities**. Sidewalk areas can provide space beyond the walking realm for everything from benches and cafes to trees and awnings for sun protection.

5.1.1 Sidewalk Areas

Sidewalk area design must consider three sidewalk zones in terms of both size and allocation of space. Consistent with the street typologies, these choices must be influenced by the desired land use and transportation outcomes. **Figure 29** illustrates the three sidewalk zones that are briefly described below: Frontage Zone, Pedestrian Zone and Furnishing Zone.



Furnishing Zone | Pedestrian Zone | Frontage Zone

Figure 29 - Sidewalk Areas

- The **Frontage Zone** is the interface between buildings and the walking area on the sidewalk. On some street types, these zones can provide space for cafes, plazas and greenspace in front of buildings. This added space to the sidewalk area can be used to enhance activity and vibrancy of urban streets in the downtown area and urban centres across the City. On many streets, the frontage zone may include room for the installation of, and access to, the curb stop and other utilities.

- The **Pedestrian Zone** is identified by the sidewalk area, providing accessible, unobstructed space for people to move along the street. The sidewalk areas are typically made of concrete and the width should vary depending on the anticipated pedestrian activity. For accessibility, the minimum width of the pedestrian zone should not be less than **1.8m**.

- The **Furnishing Zone** provides buffer area between the Pedestrian Zone and street to increase the comfort and safety of pedestrians. This zone can also be used to support landscaping, snow storage, amenities and other active street furnishings such as seating, lighting, bike parking, etc. In the absence of a frontage zone this zone may be required to include utility access.

Although the allocation of sidewalk space must be considerate and supportive of accommodating desired modes of travel, the design must also be complementary to the land use character that immediately surrounds the corridor and desired public realm along the street. The following descriptions highlight the desirable allocation of sidewalk areas in general terms for each street typology. These guidelines can be used to refresh design standards for new and existing streets in Saskatoon. It should be noted that sidewalk areas are not provided on freeways and expressways or shared streets typologies, and thus not described in **the Guide**.

LIMITED ACCESS ARTERIALS

City arterial streets (limited access) in Saskatoon support large volumes of higher speed traffic across the City. Land uses surrounding the corridor are often set back from these major streets and pedestrian access is generally along side streets. Sidewalks today are typically limited to one side only with the expectation of installation on both sides as future redevelopment occurs or as part of local area changes. In support of transit services, sidewalks are recommended on both sides of limited access arterial streets. The pedestrian zones on these streets should be a minimum of **2.5m** wide, with a **1.5m** wide furnishing zone and a minimum **1.2m** frontage zone.

Figure 30 – Limited Access Arterial Streets

CITY & SUBURBAN CENTRE ARTERIAL STREETS

City arterials and suburban centre arterial street types are typically two lane or four lane roadways supporting moderate traffic volumes and serving access to nearby properties. Sidewalks are desirable on both sides of the street as many will be surrounding active land uses and served by transit. The pedestrian zones should be a minimum of **2.5m** wide, with a minimum **1.75m** wide furnishing zone consisting of grass and utilities to buffer pedestrians from the adjacent street. The frontage zone should depend on building setbacks and landscaping requirements.

Figure 31 - City & Suburban Centre Arterial Streets

COMMUNITY ARTERIAL STREETS

Community arterial streets serve travel needs between neighbourhoods in Saskatoon. This street type is largely surrounded by and supports residential land uses with small commercial nodes. Sidewalks are desirable on both sides where moderate levels of traffic, transit service, bicycling, and walking is supported as well as on-street parking. The pedestrian zone on this street type should be a minimum of **1.8m** wide, with a **1.35m** furnishing zone for utilities and separation from adjacent street traffic on streets without on-street parking. On streets with on-street parking, where no furnishing zone is provided, the frontage zone may be a minimum of **1.55m**.

Figure 32 - Community Arterial Streets

DOWNTOWN COMMERCIAL/URBAN MAIN STREETS

Many downtown streets in Saskatoon already support vibrant street fronts with space for walking, leisure activity and other street functions. As the **Growth Plan** is realized, urban main streets will extend across the City along high priority growth and rapid transit corridors. As the most vibrant and walkable areas of the City, wide pedestrian zones of unobstructed area are essential for accommodating high volumes of pedestrians.

The furnishing zones should be wide enough to support street functions such as parking meters, street furniture and bike parking in addition to trees and landscaping. The frontage zone should be supportive of, and provide access and visibility to the land uses that line the downtown commercial and urban main streets. The minimum widths for the pedestrian zone, furnishing zone, and frontage zones should be **2.5m**, **1.75m**, and **1.0m** respectively.

Figure 33 - Downtown Commercial/Urban Main Streets

NEIGHBOURHOOD CONNECTORS & LOCAL STREETS

Neighbourhood connectors and local streets support local walking to adjacent properties as well as passing through the community. Today, most of these street types have sidewalks on both sides with low and medium density residential uses surrounding them. With on-street parking permitted on one or both sides, the sidewalk width should be a minimum of **1.8m**, with a minimum **0.5m** furnishing zone to provide separation from the street.

Figure 34 - Neighbourhood Connectors & Local Streets

INDUSTRIAL STREETS

Sidewalk coverage in industrial areas of the City today is limited. Many of these areas are served by transit, and have commercial and institutional land uses that generate walking trips. A lack of sidewalks presents barriers to walking and accessing transit, but also increases safety exposure for pedestrians and limits accessibility.

The pedestrian zone on this street type should be a minimum **1.8m** wide, with a minimum **0.5m** furnishing zone. Bollards may be used to protect pedestrians where turning vehicles can present safety issues at driveways to adjacent properties. Loading docks and driveways that cross sidewalks should be clearly delineated and accessible for pedestrians.

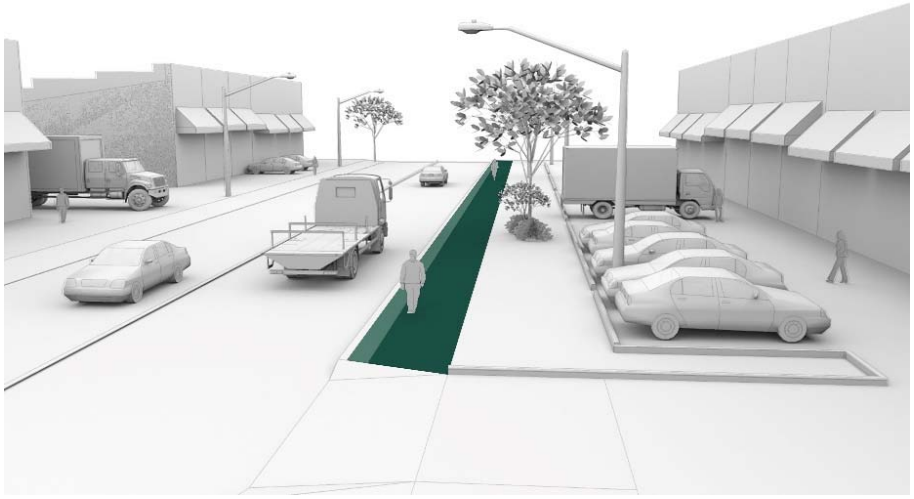


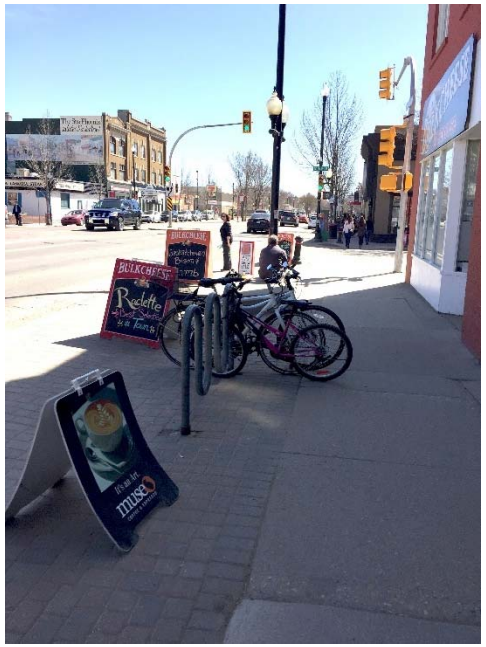
Figure 35 - Industrial Streets

5.1.2 Other Sidewalk Treatments

Sidewalk area designs must go beyond providing the basic treatments. Pedestrians and businesses thrive where larger sidewalk areas are provided with amenities such as landscaped buffers from the street, lighting, seating, and shade. Conversely, sidewalk areas that are cluttered with too many facilities and poorly designed treatments can impact accessibility and mobility for everyone. In turn, this can have a negative impact on the surrounding land uses that may be less accessible and inviting to visitors.

The sidewalk area also serves other essential functions to accommodate facilities for other modes of travel. Functional treatments in the furnishing zones for seating, bus stops, and shelters as well as bicycle parking can make the urban areas of Saskatoon more accessible and attractive for other modes.

This section of **the Guide** identifies a selection of design treatments for the frontage and furnishing zones that are critical to the success of most urban main street, suburban centre arterial, and downtown commercial street typologies.



SEATING

Comfortable places to sit in urban areas are essential. It gives people an opportunity to rest, wait for others and/or socialize. Well-designed areas with seating can serve as a gathering place for people and a vital part of the public realm for active streets.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	
Suburban Centre Arterials	
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

Key Design Considerations:

- Seating can be provided in a variety of forms including chairs, benches, planters, and steps
- Public seating can be located either in the furnishing zone of the street and/or the frontage zone adjacent to building areas
- Seating must be located in protected areas away from the typical flow of pedestrians
- The location of seating must not affect mobility and accessibility of the pedestrian zone
- Benches should ideally be separated from the adjacent parking and travel lanes ❶ and placed at the pedestrian zone edge
- Where possible, physical barriers and/or landscaping should be part of the separation between the street and seating areas
- Benches should also be separated from other street furniture such as lighting, trees, and hydrants
- Some benches should be provided with armrests for those requiring stability while seating and rising, and some without to assist those in wheelchairs
- Seating should be separated from the pedestrian zone, away from building entrances, and not connected to adjacent buildings. ❷

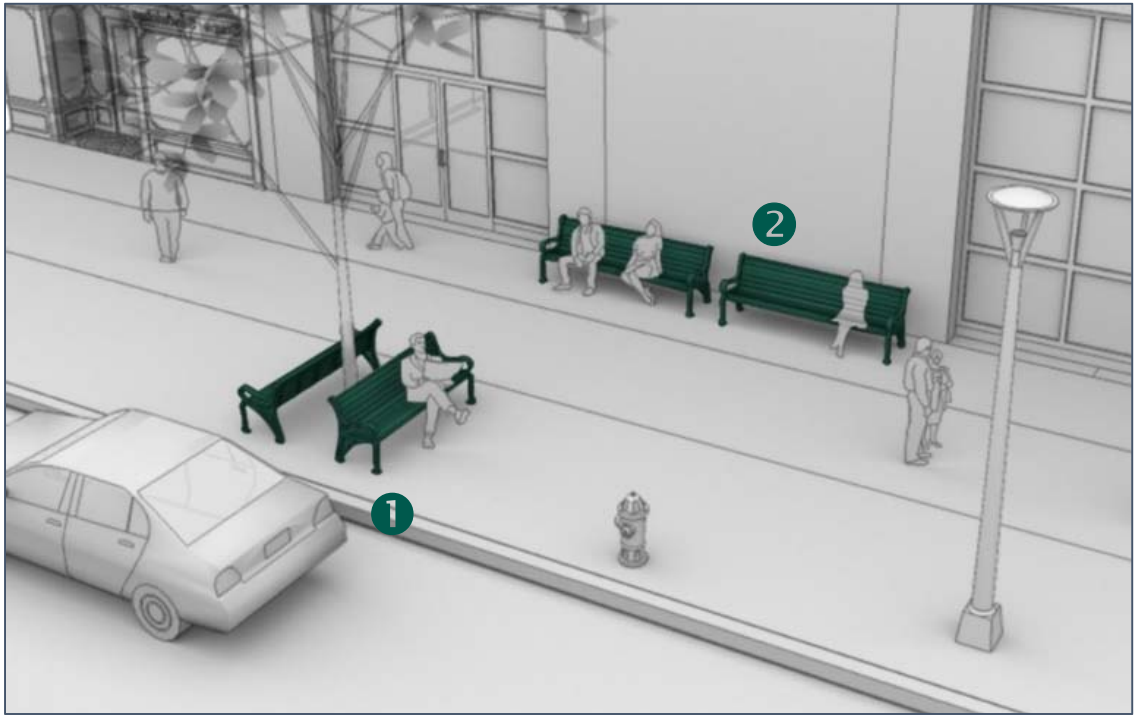


Figure 36 - Seating

BICYCLE PARKING

Visible on-street bicycle parking is essential for urban areas of Saskatoon to increase the bicycling mode share. Whether for short visits to shops, to pick something up, or longer-term stays, on-street bike parking should be designed to provide a safe, visible place to store bikes.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

Key Design Considerations:

- Bicycle parking is ideally suited to non-residential streets of the City where bicycling demand is highest
- Bicycle racks in sidewalk areas should only be considered where there are no space constraints that may impact accessibility of the pedestrian zone
- Bicycle rack designs should support the frame of the bike at two points, provide access for different bike sizes/designs, allow locking at two locations, and be easily accessible
- No matter the size or number of bicycle stalls provided, bicycle racks must be installed so that parked bicycles do not block either the pedestrian zone or safe access to the adjacent curb
- Bicycle racks should be set back slightly from the adjacent curb of the street ❶
- Racks should be installed to park bicycles at a 45-degree angle or more from the curb within the furnishing zone
- When provided individually, multiple bicycle parking racks should be sufficiently separated to permit access from both sides and separated from adjacent street furniture ❷ and hydrants ❸

Figure 37 - Bicycle Parking

CONTINUOUS, LEVEL SIDEWALKS ACROSS DRIVEWAYS

Regardless of the design, pedestrians on sidewalks have priority over vehicles entering and exiting driveways. Driveways can either cross the sidewalk area or create a break in the sidewalk to support vehicle access entering and exiting adjacent properties. By design, this treatment can unintentionally give vehicles the priority over pedestrians crossing their path and increase exposure for those walking. Furthermore, changing sidewalk grades across driveways can make it difficult for people using mobility aids.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

Key Design Considerations:

- In high pedestrian areas of the City, pedestrian zones of the sidewalk area should be designed with a continuous grade across driveways and laneways
- If the sidewalk is concrete, the surface treatment should not depress to better accommodate vehicles travelling across the path of pedestrians
- The design of driveways in these areas should encourage drivers to always look for, and expect to yield to, pedestrians
- The pedestrian zone should be of continuous width across the driveway for a consistent pedestrian experience
- The furnishing zone between the pedestrian zone and street should form the apron area for vehicles to cross the sidewalk
- In constrained areas where the furnishing zone is not sufficient width, a curb extension may be considered where on-street parking is present

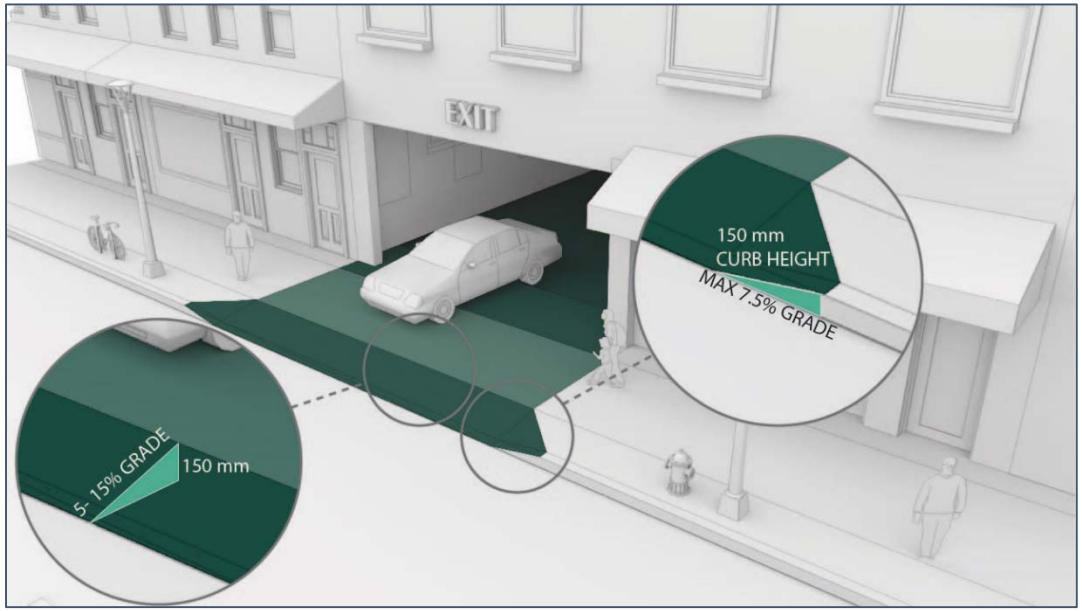


Figure 38 - Continuous, Level Sidewalks Across Driveways

BUS STOP / SHELTERS

Sidewalk areas provide space for transit passengers to wait for buses at stops and support other transit amenities such as passenger information, lighting, seating, trash receptacles, and shelters.

Key Design Considerations:

- Ideally, bus stops and shelter areas are located within the furnishing zones, clear of the pedestrian zone
- They should be designed to be safe, convenient, and accessible for passengers of all mobility levels
- For most of the City, the length of transit stops should be designed to support access for conventional, and articulated buses on major roadways such as city arterials, suburban centre arterials, urban main streets and downtown commercial streets
- Near-side intersection and far-side intersection stops require sufficient space between the corner and the nearest parking stall
- For express bus services and stops on major roadways, far-side bus stops are preferred unless constrained by space and/or to support near-side transfers to cross-street routes
- Conventional stops should be set back from intersections and equipped with landing zone for passengers to enter and exit the bus ❶
- Landing zones should be provided for all doors, clear of obstruction and allow for sufficient space between the edge of curb and the pedestrian zone
- Bus shelters are typically considered where passenger activity is highest. The designs are determined on a site-by-site basis
- Shelters at most bus stops in Saskatoon are varied, but typically enclosed on three sides with access from the sidewalk and protection from the adjacent street
- When behind the sidewalk, shelters should be off-set slightly from the property line, and separated from any building structure
- For nearside stops, shelters should be separated from nearby cross-walks so as not to impact driver sight lines.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	✓
City Arterials	✓
Community Arterials	✓
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	✓
Local Streets	
Industrial Streets	✓
Shared Streets	

Figure 39 - Bus Stop/Shelter

SIDEWALK CAFES

Sidewalk cafes can be encouraged where commercial activity is highest on main street and downtown commercial street types. The extension of restaurants into the public way brings activity to the street and forms an important part of the public street realm.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	
Suburban Centre Arterials	
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

Key Design Considerations:

- Sidewalk Cafes are regulated by the **City of Saskatoon Zoning Bylaw No. 8770,** by the **Use of Sidewalk, Boulevards and Parking Stalls – Vending Policy No. C09-013,** and by the **Sidewalk Café and Parking Patio Guidelines**
- Licenses for sidewalk cafes are issued through the City of Saskatoon Business License Program. The review and approval process involves input from other internal and external departments including the Health Region, Police, Fire, Transportation, Planning and Development, and the local Business Improvement District. As relevant Saskatchewan Liquor and Gaming Authority is also consulted
- Sidewalk cafes must be designed clear of the pedestrian zone to ensure adequate movement and accessibility for all mobility levels
- The width of a sidewalk café should be of consistent width, extending along the full frontage of the restaurant ❶
- The entrance through to the front door should remain clear of furniture ❷
- If alcohol is served at the sidewalk café business, barriers must be provided and attached to the ground
- Awnings, umbrellas and/or heat is desirable for weather protection and to increase functionality
- Landscaping of a temporary nature, and high-quality street furniture to increase functionality and visual aesthetics is encouraged, and must be removed at the end of season

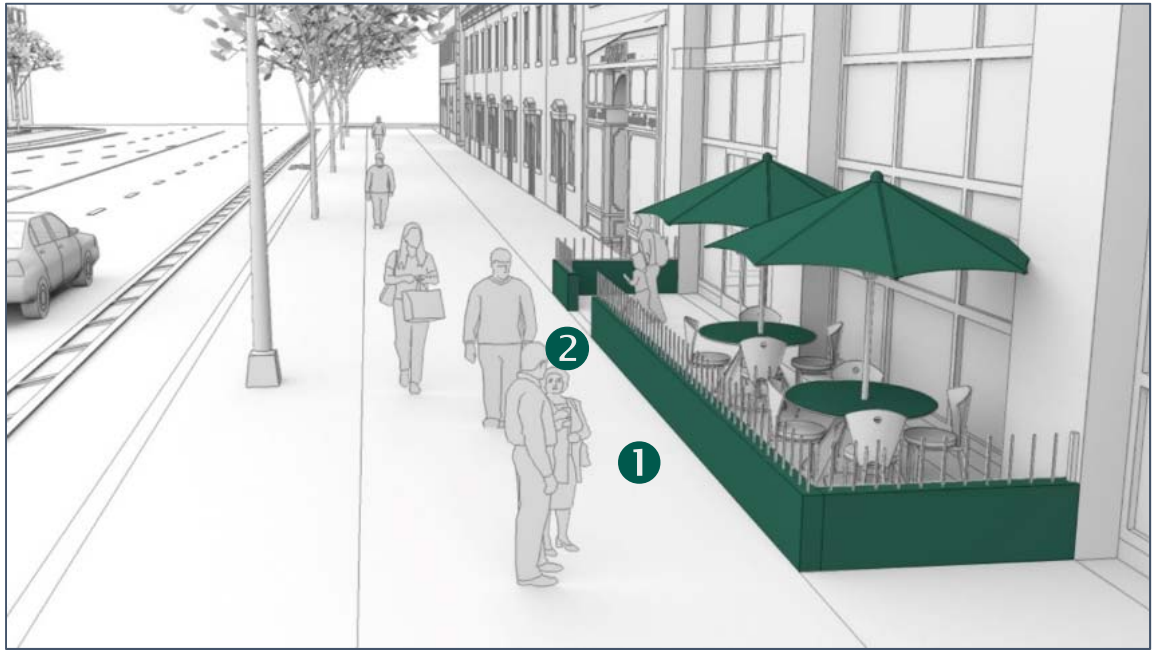


Figure 40 - Sidewalk Cafes

PLAZAS

Plazas can provide additional walking space for pedestrians, and add vibrancy to the public realm on many urban streets in downtown Saskatoon. Plazas can either be created as part of the public right-of-way or connected with private development. Ideally, they should be located adjacent to transit hubs or other pedestrian generators, and should be easy to access from all sides. Larger plazas – such as in front of City Hall – can and should host activities such as markets, art displays, culture performances, and other community events.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	
Suburban Centre Arterials	
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

Key Design Considerations:

- The plaza design should be an extension of the sidewalk area adjacent to, and part of the pedestrian zone. By extension, plazas can also encourage walking trips both destined to the adjacent site and as a short-cut
- Design considerations should include, but not be limited to wayfinding signage, permeable surface materials/landscaping, bicycle parking, seating, gathering areas, and space for events and/or food services
- Permanent displays of public art or cultural amenities within the Plaza should be encouraged to create an identity for the area while encouraging displays of local talent.
- Plazas should provide a variety of seating choices such as benches, low walls, stairs, and landscaping containers
- Bicycle parking racks may be encouraged in and around plazas if they are visible and do not restrict accessibility

Figure 41 - Plazas

5.2 Streets

Streets make up a significant portion of all public space in most cities. They are the lifeblood of communities, supporting economic and social interactions. Streets support mobility for people, be it by car, transit, biking or walking. They support access to goods and services within and beyond Saskatoon, and economic interactions for many businesses. Increasingly, streets are serving the needs of different travel modes and for varied purposes.

In the established and growing areas of the City, street designs have increasingly favoured larger vehicles. This has created barriers for other modes. Wide streets that prioritize large vehicles create comfort and safety issues for the most vulnerable people on our streets, bicyclists and pedestrians. If goals for increased walking, bicycling, and transit are to be realized, the allocation and design of street space must change.

This section of **the Guide** provides a 'toolkit' of treatments for accommodating bicycles, transit, and vehicles within the street environment. **The Guide** also considers other uses of the street to support vibrancy and an active street environment. Recognizing that space is limited in much of the established street system, trade-offs must be considered for different modes and needs to support adjacent land uses. No single template or cross-section will work effectively in all situations.

The design of streets in Saskatoon must not only consider today's needs, but aspirations for the future. Fortunately, these changes may not need to happen all at once. Space can be incrementally altered in phases to achieve the ultimate configuration or long-term goals.

5.2.1 Bicycle Facilities

With Saskatoon's population expected to double to half a million people, change in the City is inevitable. The City's **AT Plan** provides transportation options designed to improve accessibility, comfort, and safety of walking, bicycling, and other forms of active transportation in Saskatoon.

Providing a complete and interconnected network of bicycle facilities throughout Saskatoon is critical to supporting and encouraging more people choosing to cycle. Expanding and enhancing Saskatoon's bicycle network includes upgrading existing facilities, ensuring that new neighbourhoods have adequate places for bicycling, and addressing gaps in the existing network. The **AT Plan** supports the principles of creating a quality bicycle network for All Ages and Abilities (AAA) with facility types that will increase comfort for more people in the community.

This Guide provides design and application guidance on two basic forms of bicycling facilities: exclusive facilities where roadway space is designated for bicyclists; and shared facilities where roadway space is integrated. The selection and design of different bicycling facilities must recognize that bicyclists are vulnerable road users that can be seriously injured in even minor collisions.

