City of Saskatoon | GROWING forward! Shaping Saskatoon

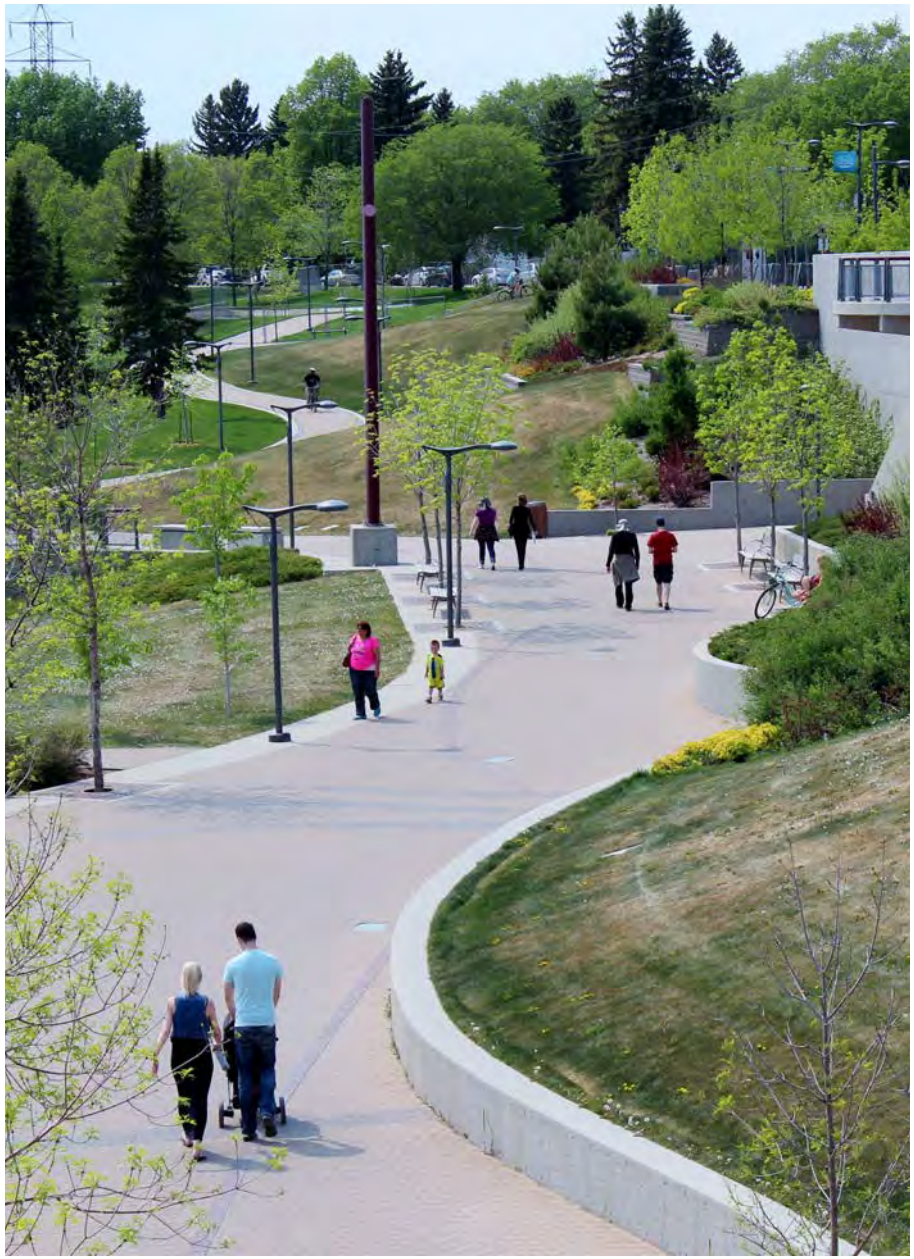
GROWTH PLAN SUMMARY REPORT

APRIL 2016

Prepared for the City of Saskatoon by Urban Systems Ltd.

Contents

University Bridge, Saskatoon, SK, Source: Urban Systems;
Broadway Avenue, Saskatoon, SK, Source: City of Saskatoon;
Downtown Transit Hub, Saskatoon, SK, Source: Urban Systems



River Landing, Saskatoon, SK, Source: Urban Systems

2nd Avenue, Saskatoon, SK, Source: City of Saskatoon

21st Street, Saskatoon, SK, Source: City of Saskatoon

PART 1: Setting the Stage

Saskatoon has evolved from a prairie community that once experienced modest growth, to one where prosperity and opportunity have made us one of the most attractive and exciting places to live in Canada.

Saskatoon's population is expected to double to half a million people over the next 30 to 40 years. Given this scale of growth, change is inevitable. Growth provides many benefits, such as increased economic activity, employment, and business opportunities. However, with growth comes challenges associated with enhancing quality of life while building and servicing a larger city.

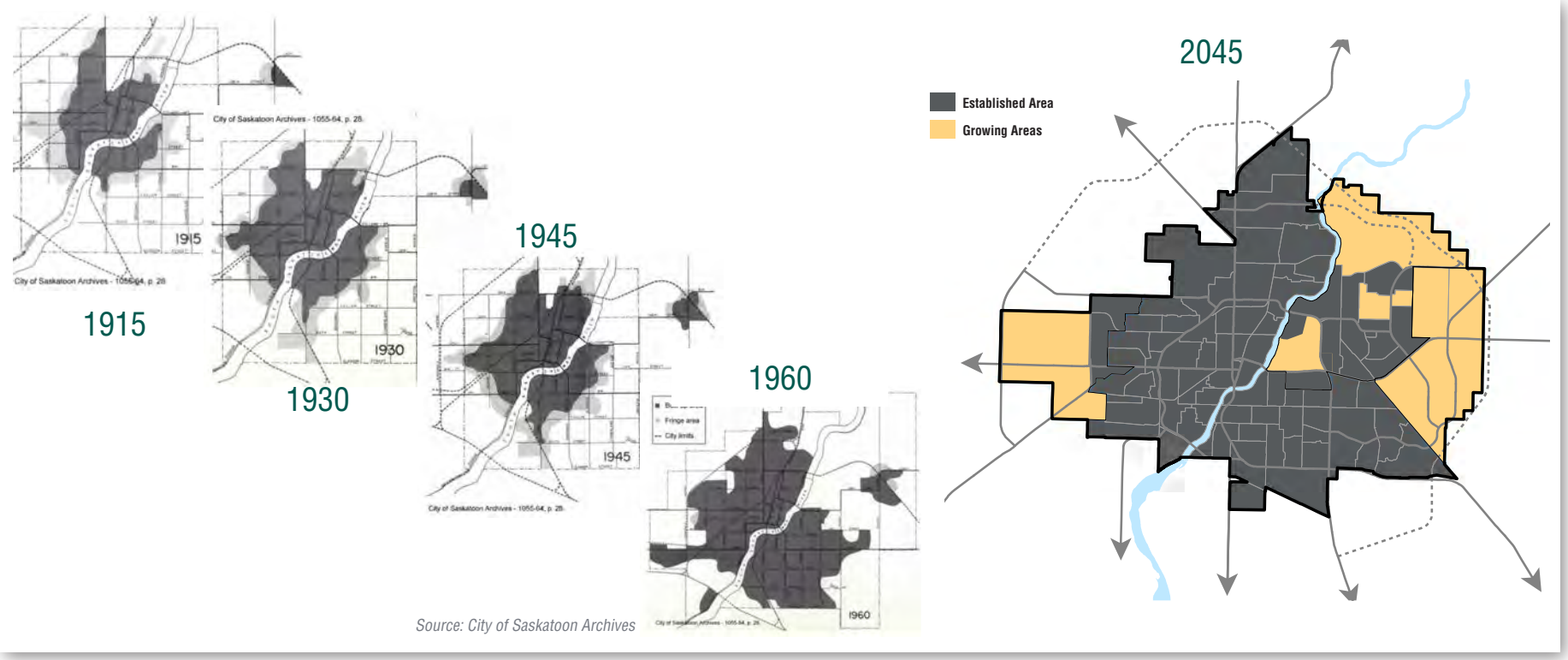


Figure 1 - Saskatoon Growth Patterns 1915-2045

This is a crucial time in Saskatoon's history, with important choices to be made about how the city will continue to grow. Today's development and transportation infrastructure investments will last for decades, if not centuries, and play a critical role in shaping land use patterns for generations to come. The City of Saskatoon has developed a vision for economic prosperity, quality of life, and environmental responsibility, and it is essential that today's land use and transportation choices set Saskatoon up to realize this vision. The implications for the future livability of the city are great.

Canadian cities continue to sprawl in spite of the revitalization of city cores. The average home is further from a city centre than a decade ago. Commuting times and traffic congestion have increased. Growth patterns have resulted in higher servicing and infrastructure costs, less-effective public transit services, the displacement of large tracts of habitat and farmland, and compromised water and air quality.

Saskatoon has a reputation for 'getting it right.' The city has an opportunity to define a future as a resilient city. By making the right choices now, Saskatoon will:

- ☑ Better utilize its land and infrastructure assets
- ☑ Provide opportunities for the public to use an efficient, convenient transit system
- ☑ Have the types and forms of development where people can travel locally and choose to walk or bike
- ☑ Provide a range of housing types to meet the needs of all people
- ☑ Provide jobs close to homes
- ☑ Provide health care and community facilities required to support families and other community needs
- ☑ Protect the natural environment
- ☑ Be more affordable to run in the long-term

Aerial View, Saskatoon, SK , Source: City of Saskatoon

1.1 Plan Overview

The Growth Plan to Half a Million (Growth Plan) is about making choices to proactively manage the changes associated with growth, creating a city that is vibrant and attractive to future generations. A vibrant Saskatoon has a diverse mix of housing, commercial, social, cultural, and recreational opportunities that are universally accessible by all modes of transportation, including walking, cycling, transit, and driving.

Creating a healthy, sustainable Saskatoon is also essential to attracting people from other parts of Canada and the world in order to sustain economic growth and increase diversity.

This vision was first articulated by residents during the Saskatoon Speaks process. The City-led initiative engaged the community in a discussion about Saskatoon's future. Residents were asked to share what they value and articulate their aspirations for Saskatoon. Eight interrelated themes and visions were identified. These themes contributed significantly to City Council's Strategic Plan 2013-2023 (Strategic Plan).

The Growth Plan advances the Strategic Plan goals of Sustainable Growth and Moving Around. These goals are about building places to bring people together and providing more transportation choices so Saskatoon is a more sustainable, accessible and attractive place to live **(Figure 2)**.

Strategic Plan Goals

SUSTAINABLE GROWTH. Saskatoon's growth is environmentally and economically sustainable and contributes to a high quality of life. The city has grown both upward and outward – reflecting a balance of greenfield and infill development. Balanced growth has made the city a model of efficiency and resulted in attractive new people places that reinforce Saskatoon's sense of community.

Downtown is built up and bustling. Main streets and community hubs are urban villages. New neighbourhoods are walkable and well-planned; older neighbourhoods have been renewed and revitalized.

Our City Centre is a vibrant hub for culture, commerce and civic life. And, getting to and from this thriving, creative space is easy, safe and enjoyable.

MOVING AROUND. Our investments in infrastructure and new modes of transportation have shifted attitudes about the best ways to get around.

Our transportation network includes an accessible and efficient transit system and a comprehensive network of bike routes. People still use cars, and also rely on options such as public transit, walking and cycling.

Growth has brought new roads and bridges that improve connectivity for all travel modes. Improved streetscapes, interconnected streets and well-planned neighbourhoods encourage walking and cycling.

Attractive options to the car alleviate congestion and ensure people and goods can move around the city quickly and easily.

Figure 2 - Strategic Plan Goals - Sustainable Growth and Moving Around

The Growth Plan is made up of several themes that, when pieced together, form a new growth model for Saskatoon **(Figure 3)**. Corridor Growth, Transit, and Core Bridges serve as the core strategies within the Growth Plan.

Figure 3 - Core Growth Plan Themes & Supporting Initiatives

CORRIDOR GROWTH. The Growth Plan explores ways to encourage growth and redevelopment near Saskatoon's major corridors in order to reduce outward growth pressures, provide more housing options close to employment areas, and enhance transportation choices throughout the city. Residents have expressed a desire for sustainable growth options and a better balance of outward and upward growth. Corridor Growth is essential to transforming low-density, auto-centric land uses into vibrant, complete communities that support attractive transit.

TRANSIT. Public transit is a major focus of the Growth Plan, given the important role it plays in supporting and shaping growth. Residents have expressed a desire for a more accessible, efficient transit system with an attractive customer experience. While people will still use cars, an efficient transit system with rapid transit will help to alleviate and even bypass congestion, ensuring that people can move around the city quickly and easily. Attractive transit will also reinforce opportunities for sustainable growth along major corridors.

CORE BRIDGES. As Saskatoon's population grows significantly inside and outside Circle Drive, so too will demands for travel across the river. The Growth Plan explores options to improve mobility within the city's core area inside Circle Drive over the next 30 to 40 years. Consistent with the City's commitment to sustainable growth and moving around, core area bridges need to support greater people movement, not just vehicle travel.

Four supporting Growth Plan initiatives will also help meet the needs of our growing city.

EMPLOYMENT AREAS ensures the city has the right amount of employment in the right areas

ACTIVE TRANSPORTATION provides more choices for how people move around the city, particularly by walking and cycling

WATER AND SEWER ensures that critical infrastructure required to support growth is in place

FINANCING GROWTH assesses growth patterns and ensures cost effective growth

While these supporting initiatives are a key part of the Growth Plan, this Summary Report focuses on strategic directions for Corridor Growth, Transit, and Core Bridges.

1.2 Current Planning

The City has prepared several plans to support a doubling of Saskatoon's population over the next 30 years. The land use and road network plans, described below, provide the long-term foundation for the Growth Plan.

A. LAND USE PLANS

Figure 4 illustrates the planning areas associated with New Suburban Areas, Neighbourhood Infill and Strategic Infill (Downtown, North Downtown, University of Saskatchewan lands).

Based on these plans, approximately 65% of the population growth will occur in New Suburban Neighbourhoods and 35% will occur inside and immediately surrounding Circle Drive.

New Suburban Neighbourhoods

The City has recently developed detailed plans for new growth areas, including Blairmore, University Heights, and Holmwood. In these plans, the traditional models of suburban growth are re-imagined. New neighbourhoods include mixed-use buildings, apartments and townhouses focused around higher density, walkable villages with public gathering spaces.

Strategic Infill

Saskatoon's Downtown, North Downtown and the University of Saskatchewan lands have the potential to accommodate significant growth. Their growth as complete communities that support opportunities to work, live, shop, and socialize is critical to the economic success of the city. Much like Broadway Avenue and 20th Street West, they will become even more vibrant, attracting more residents and visitors.

Neighbourhood Infill Areas

The City has also recognized an existing trend of increasing density in established residential neighbourhoods by accommodating smaller-scale growth (e.g. duplexes, townhouses, secondary suites). Tools to ensure this infill is sensitive to existing neighbourhoods have been, and will continue to be, developed.

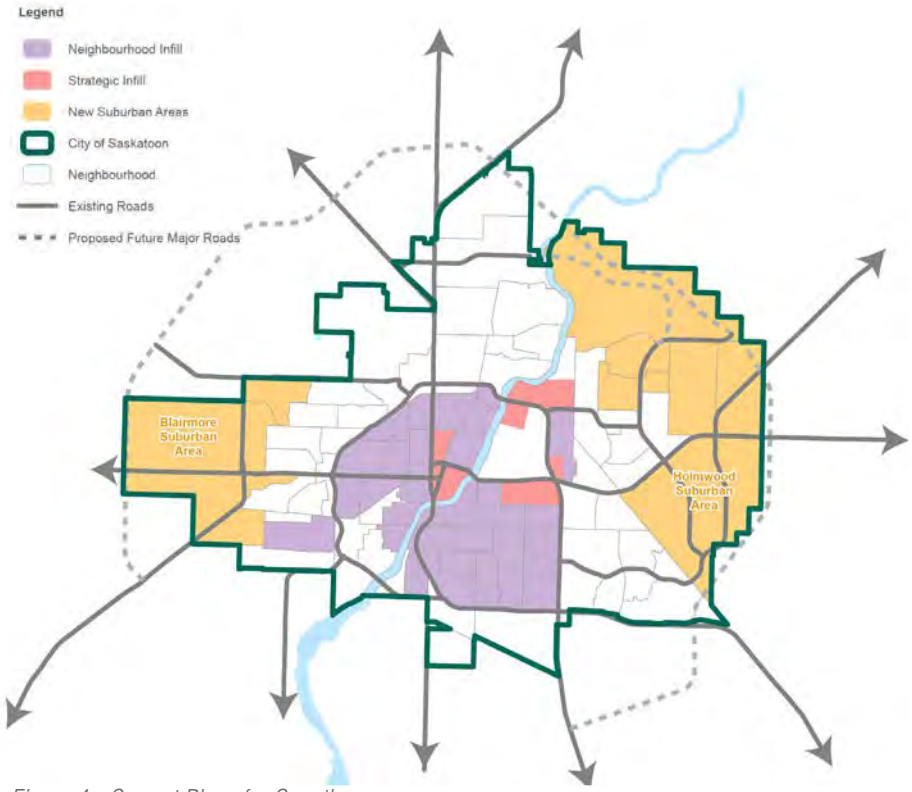


Figure 4 - Current Plans for Growth

B. ROAD NETWORK PLANS

The City has been working with residents and the Province of Saskatchewan on the provision of roads to support the movement of people, goods, and services **(Figure 5)**. New major municipal roads and the Saskatoon Freeway will serve new areas of the city. Other network improvements within the core area of the city and new crossings such as the Traffic Bridge will make best use of existing infrastructure, while also serving other modes such as transit, walking, and cycling.

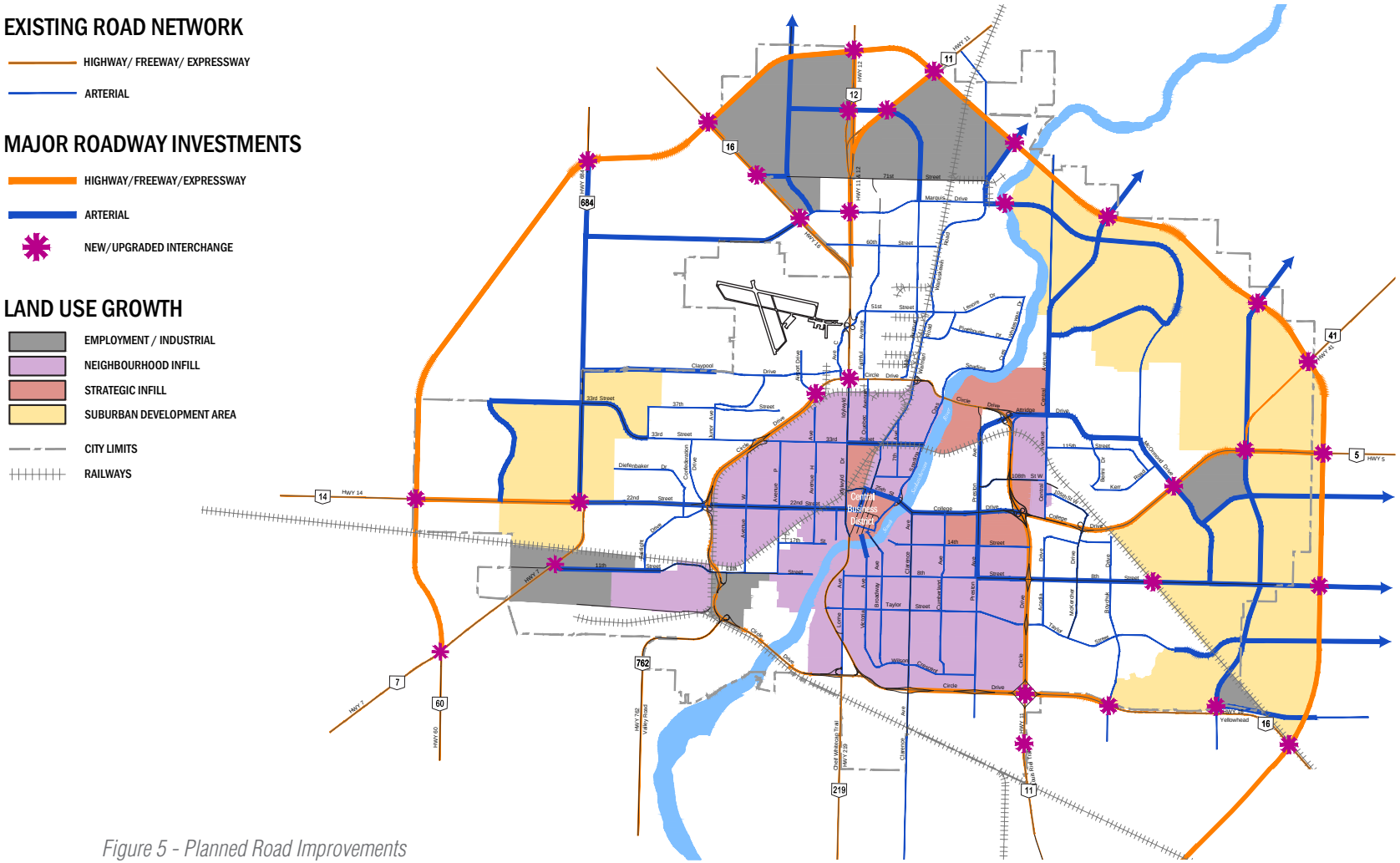


Figure 5 - Planned Road Improvements

1.3 Plan Process and Engagement

The Growth Plan has been developed through a five phase public engagement process called Growing Forward! Shaping Saskatoon.

The process is consistent with International Association for Public Participation (IAP2) guidelines and has involved residents in discussions on everything from current and future challenges to identification of potential long-term changes for the city. The timing and outcomes of each phase are described below **(Figure 6)**.

PHASE 1: SETTING THE STAGE (October to December 2013) reviewed past planning initiatives, presented current plans and summarized existing conditions and baseline growth patterns in order to highlight what's at stake for Saskatoon.

PHASE 2: FOCUSING OUR SHARED VISION (January to March 2014) established the goals and objectives that shape the long-term directions for Corridor Growth, Transit, and Core Bridges. Public Event #1 examined what's at stake for the city without the Growth Plan to solicit input on challenges and opportunities.

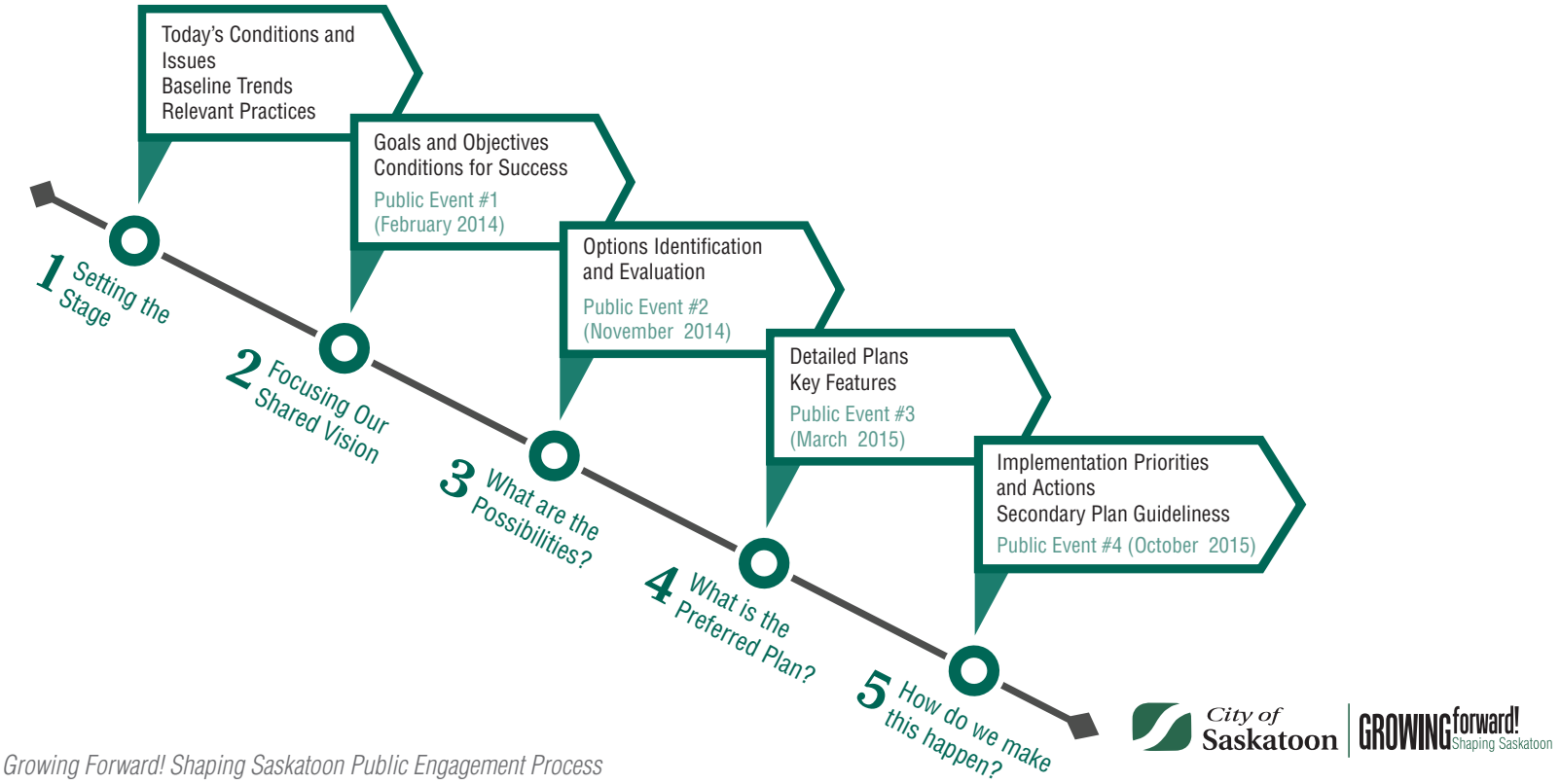


Figure 6 - Growing Forward! Shaping Saskatoon Public Engagement Process

PHASE 3: WHAT ARE THE POSSIBILITIES? (April to December 2014) included the development and evaluation of optional strategies for Corridor Growth, Transit, and Core Bridges. Preliminary ideas were presented at Public Event #2 and further evaluated with community input and feedback.

PHASE 4: WHAT IS THE PREFERRED PLAN? (January to June 2015) assessed the long-term directions of the Growth Plan. Public Event #3 examined preliminary long-term directions with the community; feedback was used to shape the preferred plan.