MULTI-USE PATHWAYS

The City's natural beauty and abundance of multi-use pathways encourage residents to bicycle as a form of commuting, exercise and leisure. Much of the existing network in Saskatoon is made up of paved multi-use pathways located along the Meewasin River Valley and along street right-of-ways.

Multi-use pathways are an integral part of the City's planned AAA bicycling network intended to encourage a broad cross-section of people to bicycle. A system of multi-use pathways has been identified as part of the AAA network along corridors where sufficient right-of-ways are available, parallel to major arterials with limited driveway access. Planned multi-use pathways that have been identified in the Meewasin Trail Study have also been recognized in the **AT Plan**.

Street Typology	Primary Application
Freeways & Expressways	✓
Limited Access Arterials	✓
City Arterials	✓
Community Arterials	
Suburban Centre Arterials	
Urban Main Streets	
Downtown Commercial Streets	
Parkways	✓
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

Key Design Considerations:

- Used where there is sufficient space in the public right-of-way as well as a limited number of intersections, alleyways, and driveways
- Must accommodate and manage conflicts between all permitted users such as bicyclists, pedestrians, and skateboarders
- Standard markings and signage are required along the pathways to identify safety hazards, remind users to keep right except to pass, yield to people walking, and yield at intersections
- Consider design treatments that ensure proper sight-lines to reduce potential for collisions on multi-use pathways and at intersections
- Provide lighting to improve visibility and safety
- The width of a multi-use pathway depends on the volume of bicyclists and pedestrians
- Monitor usage through provision of automated counters along pathways
- Multi-use pathways should be cleared of snow in the winter
- Centrelines should be considered once the number and mix of users requires it

Figure 42 - Multi-Use Pathways

PROTECTED BICYCLE LANES

Protected bicycle lanes are designed to physically separate people bicycling from motor vehicles. There are several design options for this type of infrastructure including installing them at the same grade of the adjacent sidewalk but separate from pedestrian areas, or at street level and separated from vehicles by a barrier. A dense network of protected bicycle lanes has been recommended within the downtown core as this will accommodate the high demand for and potential growth of bicycling within the area. Protected bicycle lanes are part of the AAA bicycling network providing direct access to downtown Saskatoon and other commercial centres throughout the City.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	✓
City Arterials	✓
Community Arterials	
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

Key Design Considerations:

- Protected lanes are recommended on streets with larger blocks and limited residential and commercial driveways
- Suggested on corridors with high bicycling potential
- Protected bicycle lanes are typically used on multi-lane streets with higher traffic volumes
- Bicycle lane symbol should be used to define dedicated space for bicyclists
- Barriers used to separate bicyclists can include features such as bollards, curbs, or planters and should be marked by two solid white lines with diagonal hatching ❶
- The width of a one-way protected bicycle lane should be sufficiently wide to support higher speeds and avoid catch basins along the curb ❷
- All-year maintenance, including snow clearance of protected bike lanes on busy routes, should be a priority and considered during design

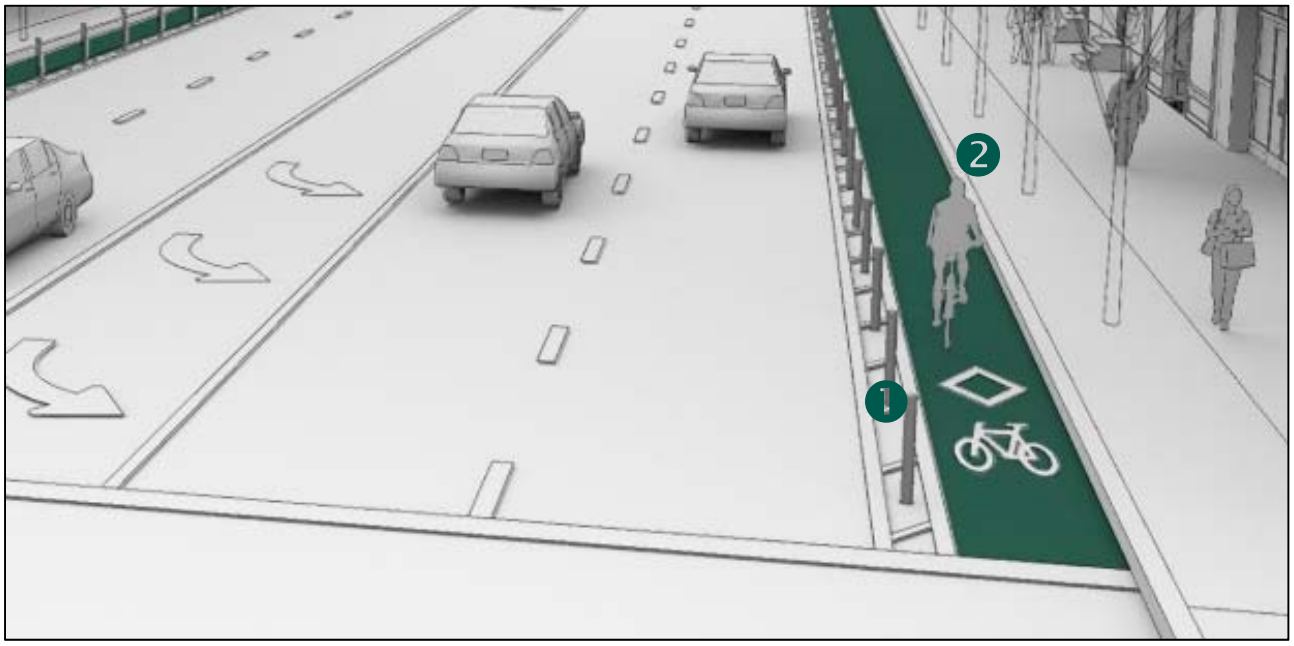


Figure 43 - Protected Bicycle Lanes

BICYCLE LANES (OPTIONAL BUFFER)

Conventional or buffered bicycle lanes are similar to protected lanes in that they are separated from the adjacent travel lane. Unlike protected bike lanes, buffered bicycle lanes do not provide physical barriers such as bollards, curbs or planters, and are generally considered more comfortable than conventional painted bicycle lanes due to the spatial separation between bicyclists and adjacent traffic lanes. Conventional and buffered bicycle lanes are not considered AAA bicycling facilities.

Key Design Considerations:

- May be used anywhere a AAA facility is determined as not necessary or there is limited space
- Suggested on corridors where vehicle speeds and volumes are high and there is on-street parking
- May be used on streets with two or more lanes
- Bicycle lane symbol should be used to define dedicated space for bicyclists
- Buffers may be placed either between the bicycle lane and the motor vehicle lane or between the bicycle lane and parked vehicles, or both
- Buffer area should be marked by two solid white lines with diagonal hatching ❶
- The width of a one-way conventional or buffered bicycle lane should be consistent across the City ❷
- Limited use on roadways with several driveways to adjacent properties
- Coloured asphalt or paint may be used to highlight prominence of bike lanes at intersections and conflict zones including laneways and driveways
- All-year maintenance, including snow clearance of bike lanes on busy routes, should be a priority and considered during design
- Buffered bicycle lanes are preferred on 4 or more lane roadways, and lanes without a buffer can be used on 2/3 lane roadways

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	✓
Community Arterials	✓
Suburban Centre Arterials	✓
Urban Main Streets	
Downtown Commercial Streets	
Parkways	✓
Neighbourhood Connectors	
Local Streets	
Industrial Streets	✓
Shared Streets	

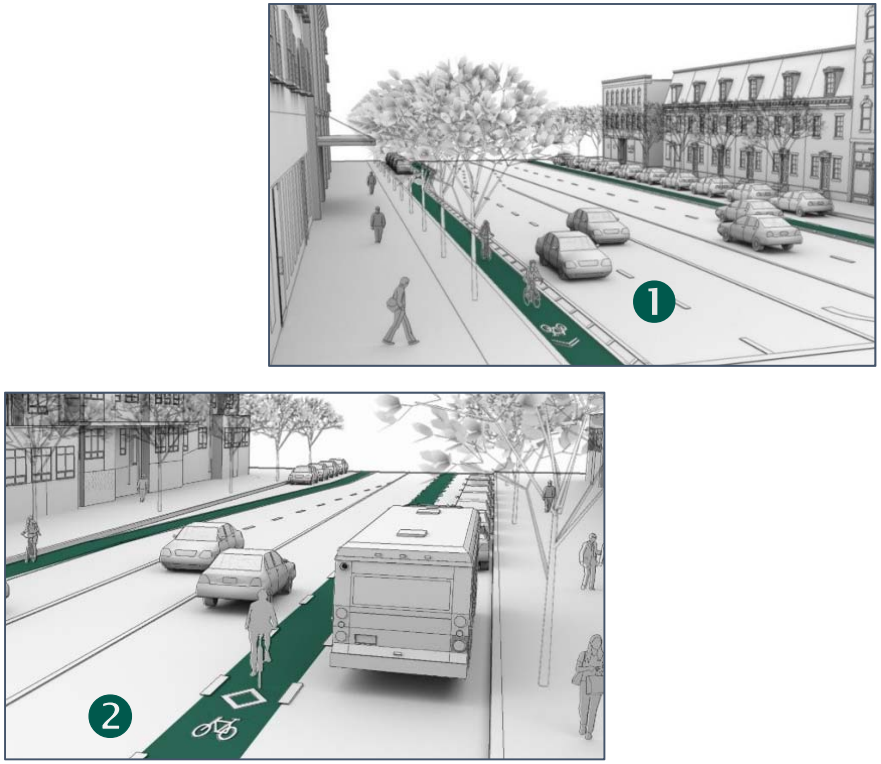


Figure 44 - Bicycle Lanes (Optional Buffer)

BICYCLE BOULEVARDS

Bicycle boulevards are recommended on streets with low volumes and speeds that typically serve neighbourhood travel. Most applications of bicycle boulevards provide an alternate route where bicycle facilities on parallel arterial streets may not be appropriate. Bicycle boulevards are shared roadways with operating conditions that prioritize people bicycling on the street and that have been designed to limit exposure to motor vehicles.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	
Suburban Centre Arterials	
Urban Main Streets	
Downtown Commercial Streets	
Parkways	
Neighbourhood Connectors	
Local Streets	✓
Industrial Streets	
Shared Streets	✓

Key Design Considerations:

- Bicycle boulevards are critical to achieving the goals for the AAA bicycling network by providing a high standard of safety and comfort to a broad cross-section of people
- Bicycle boulevards are most suitable for roads classified as local streets or shared streets with less than 2,000 vehicles per day
- Bicycle boulevards should have signs, pavement markings, traffic calming measures and specialized crossing treatments that calm traffic and discourage through-trips by motor vehicles
- As part of the AAA bicycle network, bicycle boulevards should be priority routes for snow removal to bare asphalt within 24 hours of snowfalls
- An important component of bicycle boulevards are intersection treatments with major roadways
- Vehicle movements may be restricted to discourage shortcutting vehicles and maintain low traffic speeds and volumes

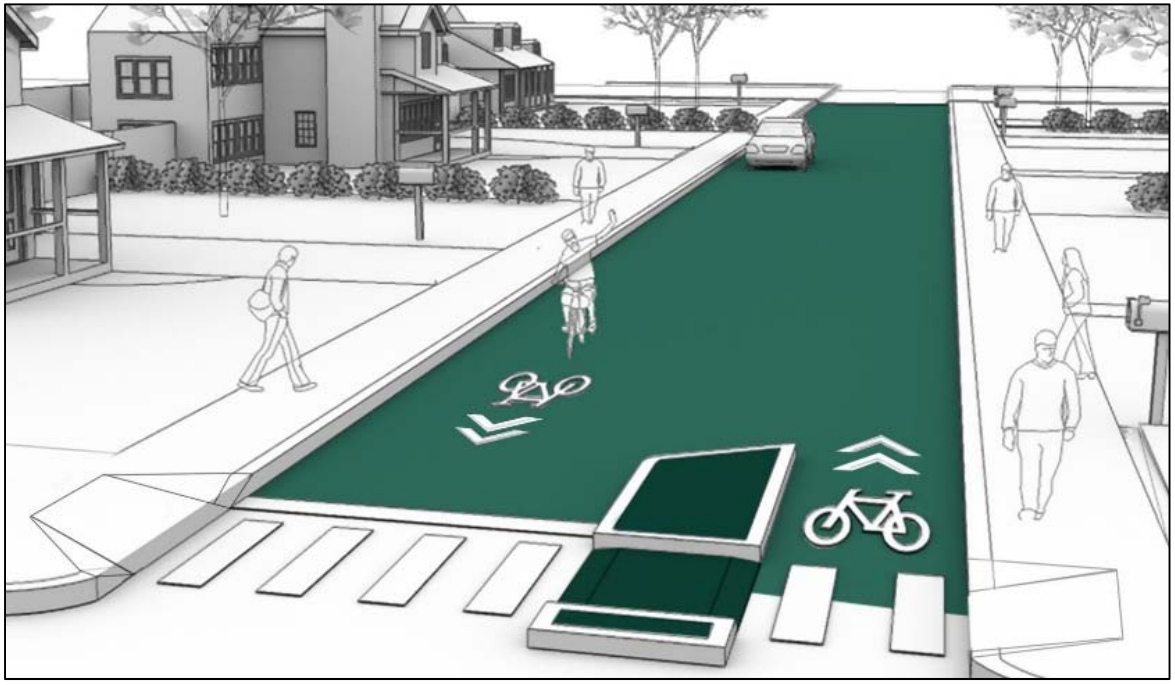


Figure 45 - Bicycle Boulevards

SHARED-USE LANES

Where it is not feasible or appropriate to provide separated bicycle lanes, there may be some streets where bicyclists, motorists, and transit vehicles share travel lanes. Saskatoon has historically utilized shared lanes throughout downtown. Marked shared bicycle lanes are indicated by specific bicycle symbol called shared lane markings or 'sharrows.' Sharrows are meant to remind road users that bicycles will share the street lanes as a vehicle when facilities are not present. **The AT Plan suggests that no additional shared-use lanes be installed as every street in Saskatoon has shared use space for people driving, riding transit or bicycling**.

Key Design Considerations:

- Although the **AT Plan** does not promote implementing additional marked shared lanes, they are recognized in this toolkit for maintenance purposes and where other treatments may not be viable
- Should not be used on streets with greater than 50km/hr speed limits, or where traffic volumes are higher than 5,000 vehicles per day
- Shared lane markings should be placed on a location that is outside the door zone of parked vehicles
- Consider removal of travel and/or parking lanes as well as median areas to accommodate a bicycle lane before using marked shared use lanes
- Marked shared use lanes are flexible to the presence of on-street parking and driveways

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	
Suburban Centre Arterials	
Urban Main Streets	
Downtown Commercial Streets	
Parkways	
Neighbourhood Connectors	✓
Local Streets	✓
Industrial Streets	
Shared Streets	

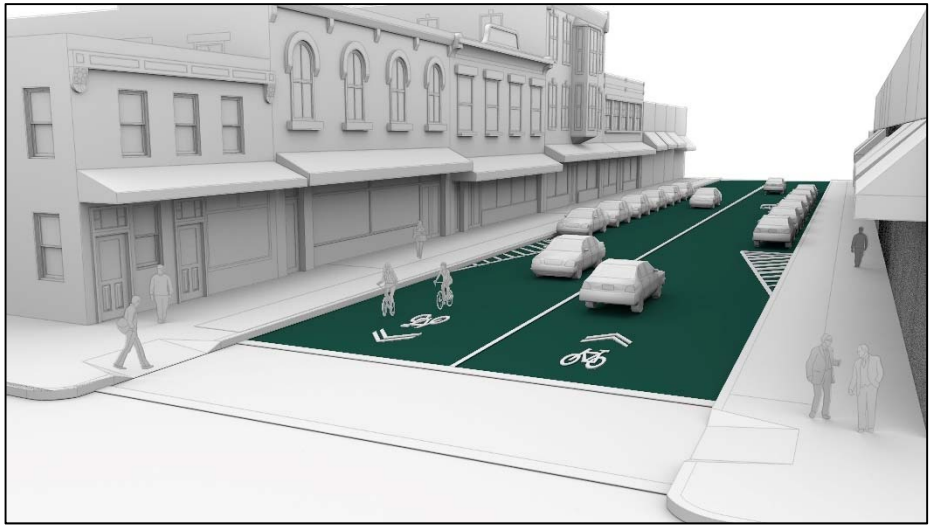


Figure 46 - Shared Use Lanes

5.2.2 Transit

Ultimately, rapid transit is intended to provide attractive transportation choice while at the same time shaping and supporting higher density growth with a mixture of land uses. Rapid transit systems are also unique from the rest of the transit system providing identifiable corridors, mostly or entirely separated travel lanes, and enhanced transit stations for the comfort of passengers.

Saskatoon's **Growth Plan** identifies Bus Rapid Transit (BRT) corridors that will form the spine of the transit system. As bus service increases across Saskatoon, more routes will be directed toward the Red Line BRT illustrated in **Figure 9**. Blue Line BRT will be implemented as required. Customers will experience a bus every 5 minutes along major corridors such as 22nd Street, College Drive, Preston Avenue, and 8th Street. In the long-term, the Red Line BRT corridor will provide approximately 22 km of bus-only lanes and 25 stations between Blairmore, University Heights and Holmwood, with direct connections to the Downtown and University areas.

The following discussion within this section of **the Guide** describes the three forms of bus lanes – curb, centre and side running. In most communities, curb bus lanes are often the starting point for higher capacity BRT facilities. In turn, the higher capacity facilities such as centre and side running may eventually be the pre-condition to Light Rapid Transit if ridership increases significantly.

CURB BUS LANES

Curb bus lanes operate on the right side of multi-lane roadways, typically alongside the curb and sidewalk area. Along streets with bulb-outs, curb bus lanes may be off-set or separated by parking or transit stop areas. As a minimum, curb bus lanes can be distinguished by pavement markings and overhead signage. Coloured asphalt depicting segments of bus lanes is used in some communities to increase awareness through conflict zones, but is not essential. These lanes are generally open to right turn vehicles at intersections and function as turn lanes to driveways for adjacent sites. Where space permits, bus lanes in many communities can also operate as shared bus/bicycle lanes.

Key Design Considerations:

- Standard markings and signage separating bus lanes is essential to discourage use of bus lanes by other traffic
- Curb bus lanes are typically created with the removal of a travel lane, parking lane or other street treatments such as centre medians and/or boulevards
- Periods of operation for bus only may be flexible and expanded from peak only to all-day use as service frequency and ridership increases.
- Timeframes should ensure sufficient service operation to avoid 'empty lane' syndrome
- Bus lanes may be separated to bypass buses at stations
- Curb-side parking should ideally be limited or restricted on corridors with curb bus lanes
- Measures to reduce conflicts with right-turn vehicles should be considered through signage, particularly at minor intersections
- Stops or stations on curb bus lanes are generally spaced more than **400m** apart in urbanized areas and over **800m** in suburban parts of the community
- The minimum width of a bus lane should be no less than the permissible curb width for typical travel lanes, possibly wider if shared with bicyclists
- Station dimensions should be typically designed for anticipated passenger loads with the ability to support two spaces for buses. In the downtown areas of the City, the length of stations will be longer to support multiple routes picking up and dropping off passengers at multiple locations
- Bus stops and lanes must be a priority for snow clearance
- Monitoring and enforcing of unauthorized vehicle use is essential
- Camera enforcement with tow-away service is usually needed for peak-only curb bus lanes

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	✓
City Arterials	
Community Arterials	
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

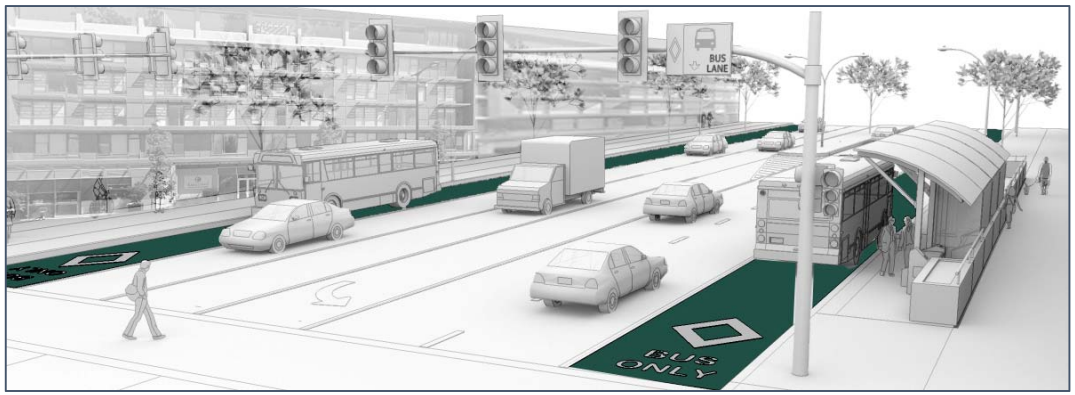


Figure 47 - Curb Bus Lanes

SIDE BUS LANES

Side running bus lanes provide dedicated space for bus use only. As a separated area of the road, conflicts with general purpose traffic are limited to signalized intersections and minor cross-streets where applicable. In comparison to curb bus lanes, side bus lanes serve to reduce transit travel times and increase reliability for transit customers. The configuration of side running bus lanes prevents use for general purpose traffic or parking at any time and would eliminate access to adjacent property driveways and most minor intersections. Side running bus lanes are typically most effective on street blocks without driveway access and where passenger activity is highest on one side of the street.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	✓
City Arterials	
Community Arterials	
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

Key Design Considerations:

- Side bus lanes could potentially be used on the Red Line BRT corridors identified in the **Growth Plan**
- Side-running bus lanes typically require reallocation of space for vehicles and involve major changes to the roadway and utilities
- Consider the impacts on general purpose traffic across the network of roadways, not just the street supporting BRT
- Access to minor cross-streets and properties are restricted along the side of the street accommodating side running bus lanes
- Snow clearance of stop areas and bus lanes must be a priority
- Stops or stations on side bus lanes are generally **400m** apart in urbanized areas and over **800m** in suburban parts of the community
- Standard pavement markings and signage is essential for discouraging use of bus lanes by other traffic
- The bus lane width should be sufficiently wide enough to support two-way bus services and to ultimately support conversion to LRT
- Station dimensions should be typically designed for anticipated passenger loads with the ability to support two spaces for buses. In the downtown and university areas of the City, the length of stations will be longer to support multiple routes picking up and dropping off passengers at multiple locations

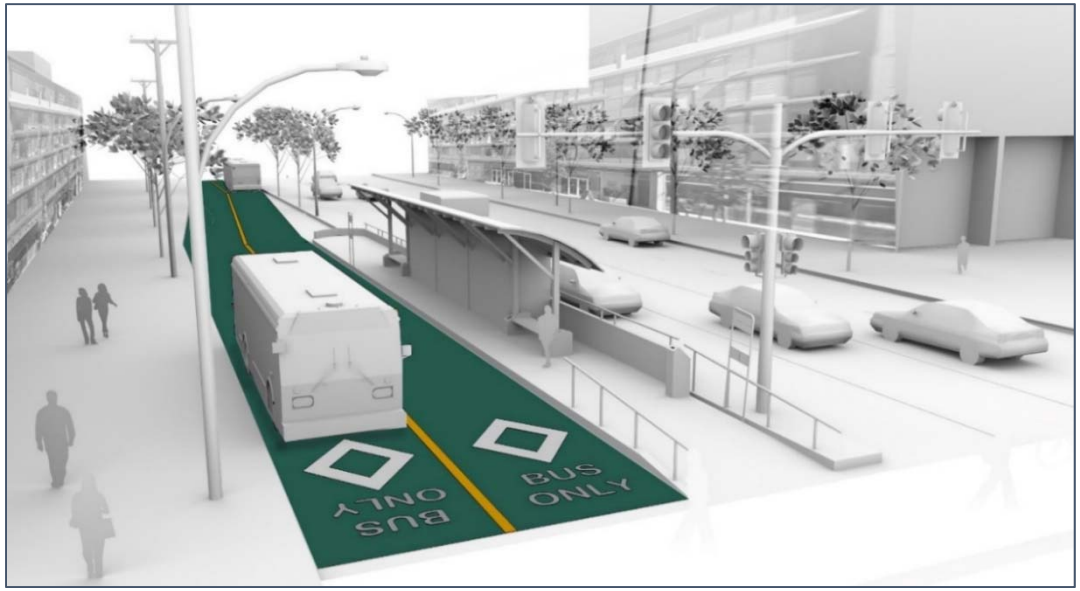


Figure 48 - Side Bus Lanes

CENTRE BUS LANES

Centre bus lanes provide dedicated space for bus use only. Unlike curb bus lanes, conflicts with general purpose traffic are limited to signalized intersections where left turn vehicles must be accommodated – typically with left turn lanes – and mid-block left turn access is restricted. Centre bus lanes eliminate any impacts from right turn vehicles, including mid-block access to minor streets and adjacent properties. Right turn access to all properties and adjacent intersections could be maintained throughout. The separation from other traffic allows centre bus lanes to provide better service and capacity with fewer conflicts that may impact travel time and reliability relative to curb bus lanes.

Key Design Considerations:

- Centre bus lanes could potentially be provided on the Red Line BRT corridors identified in the **Growth Plan** in the long-term
- Space for centre bus lanes are created with the removal of travel lanes, parking lanes or other street treatments such as centre medians and/or boulevards
- Consider the impacts on general purpose traffic across the network of roadways, not just the street supporting BRT
- Consider the impacts on property access and circulation patterns along the corridor, especially left turn restrictions
- Stops or stations on centre bus lanes are generally spaced **400m** apart in urbanized areas and over **800m** in suburban parts of the community
- Standard pavement markings and signage is essential for discouraging use of bus lanes by other traffic
- The bus lane width should be sufficiently wide to support two-way bus services and ultimately conversion to LRT
- Station dimensions should be typically designed for anticipated passenger loads with the ability to support two spaces for buses. In the downtown and university areas of the City, the length of stations will be longer to support multiple routes picking-up and dropping-off passengers at multiple locations
- Snow clearance of stop areas and bus lanes must be a priority
- Coloured pavement may be used to highlight the prominence of bus lanes to other drivers, but is not essential

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	✓
City Arterials	
Community Arterials	
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

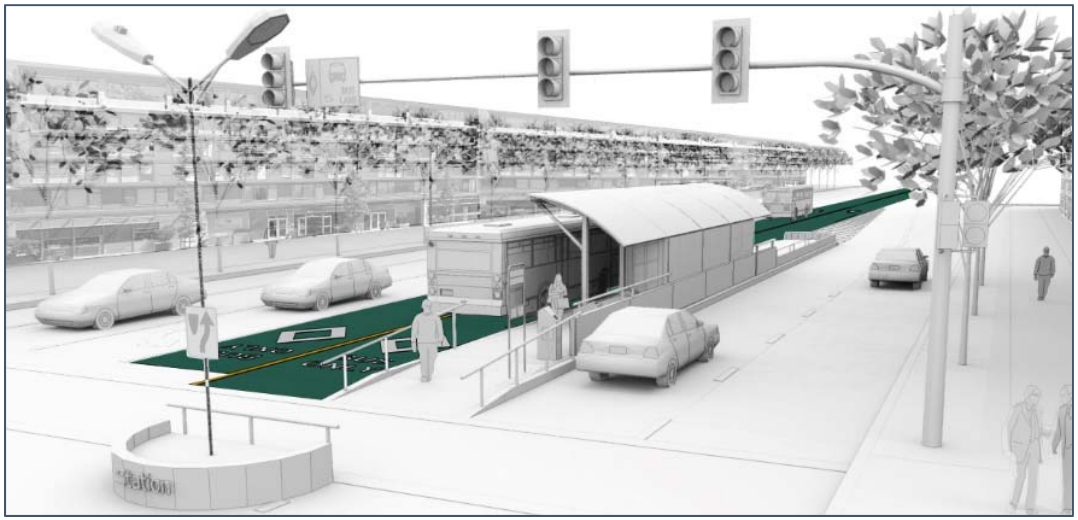


Figure 49 - Centre Bus Lane

5.2.3 Alternative Curbside Treatments

The **Growth Plan** supports long-term policies for sustainable modes of travel as well as creating vibrant street environments in the downtown, along high priority growth corridors and in suburban centres. In support of improving mobility for everyone and encouraging sustainable modes, **the Guide** identifies alternative curbside treatments and uses along downtown commercial street, urban main street and suburban centre arterial street typologies.

Continuing to increase accessible parking stalls in critical locations where sidewalk areas and crossings are also accessible is essential to improving mobility for people with physical and cognitive challenges. Curbside space may also be used for on-street bicycle parking or even bike share stations if the City considers such a program as well as supporting other sustainable modes that include electric vehicle charging stations and car share parking spaces.

As extensions of the urban realm in urban areas, Saskatoon may consider curbside space being used to support sidewalk activity. The City currently allows the implementation of parking patios – or temporary platforms installed over parking space for public seating areas.

ACCESSIBLE ON-STREET PARKING

Accessible on-street parking contributes toward overall mobility and accessibility of an area, and by providing for people with physical disabilities, street designs support everyone. The City designates accessible parking throughout the busiest areas of the city such as the downtown and main street areas. In Business Improvement Districts (BIDs), vehicles with accessibility placards can park in loading zones for the same fully allotted time period as allowed in standard parking stalls (typically 3 hours) and in standard stalls for as long as they need.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	
Suburban Centre Arterials	
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	✓
Local Streets	✓
Industrial Streets	
Shared Streets	

Key Design Considerations:

- Accessible parking should only be considered where there is parallel on-street parking
- The City designates accessible parking on a request basis
- Accessible parking should only be provided on roadways with a less than 2% slope where there are accessible curb ramps nearby
- Accessible parking should be located in areas that are close to accessible building entrances, ideally nearby public facilities such as health care facilities, and libraries
- Parking spaces should be marked with standard signage and pavement markings to increase compliance. Signage should be placed at the head of each parking stall for visibility
- Residents using accessible parking must have accessible parking placards placed clearly on their dashboard inside the vehicle
- Accessible parking stalls can be accommodated on a request basis anywhere on-street parking is permitted

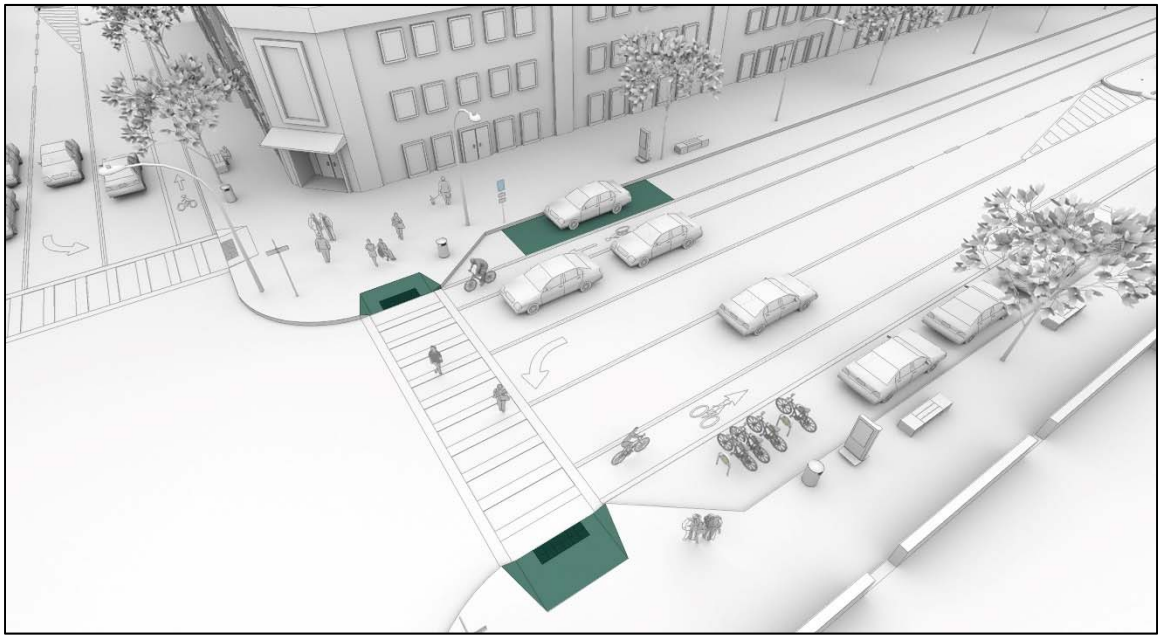


Figure 50 - Accessible On-Street Parking

ON-STREET BICYCLE PARKING

Secure, visible bicycle parking is essential for encouraging bicycling to the City's downtown and main street areas. Although public bicycle parking is typically provided within the furnishing zone of the sidewalk area, on-street bicycle parking should also be considered in the busiest areas of the City. As AAA bicycling facilities in the City's downtown area increase, the City may wish to consider implementation of a bike share program. Design for bike share parking is similar to on-street bicycle parking treatments.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	
Suburban Centre Arterials	
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

Key Design Considerations:

- Consider provision of on-street bicycle parking where demand is high and the furnishing zone width is constrained
- Bicycle racks must be permanently installed to a paved surface and protected by bollards or other fixed methods ❶
- The typical length of an on-street parking stall can accommodate 10 or more bicycle parking stalls
- Bicycle racks must need minimal maintenance with adequate clearances from adjacent parking stalls ❷
- Bicycle rack designs should support the frame of the bike at two points, provide access for all different bike sizes, allow locking at two locations, and be easily accessible
- No matter the size or number of bicycle stalls provided, bicycle racks must be installed so that parked bicycles do not block adjacent travel or bike lanes

Figure 51 - On-Street Bicycle Parking

5.2.4 Calming Treatments for Urban Streets

With street treatments for each mode as previously described, the City will want to ensure that traffic operates at speeds suitable to the context of the roadway. Vehicle speeds on urban main street, downtown commercial street and suburban center arterial street typologies must be sensitive to the larger presence of people walking, bicycling, and using transit, as well as the vibrancy of land uses that surround them. In many cases, these people may be crossing streets to visit destinations between nearby intersections. Higher traffic volumes combined with higher speeds can remain a barrier for all modes regardless of the design treatments, and will impact desirability for street-oriented land uses. Along these streets, drivers should expect to move at slower speeds despite being a non-residential area with higher traffic volumes.

Neighbourhood Traffic Management Guidelines and Tools is a document developed by the City to address concerns about traffic in residential areas on public lanes, local, and collector streets. The report also identifies the types of traffic calming measures that will be considered to address neighbourhood traffic related issues. These treatments include horizontal deflection (curb extensions, raised medians, roundabouts, and choker points), vertical deflection (raised crosswalk, textured crosswalk, raised intersection, speed hump, speed table, and speed cushion) as well as obstructions (diverter, right-in/right-out island, full closure, directional closure, and intersection channelization).

Beyond the neighbourhood traffic calming measures that apply to local and collector roadways, **the Guide** provides a toolkit of treatments that may be considered to manage travel speeds on non-residential street typologies – urban main streets, downtown commercial streets, suburban centre arterials and community arterials.

DESIRED LANE WIDTHS

In built up urban areas, the configuration and width of roadways impacts the availability of space on Saskatoon's streets. Every metre of the right-of-way should be treated as valuable space where trade-offs are typically required to support mobility, comfort for travel, and creating spaces for people. Conversely large lane widths for vehicles can significantly reduce the space that is most needed for priority modes such as bicycling and pedestrians.

In newer or expanding areas of the City where the right-of-way is less constrained, design standards have been established in the **City of Saskatoon Design and Development Standards Manual**. For example, recommended arterial and collector road travel lane widths are set at **3.6m**. Bike and parking lane width standards are generally set at **1.5m** and **2.4m** respectively. As is the case in most cities, these vehicle travel lane standards are conservatively large, and the widths for bicycle, parking and pedestrian facilities often reflect a minimum acceptable dimension.

The travel lane widths used on urban streets can vary from one community to the next, whereas minimum bicycle and parking lane widths are similar to those used in Saskatoon. A wide travel lane that is referred to in the **Design and Development Standards Manual** for collector and arterial roads may be appropriate on high volume streets and/or truck routes. In these cases, wider lanes are important to ensure safe, efficient movement of larger vehicles on higher speed corridors.

On streets where there is a larger presence of pedestrians and bicyclists as well as street-oriented land uses, most types of motor vehicles can operate with **3.2m** lane widths for through travel lanes and **3.0m** for turn lanes. Narrower lane widths will typically manage traffic speeds and increase comfort and safety for vulnerable road users.

Transportation Association of Canada research has found that there is limited safety benefit for automobiles derived by widening lanes beyond **3.2m**. In fact, the research found that widening beyond **3.7m** may be a detriment to road safety.

For freeways and limited access street typologies, the City may continue to utilize the wider lane widths and provide protected space for bicyclists and pedestrians where present. For city arterials, community arterials, suburban centre arterials, urban main street and downtown commercial street typologies, consideration should be given toward reducing travel lane width design standards. Narrower lane widths will improve safety and comfort in those areas where pedestrians and bicyclists are most present and will further support street-oriented lane use patterns. In some short road segments, mid-block pinch points and through intersections, lane widths for all modes may be reduced to manage space while maintaining visibility and awareness.

Key Design Considerations:

- Consider using narrower travel lane widths on streets with high volumes of pedestrians and bicyclists
- In some areas, short sections of travel lane may reduce even further at mid-block pinch points or intersections
- Wide bicycle and parking lanes should be discouraged
- With narrower lane widths, the appropriate boulevard/furnishing zone should be present to accommodate snow storage

Figure 52 - Desired Lane Width

MID-BLOCK NARROWINGS

Mid-block narrowing is already found along many non-residential streets of Saskatoon such as 2nd Ave downtown. Beyond creating a narrower lane width, this treatment functions as a 'pinch point' on the roadway with extensions of the curb on both sides of the street. Mid-block narrowing has been demonstrated to reduce vehicle speeds on major roadways during all periods of the day and can provide a street crossing where there are land uses with high pedestrian activity between intersections.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	✓
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	✓
Neighbourhood Connectors	✓
Local Streets	
Industrial Streets	
Shared Streets	

Key Design Considerations:

- Mid-block narrowing is most effective on two lane roadways with parking on either side of the street ❶
- The location and landscape treatments should not impact driver sight-lines
- Mid-block narrowing should be as wide as the nearby parking space and of sufficient length to be visible and increase driver awareness
- Minimum lane widths for all modes as previously described can be used through the mid-block narrowing area
- Lanes for bicyclists should continue through the narrowing where space permits. ❷ Otherwise, shared lane markings should be used to increase driver awareness. This shared use lane configuration should be avoided in locations where bicyclists must ride uphill
- Crossings should be universally accessible for all ages and abilities with proper ramp design ❸
- Consideration may also be given toward using tactile warning strips
- Areas may be used for temporary snow storage while clearing during winter months. Snow plow operators require visual queues to the edge of curb when narrowing is not visible

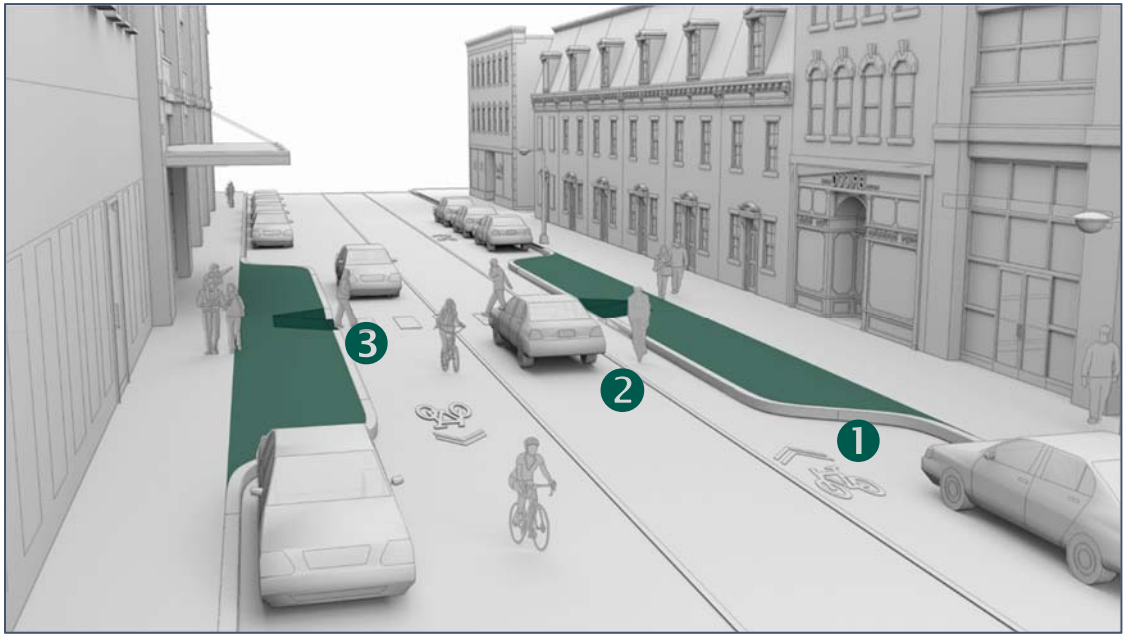


Figure 53 - Mid-Block Narrowing

MID-BLOCK CENTRE MEDIAN ISLANDS

Centre median islands located between intersections can provide another form of 'pinch point' in the roadway to manage speeds and improve pedestrian crossings on urban streets in Saskatoon. Centre medians narrow the travel lanes from the middle of the roadway. Provided that there is ample space for landscaping, they can serve to 'green' the roadway and absorb storm water.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	✓
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	✓
Neighbourhood Connectors	✓
Local Streets	
Industrial Streets	
Shared Streets	

Key Design Considerations:

- Median islands with pedestrian crossings should be placed at locations where land uses on both sides of the roadway attract pedestrians ❶
- Islands should be sufficiently wide for pedestrians to stand comfortably, protected from traffic, and long enough to be a visible change to the roadway
- Pavement markings should be used to increase visibility of the median island for drivers on both approaches ❷
- The crossing for pedestrians should be designed to be universally accessible
- On busier four lane roadways, the pedestrian crossing should be angled through the median so that pedestrians are facing oncoming traffic
- Centre median islands can be designed with or without mid-block narrowing
- Space for sidewalks should not be constrained, and bicycle lanes should continue through the median island treatment area ❸
- Where shared use lanes are used, pavement markings will increase driver awareness. The shared use lane configuration should be avoided in locations where bicyclists must ride uphill

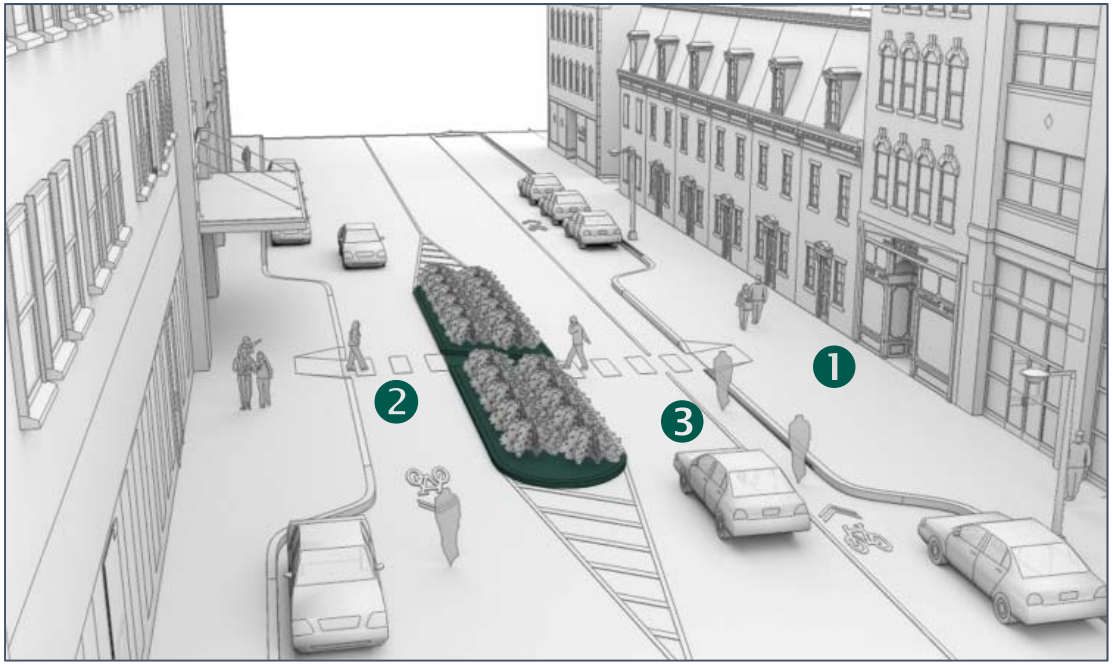


Figure 54 - Mid-Block Centre Median Islands

5.3 Intersections

While sidewalk area and street design treatments can provide reasonable separation between modes and street users, most intersections bring every mode together. There are 12 different movements that vehicles, transit, bicycles and pedestrians each can take at an intersection – most of which have conflicts with each other.

While much emphasis in the design of intersections has typically been placed on minimizing delays for vehicles, this is where most collisions occur for all travellers. As the most vulnerable street users, the consequences of collisions for pedestrians and bicyclists are significant, and large intersections in most cities cumulatively form barriers for walking and bike trips as well as transit customers. This is particularly true for people with disabilities.

Good intersection design must strive to make all modes comfortable and safe. Reducing the barriers for all modes and making them accessible will ultimately make the City's intersections supportive of people of all ages and abilities. As a minimum, the space and travelled pathway for all modes entering the intersection should be clear and visible, and, ideally, dedicated space will increase awareness and respect when crossing paths of different users. This makes intersections more intuitive and predictable for all modes passing through.

This section of **the Guide** provides a 'toolkit' of treatments for accommodating pedestrians, bicyclists, transit, and vehicles within the intersection environment. Much like streets, the toolkit does not offer a template for intersections, but rather a range of treatments for each mode on the most critical features of complete streets.

Any changes to retrofit intersections must be cognizant of the long-term goals and needs for all modes while considering context. In the transit-oriented areas of the City where walking, bicycling, and transit use is expected to grow, steps should be taken to accommodate this change before the needs or demands are present.

5.3.1 Pedestrian Treatments for Urban Street Intersections

Beyond the sidewalk area treatments described earlier in **the Guide**, pedestrian treatments at intersections are vitally important to the walkability and accessibility of Saskatoon. Wide sidewalks with attractive street furnishings and active uses within the frontage zones cannot overcome the barriers to walking created by poorly designed intersections. Along with bicyclists, pedestrians can be the most vulnerable travellers entering signalized and un-signalized intersections, and the cumulative impacts of auto-centric intersection designs can ultimately create significant barriers to walking and in turn the vibrancy of streets.

With commitments for increased walking in Saskatoon, the need for attractive streets accommodating people of all ages and mobility levels requires intersection treatments to be designed for pedestrians. Intersections must be designed to reduce vehicles speeds and increase the visibility and safety of pedestrians while minimizing conflicts between vehicles and vulnerable modes. The geometry of intersections must better accommodate people with physical and cognitive disabilities, ensuring that the City is accessible and comfortable for everyone.

This section of **the Guide** highlights a few of the most critical treatments for pedestrian prioritized intersections on those typologies where the prominence of pedestrians is greatest and traffic volumes are highest – such as urban main streets, downtown commercial streets and suburban centre arterials.

CORNERS & CURB RADII

Perhaps the most significant challenge with intersection geometry is the balance between accommodating larger vehicles and managing speeds of most traffic making turns in the intersection. The design of corner curbs and particularly the radius can also impact crossing distance for pedestrians.

There are two basic design features to consider when determining the appropriate corner radii at an intersection. The first is the effective turn radius ❶ of vehicles turning corners where sufficient clearance is required for larger vehicles. This is essentially the space needed for vehicles to make a right-turn from one lane to another that may cross parking and bicycle lanes. Another consideration is the actual curb radius ❷ of the intersection corner being designed more for pedestrian safety and comfort in mind. Minimizing the actual curb radius will ensure that pedestrian crossing times are reduced. Pedestrian safety and comfort crossing major roadways is essential for urbanized areas of the City, and in high pedestrian areas, use of channelized right-turn islands should be avoided.

Key Design Considerations:

- Larger corner radii will increase the length of the crosswalk and crossing time for pedestrians
- A smaller corner radius reduces crossing distance, time, and improves design with two pedestrian ramps that are better aligned with the crosswalk
- Vehicle turning speeds should be limited through an intersection (less than 20km/hr) to improve pedestrian safety
- The actual curb radius design should be defined after considering the effective curb radius.
- The effective curb radius may be minimized by choosing the smallest design vehicle possible, allowing vehicles to cross-over beyond the nearest receiving lane and permit emergency vehicles to utilize the full area of the intersection for making turns
- Considerations to determine curb radius should include: the street types, uses, number and width of receiving lanes, the volumes of large vehicles, and other street uses

Figure 55 - Curb Radii (Detail)

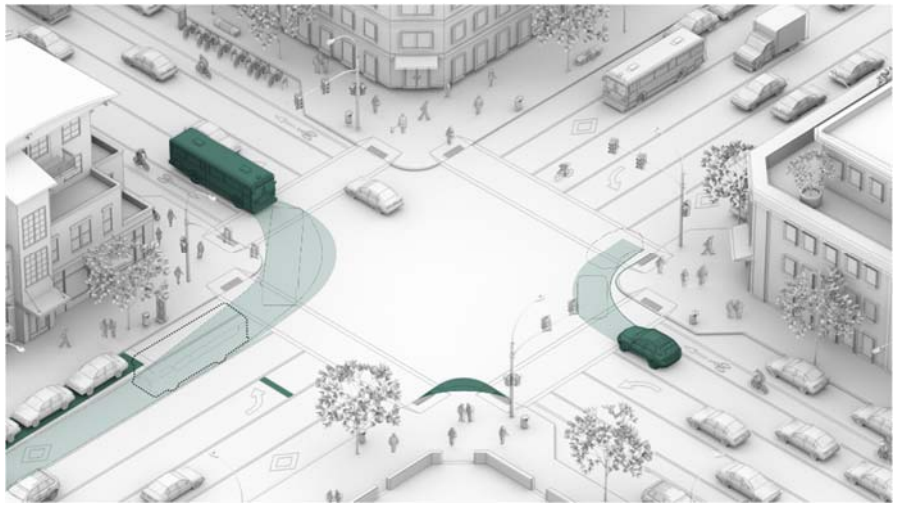


Figure 56 - Curb Radii

CENTRE MEDIAN CROSSING ISLANDS

In busy pedestrian areas of the City, centre median crossing islands may be provided at signalized and un-signalized locations. They provide pedestrians refuge in the centre of multi-lane streets. For urban main street, downtown commercial street, and suburban centre arterial street typologies with larger volumes of pedestrians crossing the street, median island treatments can be designed to reduce exposure to traffic. Although typically used at signalized intersections, median islands can be used at un-signalized intersections permitting pedestrians to cross in two stages, with a standing area in the middle of the street.