PHASE 5: HOW DO WE MAKE THIS HAPPEN? (July 2015 to December 2015) outlined the steps to implement the Growth Plan. The preferred plan, including implementation priorities, was presented to the community at Public Event #4. Feedback was used to modify the final Growth Plan.

Figure 7 highlights the extent of public engagement through the Growing Forward process.

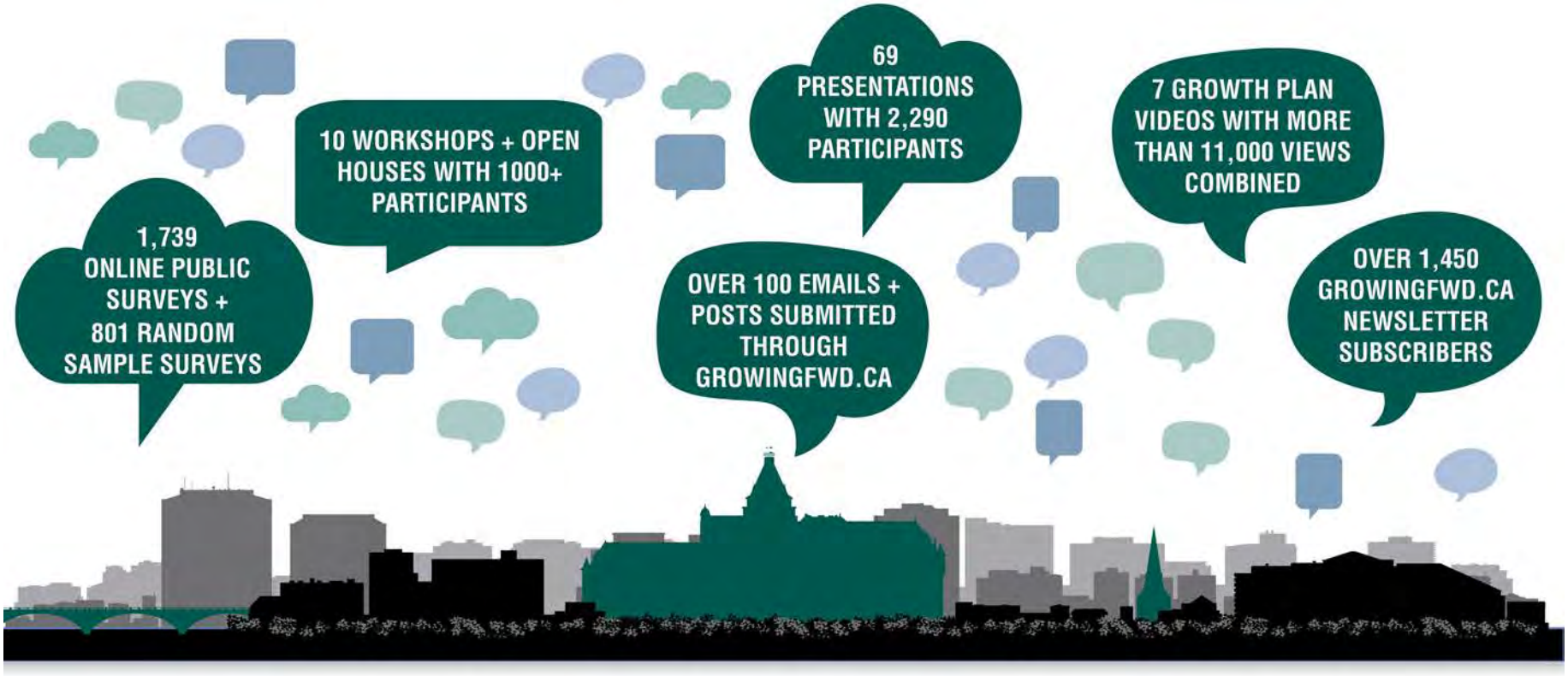
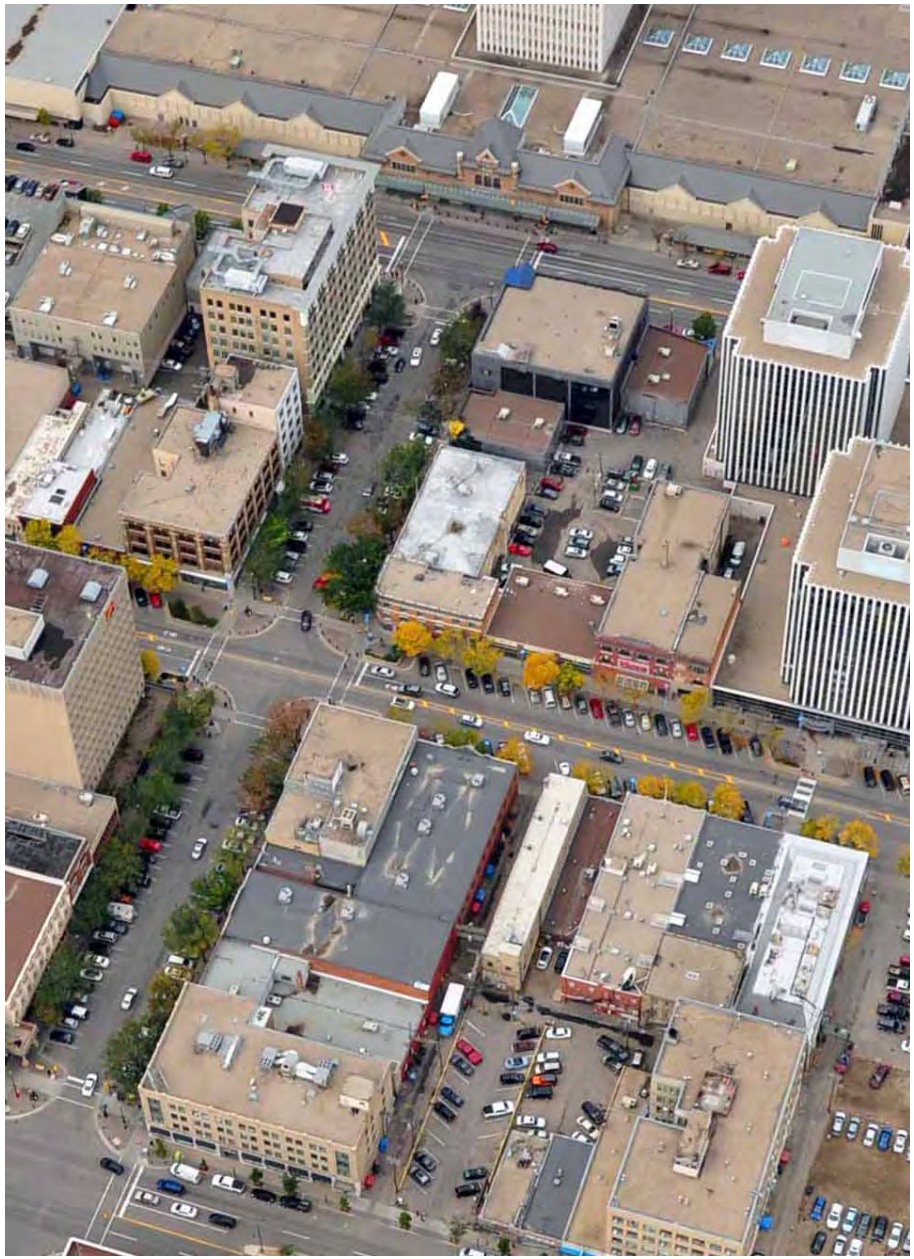


Figure 7 - Growth Plan Public Engagement Results

Citizens Sharing Views at Public Events, Source: Urban Systems



Downtown Aerial View, Saskatoon, SK, Source: City of Saskatoon

21st Street, Saskatoon, SK, Source: City of Saskatoon

Broadway Plaza, Saskatoon, SK, Source: Urban Systems

PART 2: Corridor Growth

As Saskatoon grows, residents will expect more housing options, transportation choices, and amenities—all within a walkable, safe environment. The City has made great strides in planning sustainable growth through the design of New Suburban Neighbourhoods, plans for redevelopment in Strategic Infill areas, and new policies for small-scale Neighbourhood Infill. The next step involves identifying major corridors that have the potential to support redevelopment and to transform many of Saskatoon's major roads.

Figure 8 - 8th Street at Preston Avenue (Urban Systems' Rendering)

2.1 Existing Major Corridors

Like many North American cities, Saskatoon initially developed outward from Downtown along a network of streetcar lines. During the first half of the twentieth century, streetcar lines and bridges helped to shape residential and commercial growth along key corridors. At the same time, the city remained relatively compact.

In the Post-War period, the rise of the automobile led to the rapid expansion of the city's built-up area, typically in the form of auto-oriented development.

Today, many of Saskatoon's major corridors are designed primarily for automobiles, with little space for walking, cycling, transit stops and facilities, or socializing along the street **(Figure 9)**. Permitted land uses along most major corridors generally consist of low-density, commercial activity designed to support automobile access. Buildings are set back from the street with an expanse of parking in front. These forms of development typically consist of large-scale blocks that are neither walkable nor accessible for transit and cycling, and have limited pedestrian connections to neighbouring areas of the community.

For major corridors such as 22nd Street and 8th Street, this development form extends along the entire corridor (linear). Even suburban centres located at specific points along the corridor (nodes), such as Confederation Suburban Centre, are auto-oriented, with little option for other modes of transportation.

Figure 9 - Typical Features of Major Corridors in Saskatoon (22nd Street Example)

2.2 Future Land Use Patterns without the Growth Plan

Existing permitted land uses and transportation networks are barriers to transforming major corridors into vibrant parts of the community **(Figure 10)**.

Permitted land uses are generally centred on commercial development, with limited opportunity and choices for a mix of residential and office space. Modest scale and density of development, where a large amount of free parking is required, typically leads to a suburban pattern of land use designed for automobiles. In fact, the design of streets serving auto-oriented land use patterns encourages people to drive. On the other hand, limited pedestrian, bicycle, and transit facilities restrict choices for sustainable modes of transportation. Together, these systemic land use and transportation relationships perpetuate the suburban character of Saskatoon streets.

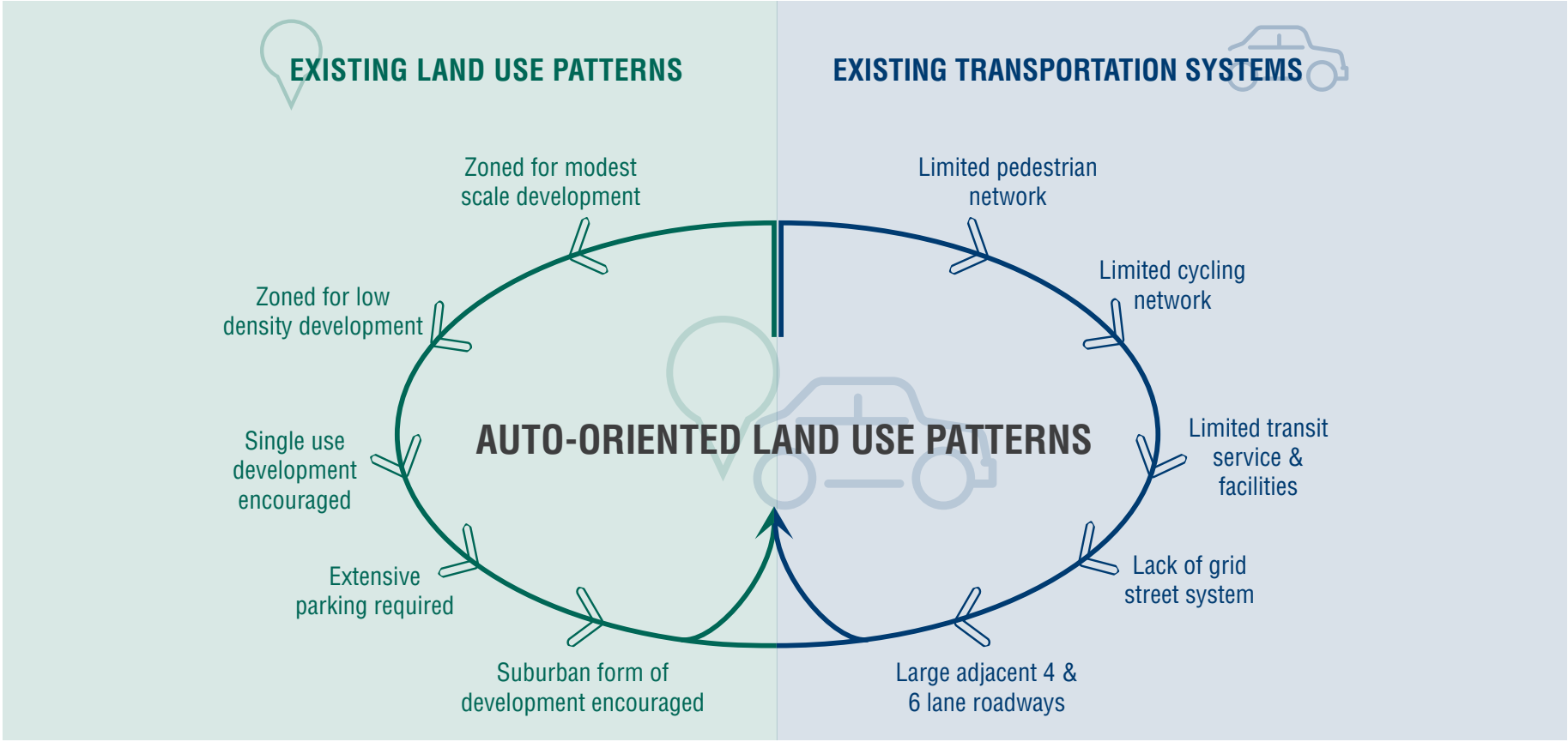


Figure 10 - Barriers to Transforming Major Corridors

Without purposeful planning to transform Saskatoon's major corridors, the city will continue to face:

- **Limited choices for existing and future residents.** Corridor Growth will provide new housing options on Saskatoon's major corridors within close proximity to walkable, mixed use commercial areas.
- **Limited access to employment and amenities.** Transformation of major corridors into mixed use, higher density activity areas will provide a variety of new employment nodes focused around attractive transit and other community amenities.
- **Limited transportation choices to areas along auto-oriented major roads.** Changes to the type and form of development will encourage walking and cycling and support greater investment in attractive transit services.
- **Land uses on major corridors that do not support attractive transit services.** Higher density forms of development (e.g. 4 to 6 storey) or more intensive destinations (e.g. redeveloped Suburban Centres) will reinforce the provision of attractive transit services.
- **Major roads that continue to be barriers to communities surrounding them.** Corridor Growth will connect neighbourhoods by improving pedestrian spaces, bringing development closer to the street, and facilitating connectivity across major corridors.
- **Growing outward with limited options for growing upward.** Corridor Growth will maximize investment in existing city services and infrastructure, while minimizing long-term liability associated with the service and infrastructure expansion required for outward growth.
- **Higher density land uses in challenging locations.** It is imperative that higher density development be located along major corridors to integrate with future rapid transit and support other community services and amenities. Without Corridor Growth, there may be pressure to accommodate higher density land forms in more random locations. This would compromise the success of future rapid transit and mixed-use areas and affect the stability of residential neighbourhoods.