It should be noted that these are different than centre median islands used on major streets to provide separation between higher speed traffic through an intersection and not to accommodate pedestrians.

Key Design Considerations:

- Crossing islands should be considered on multi-lane streets where crossing distances are four or more lanes
- Centre median crossing islands should extend on both sides of the crosswalk area ❶
- Medians should be the same width as the crosswalk to provide adequate refuge for pedestrians
- The pedestrian crosswalk should extend through the island seamlessly without grade changes to be universally accessible ❷
- Turning vehicles must be accommodated in the design. Larger vehicles will likely cross into other lanes
- Signalized crossings must be timed to allow pedestrians to clear the entire intersection in one stage.
- Pavement markings should be considered to guide motorists around the crossing islands
- Where on-street parking exists, curb extensions may be considered in combination with crossing islands
- The depressed crosswalk through the centre median can accumulate gravel and snow. It is important to keep this area clear

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

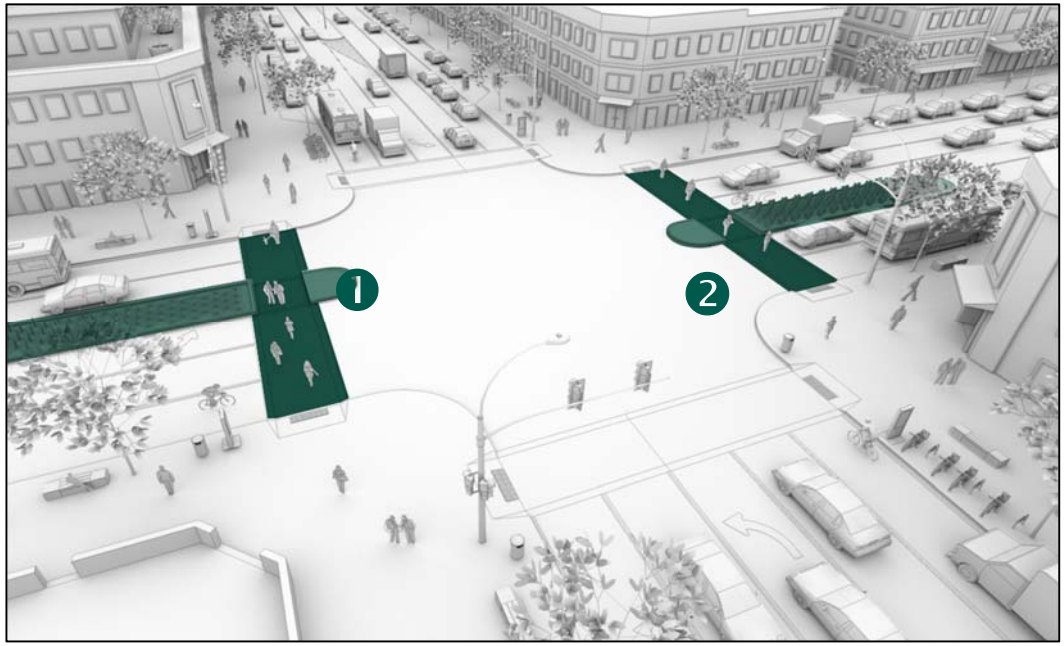


Figure 57 - Centre Median Crossing Islands

CURB EXTENSIONS & RAMPS

As suggested, curb extensions are essentially extending the sidewalk area around intersection corners. Curb extensions and ramps can be used at both signalized and un-signalized intersections to reduce the crossing distance and exposure for pedestrians. They also provide space for pedestrians to stand comfortably without impacting the pedestrian zone of the sidewalk. Curb extensions narrow the roadway to manage vehicle speeds through the intersection, creating shorter crossing distances and times for pedestrians at signalized intersections, and enhanced traffic and transit flow on these busy streets. Curb extensions and ramps for pedestrians are important at major intersections where pedestrian activity is highest.

Key Design Considerations:

- Curb extensions may be used on one or multiple corners of the intersection and are typically used in areas where on-street parking is provided ❶
- Intersection curb extensions are important at locations where pedestrian traffic is high and where there are demonstrated pedestrian safety issues
- Consider the impacts on larger vehicles in the design of curb extensions
- The curb extension design should extend into the roadway to the same width as the parking area ❷
- The length of curb extensions should be consistent with parking setbacks or restrictions from major intersections
- Travel and bike lanes can be narrowed to minimum lane widths through the intersection to accommodate curb extensions ❸
- Curb ramps must be universally accessible, contained within the crosswalk and have limited slope between sidewalk and roadway. Detectible warning strips should be considered in busy pedestrian areas ❹
- Curb extensions can be used for temporary snow storage and should be marked for snow clearing equipment
- Considering and retaining the location of existing storm drainage early in the design will minimize costs
- Curb extensions can also form bus bulbs described later in **the Guide**

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	✓
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	✓
Neighbourhood Connectors	✓
Local Streets	
Industrial Streets	
Shared Streets	

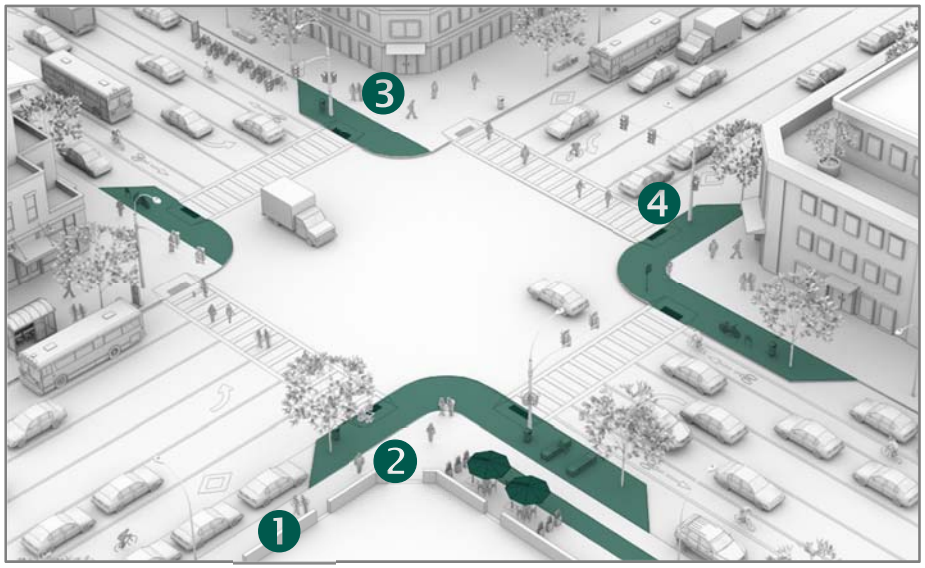


Figure 58 - Curb Extension & Ramps

STANDARD AND ENHANCED CROSSWALKS

Crosswalks for signalized and un-signalized intersections not only define the space for pedestrians to cross, but are also essential to increase driver awareness. The space provided must be visible and of sufficient size to support the pedestrian demand. On busier streets with higher pedestrian activity, crosswalks form the protected space for people of all ages and mobility levels to safely cross the street.

Saskatoon has two principal crosswalk design treatments. The most common or standard treatment consists of two parallel lines with a stop bar located behind the crosswalk area.❶ This standard crosswalk treatment is used at both signalized and un-signalized intersections on all classes of roadways. The more enhanced form of crosswalk – zebra style – is more visible for drivers as they approach and travel through the intersection. They consist of bars running perpendicular to pedestrian traffic across the intersection. ❷

Key Design Considerations:

- Crosswalks should be located and aligned to maximize visibility of pedestrians and to reflect the desired walk path – thus minimizing walk times
- The enhanced crosswalk treatment should be considered where driver awareness needs to be heightened
- Enhanced crosswalks may be suited to intersections near transit stops and stations, adjacent to schools, seniors' homes, hospital facilities, and other areas with high pedestrian activity
- Ramps for pedestrians to cross should be universally accessible with reasonable grades between sidewalk and street areas
- Standard crossings may be used at most other locations outside the busiest pedestrian areas of the City and where standard signalized and un-signalized intersections exist
- Pedestrian crosswalk requests must adhere to the policy **C07-018 Traffic Control at Pedestrian Crossing**. This policy provides the following hierarchy of typical pedestrian crossing applications: Standard Crosswalk, Zebra Crosswalk, Pedestrian Corridor, Active Pedestrian Corridor, and Pedestrian Actuated Signal

Street Typology	Standard Crosswalk Applications	Enhanced Crosswalk Applications
Freeways & Expressways		
Limited Access Arterials	✓	
City Arterials	✓	
Community Arterials	✓	✓
Suburban Centre Arterials	✓	✓
Urban Main Streets		✓
Downtown Commercial Streets		✓
Parkways	✓	✓
Neighbourhood Connectors	✓	
Local Streets	✓	
Industrial Streets	✓	
Shared Streets	✓	

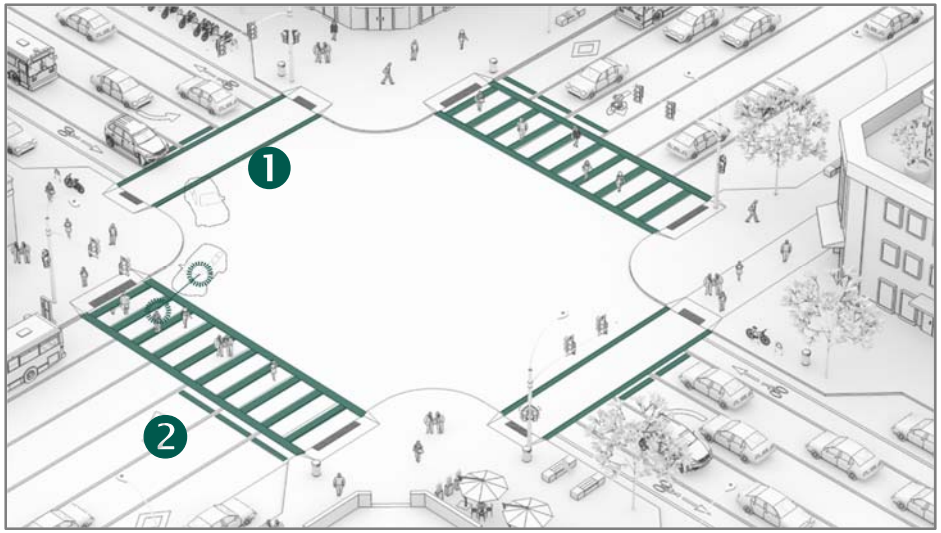


Figure 59 - Standard & Enhanced Crosswalks

TRAFFIC SIGNALS

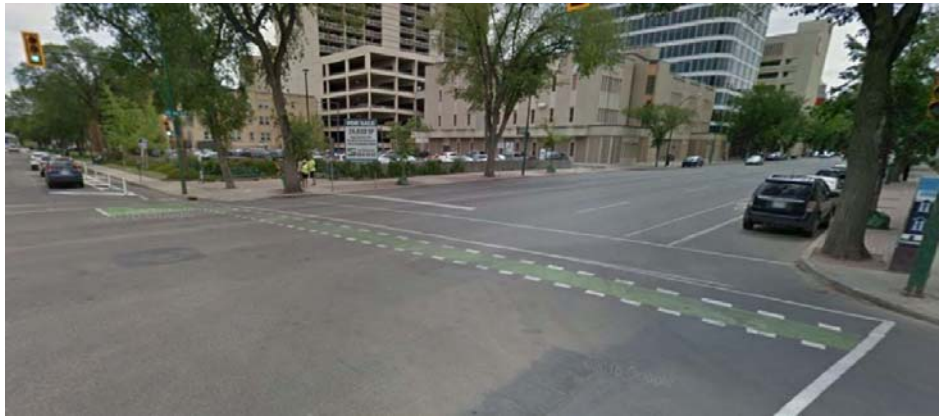
Intersection traffic signals are installed in Saskatoon when warranted by traffic volumes, pedestrian activity and other considerations. They are typically implemented to manage delays at busy intersections and to reduce overall travel times for vehicles on cross-streets. As such, implementation of traffic signals is generally centred on cross-streets of major roadways such as the city arterial, suburban centre arterial, urban main street and downtown commercial street typologies.

Many streets can be made more complete simply through signal timing and other design measures. Roadway and intersection traffic signals can be designed to achieve many goals – sometimes in support of each other. Signal timings can be arranged to minimize delays for vehicles by optimizing isolated intersection and/or through coordination of green times between signals on major streets. The timing and features of traffic signals can also be designed to accommodate walking and bicycling and increase safety and priority for vulnerable road users. Areas of high pedestrian activity can have automatic pedestrian signals, instead of requiring the button to be pushed. While faster speeds without signals can reduce travel times for automobiles and transit, the comfort and safety for pedestrians and bicyclists cannot be compromised.

Key Design Considerations

- Consider multi-modal benefits and impacts of the design and timing of all signalized intersections
- Synchronized or coordinated signal timings are preferred on most arterial roadways and should be set at or below the posted speed suited for the street typology. Signals on other roadways such as community arterials, urban main streets and downtown commercial streets should be coordinated for 30km/hr to 40km/hr.
- Install bicycle signal-heads for signalized intersection on existing and planned bicycle routes
- Signals on bicycle routes should be timed and designed for bicycle commute trip speeds of 15 to 20km/hr
- Countdown signals for pedestrians should be considered at all signalized intersections with high pedestrian activity
- Consider installing accessible pedestrian signals at all intersections with high pedestrian activity such as on downtown commercial street, urban main street, and suburban centre arterial typologies to help users who are visually impaired
- All legs of a signalized intersection should have a marked crosswalk unless there is no pedestrian access on either corner
- Curb extensions and transit bulbs can be used to reduce the crossing times for pedestrians at signalized intersections and improve overall mobility for traffic in many cases
- Advanced right-turn on red where pedestrian and traffic volumes are highest such as on downtown commercial streets may be warranted
- In areas where pedestrian demands may consume much of the green time for traffic, an advanced right-turn signal for traffic will permit a few more vehicles to get through the area while pedestrians wait.
- Signals and signage prioritizing transit should be implemented on the Red and Blue Line BRT corridors and all timing along these routes should be designed to prioritize buses

5.3.2 Bicycle Facilities at Intersections



The **Active Transportation Plan (AT Plan)** envisions the implementation of 350km of bicycling facilities across the City over the next 30 years. Bicyclists are among the most vulnerable road users, with many collisions occurring at intersections resulting in significant injuries or fatalities. As illustrated in **Figure 60**, many of the collisions involving bicyclists occur along some of the busiest corridors within the Central Business District, along 8th Street East, 22nd Street West, 20th Street West, 33rd Street West, and Idylwyld Drive.

Good intersection design can make bicycling more comfortable, more attractive, and reduces conflicts between motor vehicles and pedestrians. Some of the principles used to guide the design of bicyclists through the intersection include:

- Providing a continuous and clear route for bicyclists through the intersection
- Ensuring visibility of bicyclists for motorists approaching and entering the intersection using pavement markings and signage
- Managing conflicts with turning vehicles as well as pedestrians crossing at the intersection
- Designing signals to accommodate clearance times for bicyclists through the intersection

This section of **the Guide** outlines specific design treatments for bicycle facilities through intersections that must be addressed when implementing the **AT Plan**. For more detailed information on the design standards for those treatments presented in **the Guide**, the **National Association of City Transportation Officials (NACTO) Bicycle Guide** and **Massachusetts Department of Transportation Separated Bike Lane Planning and Design Guide** provides excellent guidance on designing protected bicycle lanes at intersections.

BICYCLE LANES AT INTERSECTIONS

Bicycle friendly intersections offer continuous, designated lanes through cross-streets for the comfort and safety of bicyclists and the visibility and awareness of other modes. The City has used both dashed pavement markings and coloured pavement markings to delineate the provision of bicycle lanes through intersections.

Key Design Considerations:

- Dedicated bicycle lanes through the intersection should be provided for all major signalized intersections served by protected, buffered and standard bicycle lanes
- When combined with right-turn lanes for vehicles, bicycle lanes should remain on the left side of the turn lane ❶
- Intersection crossing markings such as dashed lines, shared lane markings, coloured pavement markings or a crossride can be used through the intersection to define space for bicyclists ❷
- Parking spaces should be set back from the intersection to limit conflicts with bicyclists
- Bicycle lanes through the intersection may be slightly narrower than the standard bicycle lane width in recognition of space constrains – a minimum of 1.3m ❸
- At roundabouts, bicycle lanes should be designed for bicyclists to either merge with traffic on the approach or use a separated space around the intersection parallel to the sidewalk area
- Signal timing designs must be considerate of travel speeds by bicyclists in terms of minimum green intervals and clearance times to allow safe passage
- Signal loops and detectors for bicyclists at the intersection should be placed before the crosswalk to prompt the green phase in much the same way as an actuated pedestrian signal. In some cases, mounted activation buttons may be used for bicyclists on the curb lane
- Bicycle signal heads should be separated and positioned for best visibility of bicyclists to protect from conflicting movements
- Protected signal phases may be used to eliminate conflict between turning motorists and people bicycling through the intersection

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	✓
City Arterials	✓
Community Arterials	✓
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	✓
Neighbourhood Connectors	
Local Streets	
Industrial Streets	✓
Shared Streets	

Figure 60 - Bicycle Lanes at Intersections

BIKE BOXES

Bike boxes at signalized intersections offer dedicated space for bicyclists to wait and make turns in protected areas. Bike boxes can either be placed on the near-side approach to the intersection or far-side. The near-side placement of bike boxes ❶ allows bicyclists to move to the front of traffic at a red light in order to make a left-turn. Far-side bike boxes allow for bicyclists to turn left after the signal on the cross-street turns green in two stages to avoid potential conflicts with through traffic. ❷

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	✓
City Arterials	✓
Community Arterials	✓
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	✓
Shared Streets	

Key Design Considerations:

- Near-side bike boxes allow bicyclists to comfortably move ahead of traffic before the signal changes to turn alongside left-turn vehicles with the assistance of a turn signal
- Near-side bike boxes should be designed with sufficient depth for bicyclists to comfortably access a space between the stop bar for vehicles and the crosswalk in order to proceed to the front of traffic when the signal is red
- Far-side bike boxes are designed for a two-stage left-turn movement.
- Bicyclists seeing a green light can proceed through the intersection in the bike lane and then wait in the bike box to await the green signal for the cross-street travel.
- Far-side bike boxes can be used with protected and buffered bike lanes on the cross-street or where there is parking on the cross-street
- This protected area provides space for bicyclists to wait before proceeding to complete the left-turn movement in two stages
- When right-turn lanes for vehicles are provided at an intersection, bike boxes can be used to allow bicyclists to proceed to the front of the queue before vehicles turn right

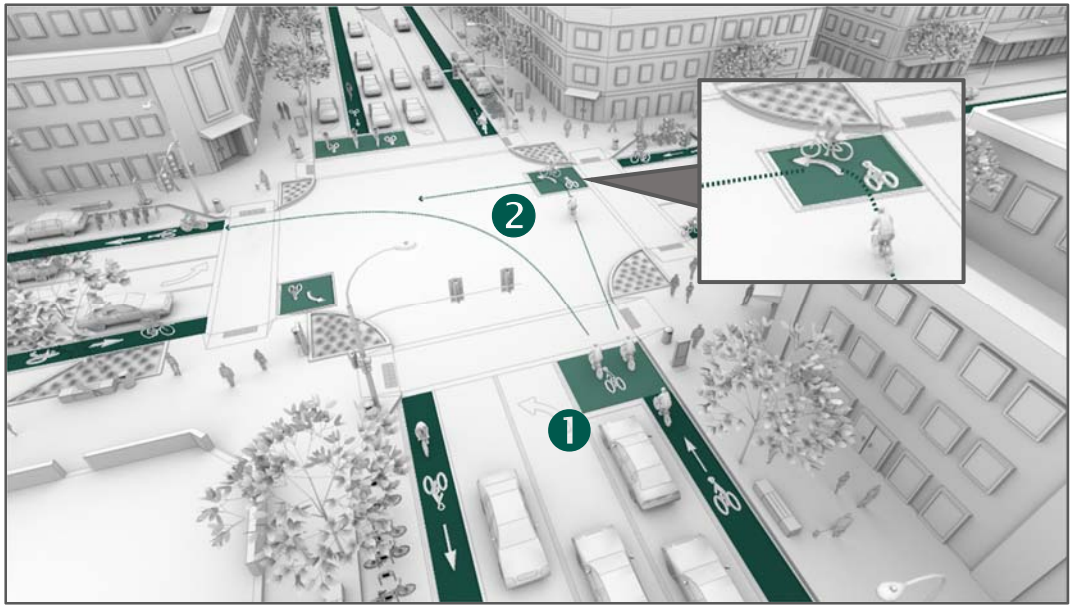


Figure 61 - Bike Boxes

PROTECTED BICYCLE LANES AT INTERSECTIONS

Protected bike lanes provide physical separation from adjacent travel lanes. This can be achieved through a combination of methods including a parking lane, painted medians, flex posts and/or elevated sections. Approaching intersections, bicyclists using protected bicycle lanes must be visible to drivers and other modes. As such, managing the conflicts between bicyclists within protected bike lanes and turning traffic as well as other modes through design is critical to the successful implementation of the **AT Plan**.

Key Design Considerations:

- On the near-side approaching major intersections, the buffered or protected area for bicyclists should continue to the stop bar ❶
- Parking restrictions should be set back from the stop bar to ensure that bicyclists approaching the intersection are visible to drivers ❷
- Pavement markings and coloured asphalt should extend through the intersection to increase visibility and awareness of space for bicyclists, especially for right-turn traffic on cross-streets
- In some cases, narrower width bike lanes may be used to both slow bicyclists through the intersection and to manage available space
- Separate bicycle signal heads should be considered to increase awareness and to manage conflicts with turning vehicles ❸
- Left-turn bicycle movements may be accommodated on the far-side of the intersection with a bike box ❹
- Far-side bus stops should be implemented alongside protected bike lanes without impeding the function of the bike lane behind the bus stop / shelter ❺
- At minor intersections, similar treatments are required to increase visibility, safety, and comfort for bicyclists in protected bicycle lanes

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	✓
City Arterials	✓
Community Arterials	
Suburban Centre Arterials	
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

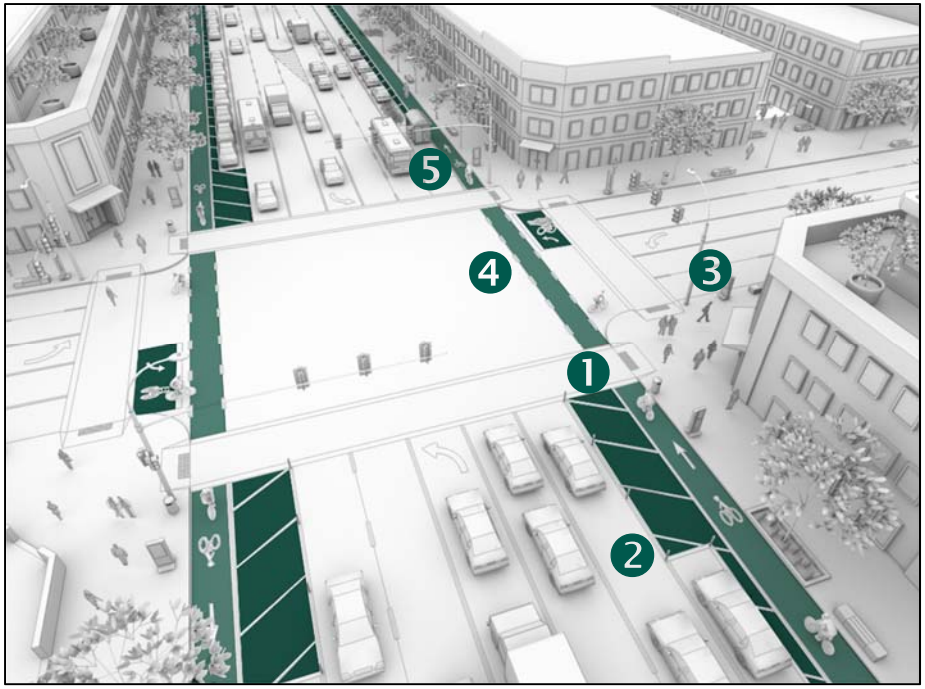


Figure 62 - Protected Bicycle Lanes at Intersections

5.3.3 Transit Accommodation at Intersections

The **Growth Plan** outlines the overall direction for transit in Saskatoon for the next 25 years. Considerable resources will be directed toward providing more frequent, direct, reliable and comfortable transit services for customers by building a Bus Rapid Transit (BRT) network that serves major corridors transforming them into urban 'main streets.'

Consistent treatments at intersections are vitally important to transit travel time, reliability of transit, and the customer experience. Intersections are where most transit stops occur and interactions with passengers happen, and waiting at signalized intersections and major stops can account for a significant amount of delay experienced by passengers and the transit operator.

This section of **the Guide** addresses key treatments to minimize delays to buses at signalized intersections in terms of locating stops, providing transit priority treatments as well as off-fare collection areas at rapid transit stations that must be integrated with treatments for BRT lanes as described in Section 4.2.3. While transit accommodation is emphasized, it will be important to consider conflicts between transit vehicles and vulnerable travelers such as pedestrians and bicyclists through intersections. Where space at intersections cannot be provided for each mode, safety of the most vulnerable road users must take precedent in the design of intersections.