2.3 Aspirations for Corridor Growth

The Growth Plan explores opportunities for developing complete communities along major corridors, supported by attractive transit services. These communities will be designed to achieve the following objectives:

- ☑ Support and encourage a variety of building types, densities, and forms
- ☑ Create public spaces that are inviting, active, and memorable for residents and visitors alike
- ☑ Improve access to employment opportunities, commercial businesses and services
- ☑ Improve mobility options along major corridors and around the city
- ☑ Enhance connectivity between and within neighbourhoods
- ☑ Support the efficient provision of infrastructure

2.4 Considering the Possibilities

There are approximately 165 km of major and minor arterial roads in Saskatoon. Each of these roads is different in terms of its form, function, and character. Although the City wants all major corridors to be inviting to people, not all corridors are conducive to redevelopment. The transformation of major corridors will require changes to permitted land uses and investments in sustainable transportation choices.

The major corridors with the greatest redevelopment potential have the following qualities:

- **Proximity to transit** to support higher density, mixed use development
- **Opportunity to invest in currently underutilized lands** that could be redeveloped
- **Urban block structure** that is easy to navigate with compact blocks that improve accessibility, provide route choice, and support street-facing development
- **Continuity of destinations** that connect key areas of the city and are enroute to other destinations

Several major corridors have the essential qualities necessary to become vibrant places and streets. The existing development surrounding these corridors may be transformed in terms of scale, density, and mix of land uses **(Figure 11)**.

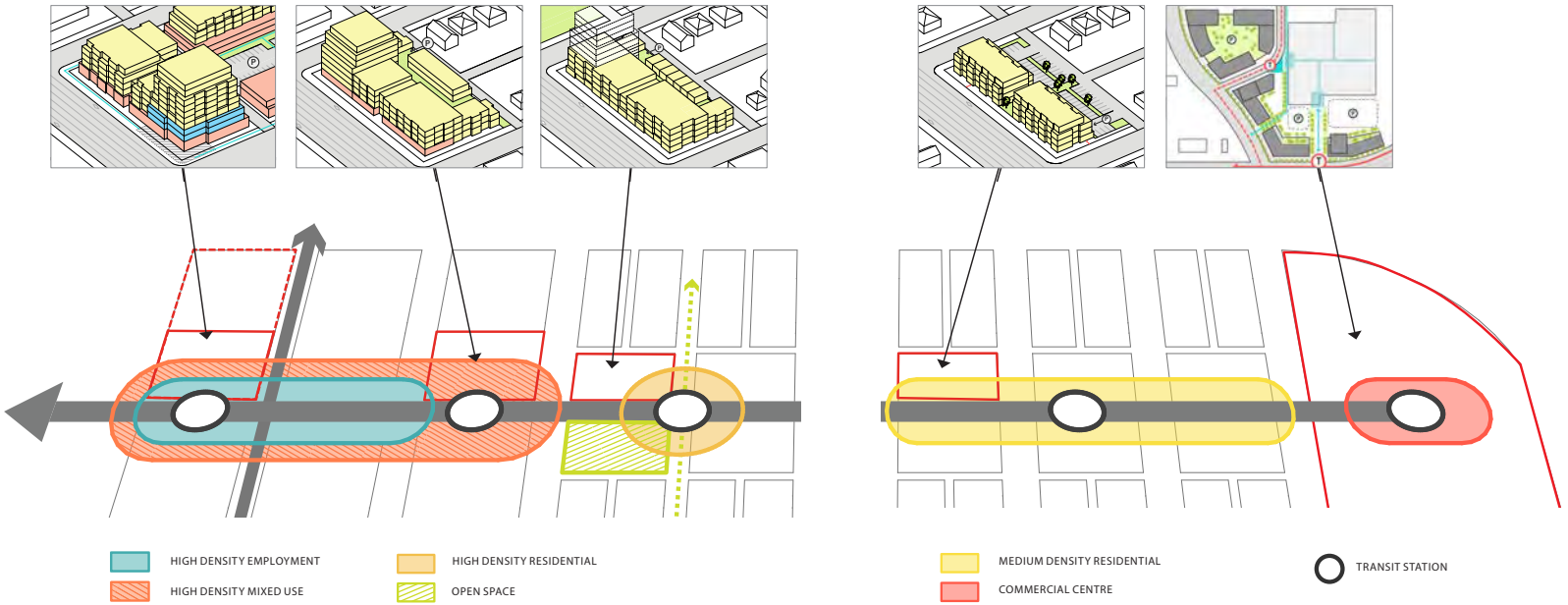


Figure 11 - Potential for Changing Land Use Form on Major Corridors

A shortlist of major corridors with the greatest potential for redevelopment, along with their relative priority, is illustrated in **Figure 12**. Most of these high priority corridors will support Bus Rapid Transit (BRT) as described in **Part 3 (Section 3.6)**. In addition to frequent transit services, these BRT corridors will support comfortable transit stations with convenient, attractive connections for pedestrians and cyclists.

A preliminary assessment indicated that water and sewer infrastructure would need to be expanded in order to support corridor growth. In the established areas of the city, the expansion could be combined with the replacement of aging infrastructure.

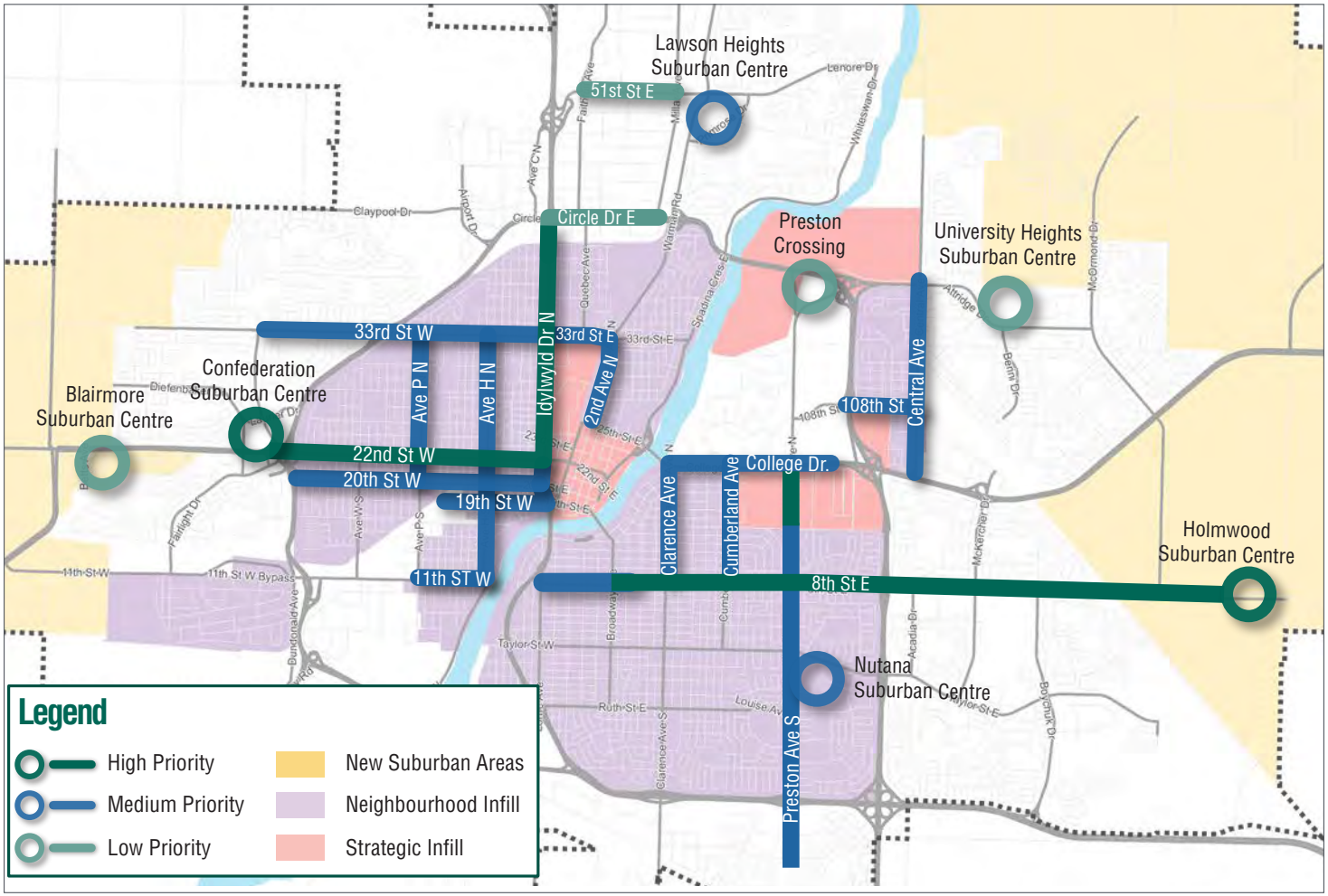


Figure 12 - Corridors with Greatest Potential for Redevelopment and Level of Priority

2.5 The Long-Term Plan

Although increased scale, density, and mix of land uses may be encouraged for all major corridors, the City will work with the community and land owners to identify appropriate land uses and zoning along those corridors with the greatest potential for redevelopment and sustainable growth patterns. A preliminary review of each high priority corridor found that some sections have greater potential for redevelopment than others. Some are linear sections, while others are more nodal or area-specific in nature. For example, sections of 22nd Street between Avenue P and Idylwyld Drive have greater potential than other areas along the corridor. Additionally, the Confederation Suburban Centre was found to have a high potential for redevelopment to accommodate a greater mix of land uses in a more walkable urban shopping district.

Figure 13 illustrates areas with the greatest potential along high priority corridors and nodes. Although area-specific plans are required to work with land owners and surrounding communities, a high level assessment identified the potential type, scale, and mix of redevelopment along each corridor.

A. LINEAR GROWTH AREAS

- **22nd Street.** Higher density transit-oriented development can be accommodated on under-utilized parcels adjacent to future rapid transit. These areas can support more intensive residential and commercial development as well as complementary changes to the road itself.

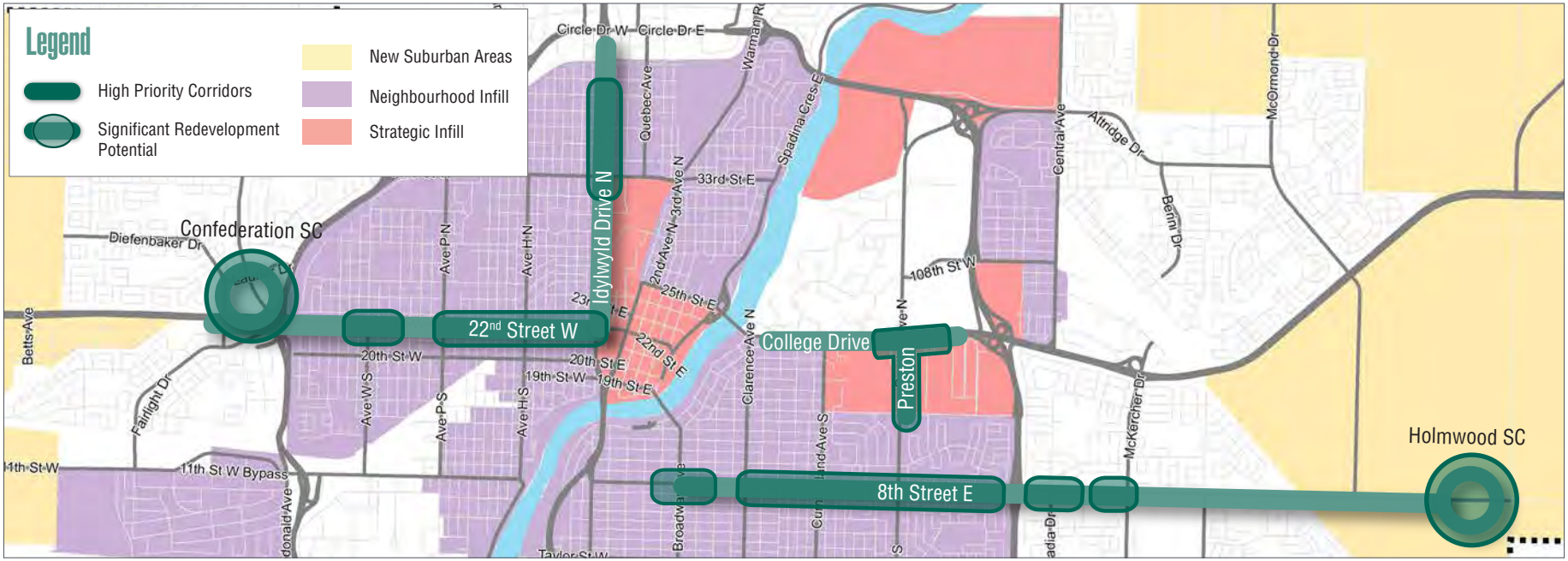


Figure 13 - Areas of Highest Potential for Priority Growth Corridors

- **8th Street.** Higher density development can be supported on large parcels adjacent to future rapid transit. In the long-term, the streetscape can be enhanced to facilitate a more inviting walking and cycling experience as well as connections to rapid transit.
- **College Drive / Preston Avenue.** Corridor development can support the University of Saskatchewan's **Vision 2057** to create a mix of housing types and densities, with services and employment within a five-minute walk of rapid transit stations.
- **Idylwyld Drive.** Mixed-use infill opportunities can support the objectives of the North Downtown Master Plan and Saskatchewan Polytechnic's long-terms plans for facility expansion and student housing. Enhancing the streetscape will make the corridor more inviting, attractive, and safe for pedestrians.