BUS STOP LOCATIONS

Bus stops are located and designed on a site-by-site basis, and can be used to manage delays to transit customers as well as overall costs of transit operations. Ultimately, their location and design must reflect the needs for transit passengers, minimize operator delays, and the safe operation for other modes. In most cases, bus stops should be located at intersections – preferably the far-side. That way, passengers can easily connect with other transit services using appropriately designed crosswalks.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	✓
City Arterials	✓
Community Arterials	✓
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	✓
Neighbourhood Connectors	✓
Local Streets	✓
Industrial Streets	✓
Shared Streets	

Key Design Considerations:

- While the number of stops can ensure access to more passengers, their spacing can increase travel times for passengers
- Bus stops should ideally be spaced according to the land uses that surround them and anticipated passenger activity
- In dense urbanized areas of the City, stop spacing may be as little as **400m**, while at least **800m** or more in more suburban areas of the City
- Far-side stops allow buses to utilize signal progression, thus reducing delays at red lights, minimizing conflicts with and delays for right-turn vehicles ❶
- This reduces conflicts with pedestrians that cross behind the bus
- Near-side stops can minimize interference on cross-street traffic when multiple buses arrive at the same time, enabling passengers to board the bus close to intersections and can reduce conflicts to other traffic as pull-outs are available ❷
- Mid-block stops should only be considered in select locations where significant passenger generators are located. When parking restrictions and passenger space is available, mid-block stops can result in fewer conflict points with traffic and other modes at intersections ❸

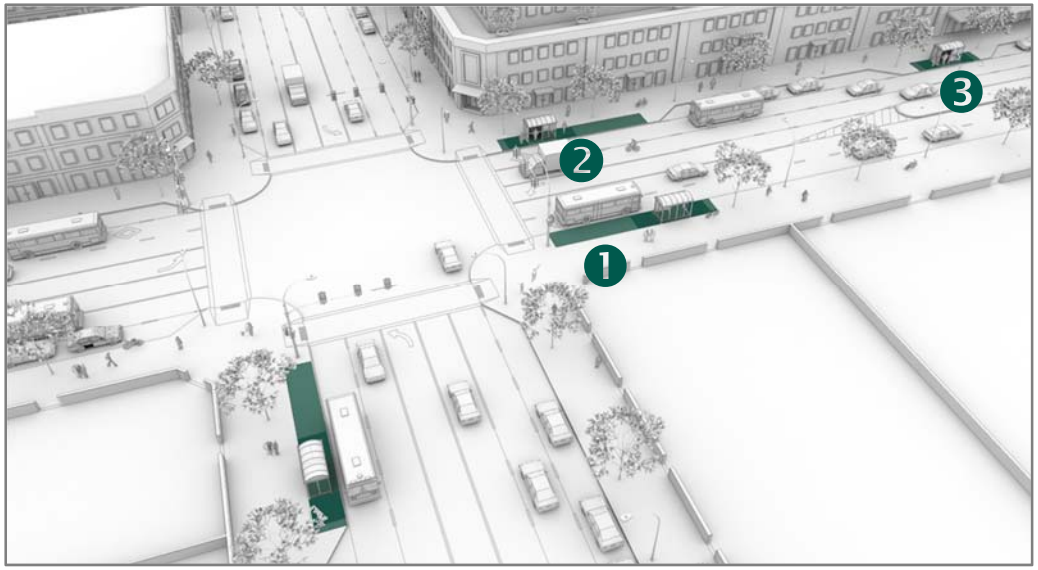


Figure 63 - Bus Stop Locations

TRANSIT PRIORITY AT INTERSECTIONS

In an effort to make transit more reliable and minimize travel times for customers, the City may wish to consider transit priority treatments at all intersections that experience recurring delays, on routes supporting frequent transit services, and on planned Bus Rapid Transit (BRT) corridors. Transit priority treatments may include, but are not be limited to, signal coordination, queue jumpers at intersections, and bus only lanes. In some areas, the City will want to implement bus only lanes in the most congested areas along the Red BRT Line. In other locations with frequent transit services, other transit priority treatments should be considered.

Key Design Considerations:

- Signal timing and coordination that prioritizes frequent and rapid transit corridors should be considered for all signalized intersections on both the Red and Blue BRT Lines
- As a minimum, priority can be given to minimize delays in the direction of the rapid transit corridors. Additionally, green times can be extended for buses as they approach a signal or shortened when buses are waiting at the intersection.
- Bus queue jump lanes at signalized intersections can be used to not only bring transit to the front of the queue past traffic, they can also take advantage of the signal priority treatments noted above
- In urban areas of Saskatoon, right-turn lanes can also be used as a bus queue jump lane with priority through the intersection when the light turns green. ❶
- Bus queue jump lanes can be used at intersections with or without a bus stop on the near- or far-side
- Overhead signage is required to support right-turn vehicles only, with the exception of buses ❷
- Transit operators must be trained on the different forms of transit priority at intersections and how best to manage interactions with other modes

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	✓
City Arterials	✓
Community Arterials	✓
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

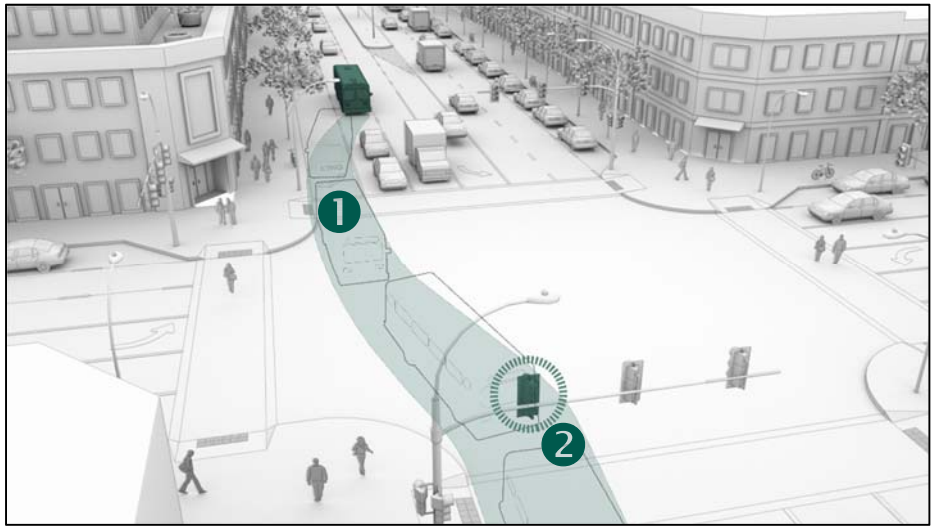


Figure 64 - Transit Priority at Intersections

BUS BULBS

To reduce the time for buses to pull out of and back into traffic, bus bulbs have been used in Saskatoon to keep transit in the curbside travel lane. This reduces delays to transit and can also serve to enhance stop areas and amenities for passengers.

Bus bulbs are similar to curb extensions found at many intersections. In addition to protecting the parking lane and reducing crossing distance for pedestrians, the extension is much longer allowing for more passenger space and other bus stop functions.

Key Design Considerations:

- Most appropriate at far-side stops with higher passenger activity
- Bus bulbs at near-side stops are not preferred as they can interfere with right-turn traffic and impact visibility of pedestrians and bicyclists
- The impacts of bus bulbs on traffic operations and safety at the intersection should be considered based on experience elsewhere in the City
- Bus bulbs should be considered on multi-lane roadways to minimize impacts on other traffic ❶
- Bus bulbs are only appropriate where on-street parking is present ❷
- Consideration must be given toward conflicts with bicyclists through the intersection as well as pedestrian areas
- Bus bulbs will be most effective for reducing transit travel times as well as driver awareness when used in many locations across a corridor

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	
City Arterials	
Community Arterials	✓
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

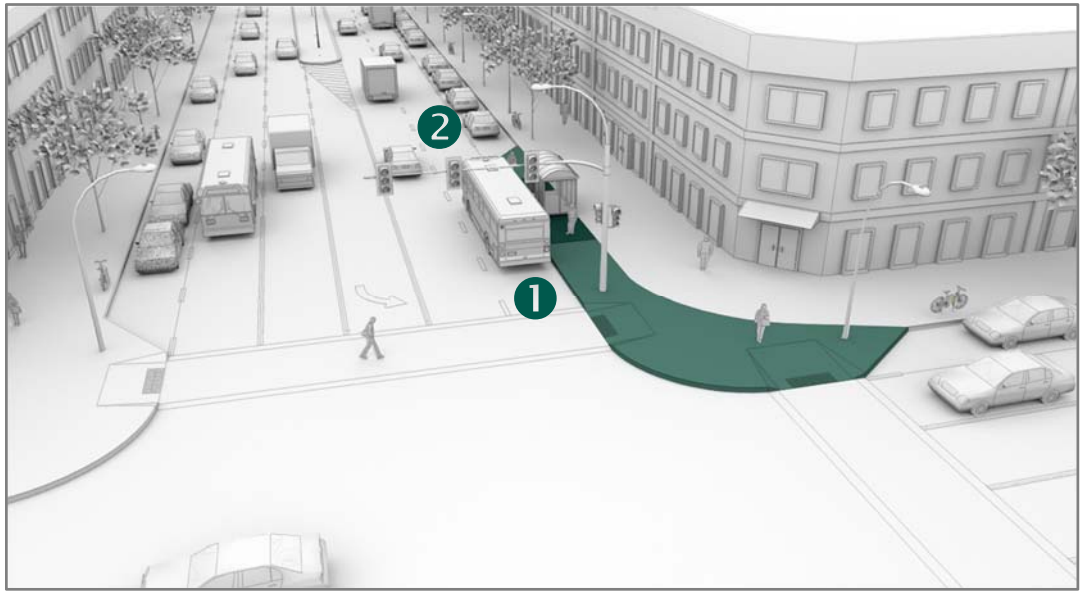


Figure 65 - Bus Bulbs

FARE PAID ZONES (BRT STOPS)

The boarding and payment process for passengers can add considerable time to the journey, and at some of the busiest stops, it can take more than two minutes of dwell time for every 20 passengers boarding the bus. Fare paid zones are designed to reduce the dwell times for buses on planned rapid transit routes. Rather than making a payment or swiping transit passes while entering the bus, passengers can make their payment before entering the fare paid zone at a BRT bus stop and are permitted to enter all doors. This will significantly reduce travel times for passengers and improve effectiveness of increased service levels on rapid transit corridors.

Street Typology	Primary Application
Freeways & Expressways	
Limited Access Arterials	✓
City Arterials	✓
Community Arterials	✓
Suburban Centre Arterials	✓
Urban Main Streets	✓
Downtown Commercial Streets	✓
Parkways	
Neighbourhood Connectors	
Local Streets	
Industrial Streets	
Shared Streets	

Key Design Considerations:

- Fare paid zones should be concentrated at those stops/stations that are located on the BRT corridors where passenger activity is highest ❶
- Sufficient space is required in the design of BRT stations/stops to support entry, fare payment as well as a fare paid zone with passenger seating/waiting and loading/off-loading areas
- In high demand stops, separate fare payment kiosks serving those passengers with and without smart transit cards may be required
- Proof of payment on buses needs to be monitored and enforced to reduce misuse of the prepayment boarding system

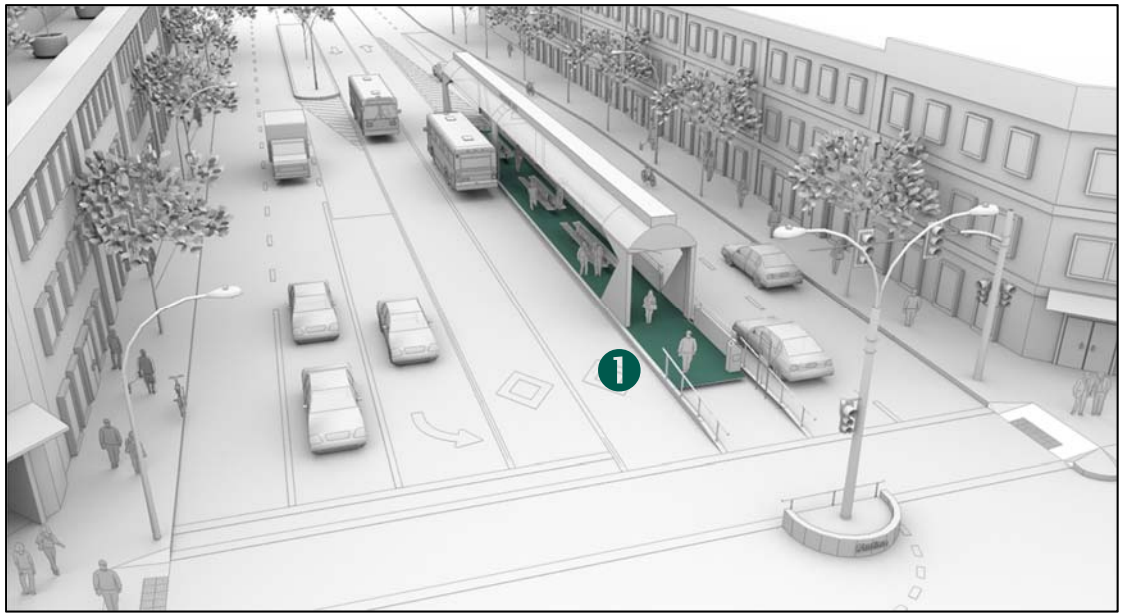


Figure 66 - Fare Paid Zones

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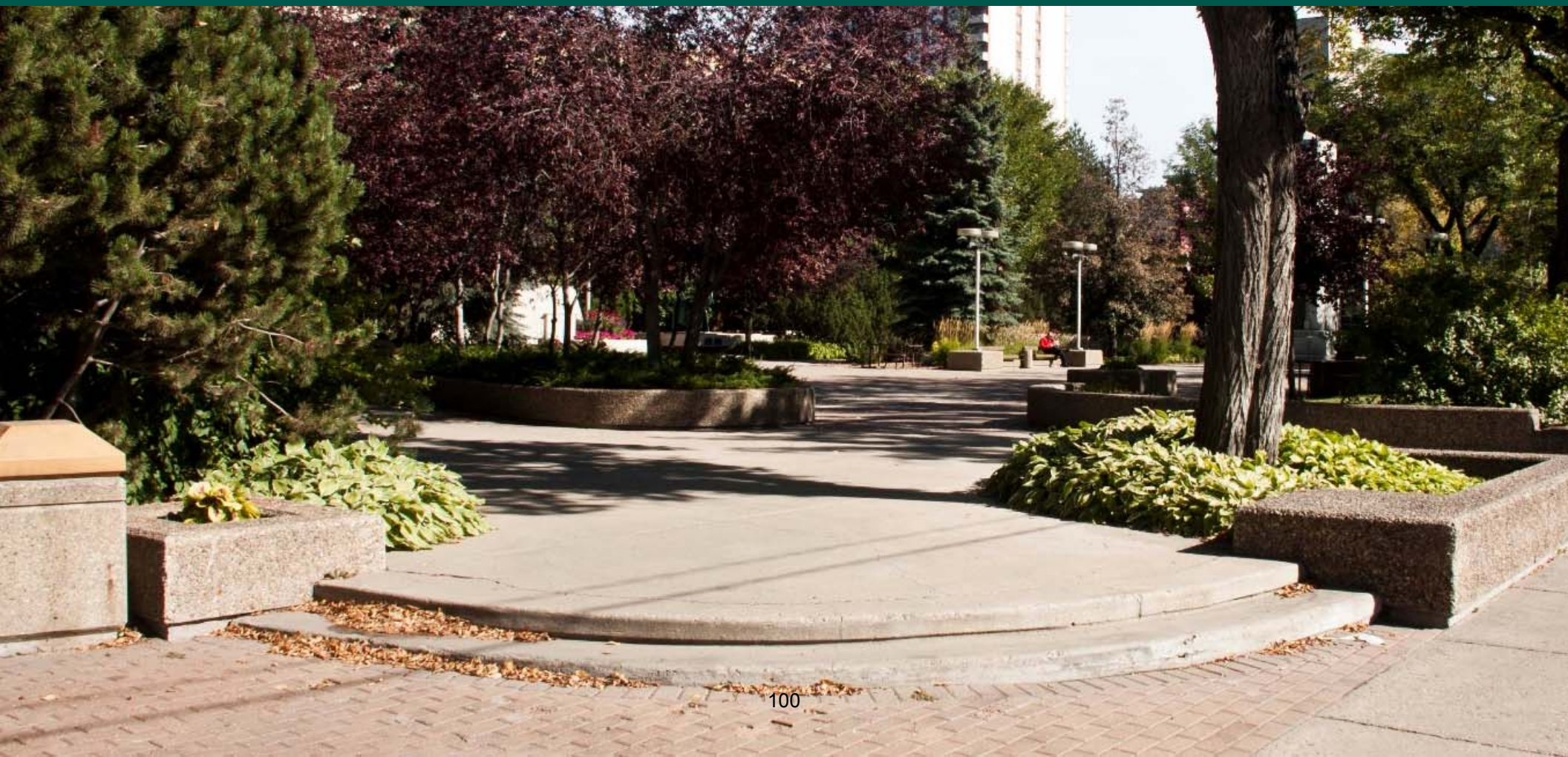
PART 6: Opportunities for Implementation

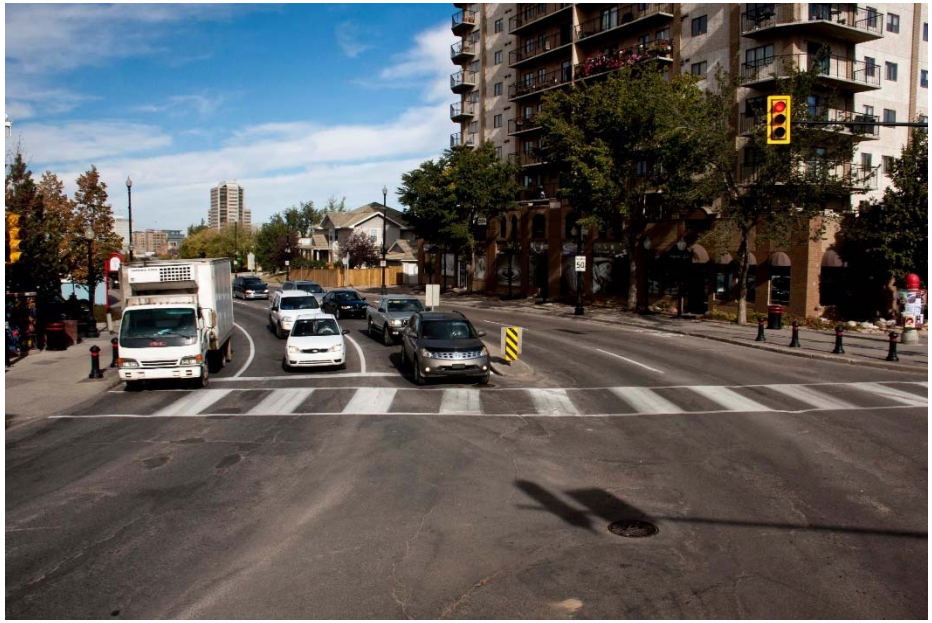


The Complete Streets Policy and Design Guide provides a new way of planning and designing street space. It is as much a process to consider changes to the street environment as it is an outcome to improve balance between travel modes and to ensure that streets are supportive of the communities that surround them. **The Guide** ensures that the area and street contexts today and in the long-term are used to inform any changes to the street space.

The Guide is the starting point to shape conversations about changes to the design of existing and new streets in the City. For example, City staff may use **the Guide** to support ongoing initiatives and discussions with Council. Similarly, Council may use **the Guide** to discuss capital investments with residents and the significance of the changes that will be required to improve choices for travel, making better communities. In the end, **the Guide** must be accessible to the public to broadly understand how city streets in Saskatoon may change in coming years.

Although it will take time to make material changes to city streets, successful implementation of **the Guide** dictates early changes to 'how' streets are being planned, designed, constructed, operated, and maintained. It requires interdisciplinary considerations of the context and aspirations for the surrounding areas and for the corridor itself, based on current day conditions and planned changes.

This section of **the Guide** presents actions to begin the implementation of a new process for advancing complete streets. Rather than creating new initiatives centred specifically on complete streets, this section outlines strategies for building complete streets into the activities already undertaken by the City. More importantly, many of the existing processes for planning, designing, operating, and maintaining streets should involve perspectives from different departments. Through the **Growth Plan** process and other City initiatives, much of the ground work toward engaging interdisciplinary thinking has already begun throughout the organization.



AMEND THE DESIGN & DEVELOPMENT STANDARDS MANUAL (<2 YEARS)

The City's **Design & Development Standards Manual** (**the manual**) provides guidance on typical standards for new streets and treatments for existing streets to support all modes of travel. **The Guide** outlines new treatments that are critical ingredients to realize complete streets across the city.

Beyond the design considerations referred to in **the Guide**, the City should amend **the manual** based on the specific treatments outlined in this document. **The manual** should speak to alternative standards that may be suitable for a specific treatment in various circumstances (i.e. on two lane versus multi-lane roadways if different). **The manual** should be designed for application in both retrofit situations as well as new neighbourhood development. Updates to **the manual** should promote flexibility in dealing with constraints such as right-of-way limitations or potential integration of street uses.

As part of this review process, the City will want to understand the financial implications of incorporating complete street designs in new neighbourhood development areas and should update the levy structure as required to accommodate these new standards.

UPDATES OF STREET TYPOLOGIES (ONGOING)

Complete street treatments will play a vital role in transforming many major roadways in the City into active streets that promote greater integration between land uses and the right-of-way that surround and serve them.

Street typologies referred to in **the Guide** reflect the integrated aspirations for many major corridors in the city. A map of the complete street typologies was created based on the context for area, corridor conditions and aspirations as presented in the **Growth Plan** and other relevant plans developed by the City. The context of a street may change as new plans are developed over time. As such, the City may wish to refine the typology maps presented in **the Guide** to ensure the process of setting context incorporates the most current planning information that is available, possibly through a living document.

LOCAL AREA PLANS OR TRAFFIC REVIEW PROGRAMS FOR ESTABLISHED NEIGHBOURHOODS (ONGOING)

The City has Local Area Plans (LAP's) for many of the existing neighbourhoods. It will be important to ensure context forms the basis of discussions when neighbourhood residents are considering land use, neighbourhood safety, transportation, and how development can contribute to the evolution of their neighbourhoods.

As part of the LAP or NTR process, stakeholders are given the opportunity to review and analyze key attributes that form a healthy and inclusive community. As part of the Neighbourhood Traffic Review (NTR) process, the community is involved in reviewing the transportation network and identifying traffic concerns and issues. By leveraging the residents' familiarity of community behaviours, land use concerns, and opportunities, the City can then use this information to ensure the appropriate street typologies are applied through the development of neigbourhood plans. These concept plans can then be taken back to the community for review and feedback through the LAP or NTR engagement process that is included as part of the overall community plan with neighbourhood stakeholders.

MAJOR AND MINOR CAPITAL PROJECTS (ONGOING)

Each year, the City implements both major and minor improvements to streets across Saskatoon. Streets in new neighbourhoods are typically designed and implemented by the development community in accordance with the City's **Design and Development Standards Manual.** In existing areas, minor and major capital improvements are planned and implemented to support all modes of

travel. For example, dedicated funds are set in place for annual improvements to sidewalk and bicycling infrastructure. The City should consider incorporating complete streets in the design of major and minor capital projects.

The process would begin with reaffirming the primary needs of the project, considering the broader context, local area needs, and aspirations for a corridor as presented in **the Guide**. The typology of the street presented in **the Guide** may be used to confirm this context and to provide insights on the types of treatments that may be most relevant to the street.

The process would involve expanded participation from other departments in City Hall, but may also involve the community in a broader discussion about the vision and goals for the street including possible treatments that are being considered to achieve these goals. Following completion of these capital projects, the City may consider monitoring how the process went both internally and externally with community stakeholders.

INFRASTRUCTURE REHABILITATION INITIATIVES (<2 YEARS)

The City's annual infrastructure rehabilitation projects include changes to surface conditions and underground utilities. To leverage financial resources, the City may incorporate complete street treatments in the rehabilitation process (e.g. Victoria Avenue Corridor Review project, 8th Street to 11th Street).

This process should determine not only the additional costs to alter the street form to reflect the broader context of the street, but also the incremental cost of incorporating complete street treatments within an existing rehabilitation project. The process may involve the community in a broader discussion about the vision and goals for the street and possible treatments that are being considered to achieve these goals. The City may consider monitoring how the process went both internally and externally with community stakeholders.

The outcomes from these initiatives should be considered in the context of finding economic ways of enhancing streets within Saskatoon at the same time as undertaking necessary rehabilitation projects.

DEVELOPMENT REVIEW PROCESS (ONGOING)

The Development Review process is a natural opportunity for the City to ensure that proposed developments align with **the Guide**. As development proposals are received, Administration could add an additional level of analysis that includes compliance with approved street typologies and design treatments. This could be achieved by evolving the City's current review process (Posse system) to include considerations of **the Guide**.

As developer proposals are received, the Neighbourhood Concept Plan review process must ensure that proposed developments are supportive of the typology and design treatments that have been identified for the respective street. The desired treatments or typologies could be reaffirmed through the Local Area Plan, Corridor Plan or land development process. Further mechanisms to embed the street typology as a consideration within the land development process and/or zoning, should be explored.

The draft and final design submissions put forth by the Developer should include and support the treatments that are included in **the Guide**.

COMMUNITY OUTREACH (ONGOING)

Awareness and understanding of the **Complete Streets Policy and Design Guide** within the community is essential. Investments in outreach will serve to increase awareness of the growing need to balance the allocation of street space to support land use and transportation priorities. With greater knowledge and understanding, staff, residents, and City Councillors with be equipped to provide more meaningful guidance and feedback on community street designs as they are being developed and implemented. **The Guide** and associated street treatments should be visible throughout the community using various forms of digital and direct communications and engagement.

MONITORING COMPLETE STREET APPLICATION (EVERY 2-3 YEARS)

Monitoring of both performance and progress is critical to the implementation of any successful policy. The City may consider monitoring the application of the **Complete Streets Design and Policy Guide** both internally and externally with community stakeholders. Monitoring should assess the strengths and weaknesses of **the Guide**, and whether there has been measurable change by incorporating complete streets into various City departments. This effort could also examine strategies for further enhancing and broadening application of **the Guide**.

OPERATING POLICIES REVIEW (ONGOING)

The Guide outlines elements that will change the form and function of the streets in Saskatoon. Some streets will change quite a bit while others not as much. This will be a gradual shift as scheduled capital projects are combined with street improvements across the City. Policies that the City has in place for operating and maintaining these streets need to be updated to reflect the principles outlined in **the Guide**. This process will have to evolve as the streets in Saskatoon are modified. Snow removal, lane closures, pavement markings, and new construction procedures are just a few of the policies that will need to be reviewed and revised.

SUMMARY OF WHO'S INVOLVED

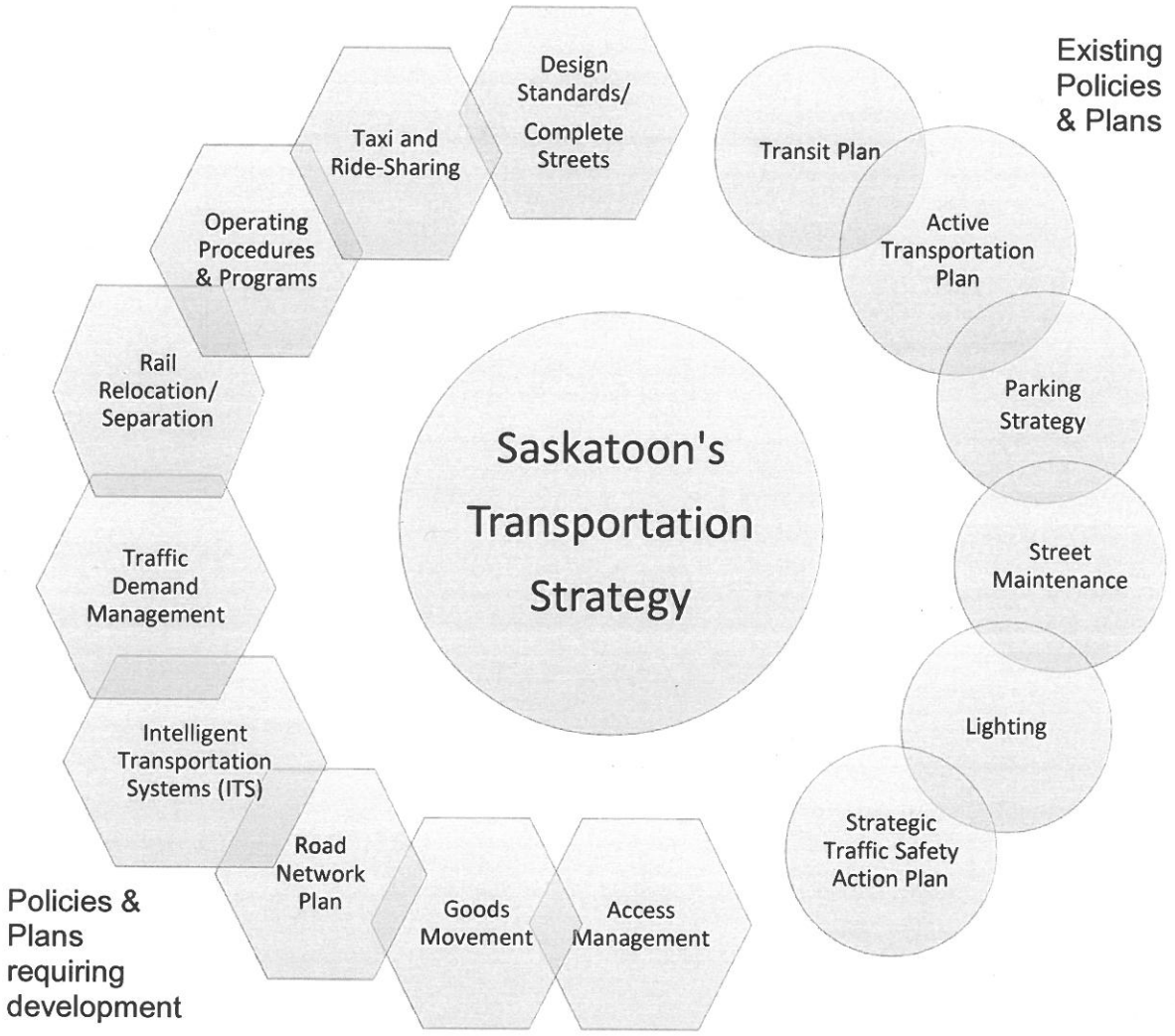
The change that is required to implement **the Guide** is not simply in how streets are considered and designed. It will require a fundamental shift in terms of who is involved in the process at the City, and when. The successful application of **the Guide** will be reliant on broadening the perspectives and involvement in how streets are planned, designed, operated, and maintained.

Incorporating complete street treatments in existing and new streets will require support from the public and City Council. Applying **the Guide** to different circumstances will require increasing community awareness of complete streets and involvement with the options being considered.

In short, it will require interdisciplinary thinking to incorporate different perspectives and to ensure that the street designs ultimately reflect City plans. There needs to be an organized effort to involve the appropriate departments within the City administration to ensure **the Guide** is successfully implemented.


GROWTH PLAN
to Half a Million
Transit
Core Bridges
Employment Areas
Active Transportation
Water & Sewer
Financing Growth
Corridor Growth

Saskatoon's Transportation Strategy – Supporting Plans and Policies



STANDING POLICY COMMITTEE ON ENVIRONMENT, UTILITIES & CORPORATE SERVICES

Special Needs Garbage Collection Service

Recommendation of the Committee

1. That through the Waste Utility consultation, the Administration engage with relevant stakeholders such as senior and disability services organizations as well as the Saskatoon Accessibility Advisory Committee to address accessibility needs as well as any updates required to the Special Needs Garbage Collection Service; and
2. That the report of the A/General Manager, Corporate Performance Department, dated October 10, 2017 be forwarded to the Saskatoon Accessibility Advisory Committee for information.

History

At the October 10, 2017 Standing Policy Committee on Environment, Utilities & Corporate Services meeting, a report of the A/General Manager, Corporate Performance Department dated October 10, 2017 was considered.

Attachment

October 10, 2017 Report of the A/General Manager, Corporate Performance

Special Needs Garbage Collection Service

Recommendation
That the report of the General Manager, Corporate Performance Department dated October 10, 2017, be received as information.

Topic and Purpose
This report provides information and costs for the existing special needs collection program and to identify potential options and considerations for expanding this service.

Report Highlights
1. The Special Needs Garbage Collection Service was implemented in 2007 as part of the garbage container conversion process in core neighbourhoods and was intended to be phased out.
2. The program is comprised of approximately 300 participants who are elderly or mobility challenged and require assistance with their collection carts. The program has not accepted any new applicants since inception; however, the Administration continues to receive requests for new applicants.
3. Since the special needs program was implemented, the number of households utilizing the service has decreased by approximately 100.
4. Costs to provide this service are estimated at $490 per household. Funding for this service is provided through property taxes.
5. The marketing program approved in the 2016 Operating Budget has not yet been implemented, and will be implemented in late 2017.

Strategic Goals
This report supports the Strategic Goal of Quality of Life by refocusing on services that are of high importance to citizens and by developing age-friendly initiatives to enhance quality of life as people age.

Background
City Council at its 2016 Preliminary Business Plan and Budget meeting held on November 30 and December 1, 2015, considered the report Services and Accommodations for Seniors and Residents with Physical Limitations – Options and Possible Partnerships and resolved, in part:

> "2. That, Option 2, a marketing promotion campaign, like the Snow Angel Program, with a focus on neighbours helping neighbours with moving their garbage/recycle bins, including the establishment of a process for groups to be on a list for providing a low-cost fee for service in assisting with moving bins be approved, with an increase to the budget of $12,000."

The Standing Policy Committee on Environment, Utilities and Corporate Services, at its meeting held on September 11, 2017, considered the Waste Handling Levels of Service report and resolved, in part:

> "1. That at the next meeting of the Standing Policy Committee on Environment, Utilities & Corporate Services the Administration bring forward the past report on the special service garbage collection and other accessibility issues as they pertain to waste services, as well as any follow up to that report that may be available."

City Council, at its meeting held on September 25, 2017, considered the Waste Handling Levels of Service report and resolved, in part:

> "4. That all other service level changes be considered during the development and implementation of waste utility options."

The Services and Accommodations for Seniors and Residents with Physical Limitations – Options and Possible Partnerships report, dated November 30, 2015 is included as Attachment 1.

Report

Special Needs Garbage Collection Service History

The Special Needs Garbage Collection Service was established in 2007 during the garbage container conversion process, whereby, households were provided with individual rollout carts instead of communal waste bins in the back lanes. The service was established in response to concerns from residents who were unable to manoeuvre the rollout carts but were otherwise able to take out small bags of garbage. City employees were hired to roll out carts from private property, collect them with semi-automated rear-loading garbage trucks and then return the carts after collection.

The special needs service was originally intended only for residents who resided in the neighbourhood at the time of the conversion, and with the intent that these households would be phased out when new residents moved in. To be eligible for the program, the following criteria was established and confirmed through a site visit by the Customer Service Supervisor to ensure the resident:

- lived in a neighbourhood that underwent a conversion from communal waste collection to individual rollout carts;
- lived independently (without the benefit of family members);
- was frail due to age or had a physical disability or severe medical condition; or
- lived at a property with extreme physical barriers (such as an elevated yard).

Current Program

When the curbside residential recycling program was implemented in 2013, the households that were included in the Special Needs Garbage Collection Service were also provided special recycling collection services as established under contract with Loraas Recycle. Special needs services are not currently available for the optional Green Cart food and yard waste program. The number of households receiving special

needs collection service has decreased since implementation and is now approximately 300.

The staff and equipment that provide special needs garbage collection also perform other duties such as clean-ups of illegally dumped materials in back lanes and recycling depots, and garbage collection from special locations that cannot be serviced by automated side loaders due to narrow lane widths or raised lots. There are approximately 500 special collection locations that are serviced by rear-loader trucks, in addition to the 300 households included in the special needs service.

In 2016, the cost to provide special needs garbage collection to 300 households was $147,000 or the equivalent of $490 per household. This service costs approximately five times more than automated curbside garbage collection for the following reasons: two staff are required for each truck (one operator and one labourer to retrieve carts), collection locations are more dispersed throughout the city, and each collection takes longer to complete. The costs to operate this program are funded by property taxes.

The $12,000 allocated to create a marketing or promotion campaign was not used in 2016 on a dedicated program as only preliminary investigations were completed. Administration will develop a community awareness campaign to encourage people to assist neighbours with their collections carts. This program will use the $12,000 allocation to design a program to fit the allocated funds. The program will be implemented in late fall of 2017.

Decline in Program Use

Since the special needs program was implemented, the number of households utilizing the service has decreased by approximately 100. The Administration receives approximately 10 requests annually from elderly and mobility-challenged residents who wish to be included in the Special Needs Garbage Collection Service. The program history is explained to these residents, and they are offered smaller 65 gallon carts as a possible solution as these carts are easier to manoeuver and store.

Options to the Recommendation

As an informational report, there were no options considered.

Communication Plan

A community awareness campaign will be directed at neighbourhoods where the special services collections program takes place. The goal of the awareness will be to encourage residents to help their neighbours with their collections carts. This campaign will start in late fall 2017.

Financial Implications

The Special Needs Garbage Collection Service is funded from the Garbage Collection Operating Budget under the Waste Handling Service Line. In 2016, the cost to provide special needs garbage collection to 300 households was $147,000 or the equivalent of $490 per household.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

If approved, the Administration will report back on options for expanding the Special Needs Garbage Collection Service as part of the follow-up report on waste utility design options in 2018.

Public Notice

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

Attachment

1. Report - Services and Accommodations for Seniors and Residents with Physical Limitations – Options and Possible Partnerships – Dated November 30, 2015

Report Approval

Written by:	Michelle Jelinski, Senior Project Management Engineer, Water & Waste Stream
Reviewed by:	Mark Shaw, Environmental Operations Manager, Water & Waste Stream Russ Munro, Director of Water & Waste Stream
Approved by:	Jeff Jorgenson, Acting General Manager, Corporate Performance Department

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Services and Accommodations for Seniors and Residents with Physical Limitations – Options and Possible Partnerships

Recommendation

That the options to address requests for assistance with moving recycling/garbage bins and sidewalk clearing, as outlined in this report, be considered during the 2016 Business Plan and Budget Review.

Topic and Purpose

The purpose of this report is to respond to an inquiry requesting options to address requests from seniors and residents with physical limitations for assistance with moving recycling/garbage bins and with sidewalk clearing.

Report Highlights

1. Public Works currently has a limited program for seniors and people with physical limitations, where City of Saskatoon (City) employees move the bins from private property and replace the bin after collection. This service was established, in conjunction with the garbage container conversion project, as a way to address concerns raised by some residents who physically could not manoeuvre roll-out bins.
2. Public Works currently has community-based initiatives encouraging the community and community-based groups to support those with health and mobility restrictions.
3. There are a number of options available for consideration, consisting of continuing with the existing limited level of service, considering grants and/or partnerships with community-based organizations, and enhancing the information available about community-based options.

Strategic Goal

This report supports the City's Strategic Goal of Quality of Life and refocusing on our services that are of high importance to our citizens.

Background

In 2007, Environmental Services introduced a Special Needs Service whereby City employees move garbage bins from private property, collect with a semi-automated rear-loading truck, and replace the bin after collection. This service is provided on a different day from regularly-scheduled collections. The service was established in conjunction with the garbage container conversion project that saw 300-gallon communal waste containers located in back-lanes across the city replaced by individual roll-out black garbage bins. It was never officially created as a program. The Special Needs Service was created as a way to address concerns raised by some residents

who could physically manage taking small bags of garbage to a large bin but could not easily manoeuvre roll-out bins.

Procedures have been created for the administration of this service. Eligibility criteria were established and implemented through a site visit by the Customer Service Supervisor to confirm:

- the resident lives in a neighbourhood that underwent a conversion from communal waste collection to individual roll-out carts; and
- lives independently (without the benefit of family members); and
- has a physical disability or other limitations; or
- lives at a property with extreme physical barriers (such as an elevated yard).

At its March 4, 2013 City Council meeting, the following inquiry was made by Councillor Loewen:

> "Would the administration please explore options and possible partnerships that would allow the City to expand services and accommodations to seniors and to residents with physical limitations? Specifically, please supply information about how the City could address requests for assistance with moving recycling and garbage bins as well as with sidewalk clearing."

In 2013, with the launch of the new Recycling Program, City Council was informed that the Special Needs Services would also be delivered by Loraas Recycle to the same addresses served by the City.

Report

The City's Current Services and Accomodations – Moving Bins

Through Public Works, the City offers the Special Needs Service for assistance with moving garbage bins. When the program started in 2007, there were 488 participating households. The service was specific to the neighbourhoods affected by the garbage conversion project only. Addresses would be dropped from the service over time and no new addresses would be added. As of 2015, there are approximately 400 households still receiving the service.

The Special Needs Service comprises approximately 60% of the work completed by rear-loading garbage trucks (of which Public Works operates two). The projected cost to provide this service to 400 homes in 2015 is $195,000 (or $488 per household). This service costs approximately five times more than automated curbside garbage collection.

The City's Current Programs and Services – Shovelling Snow

Public Works, in relation to snow removal on residential sidewalks, has community-based initiatives already underway. Annually, the Snow Angel Program is promoted with a call to action for neighbours to consider adopting a senior's sidewalk and keep it clear of snow. In the past, Public Works has also put out a request to non-

profit and volunteer groups offering sidewalk snow-clearing programs for the elderly or those with mobility restrictions to register on a list that could be published and promoted by the City. This list of organizations offering this service is then promoted on the City's website.

Public Works also annually distributes the "Snow What to Do" flyers to remind all residents of their responsibility under Sidewalk Clearing Bylaw, 2005, No. 8463. Within that brochure, residents who are not physically able to remove the snow are reminded to ask family members, friends, and neighbours to assist with snow removal, or contact a local community group providing the service.

Options and Possible Partnerships

There are a number of options available for consideration, consisting of continuing with the existing limited level of service, considering grants and/or partnerships with community-based organizations, and expanding the program for all residents that would qualify under the program.

To address the requests for assistance with moving garbage and recycling bins and sidewalk clearing, the Administration has identified a number of options for consideration. In brief, the options are:

1. Continue with the existing level of service to the approximate 400 households currently on the program within the neighbourhoods that were part of the garbage bin conversion project.
2. Launch a marketing promotion campaign, like the Snow Angel Program, with a focus on neighbours helping neighbours with moving their garbage/recycle bins. This would include the establishment of a process for groups to be on a list for providing a low-cost fee for service in assisting with moving bins.
3. Explore partnership opportunities that would include providing support funding for neighbourhood-level clubs, teams, or organizations willing to sign up as volunteers to take on the task of moving the bins on regular collection days. Support funds are considered necessary to provide incentive for volunteers to ensure the service is available equally across the city and consistently on each collection day. Such an initiative could provide a fundraising opportunity for non-profit organizations operating in Saskatoon. The amount of funding required to provide an appropriate incentive is not known at this time. A partnership program of this type would require administrative support from the City (at an estimated cost of $20,000 annually), along with an annual amount of support funding.
4. Issue a Request for Proposals (RFP) for community-based organizations to take on the city-wide service of assisting with the moving of garbage/recycle bins throughout the year for any residents that qualify under the criteria of the program.
5. Explore other options to ensure that all citizens have reasonable choices available for moving recycling/solid wast bins and sidewalk clearing.

The options identified in this report provides a range of potential programs and supports to assist seniors and people with physical limitations. While the list is not exhaustive, it does provide information about potential supports to consider pursuing.

Options to the Recommendation
The Business Plan and Budget Review Committee could direct the Administration to implement one of the options presented within this report.

Public and/or Stakeholder Involvement
In investigating potential options or partnerships, representatives from the Saskatoon Council on Aging were consulted, as were members of the Saskatoon Accessibility Advisory Committee of Council.

Communications Plan
Any new options would be communicated using Public Service Announcements and updating the City's website.

Financial Implications
Option 1: No new budget is required as this program is already supported within the operating budget.

Option 2: The estimated costs to expand the promotion of the neighbour helping neighbour with the moving of bins would be similar to the cost of the Snow Angel Program promotions, which is approximately $12,000 per year. There needs to be internal resources allocated to develop the communications plan/marketing strategy, graphic design work, and support for developing the online forms to sign up community-based organizations.

Option 3: In addition to the $20,000 in administrative support to the program, there would also be a need for funding support for the organizations participating in the program. The total impact would need to be further explored should this option be considered.

Option 4: The financial implications of this option would need to be determined through an RFP.

The implications of an expanded Special Needs Service for recycling carts is unknown at this time. While it would be expected that the same level of service be provided for recycling, Loraas Recycle may also request additional contract fees as a result.

Other Considerations/Implications
At this time, there there are no policy, environmental, privacy, or CPTED implications or considerations. Pending the direction of City Council, these implications may also need to be further investigated.

Due Date for Follow-up and/or Project Completion

Should City Council approve one of the options within this report and the corresponding resources, the Administration would look to formalize the details of the program in the first half of 2016. The Administration would undertake to further investigate the full scope of that option and the detailed costing with a plan to implement the changes for the 2016 winter season.

Public Notice

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

Report Approval

Written by:	Lynne Lacroix, Director of Recreation and Community Development
Reviewed by:	Pat Hyde, Director of Public Works
Approved by:	Jeff Jorgenson, General Manager, Transportation and Utilities Department
Approved by:	Randy Grauer, General Manager, Community Services Department

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BF 104-14

Request for Term-Limit and Tracking on Loading Zones in Residential Areas

Recommendation
That the report of the General Manager, Transportation & Utilities Department dated August 15, 2017, be received as information.

Topic and Purpose
This report provides information on establishing term-limits and tracking of disabled parking zones in residential areas.

Report Highlights
Implementation of term-limits and tracking of disabled parking zones in residential areas is not recommended as the policy in place is successful in managing the removal of disabled parking zones.

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

Background
The Standing Policy Committee on Transportation, at its meeting held on April 4, 2017, considered correspondence from the Saskatoon Accessibility Advisory Committee regarding term-limits and tracking for loading zones in residential areas and resolved:

> "That the matter of a term-limit and tracking of loading zones in residential areas be referred to the Administration for a report."

Report
City of Saskatoon Council Policy C07-026, Disabled Parking Zones (Attachment 1) outlines that a disabled parking zone can be installed on the street in front of the property owned by the applicant or tenants of a property with the owner's permission. The policy states under 3.1 b) "The applicant is responsible for notifying the City when the disabled parking zone is no longer required".

In the last three years, a total of 152 disabled parking zones have been established:

- 2014 – 29
- 2015 – 57
- 2016 – 66

When a disabled parking zone is no longer needed by an applicant, the Administration is normally contacted and the zone is removed. Or, if new occupants of a residence do

not require a previously installed disabled parking zone, the Administration is contacted and the zone is removed. As on-street parking directly in-front of a person's residence is attractive to people, the policy in place is successful in managing the removal of disabled parking zones. The Administration does not have an inventory of installed disabled parking zones throughout the City. In 2016, five disabled parking zones were removed.

The cities of Calgary and Edmonton have a similar policy in place to administer the installation and removal of disabled parking zones, and also do not have inventories of installed disabled parking zones.

Options to the Recommendation

Instituting expiration dates or term-limits on disabled parking zones can be accomplished through the development of an inventory and tracking system, and the determination of an appropriate term. Additional staffing and resources would be required for the following:

- To locate each disabled parking zone;
- Contact the current property owner or tenant;
- Confirm the continued need for the disabled parking zone;
- Confirm an appropriate term-limit;
- Revise the policy; and
- Install an expiration date on the signs.

The cost of labour and equipment required to revise the current practice and policy is estimated as follows:

Task	Labour and Equipment Required	Estimated Cost
Review all city block faces and establish the expiration on each sign	• Two Sign Shop staff for 6 months • One vehicle for 6 months	$ 75,000 10,000
Contact each property owner or tenant and confirm need for disabled parking zone, create database, liaise with stakeholders on revised Council Policy details, and revise Council Policy	• One office staff for 12 months	$ 75,000
Total		$160,000

The requirements for a disabled parking zone permit are supplied by the Saskatchewan Abilities Council and allows for a three-year renewal period. If a term-limit is included in a revised policy, a logical term may be three years.

Public and/or Stakeholder Involvement

If City Council decides to proceed with changing the policy, all property owners or tenants in possession of a disabled parking zone, and the Saskatoon Accessibility Advisory Committee would be consulted as a key stakeholder in the implementation of the change in policy.

Communication Plan

If City Council decides to proceed with changing the policy, all property owners or tenants in possession of a disabled parking zone would be contacted to communicate the changed policy to determine whether their existing space is still required. The changed policy would also be communicated on the City website, through a notice posted at City Hall, in The StarPhoenix City Pages, and via key stakeholder organizations identified in consultation with the Saskatoon Accessibility Advisory Committee.

Policy Implications

Council Policy C07-026, Disabled Parking Zones will be revised and brought to City Council for approval if changes are deemed necessary.

Financial Implications

If the policy requires changes to include term-limits, a capital project would be submitted to City Council for the 2019 Business Plan and Budget deliberations.

Ongoing operating impacts of a revised policy are not expected to be significant and could be managed through existing staffing levels.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

If City Council resolves to change the policy, a capital project would be submitted to City Council for the 2019 Business Plan and Budget deliberations. In early 2020, following completion of the 2019 work required to revise the current practice, the Administration would bring forward a report summarizing the work completed, and a proposed revised Council Policy.

Public Notice

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

Attachment

1. Council Policy C07-026, Disabled Parking Zones

Report Approval

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

TRANS DL - Request for Term-Limit and Tracking on Loading Zones in Residential Areas.docx

CITY OF SASKATOON COUNCIL POLICY

NUMBER
C07-026

POLICY TITLE	ADOPTED BY:	EFFECTIVE DATE
Disabled Parking Zones	*City Council*	*August 18, 2016*
ORIGIN/AUTHORITY	**CITY FILE NO.**	**PAGE NUMBER**
City Council – Standing Policy Committee on Transportation Report, Item 8.3.1.	*CK. 6145-1*	*1 of 3*

1. PURPOSE

To define criteria for installation of disabled parking zones.

2. DEFINITIONS

2.1 Disable Parking Zone - an area of a street or a parking lot indicating that space is only to be used for vehicles displaying a disabled placard and Access Transit.

2.2 Disabled Placard - a placard as supplied by Saskatchewan Abilities Council or Canadian Paraplegic Association.

2.3 Access Transit - Access Transit is for those who are unable to use the regular transit system with safety and dignity. It is a shared-ride service, travelling on an accessible door to accessible door basis.