B. NODAL GROWTH AREAS

- **Confederation Suburban Centre.** This area's large-scale retail can become a catalyst for transit-oriented development. Current land use patterns as well as aging infrastructure and building stock indicate significant opportunity for redevelopment and transformation. In fact, potential exists to build on the existing centre's success by creating strong connections to surrounding neighbourhoods and future rapid transit stations.
- **Holmwood Suburban Centre.** Because planning is currently in the concept phase, there is an opportunity to create a mixed-use, walkable, dynamic suburban centre built around a rapid transit station that functions as the heart of the neighbourhood. Planning will need to happen in conjunction with the principal developer.

Redevelopment of these priority areas could significantly enhance sustainable growth patterns for Saskatoon, while at the same time improving the street environment for residents. There is potential for between 11,000 and 22,000 dwelling units along the high priority corridors. In fact, these corridors could account for up to 15% of the city's growth over the next 30 years, shifting the balance of growth to 50% suburban and 50% infill **(Figure 14)**.

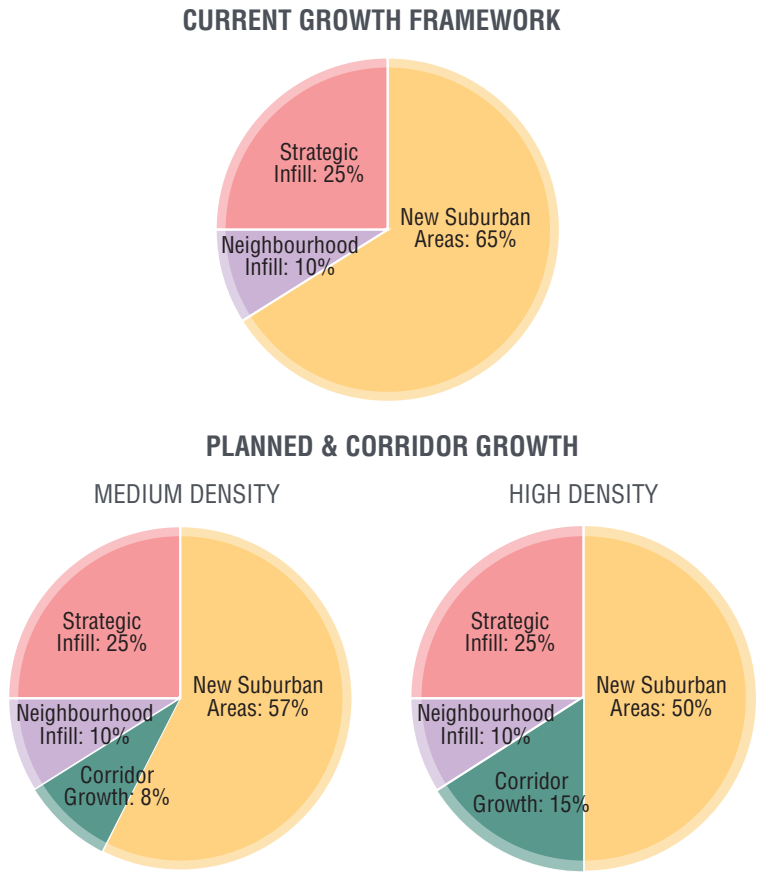


Figure 14 - Distribution of Population (Current Growth Framework vs. Priority Growth Corridors)

However, significant investment in a rapid transit system is a necessary precondition to higher density Corridor Growth. As the city's rapid transit system evolves and as Strategic Infill areas develop, long-term demand for Corridor Growth will increase and higher density development will become more possible. Frequent transit services and attractive transit facilities will act as a catalyst for redevelopment along major corridors.

While Corridor Growth will be primarily residential in nature, there will also be supporting retail, office, and institutional development, particularly near rapid transit stations. These uses are vital to establishing well-connected urban villages and supporting an efficient rapid transit system for Saskatoon.

2.6 Implementing the Corridor Growth Plan

The long-term plan for Corridor Growth is to create thriving streets with a greater scale of development, density of development, mix of land uses, and positive environment for walking, cycling, and transit. Plans for Corridor Growth are inextricably linked with the provision of attractive, frequent transit, and the phasing of plans for Corridor Growth will generally follow the phasing of investment in rapid transit. A variety of tools will be used to support corridor transformation.

A. CORRIDOR AREA PLANS

Corridor Area Plans will be prepared to further define future land use plans and reinforce the provision of attractive, frequent transit along the city's major corridors. The planning process provides the City, property owners, residents, businesses and other stakeholders (e.g. community groups) with an opportunity to facilitate changes along major corridors, while also ensuring that any changes are sensitive to overall community character. Each Corridor Area Plan will be developed using a five-step process to examine redevelopment possibilities and create feasible land use plans for each priority area **(Figure 15)**.

Corridor Area Plans will be organized into short-term, medium-term, and long-term priority areas **(Figure 16)**. The areas included will be flexible and serve as a starting point from which to consider the timing and extent of appropriate redevelopment. As implementation proceeds, phasing for Corridor Area Plans may be adjusted to address external conditions.

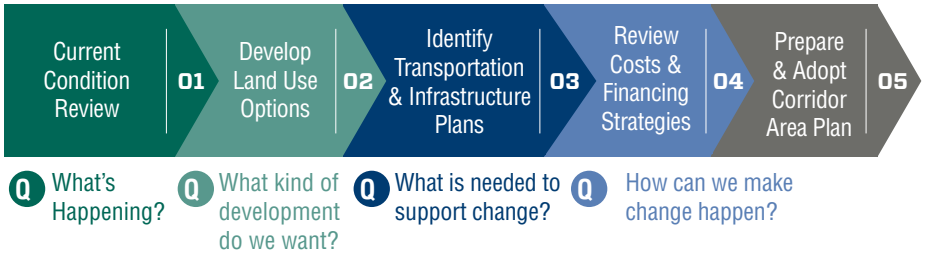


Figure 15 - Corridor Area Planning Process

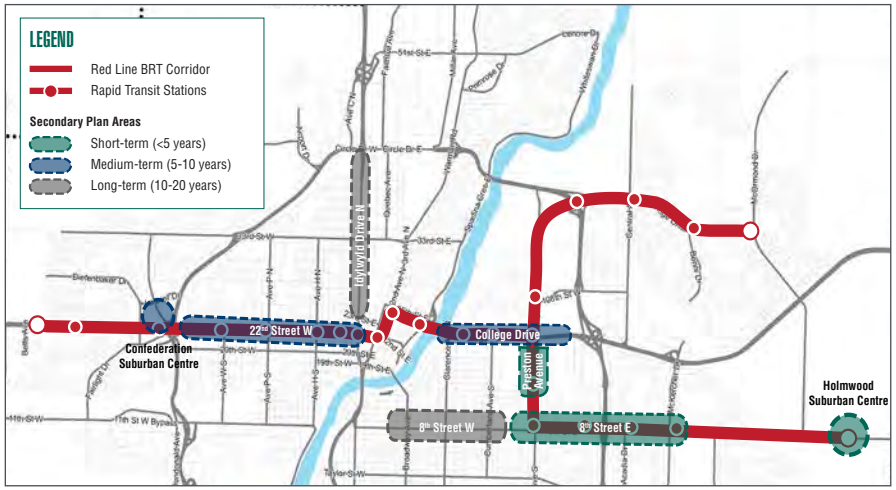


Figure 16 - Short, Medium, and Long-term Corridor Area Plans

B. TRANSIT ORIENTED DEVELOPMENT (TOD) DESIGN GUIDELINES

Transit Oriented Development (TOD) Design Guidelines provide the framework for development in proximity to future rapid transit stations and will be refined and formalized through the Corridor Area Plan process. This approach means transforming the street environment as well as the scale and density of development, and mix of land uses. It also means carefully designing new developments to create quality environments that are conducive to transit, walking and cycling. **Figure 17** illustrates core ingredients that will shape growth and development along major corridors.

Figure 17 - Transit-oriented Design Guideline Principles

C. COMPLETE STREETS POLICY AND DESIGN

A Complete Streets Policy and Design Guide will be developed to provide design direction to ensure all anticipated uses of the street are integrated and contribute to a vibrant, people-oriented street environment. Pedestrians, bicyclists, motorists, and transit users of all ages and abilities must be able to safely move along and across a complete street. In conjunction with transit-oriented land use patterns, complete streets help build strong, livable communities.

A vision and principles for complete streets in Saskatoon was developed as part of the Growth Plan. Building on these principles, a preliminary Complete Streets Policy and Design Guide will provide a blueprint for designing, building (retrofitting), operating, and maintaining complete streets. The guide will be refined and formalized during implementation of the Growth Plan. The essential features of complete streets are illustrated in **Figure 18**.

D. POLICY AND REGULATORY CHANGES

Policy and Regulatory Changes, such as changes to the City's Official Community Plan and Zoning Bylaw, will be required to implement the Growth Plan. Public engagement will help to inform and guide these changes.

Figure 18 - Key Ingredients of Complete Streets

2.7 Financing Corridor Growth

Growing cities require more municipal services (e.g. attainable housing, libraries, community programs) and more infrastructure (e.g. water, transit, active transportation, parks). Development Levies funded by developers account for approximately 90% of growth-related infrastructure costs in new suburban areas. This funding, however, does not cover all costs associated with growth, such as operating and maintaining infrastructure and providing municipal services such as police, fire, and transit.

Encouraging more sustainable land use patterns and choices for moving around Saskatoon is fiscally responsible. Beyond managing demands on the road network, growth along major corridors will make use of existing services and infrastructure. Since infrastructure in these areas is aging, corridor growth will largely fund expansion of the infrastructure and a small portion of the replacement costs. The long-term replacement costs of infrastructure in these areas are funded through property taxes and government partnerships. Saskatoon continues to work with the provincial and federal governments to secure new sources of revenue. This includes exploring cost-sharing programs with senior levels of government as well as legislation to access alternative revenue sources such as those used in other jurisdictions.

Over the next 10 years, several Corridor Area Plans will be developed with the community to identify land use changes and street treatments along major corridors. Expanded infrastructure and servicing requirements will be identified along with anticipated costs and funding tools. The City will continue to explore alternative sources of funding that will not only recover new costs, but will also provide an incentive for sustainable development that will transform major roads and create great places for people (**Table 1**).

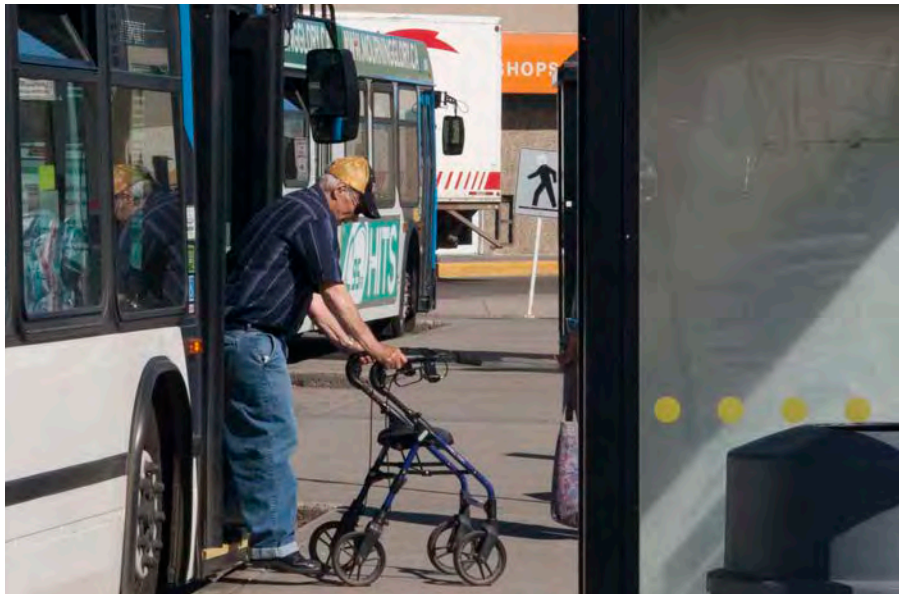
	Planning and Design	Infrastructure and Facilities	Municipal Services
EXISTING SOURCES OF REVENUE			
Development Levies and Local Area Costs		✓	
Property Taxes and Utility Rates	✓	✓	✓
Federal/Provincial Programs	✓	✓	
EXPANDED POTENTIAL REVENUE SOURCES			
Land Value Capture		✓	✓
Land Transfer Taxes		✓	✓

Table 1 - Potential Funding Sources

Broadway Avenue, Saskatoon, SK, Source: Urban Systems

Downtown Transit Hub, Saskatoon, SK, Source: City of Saskatoon

College Drive, Saskatoon, SK, Source: Urban Systems



Lawson Heights Mall Transit Hub, Saskatoon, SK, Source: Urban Systems

PART 3: Transit

Public transit is a major focus of the Growth Plan. With a growing and aging demographic, the need for an accessible, efficient transit system with an attractive customer experience is increasing. While people will still use cars, an efficient transit system with rapid transit will provide options to alleviate congestion, ensuring people can move around the city quickly and easily. Transit will also support the goals of Corridor Growth. Frequent transit services and attractive transit facilities will act as a catalyst for redevelopment along major corridors, which in turn will support investments in rapid transit.