3. POLICY

3.1 General

a) Applications for disabled parking zones can be accepted from property owners or tenants of a property with owner's permission.

b) The applicant is responsible for notifying the City when the disabled parking zone is no longer required.

3. 2 Warrants

The disable parking zone MAY be warranted if the criteria below are met:

a) Property does not have driveway access.

b) If the property has a driveway access the following exceptions MAY be considered:

i) Applicant uses Access Transit regularly.

ii) Applicant is a wheel chair user and cannot access their vehicle easily or has someone picking them up regularly.

c) Applicant must be the property owner or must provide written permission from the owner. For a multi-unit building site, the applicant must provide written permission from the property management company or condominium board.

d) Applicant must be a valid placard holder and display it in the window of their vehicle when parking within the disabled parking zone.

3.3 Regulation

a) The maximum number of disabled parking zone allowed is one per property.

b) The location of disabled parking zone should be within their property lines and it shall not be installed at locations where it would be a detriment to traffic safety or traffic flow.

c) The size of a disabled parking zone typically is 7 metres in length by 2.5 metres in width.

3.4 Cost

There is no cost associated with disabled parking zone for the applicant and the City is responsible to provide its signage, installation and future maintenance.

4. RESPONSIBILITIES

4.1 The applicant shall be responsible for notifying the Transportation division when the disabled parking zone is no longer required.

4.2 Transportation and Utilities Department shall be responsible for:

a) Administering, reviewing and recommending updates to the policy.

b) Providing, installing and maintaining the signage.

4.3 Director of Transportation shall be responsible for approving disabled parking zone requests.

4.4 City Council shall be responsible for approving any updates to this policy as recommended by the Transportation and Utilities Department.

Saskatoon Transit 2016 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 2016 Annual Report that outlines the performance of Saskatoon Transit in 2016 and includes a comparative analysis to previous years.

Report Highlights

1. Total Rides in 2016 were 8,515,269 (electronic) which was a decrease of 0.7% compared to 2015.
2. Annual Access Transit Revenue trips in 2016 were 130,265 which was 2.3% more than Revenue Trips provided in 2015.
3. The denial rate for Access Transit was 5.5% in 2016 which was a decrease of 3.7% over 2015.
4. Reliability for Access Transit remains high with average on-time performance of 92%.

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 2016 Annual Report is as follows:

Conventional Transit

Total Rides in 2016 were 8,515,269 (electronic) which was a decrease of 0.7% compared to 2015. Transit's formula based (calculated) ridership for 2016 was 12,297,395. 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 Public Transit Infrastructure Funding 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 increasing from $3.15 in 2015 to $3.20 for 2016. As a comparison the cost per passenger for Regina Transit in 2015 was $4.97.

Saskatoon Transit received 1,268 complaints in 2016, which is 286 more than 2015. Route changes this year caused an increase in complaints as both customers and operators were learning these new routes. Overall complaints were primarily about operators and the buses arriving early, late or driving by without stopping.

Access Transit – Revenue Trips

A Revenue Trip is defined as a one-way trip from point A to point B. In 2016 the total service demand for Access Transit increased by 2.3% (3007 trips). The number of registered active customers raised slightly (278) in 2016 over 2015 to 4988. Saskatoon Transit is still on track to conduct a complete review of Access Transit in 2017 in order to prepare for a 100% accessible Conventional Transit fleet in 2018.

Access Transit – Denial Trips

A Denial is a trip request by a customer that cannot be accommodated. Out of the total Denials for 2016, 83% of them were Dispatch Denials, and 17% were Customer Denials. Compared to 2015, Dispatch Denials decreased by 5% from 88%, and Customer Denials increased by 5% from 12%. This means that Customers were 5% less flexible with their times for trip requests; conversely, resources were 5% less of an issue for a Denial in 2016 compared to 2015.

Access Transit – Productivity

Despite the various challenges Access Transit operators face on the road, they were still able to maintain an average of 92% on time performance for 2016.

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 2016 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 2016 Annual Report

Report Approval

Written by:	Hidayat Ullah, Accounting Coordinator, Saskatoon Transit Bob Howe, Manager Access Transit Michael Moellenbeck, Manager Conventional Transit Cory Shrigley, Manager Customer Support and Engagement
Reviewed by:	Jim McDonald, Director of Saskatoon Transit
Approved by:	Angela Gardiner, Acting General Manager, Transportation & Utilities Department

TRANS JM - Saskatoon Transit 2016 Annual Report

Saskatoon Transit

2016 Annual Report

City of Saskatoon
Transportation & Utilities Department

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.

Fixed Route or Conventional Transit ridership is calculated in two methods: Electronic ridership and Calculated (formula-based) ridership. Calculated ridership is used for Canadian Urban Transit Association (CUTA) reporting as it is comparable with other properties who do not have electronic fare boxes, it was also the measure used for determining the allocations for Phase 1 of the Public Transit Infrastructure Fund (PTIF). In 2016, ridership was approximately 8.5 Million Fixed Route or Conventional Transit riders, 12.3 Million for electronic-based ridership and 134,000 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 187 buses:

- 161 serving Fixed Route demands:
  - 145 conventional 40-foot diesel buses, of which there are still 31 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 34 bus routes along approximately 276 kilometers of streets with 1,650 bus stops. During peak hours, there are 103 buses on various routes throughout the city resulting in a spare ratio of 56%.

In 2016, as part of Fleet Renewal Strategy Saskatoon Transit refurbished 10 buses with an expectation of extending the life of a bus by 6 to 9 years. In addition to that Saskatoon Transit also added 10 new buses to the Fleet.

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

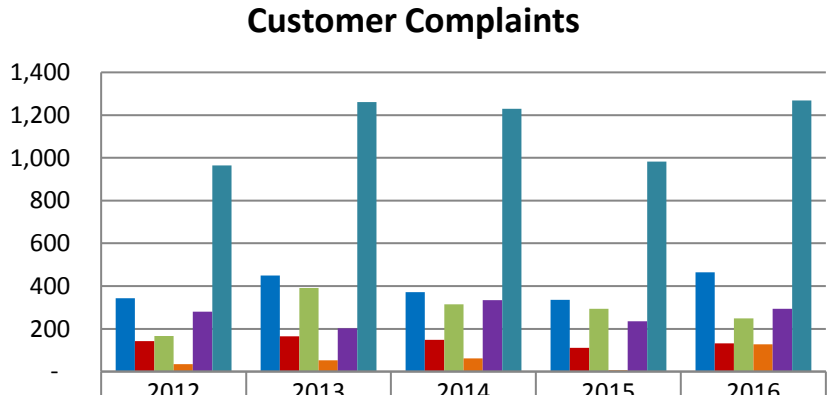
Customer Satisfaction and Complaints:

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

The City of Saskatoon's 2016 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. By providing consistent services, Saskatoon Transit was able to maintain its customer satisfaction in 2016 at 5.7.

Figure 1: Customer Satisfaction

Saskatoon Transit received 1,268 complaints in 2016, which is the highest in the last four years. Overall complaints were primarily about operators and the buses arriving early, late, or driving by without stopping. Route changes this year also caused an increase in complaints as both customers and operators were learning these new routes.



	2012	2013	2014	2015	2016
Operator	343	449	371	335	465
Driving	142	165	148	111	132
Early/late/missed	166	391	315	294	249
Existing Service	34	53	61	6	128
Other	280	203	334	236	294
Total	965	1,261	1,229	982	1,268

Figure 2: Transit Customer Complaints

In 2016, Saskatoon Transit received 67 commendations from the citizens which is 15 more than in 2015. They primarily related to operators.

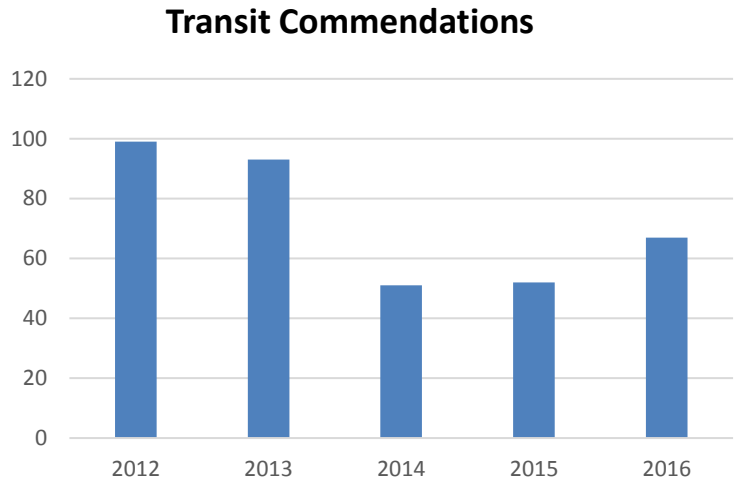
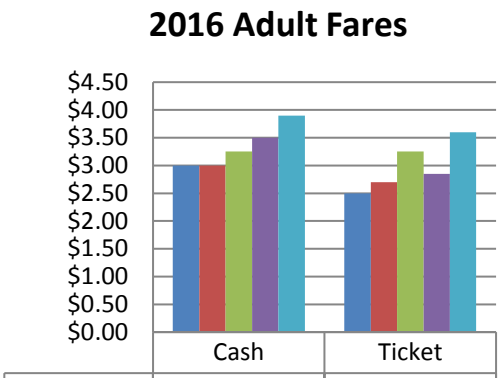


Figure 3: Transit Commendations

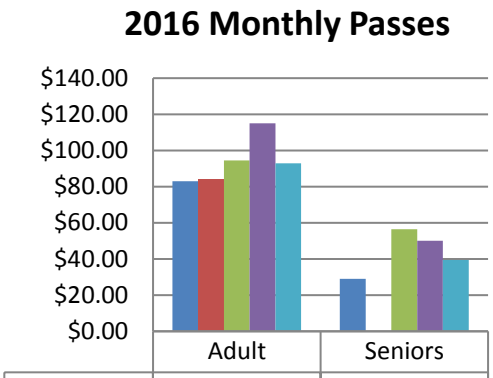
Competitive Fares:

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.



	Cash	Ticket
Saskatoon	$3.00	$2.50
Regina	$3.00	$2.70
Longueuil	$3.25	$3.25
Oakville	$3.50	$2.85
Gatineau	$3.90	$3.60



	Adult	Seniors
Saskatoon	$83.00	$29.00
Regina	$84.00	
Longueuil	$94.50	$56.50
Oakville	$115.00	$50.00
Gatineau	$93.00	$39.50

Figure 4: 2016 Adult Fares and Monthly Passes

Conventional Transit:

Between 2015 and 2016, ridership increased by 0.7% (using calculated--based ridership) and decreased by 0.7% (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 (21%), and discounted pass (18%).

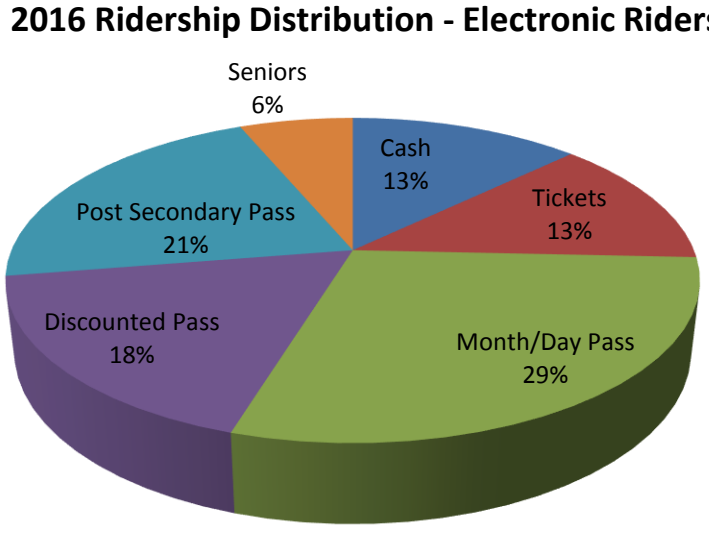
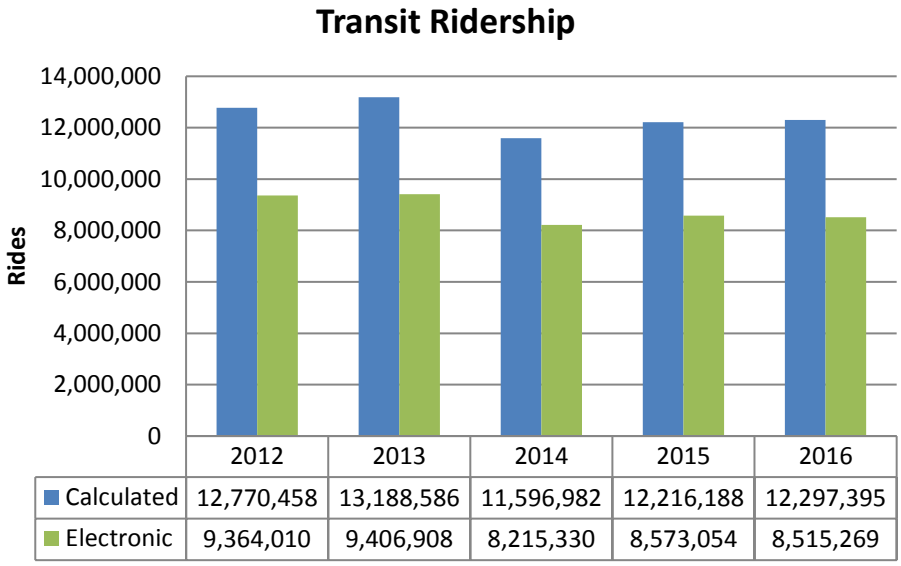


Figure 5: 2016 Ridership Distribution

Total Rides for 2016 are 8,515,269 which is a decrease of 0.7% compared to 2015. Transit's calculated ridership for 2016 was 12,297,395 which is 3,782,126 rides more than actual ridership information provided by the automated fare box system. Saskatoon Transit calculates ridership based on both methods because CUTA use calculated ridership to compare information with other properties as not all properties have electronic fare box system.



	2012	2013	2014	2015	2016
Calculated	12,770,458	13,188,586	11,596,982	12,216,188	12,297,395
Electronic	9,364,010	9,406,908	8,215,330	8,573,054	8,515,269

Figure 6: 5-Year Transit Ridership Trend

A recent report from CUTA showed 2015 passengers per service hour of 40.01, 18.34, 34.77 and 14.01 respectively for Longueil, Regina, Gatineau and Oakville (peer communities). Saskatoon Transit's passenger per service hour numbers for the 5-year period ending 2016 is shown below.

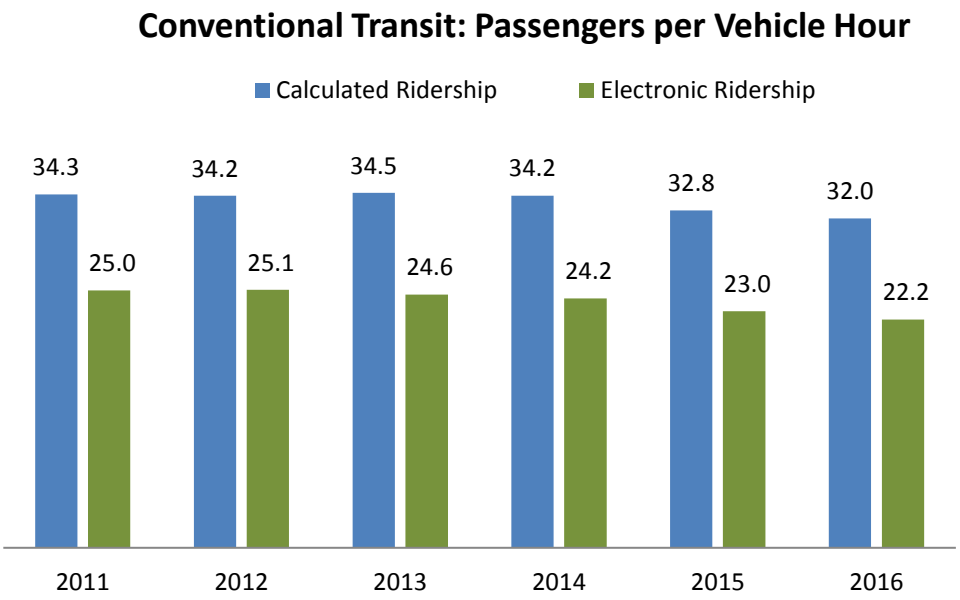


Figure 7: Passengers per Vehicle Hour

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

Access Transit:

From a purely statistical perspective, service improved in 2016 over 2015. There was a 2.3% (3,007 trips) increase in Revenue Trips provided, and a 3.7% decrease in trip request Denials. This resulted in a 5.5% Denial rate for 2016 compared to a 9.3% Denial rate in 2015. This decrease in Denials is due to a combination of variables: milder weather conditions, further efficiencies found in dispatching, 222 less customer “No-Shows”, a change to how Denials are defined (to be more consistent with other Canadian paratransit properties definition of a “Denial”) and Latent Demand.

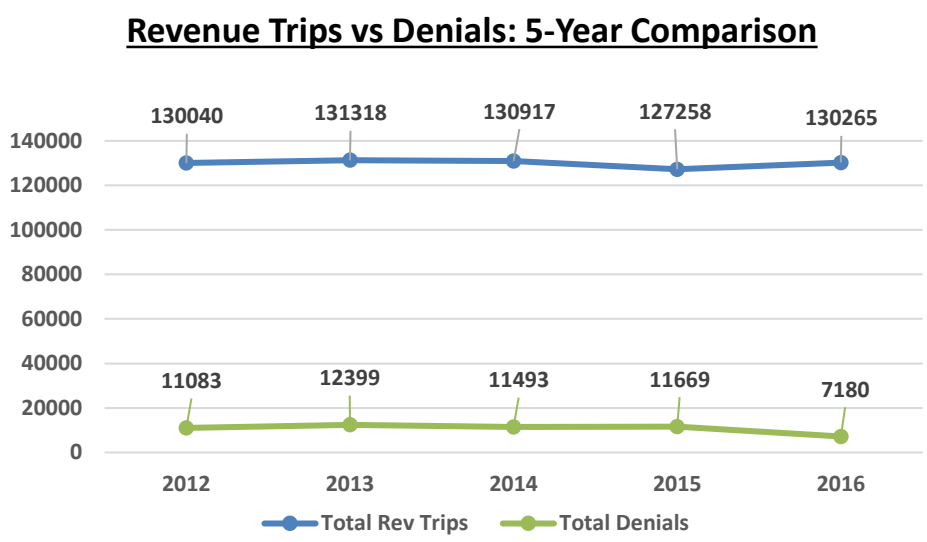


Figure 8: Revenue Trips vs Denials

Latent Demand is defined as a customer's expectation, desire, or preference for a service that goes unsatisfied because sufficient capacity and/or resources are not available when they want or need them. Due to the fact that Latent Demand is virtually impossible to measure accurately, we have to look in the past for trends that would provide a plausible example. A perfect example is illustrated by Access Transit trip request Denials back in 2004. 2003 was the last full year of service provided by the private sector, and the City of Saskatoon took over the service in June of 2004. Trip request Denials increased by 134% in 2004. This dramatic increase was due to new expectations by people living with disabilities in our community that they would finally be able to successfully get their trip requests when they wanted or needed them due to the City of Saskatoon taking over the service, and a misperceived major increase in resources (buses and staffing), which was just not the case.

Access Transit Administration is certain that Latent Demand is building. Although difficult to measure and quantify, the fact that our resources have remained virtually the same since 2010, Demand for service has leveled off contrary to demographic projections, yet Denials have decreased. This is a clear indication that some of our customers have given up trying to book trips with Access Transit and have either found other sources of transportation or have become much less involved with the community.

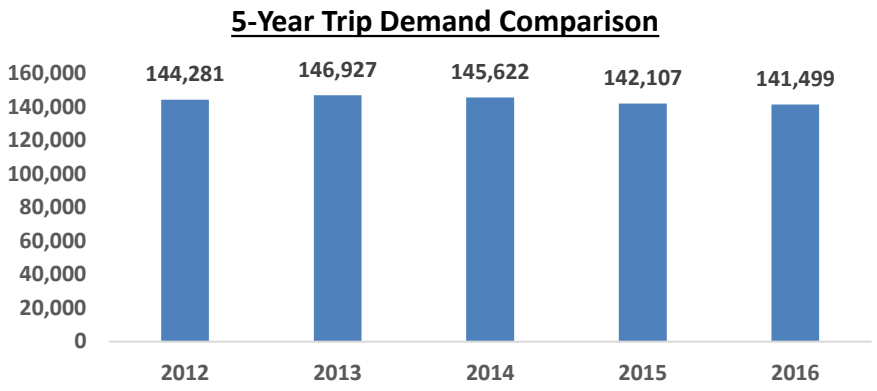


Figure 9: 5-Year Trip Demand Comparison

The number of our current registered active customers continues to trend close to 5000. This number fluctuates monthly as customers come and go from our service. The number of new customers registering for Access Transit was relatively the same in 2015 (536) as it was in 2016 (538). Our total Active Customer base as of January 2, 2016 was 4988, which is a slight increase (278) from 2015 when it was 4710.

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).

Although the term “denial” is a common key performance indicator (KPI) used across Canada in the paratransit industry, the detailed definition of the statistic differs in many regions. With the end goal of eventually establishing some standard Saskatchewan Provincial paratransit KPI’s, Access Transit Administration has worked closely with the Regina Paratransit Administration and the Saskatchewan Human Rights Commission since 2015 to harmonize the definition of some KPI’s so that our statistics are truly comparable (apples to apples). “Denials” was the first KPI definition that was worked on. As of January 1, 2016, the Saskatchewan transit industry definition of a denial changed from “any trip that cannot be accommodated” to “any trip that cannot be accommodated as of 12:00 noon of the previous day”. That means that any trip request after 12:00 noon of the previous day is not counted as a denial.

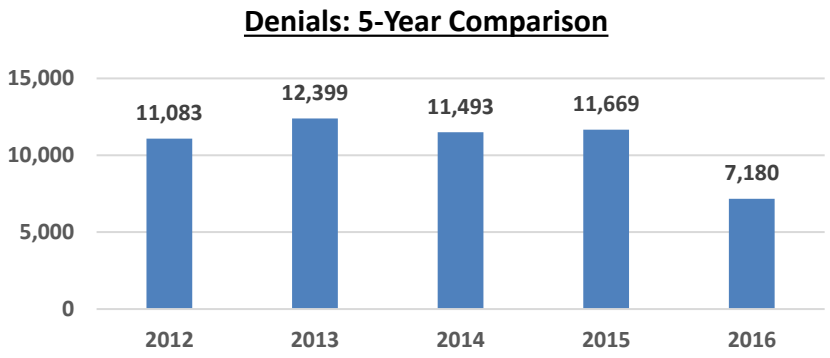


Figure 10: 5-Year Denial Comparison

The new definition has certainly had a dramatic effect on denials from a statistical perspective; however, it is not all good news in terms of quality of life for some people living with disabilities in our community who want more trips available with more opportunity/ability to be spontaneous. The best chance our customers have to secure a trip when and where they need it, is to book it 7 days in advance, due to our limit of resources/capacity.

In December of 2016, Saskatoon City Council authorized the increase of Access resources by one bus and one operator. The increase is effective July 1, 2017, which will assist with further reducing denials in 2017.

Taxi Trips

Taxi usage for 2016 was relatively the same using only 66 more taxis in 2016 compared to 2015 as monthly weather patterns and demand were very similar with the exception of a milder October in 2016.

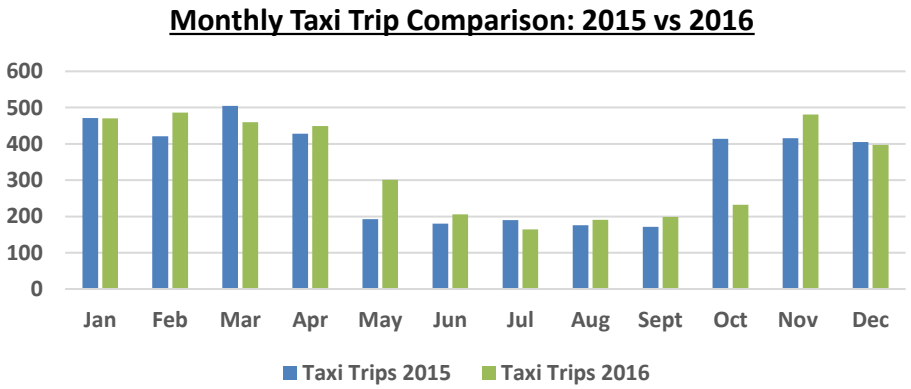


Figure 11: Taxi Trip Comparison 2015 vs 2016

On-Time Performance

Considering our climate and the geographic challenges (bridges, railroad tracks) not to mention that there are a significant number of destination attractions throughout the entire city on both sides of the river, the on-time performance of

Access Transit Operators is remarkable. Our 5-year average is 92.2%. This is a true testament to the dedication to our customers and our service by our staff.