The Growth Plan includes enhancements to the way existing services are provided, increases to the amount and types of services available, and implementation of rapid transit over the next 30 years.

Figure 19 - Transforming 22nd Street West with Corridor Growth and Rapid Transit (Urban Systems' Rendering)

3.1 Saskatoon Today

Saskatoon's transit system accommodates approximately 9.5 million passengers per year (in 2013), or less than 5% of daily travel throughout the city. In comparison to other mid-size Canadian cities, the proportion of people using transit for their daily commute in Saskatoon is relatively low.

The transit system experiences many of the pressures typical of mid-sized cities in Canada. The system is designed as a 'hub-and-spoke' service centered on the Downtown and University **(Figure 20)**. As a result, approximately 80% of all transit trips start and end in the Downtown and University areas. It is less attractive to use transit to access other areas of the city.

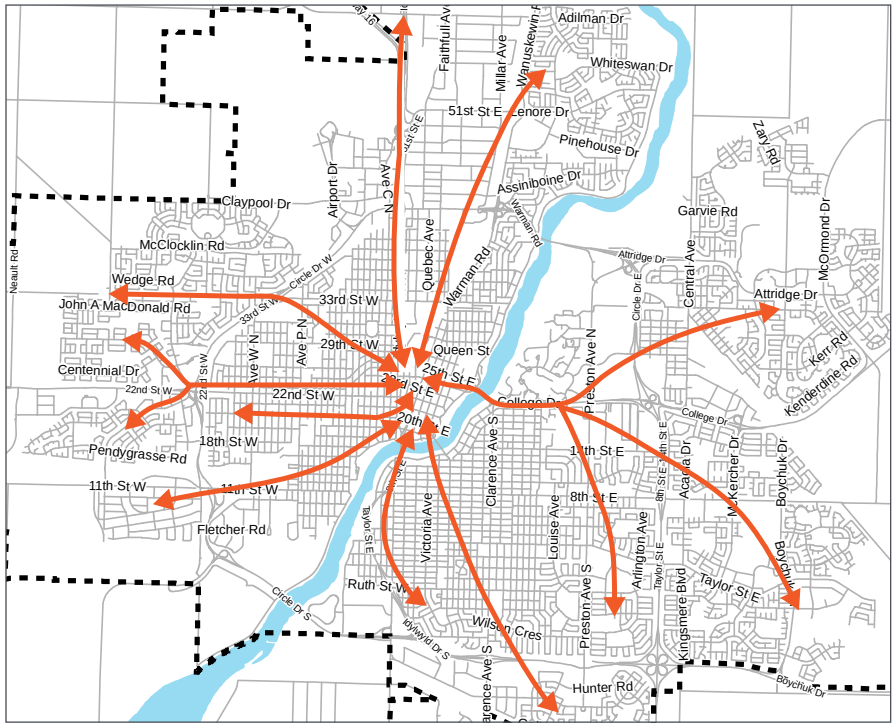


Figure 20 - Existing Transit System Structure (Hub-and-Spoke)

Most residents are also within reasonable walking distance to transit service (less than 400 m). Although service coverage is excellent, service frequency is generally low, with buses running every 15 minutes during peak periods and every 30 minutes (or more) during off-peak periods. The road network in many suburban areas also creates indirect transit travel for customers.

Recent suburban neighbourhood designs have created communities that are difficult to serve with the current system. Limited resources for transit mean areas of greater need receive moderate service levels, despite their potential ridership.

Like many Canadian cities, it is time for Saskatoon to move beyond a coverage based system where moderate transit services are within walking distance of most people, to one where exceptional services are concentrated along specific high-demand corridors.

3.2 The Future of Transit without the Growth Plan

Over the past decade, transit service increases have not kept pace with population growth in Saskatoon. If we maintain a 'business as usual' approach, service levels will continue to decrease over the next 30 years, as shown in **Figure 21**, putting us well below service levels in other communities and making it difficult to attract transit riders.

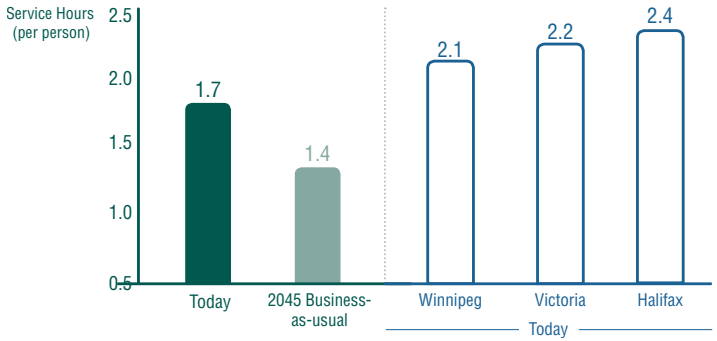


Figure 21 - Annual Services Hours per Person Comparison

Without a long-term plan for increasing services and investing in transit infrastructure, existing challenges will be exacerbated as the city grows. These challenges include:

- **Less coverage,** with more people walking more than 400 m to a transit stop.
- **Modest increases to service frequency on major corridors,** where travel demands are highest and reliance on transit is likely to increase substantially.
- **Demand exceeding capacity during peak periods,** with overloaded buses unable to pick up customers at transit stops.
- **Transit using the same street system as traffic,** where growing congestion and delays are increasing the cost of delivering the same service frequencies.
- **One-size-fits-all service** that does not serve the needs of an aging population or the unique mobility challenges of a growing city. This will place added pressure on specialized transit.
- **Limited evening and weekend services,** which are essential to a transit-friendly city.
- **Overall decline in city-wide transit mode share** (proportion of people using transit).

These patterns in turn impact the city's road network. With declining transit service levels, city streets will attract more than 100,000 additional vehicle trips during peak hours alone over the next 30 years. Average trip distances will increase from 6 km to 10 km, while travel times will increase by more than 300%. In short, the established road network inside Circle Drive will be at capacity.

Transit is also key to enabling and supporting sustainable growth patterns. The City's plan to support up to 50% of all growth within the core area inside Circle Drive depends on transforming major corridors, which relies on attractive transportation alternatives, such as rapid transit, walking, and cycling. Without significant investment in transit services and infrastructure, major corridors and the city's Strategic Infill areas will likely remain auto-oriented. Without the Growth Plan and recommended investments in transit, the city may be unable to grow upward in a sustainable manner, and will instead face continued pressure to grow outward.

3.3 Aspirations for Transit

Transit in Saskatoon strives to be an attractive customer-oriented service. A broader range of services will support varying travel demands. Rapid transit will complement the overall transit system and serve as the spine of the transit network. Rapid transit corridors and stations will enhance mobility for residents and visitors.

When asked about the barriers to using transit in Saskatoon, many people point to transit frequency, travel time, directness, and reliability. When asked about the features that are most important for rapid transit, most people identified not only increased frequency, but a desire to minimize travel times between key destinations by giving transit priority through congested areas.

The long-term objectives for the transit system are to:

- ☑ Support and shape growth and development within the city
- ☑ Provide frequent, direct, reliable transit services for the most significant travel markets
- ☑ Provide neighbourhood services that support local area travel and connections to primary corridors
- ☑ Increase daily city-wide transit mode share (proportion of people using transit) from 4% to 8% percent over the next 30 years, and peak period transit mode share to the Downtown and University areas from 10% to 25%
- ☑ Provide facilities that enhance customer safety and comfort

3.4 Transit Plan

Whether reshaping services or enhancing the customer experience, the Transit Plan takes bold steps toward making transit an attractive choice. The plan includes three interrelated initiatives.

A. CUSTOMER EXPERIENCE

The customer experience is central to the success of transit in Saskatoon. The City has already launched several initiatives to make customer service a foundation of the transit business. Whether it's planning a trip or getting to the destination, many things can be done to improve the experience for customers of all ages and abilities **(Figure 22)**. The following core initiatives are designed to improve the customer experience:

- **Real Time Bus Arrivals** will be expanded and implemented on all rapid transit routes and stations.
- **Mobile Apps** for third party services will provide routing, stop, and GPS location data on a go-forward basis.
- **Ongoing Website Upgrades** will support access for people with mobility and cognitive challenges. Customer assistance in other languages may be provided in the long-term.
- **Universally Accessible Bus Stops** will ensure passengers with and without mobility challenges can easily and safely access bus stops and stations.
- **Community Outreach** by specially trained staff will be available to customers who experience barriers to using the conventional transit system, such as seniors and people with mobility challenges.
- **Customer Satisfaction Surveys** for individual routes will provide a broad understanding of the diverse range of people using the system and their experiences.

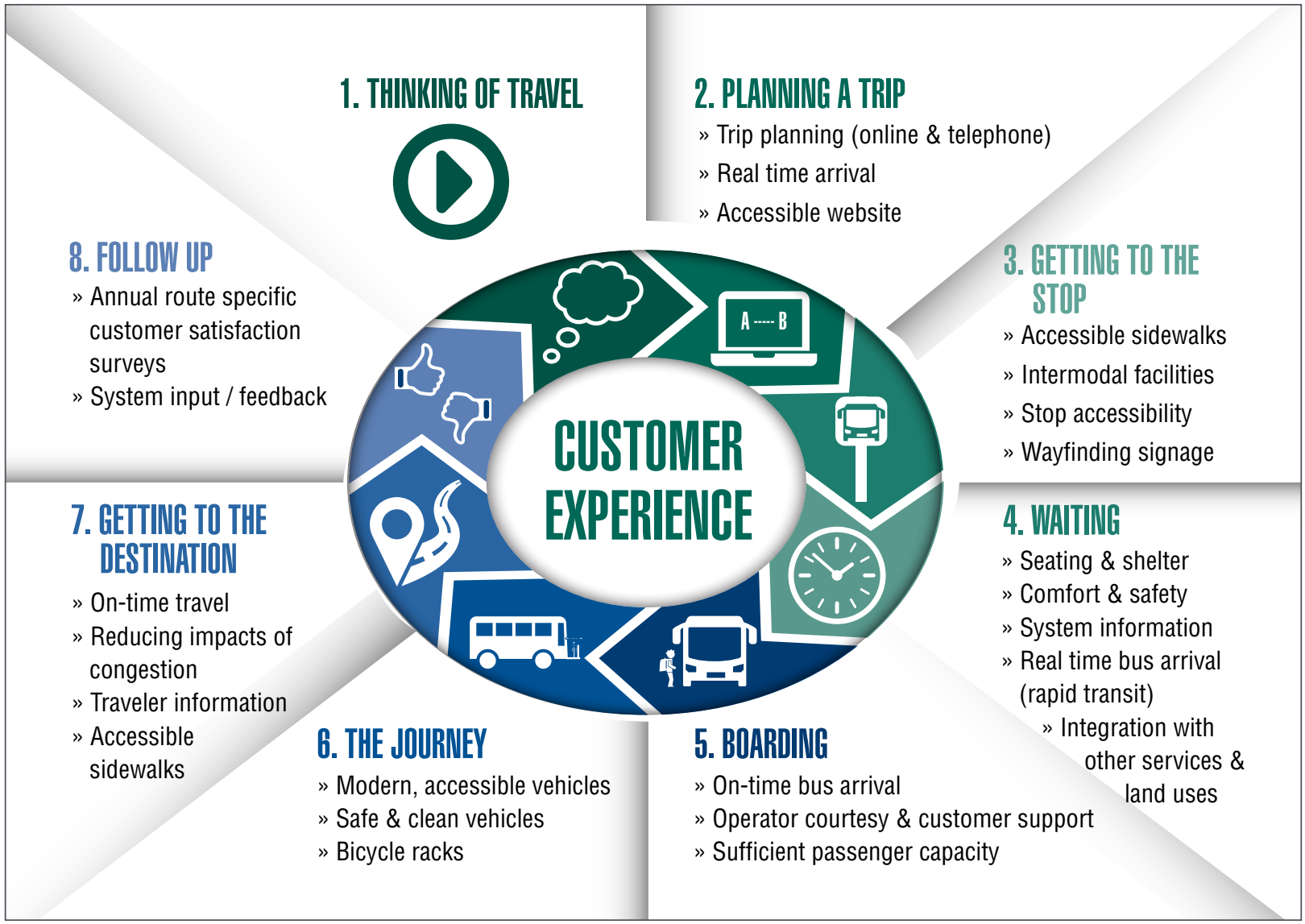


Figure 22 - Improving the Customer Experience

B. SERVICE PLAN

In order to increase the attractiveness of transit in Saskatoon, the amount, type, and quality of services must dramatically improve. The Service Plan is shaped by four key ingredients:

- **Grow service levels faster than population growth.** The Service Plan is based on significantly increasing service levels to 900,000 to 1,000,000 service hours per year, or between 1.8 and 2.0 service hours per capita, over the next 30 years. To accomplish this level of growth, annual service hours will need to increase by as much as 2.5% to 3.0% per year.
- **Increase the range of services to better suit differing customer needs.** An attractive transit system includes a broad range of services that support different travel and customer needs **(Figure 23)**. To be economically viable, more frequent/direct services typically require higher scale and density of development as well as a greater mix of land uses. Lower density neighbourhoods and industrial areas are more conducive to community shuttle services operating less frequently, but with greater flexibility for customers.
- **Shift the structure of the transit system** from a hub-and-spoke system designed to principally serve University and Downtown travel to a grid system where other destinations are also convenient to access by transit.
- **Direct most services to the largest transit markets.** Instead of providing equal transit service to low demand areas and large transit markets, take steps now to adjust service frequency, directness, and hours of operation. This allows more resources to be invested where they have more impact **(Figure 24)**.