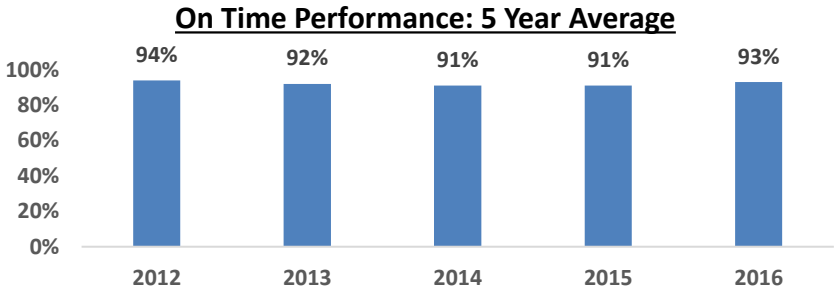
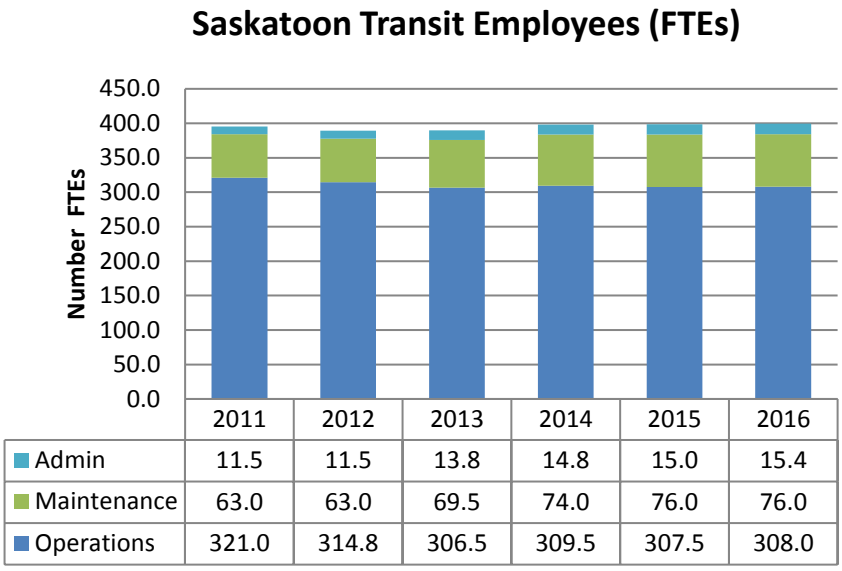


Figure 12: On-Time Performance

OUR PEOPLE

Transit services are provided to the residents of the City 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. Facilities 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 2.6% or 10.0 employees between 2012 and 2016. In comparison, Conventional Transit service hours increased by 10,586 hours or 2.8% in that same time period and the population has increased by 12%. Access transit service hours increased by 619 hours or 1.3%.



	2011	2012	2013	2014	2015	2016
Admin	11.5	11.5	13.8	14.8	15.0	15.4
Maintenance	63.0	63.0	69.5	74.0	76.0	76.0
Operations	321.0	314.8	306.5	309.5	307.5	308.0

Figure 13: Saskatoon Transit FTEs

A combination of milder weather and a positive focus on safety initiatives with staff participation has resulted in the safety statistics showing dramatic improvement over the numbers from the previous 4 years. In 2016, Saskatoon Transit experienced 17 lost-time incidents for a total of 1,043 lost-time days with a frequency rate of 4.56.

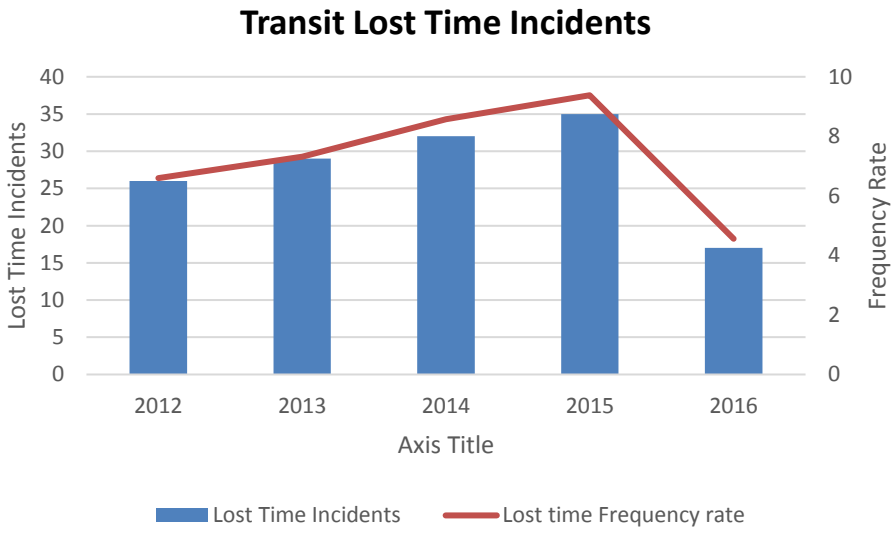


Figure 14: Lost Time Incidents

OUR FINANCES

In 2016, Saskatoon Transit's service line operating budget was $45.5 Million made up of $40.8 Million for Conventional Transit and $4.7 Million for Access Transit. The actual operating expenses for 2016 came in under budget at $44.1 Million. The savings of $1.4 Million (3.2%) on operating expenses were primarily related to low fuel prices and reduced fuel consumption due to a warmer winter.

The budgeted funding sources for Saskatoon Transit's service line were $1.8 Million through provincial funding for DCR Passes and Accessible Transit Grant and $14.0 Million from Fares and other revenue sources with the remainder made up through the city contribution. The 2016 actual funding received was under budget by $1.4 Million. The graphs below show a breakdown of Transit's 2016 funding sources.

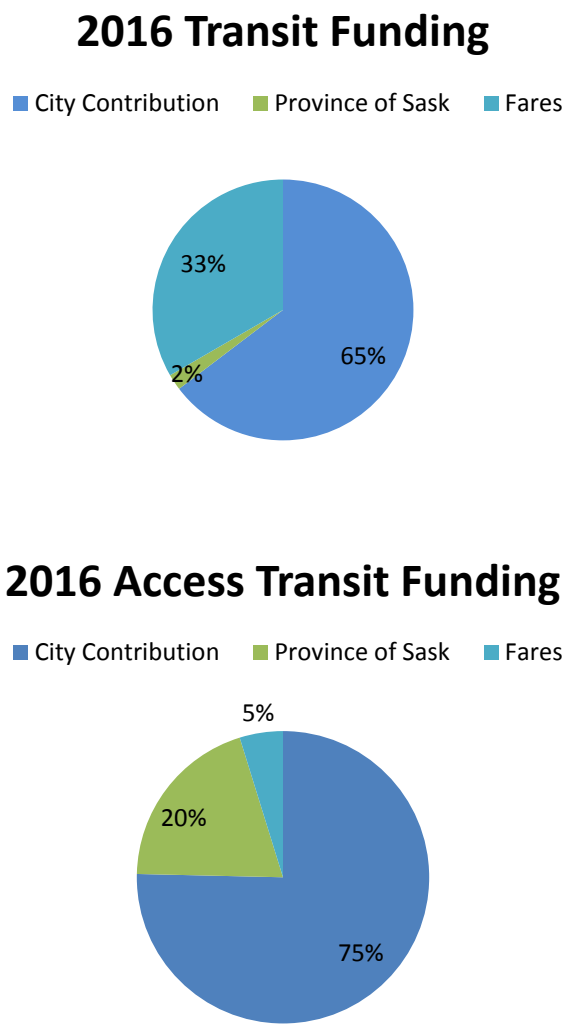


Figure 15: Contribution Rates

Conventional Transit's city contribution in 2015 was 63.8% while in 2016 the contribution increased by 0.8%. Access Transit's City Contribution was 74.2% in 2015 and in 2016 the contribution increased by 1.1%. A report from CUTA showed 2015 Conventional Transit City Contributions for peer cities as 46%, 64%, 39%, and 64% respectively for Longueuil, Regina, Gatineau and Oakville.

The $1.4 Million in operating savings for the Transit service line was off-set by lower than budgeted revenue of $1.4 Million. Therefore, 2016 actuals resulted in a variance of $630,000 from budgeted city contribution to actuals. Below is the summary of operating budgets for both Conventional Transit and Access Transit.

2016 Conventional Transit Operating Budget ($000)

	Budget	Actual	Variance	%
Revenue				
Fare Revenue	$12,740	$12,043	($697)	-5.47%
Charter, advertising, and other	$1,083	$1,071	($12)	-1.11%
City Contribution	$26,235	$25,434	($801)	-3.05%
Province of Sask	$769	$784	$15	2.00%
Total revenue	**$40,827**	**$39,333**	**($1,494)**	**-3.66%**
Expenses				
Transit Operations	$21,057	$20,606	$450	2.14%
Fuel, Lube & Oil	$5,017	$3,234	$1,783	35.54%
Transit Maintenance	$7,820	$8,387	($567)	-7.25%
Building Maintenance	$1,053	$1,053	($0)	-0.04%
City Hall Services	$634	$638	($4)	-0.63%
General & admin	$2,874	$3,042	($168)	-5.84%
Capital (debt & reserve)	$2,373	$2,373	$0	0.00%
Total Expense	**$40,827**	**$39,333**	**$1,494**	**3.66%**

Figure 16: Conventional Transit Operating Budget

While Saskatoon Transit is modernizing its bus fleet, the older buses do incur additional maintenance which resulted in increased operating costs. Fuel prices provided significant savings but still not enough to reduce the cost per passenger. The Conventional Transit average cost per passenger increased to $3.20 in 2016 from $3.15 in 2015. However, at $3.20, Saskatoon Transit still compares well with the most recent CUTA fact book, showing the 2015 transit

average cost per passenger at $4.62, $4.97, $6.83 and $7.92 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, at present CUTA statistics only show calculated results as not all properties have electronic fareboxes.

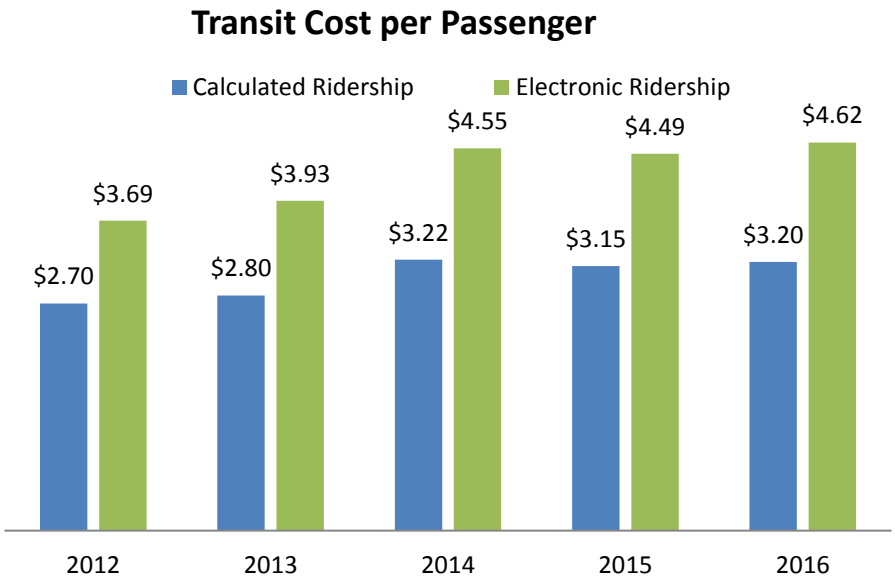


Figure 17: Transit Cost per Passenger

2016 Access Transit Operating Budget (000's)

	Budget	Actual	Variance	%
Revenue				
City Contribution	3,450	3,621	$171	5%
Province of Saskatchewan grant	996	954	($42)	-4%
Fares	245	230	($15)	-6%
Total Revenue	**$4,691**	**$4,805**	**$114**	**2%**
Expenses				
Salaries & payroll	3,287	3,556	($269)	-8%
Fuel, lube, oil	347	206	$141	41%
IS -Facilities services	247	247	$0	0%
Maintenance equip & radio	276	285	($9)	-3%
Other expense	281	258	$23	8%
Transfer to reserves	253	253	$0	0%
Total Expenses	**$4,691**	**$4,805**	**($114)**	**-2%**

Figure 18: Access Transit Operating Budget

In 2016, the average cost per trip for Access Transit was $36.89. Through the Provincial Transit Assistance for People with Disabilities Program, Access Transit receives an operating grant (based on available funding and ridership data). The 2016 operating grant amounted to $7.33 per trip such that the total cost per trip to the city was $29.56. 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.

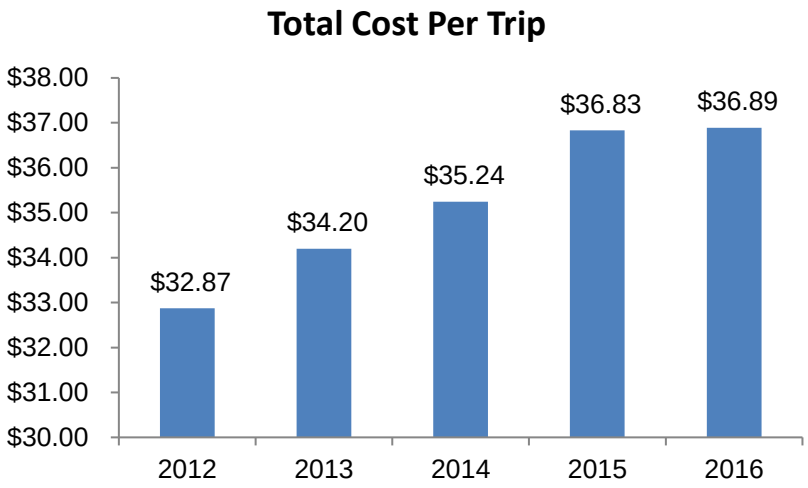


Figure 19: Access Transit Cost per Trip

OUR WORK – MOVING FORWARD

Meeting customer service expectations and providing a safe and reliable ride are integral to increasing ridership. To better fulfill these promises, Transit Operations will begin offering the Certified Professional Bus Operator designation (CPBO) to applicable Bus Operators. This designation, developed by the Motor Carrier Passenger Council of Canada, recognizes the efforts and professionalism exhibited each and every day by our staff and offers a framework of success for individuals to model themselves after. This designation will be offered along with our continual training program which focuses on customer service delivery, situation de-escalation and driving for comfort and efficiency. The principles reinforced through both of these processes will support the promises within the soon to be released Passenger Pledge and will provide Transit staff with the necessary tools to succeed.

In 2017, Saskatoon Transit will conduct a complete review of the Access Transit model with a view to 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. On-going reviews of how we do what we do 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 Half a Million:

In April of 2016, the Growth Plan to Half a Million 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). It also calls for changing service in existing neighbourhoods to support the BRT lines and regular riders' access to transit in general. The plan calls for increased funding for Capital equipment and Service hours to support higher ridership in the Saskatoon area.

8th Street and 22nd Street Initiatives:

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

Route changes to 8th Street occurred in July of 2016 to demonstrate the possibilities of a BRT system using principles found in the Growth Plan to Half a Million. Service along 8th Street supported 7.5-minute frequencies during peak periods and 10-minute frequencies during the remainder of the weekday, with 30-minute frequencies during evenings, weekends, and statutory holidays.

In July of 2017, routing near 22nd Street will be adjusted and will follow the principles and frequencies of 8th Street. Adjustments to Idylwyld Drive and College Drive are set for the summer of 2018.

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 other city divisions; however, at the moment, only the transit facility and a snow storage site have been occupied. The garage is the product of a public private partnership, which will see the day to the day operation of the facility itself managed by ENGIE Services. The garage is capable of housing up to 224 Transit buses and its LEED status is presently being confirmed. Much of the last quarter of 2016 was spent preparing for the move to the new facility.

Customer Support and Engagement:

2015 saw the creation of this section out of existing groups within Saskatoon Transit. In 2016, this section was lead for a number of initiatives that affected the way Saskatoon Transit deals with and affects Customers. In March 2016, citizen engagement was conducted on the proposed new routes to support the 8th Street Initiative. Throughout the year, this section was the lead on dealing with the transit software vendor TRAPEZE as well as Google and Transit App in order to get real-time information out to Customers. It also oversaw many of the upgrades and training for the current software modules enabling Saskatoon Transit to provide better responses to Customers who call in with complaints or requests for information.

Passenger Pledge:

In an effort to better serve our customer base and continue improving the transit experience, Saskatoon Transit is still working on developing customer commitments that will be a public pledge to the kind of service delivered to transit customers. The development of this passenger pledge has been 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 and it is still the intent that Saskatoon Transit will use these practices. The development of the passenger pledge will continue 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 Access Transit Administration will be reviewing other types of buses available in the market as 2016 is the last year that our current style of cutaway chassis will be available in diesel. Our storage facility is only set up to fuel vehicles with diesel. There are new types of smaller buses coming into this market segment that are diesel but they are smaller and more expensive. The advantage or trade-off is that their fuel economy is better, and some of the builds appear to be better quality which will translate into a longer lifespan.

Access Transit Administration would like to take this opportunity to sincerely thank the Provincial Government, the Saskatoon Health Region, and the City of Saskatoon for continuing this essential service for people living with disabilities in our community. Our team is dedicated to providing a caring quality service to our customers. Last but not least, we want to thank our customers for using Access Transit.

IN CONCLUSION

Saskatoon Transit has had a challenging few years, highlighted by equipment, bargaining and personnel related issues. In 2016, bargaining for the 2012 Collective Agreement was finally concluded and the workforce was looking forward to moving into a new facility. There is a concerted effort to move Saskatoon Transit forward and continue to build a reliable service as well as relationships with employees and customers.

Funding from PTIF has come available, most of this will be spent starting in 2017 and will see a number of additional buses purchased over the next three years that will allow Saskatoon Transit to get closer to its target of 100% accessible buses. PTIF will also allow a number of engineering designs to be developed for Bus Rapid Transit facilities that support the Growth Plan to Half a Million. With the latest announcements for PTIF Phase II Saskatoon could see up to $200 Million in grants from the Federal Government which could be used to make the BRT a reality on the road.

Saskatoon Transit currently provides service mandated through the Official Community Plan, with some augmentation to provide peak hour frequency. The concepts of coverage and frequency, as part of the same spectrum, are adequate and in general being met, but through the Growth Plan to Half a Million, Saskatoon is on the way to providing effective Mass Transit to those in this City in both service delivery and the planning of same. We have turned a significant corner in terms of cross divisional coordination and this should stand the City in good stead for the future.

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.

Saskatoon Accessibility Advisory Committee
Matters for Follow-up

Snow Removal (Ongoing)

Accessibility and Criteria for Snow Removal on Sidewalks and Accessibility of Saskatoon Streets

May 12, 2017

The Chair and Committee Member Nicholson were in attendance on behalf of the Committee at the Snow and Ice Co-Design Session.

February 10, 2017

Director of Roadways and Operations Harris was in attendance to provide an update on the snow clearing status. Mr. Harris advised the Committee of the formal level of service and the main areas of concern for the Division related to accessibility. The Committee was informed that a pilot project related to the logistics around snow removal, which will include a detailed engagement exercise, will help assist in resolving common problems and issues. The Committee will be notified once project is underway.

January 13, 2016

Committee Assistant to request Administration attendance for update on snow clearing on roadways and sidewalks.

Saskatoon Accessibility Advisory Committee
Matters for Follow-up

Accessible Audible Pedestrian Signals (APS) – (Ongoing)

The matter has been put back on the follow-up list after Sept. 11/15 meeting to further determine course of action.

2017 – The matter is ongoing as old neighbourhoods are being retrofitted and new ones will have APS installed.

October 9, 2016

80/275 signalized intersections in Saskatoon are equipped with audible pedestrian signal devices. There is work being done to retrofit existing high pedestrian traffic intersections with APS. New development areas will have APS installed.

Saskatoon Accessibility Advisory Committee
Matters for Follow-up

Persons with Disabilities Parking – (Ongoing)

The matter has been put back on the follow-up list after Sept. 11/15 meeting to further determine course of action.

September 8, 2017

The Committee received a communication from Mr. Al Muir advising on disabled parking spots to the in the city. The Committee requested to have Administration provide an update on this matter at the next meeting.

April 21, 2017

In the absence of the Chair, the Committee Assistant reported that the Standing Policy Committee on Transportation, at its meeting held on April 4, 2017, resolved that the matter of a term-limit and tracking of loading zones in residential areas be referred to the Administration for a report.

March 10, 2017

Special Projects Manager, Permitting and Policy Services Russell and Transportation Engineer Marvoux were present to speak to the loading zone placards and disabled parking signage.

Special Projects Manager, Permitting and Policy Services Russell spoke to the parking programs available to disabled persons. The Committee was informed of the City of Saskatoon Disabled Parking Permit and that it can be obtained at a low cost. The Committee raised concerns regarding the lack of information available to the public regarding the additional option of the City of Saskatoon Disabled Parking Permit. The additional permit would provide more parking options for those in need.

Transportation Engineer Marvoux spoke to the issuing of signs and disabled parking zones. The residential parking zones and loading zones are self-regulated based on requests submitted and approved based on the criteria required. Enforcement on these zones are on a call-in basis. The use of these zones are not monitored and typically are requested for removal as a ticket is issued if reported.

Access Transit Manager Howe advised that the Access Transit bus drivers will be requested to provide locations where additional loading zones are required.

Discussion followed and the Committee agreed that there is a need of a term-limit on loading zones in residential areas including follow-up tracking regarding the removal of the signs. A term-limit would assist in removing the unnecessary residential loading zones if the resident moves or passes away thus minimizing the misuse of the zone.

ACTION: Letter to the Standing Policy of Transportation recommending that the Administration explore options for placing a term-limit on loading zones in residential areas and options for

follow-up regarding tracking of these signs when no longer required; and update the Committee at the appropriate time.

February 10, 2017

Follow up to discussion the Committee requested to have the Director of Community Standards to attend the next meeting to address loading zone placards loading zone signage in residential areas and disabled parking signage.

Saskatoon Accessibility Advisory Committee
Matters for Follow-up

Public Transit and Access Transit

Follow up as appropriate

April 21, 2017
Access Transit Manager Howe reported that the new automated reminder system for Access Transit is active and provides reminder phone calls. This system will assist in the late cancellations and no shows.

January 13, 2016
Approximately 30 Access transit buses in the current fleet. All buses have automated voice announcements.

October 9, 2015 – Access Transit Manager, Bob Howe was in attendance and provided an update to the Committee on the Access Transit Annual Report. Mr. Howe updated the Committee on the following:

- Seeking information from the public regarding their personal limitations with Transit and Access Transit buses.
- The future idea is to have all buses be more accessible for those with mobility issues, including turning radius, announcements over the speakers, and digital destination boards.

Operations Managers, Michael Moellenbeck and Harold Matthies spoke and answered questions of the Committee on Transit updates. Mr. Matthies and Mr. Moellenbeck updated the Committee on the following:

- Transit is looking at developing a mobile app based system for the public to use regarding public transit.
- Training bus drivers to become more of a 'tour guide bus driver' to aid those impaired when taking the bus to aid the public that take the bus.

Saskatoon Accessibility Advisory Committee
Matters for Follow-up

Sidewalks and Access Ramps (Ongoing)

Action Plan for Accessibility and Safety Sidewalks and Access Ramps Accessibility of Saskatoon

2017 – The matter is ongoing as old neighbourhoods are being retrofitted and new ones will have access ramps in the plans.

January 12, 2016
Curb ramps are being installed in new neighbourhood designs. The city developed a 10 year plan to address priority locations for curb ramps.

February 12, 2016
Major Projects, Traffic Management Engineer Frank spoke on the city-wide sidewalk assessment study that took place and answered questions for the Committee and answered questions of the Committee regarding the city-wide sidewalk assessment study. Discussion ensued regarding sidewalk safety and access ramps in the Downtown area. The Committee shared their appreciation toward the improvements made so far on the sidewalks.

Planning and Development, Senior Planner Lau spoke and answered questions of the Committee regarding plans for 2016 sidewalk improvements. Mr. Lau shared Urban Design's upgrade to the tree grates on the sidewalks and the improvements they have made to them and future plans pertaining to tree grates.

Transportation, Traffic Management Engineer Matt spoke and answered questions of the Committee regarding access ramps throughout the city. Discussion ensued regarding the condition of access ramps and funding for improvements.

Saskatoon Accessibility Advisory Committee
Matters for Follow-up

Establishing Accessible Design Standards for New Buildings, Renovated Buildings and New Areas of Saskatoon.

Ensuring an enhanced accessibility level

October 13, 2017

Director of Recreation and Community Development Lacroix to provided an update regarding the site plan related to accessibility. There will be accessible access available.

April 21, 2017

Director of Building Standards, Kara Fagnou provided a presentation highlighting changes to the National Building Code with respect to barrier free accessibility.

Ms. Fagnou addressed questions related to the implementation of the new National Building Code. The Committee was advised that home owners and building owners can become barrier free at any time. It was noted that older properties would be exempt to the new Building Code standards however, renovations or a change in use could require modifications as set out in the Code.

January 13, 2017

Committee discussed the sidewalk accessibility at the new hotel site adjacent to the Saskatoon Fieldhouse. Director of Recreation and Community Development Lacroix to provide an update regarding the site plan related to accessibility. Accessibility at linear parks was another subject of discussion.

Budget for the Saskatoon Accessibility Advisory Committee								
DATE	**NUMBER**	**DESCRIPTION**	**DEBIT**	**CREDIT**	**BALANCE**	**GL**	**TOTAL SPENT**	**BUDGET REMAINING**
		Beginning Balance			**0**			**$3,000**
10/3/2017	R579452	AV Shuttle - Shuttle Service for members to activity	$220.50		$220.50		$220.50	$2,779.50
9/11/2017	R579412	Golden Mobility and Rehab Ltd - Mobility Scooter for member to use during activity.	$142.50		$142.50		$363.00	$2,637.00
		Remaining Balance						**$2,637**