SERVICE OR CORRIDOR TYPE	WHAT DOES IT DO?	VEHICLE TYPE	FREQUENT	DIRECT	FAST	RELIABLE	COVERAGE
Rapid Transit Corridors	Dedicated Bus Lanes & Stations. Supports Frequent & Conventional Transit Services.		✔	✔	✔	✔	
Frequent Transit	Connects higher demand areas.		✔	✔	✔	✔	✔
Conventional Transit	Connects neighbourhoods.					✔	✔
Community Shuttle	Connects low demand outer areas to main corridors.					✔	✔
Commuter Service	Connects with surrounding communities.			✔		✔	✔

Figure 23 - Broader Range of Transit Service

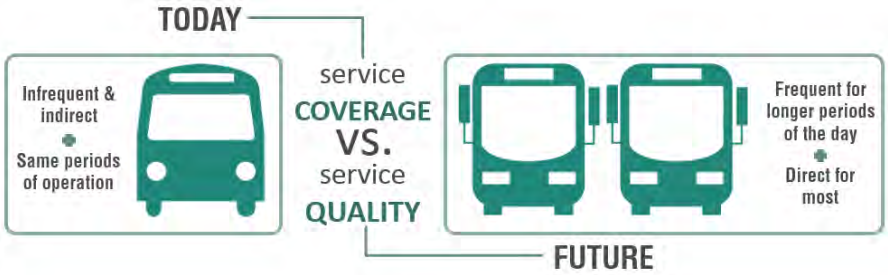


Figure 24 - Service Coverage vs. Service Quality Design

The Service Plan outlines a number of features to be developed gradually over the long-term (30 years or more):

- **Bus Rapid Transit (BRT) Corridors.** With half a million people, projected east-west and north-south ridership can be accommodated using buses in dedicated lanes and priority treatments. In the long-term, BRT corridors will form the 'spine' of Saskatoon's transit system, with buses operating every 5 minutes or less throughout much of the day.
- **Frequent Transit Corridors (FTC).** Buses will operate at least every 15 minutes along FTCs, 15 hours a day, 7 days a week. Customers boarding transit along FTCs will enjoy an attractive bus service without needing to refer to a schedule.
- **Conventional Transit Services.** Within core areas of the city, a grid system of conventional services along several major roads will enhance access to BRT corridors and FTCs, where customers will be able to transfer at comfortable stops. As the largest part of the transit network, conventional services will support local trip-making with more direct and frequent access to areas of the city not well served by transit today.
- **Community Shuttle Service Areas.** In order to maintain reasonable coverage and access to transit, community shuttles or flexible transit services will provide access for local area travel and to other parts of the transit system.
- **Commuter Services.** Connections between surrounding communities (e.g. Warman / Martensville) and primary destinations in the city (e.g. North Industrial area, Downtown, University) will provide direct and reliable service.

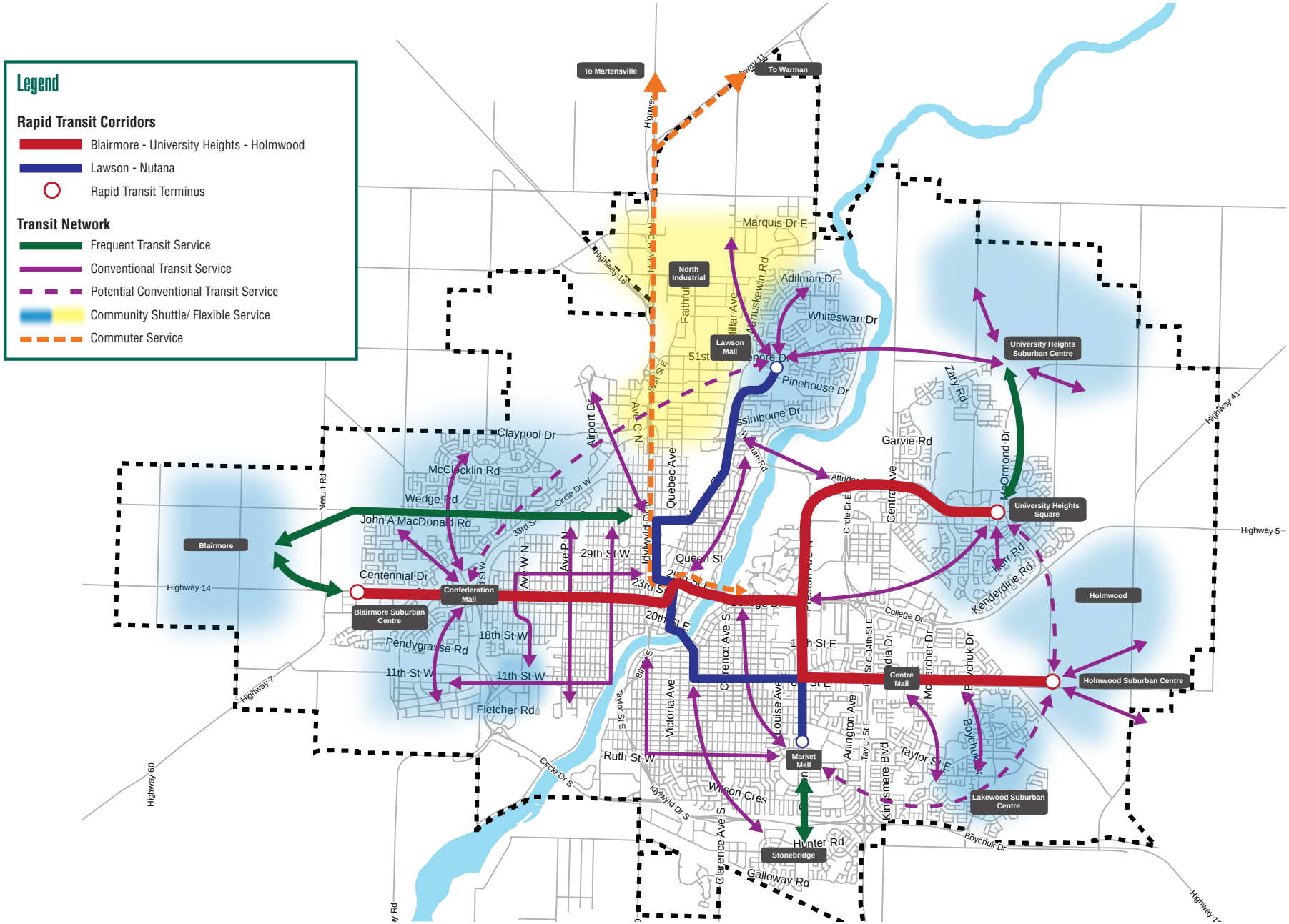


Figure 25 - Future Conceptual Transit Network

C. SUPPORT FACILITIES

Support facilities are essential to enhancing the customer experience and overall operation of the transit system. Five principle facilities are needed to support the Transit Plan.

- **Bus Fleet Replacement** of 10 buses per year. This will maintain a safe, reliable, and comfortable fleet with an average age comparable to other transit systems. It will also improve the accessibility of the fleet.
- **Bus Fleet Expansion** of five additional buses per year to support the ten-year service expansion.
- **Transit Priority Treatments** include operational changes, such as increasing stop distances and improving customer times entering and leaving the bus, as well as more active measures, such as traffic signal pre-emption for buses, intersection queue jumpers, and dedicated lanes.

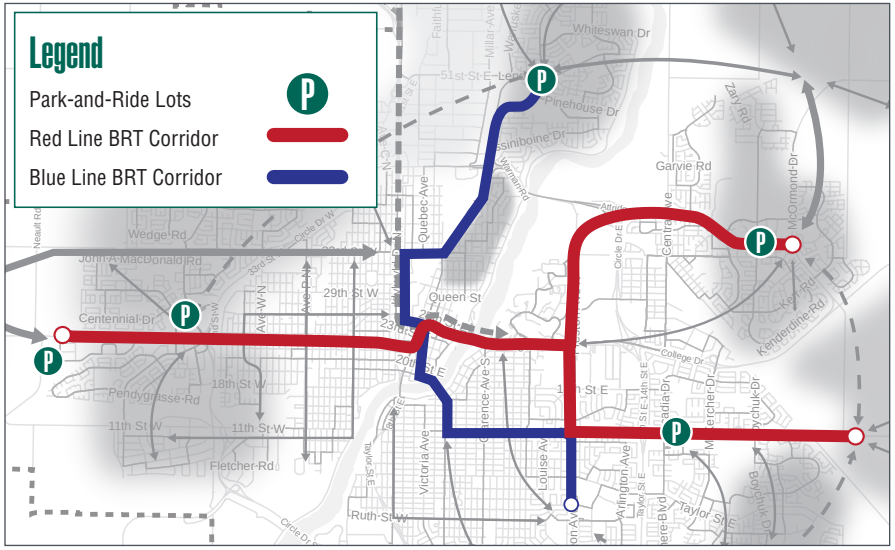


Figure 26 - Potential Park-and-Ride Locations

- **Transition from Transit Terminals to BRT Stations** (23rd Street and Place Riel) as part of the Red Line BRT corridor.
- **Park-and-Ride Lots** along Red and Blue Line BRT corridors at five or more locations, including Blairmore Suburban Centre, Confederation Suburban Centre, University Heights Suburban Centre, Lawson Heights Suburban Centre, and Centre Mall area **(Figure 26)**.

3.5 Growing Rapid Transit

Rapid transit will be designed to provide a quality transit experience that is fast, frequent, and reliable for customers throughout the city.

Bus Rapid Transit will serve the city's planned growth and travel demands for the next 30 years or more. Similar to cities such as Ottawa (and what's planned for Winnipeg), transit service along BRT corridors will include service from different areas of the city in order to deliver a bus approximately every 5 minutes to stops along the corridors. BRT facilities (such as bus-only lanes, bus queue jumpers at intersections, enhanced stations, and other customer amenities) will ensure the system is reliable and comfortable. BRT services and treatments along the corridors will be designed to support the largest transit markets across Saskatoon as well as transit-oriented land use patterns planned for major corridors (e.g. 22nd Street, College Drive, 8th Street).

Two rapid transit lines will be developed to support east-west (Red Line BRT) and north-south (Blue Line BRT) travel in Saskatoon.

A. RED LINE BRT CORRIDOR

As east-west services increase across Saskatoon and more services are directed toward the Red Line BRT corridor from surrounding areas, customers will experience a bus every 5 minutes throughout the day 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 **(Figure 27)**.

Ultimately, the vision for the Red Line BRT corridor is to combine the quality of rail transit with the flexibility of buses. The Red Line BRT corridor will contribute to transit-oriented land use patterns and people-oriented street environments. Street treatments should ultimately be designed and built to attract and accommodate people. In other words, BRT must be considered an integral part of the urban area rather than a separate utility serving travel demands.

Within Saskatoon, the BRT system will operate in a variety of environments—mostly surface, with the potential for elevated and/or underground sections at rail crossings in the long-term. BRT corridors where ridership is significant will be separated from general purpose traffic. Features that contribute to the uniqueness of BRT include:

- ☑ Reduced travel times over and above regular bus operations
- ☑ Frequent service during all periods of operation, seven days per week
- ☑ Buses serve stations rather than regular stops, and stations are spaced further apart

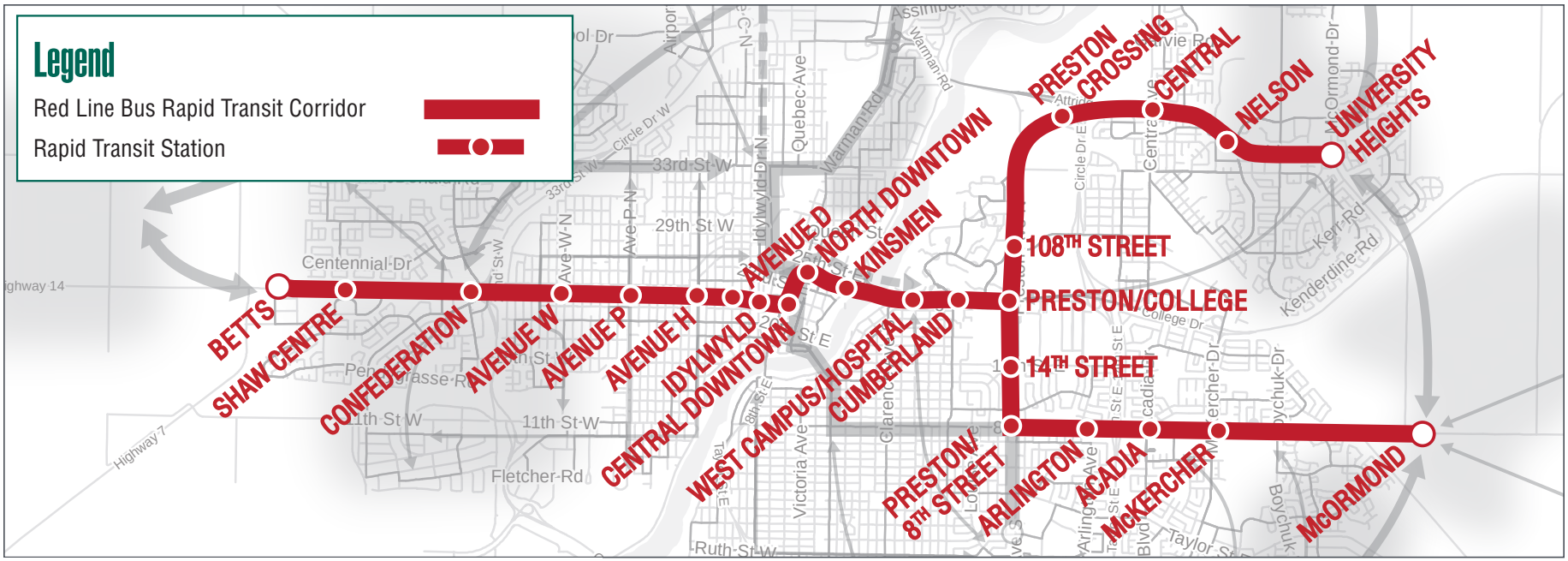


Figure 27- Recommended Red Line BRT Corridor & Stations

- ☑ Stations have unique, identifiable designs for passenger comfort and quality of experience
- ☑ Buses operate with transit priority treatments or in exclusive space to ensure reliable, attractive travel times and to bypass areas of recurring congestion
- ☑ Buses are generally larger and carry more passengers
- ☑ Passenger comfort is prioritized and alternative loading opportunities are used to expedite the passenger boarding process.

The Red Line BRT services and facilities can be implemented in stages as ridership increases, recurring delays on city streets grow, resources become available, and transit-oriented land use patterns evolve.

With growing congestion in the city, buses operating along all sections of the Red Line BRT corridor will be in dedicated lanes, as illustrated in **Figure 28**.

With the exception of College Drive, curb-side lanes are recommended for the majority of the corridor to allow for incremental development. Given the number of passengers getting on and off transit at the University, side running bus-only lanes along College Drive would allow for larger and more comfortable stations. As service levels grow, ridership increases and redevelopment along BRT corridors evolves, dedicated bus-only lanes will shift from curb side to centre or side running facilities. Although a bus-based system will more than accommodate the projected ridership for Saskatoon with half a million people, the evolution of BRT from curb to centre or side running should be designed to protect for and support longer-term transition to Light Rail Transit (LRT) beyond 30 years. A schematic of this transition from curb to centre lane BRT and then to LRT is illustrated for 8th Street in **Figure 29** along with changes to the surrounding land uses.

Figure 28- Examples of BRT Lanes, Source: Urban Systems

STAGE 1 | SHORT TO MEDIUM-TERM

- Increase transit frequency
- Curb bus-only lanes (peak then all day)
- Corridor growth / transformation
- Increasing congestion
- Growing ridership as well as increased walking and cycling

STAGE 2 | LONG-TERM

- Additional transit services
- More corridor growth
- Growing congestion
- Centre bus-only lanes (all day)
- Significant transit ridership

STAGE 3 | VERY LONG-TERM

- Convert BRT to LRT

Figure 29 - Evolving the Red Line BRT Corridor on 8th Street | Renderings by Urban Systems

B. BLUE LINE BRT CORRIDOR

The Blue Line BRT corridor will extend approximately 12 km, supporting transit services between Nutana Suburban Centre and Lawson Heights Suburban Centre **(Figure 30)**.

The Blue Line BRT corridor will be equipped with BRT stations featuring shelters, ticket vending machines, security cameras, and real-time information. As ridership along the corridor grows, transit stops will be converted to BRT stations.

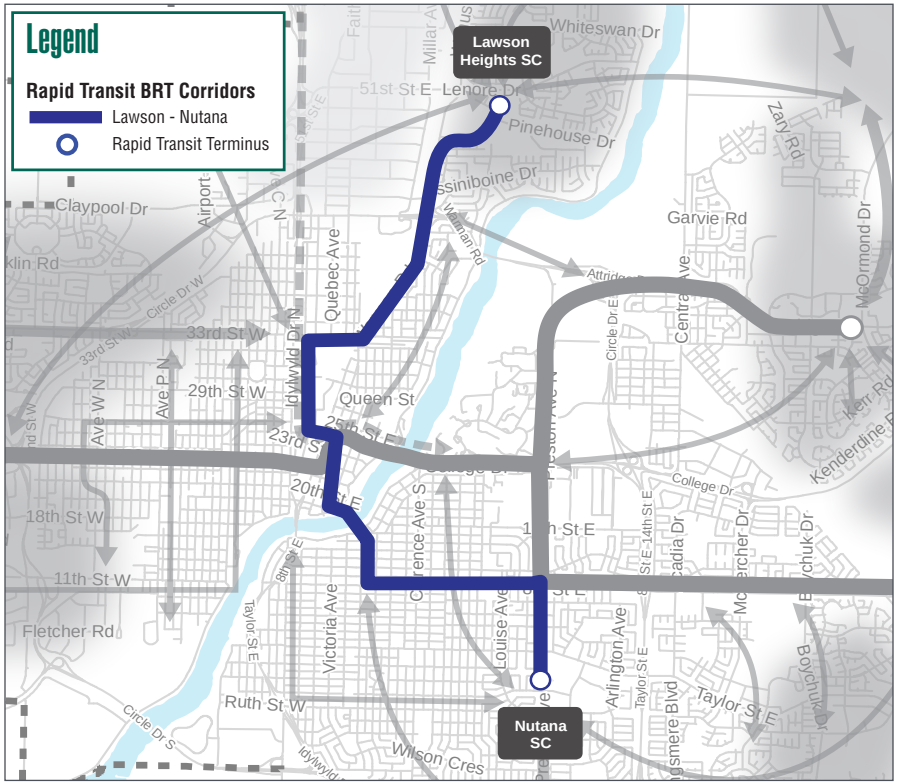


Figure 30 - Blue Line BRT Corridor

Although projected long-term ridership would not necessarily support dedicated bus-only lanes throughout the corridor, operational changes and minor capital projects **(Figure 31)** can be used to enhance service quality and reliability. This will ensure transit customers move faster than cars through areas of recurring congestion. These changes can be implemented over time as resources are available and need grows.

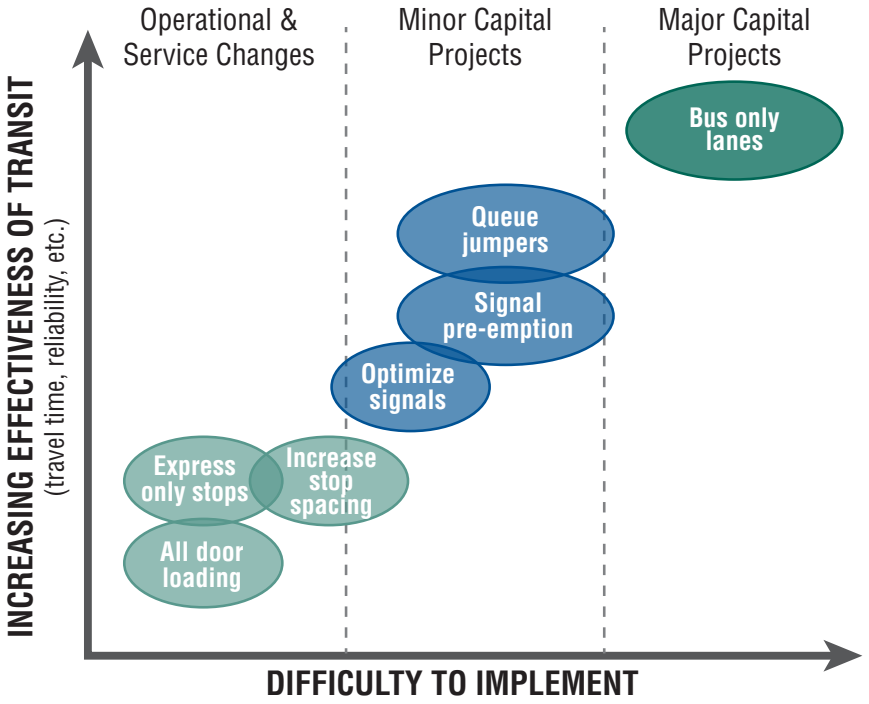


Figure 31- Potential Transit Priority Measures

3.6 Implementing the Transit Plan

The long-term Transit Plan is about more than increasing service frequencies and extending more of the same services to growing areas of the city. The Transit Plan is seeking to transform the transit system and shape sustainable land use patterns. It uses a multi-faceted approach to improve and expand services, implement new and more comfortable facilities, and provide support programs and services to enhance the customer experience.

The implementation strategy is separated into short-term, medium-term and long-term priorities as highlighted below.

A. SHORT-TERM PRIORITIES to be implemented within the next 5 years include:

- Annual reviews to optimize service delivery, restructure routes, and transition towards the long-term Transit Plan
- Customer service improvements (outreach, real time arrivals, mobile app, website upgrades, customer satisfaction surveys)
- Fleet renewal and expansion
- Increase service hours and frequencies to high ridership areas
- Plan, design, and construct Red Line BRT on 3rd Avenue and College Drive
- Design and construct priority measures for Blue Line BRT on 8th Street and Broadway Avenue
- Plan and design Park-and-Ride lots for Confederation, Wildwood, and University Heights

B. MEDIUM-TERM PRIORITIES to be implemented within the next 5 to 10 years include:

- Continue annual reviews to optimize service delivery and ensure Transit Plan implementation is on track
- Continue customer service improvements (outreach, real time arrivals, website upgrades, customer satisfaction surveys)
- Continue fleet renewal and expansion
- Continue increasing service hours and frequencies to high ridership areas
- Plan, design and construct Red Line BRT on 22nd Street, 25th Street, and 8th Street
- Design and construct priority measures for the remainder of the Blue Line BRT
- Construct Park-and-Ride lots for Confederation, Wildwood, and University Heights

C. LONG-TERM PRIORITIES to be implemented within the next 10 to 30 years include:

- Continue annual reviews to optimize service delivery and ensure Transit Plan implementation is on track
- Continue customer service improvements (outreach, website upgrades, customer satisfaction surveys)
- Continue fleet renewal and expansion
- Continue increasing service hours and frequencies to high ridership areas
- Plan, design and construct remaining Red Line BRT
- Design and construct Park-and-Ride lots for Lawson Heights and Nutana Suburban Centres

3.7 Financing Transit

Transit in Saskatoon is governed by City Council and managed through the City's Transportation and Utilities Department. The City is responsible for all decisions regarding service plans, fares, and local taxes associated with transit investments. The operation of conventional and specialized transit services is the responsibility of Saskatoon Transit, which operates all fixed route bus and Access Transit services. This includes delivery of services, maintenance, marketing, customer service, and fare collection.

The City is primarily responsible for funding transit operations in Saskatoon, with some Federal assistance for capital improvements through grant programs. Transit operations are principally funded through the farebox and property taxes, with limited ability to access other funding sources. Although many factors beyond the system contribute toward the success of transit, transit resources must be used efficiently to achieve the desired cost recovery from the farebox.

Over the next 30 or more years, investments in transit services and facilities must increase significantly, not only to improve the customer experience, but also to increase ridership. Additional service hours and new buses are required annually to gradually increase service levels in key areas. Improved facilities—from accessible stops and stations with customer amenities to BRT lanes and transit priority treatments on select streets—will require significantly more financial resources to implement and support.

The largest potential customer markets should see the most attractive service levels and facilities, with lower density, lower ridership areas seeing modest levels of service. Using this strategic approach, a more than doubling of service hours is projected to yield a threefold increase in ridership by the time Saskatoon's population reaches half a million people. Despite increased ridership, without other funding sources Saskatoon will continue to rely on property taxes to cover approximately 50% of transit operating costs.

As Saskatoon grows, the City will see increasing pressures on social, recreational, and community services and facilities. With growing reliance on property taxes to fund many other municipal priorities, Saskatoon must seriously consider additional funding sources for transit services, facilities, and programs. Some of potential funding sources are already permitted, others will require legislative changes as well as new agreements with the Province.

The City recently completed a study on funding growth related infrastructure (Financing Growth Study). The transit needs for Saskatoon to support half a million people will require access to new potential funding sources **(Table 2)**. The City will examine these alternatives along with the experience of other jurisdictions.

The City will use the Growth Plan and its overall aspirations for Sustainable Growth and Moving Around over the next 30 years to secure partnerships with the Provincial and Federal Governments on cost sharing for BRT facilities and services. The overall evaluation of alternative rapid transit technologies and routing as well as selection of a preferred plan for the Red Line BRT route will provide the foundation for discussing implementation priorities and potential partnerships.

Potential Funding Sources

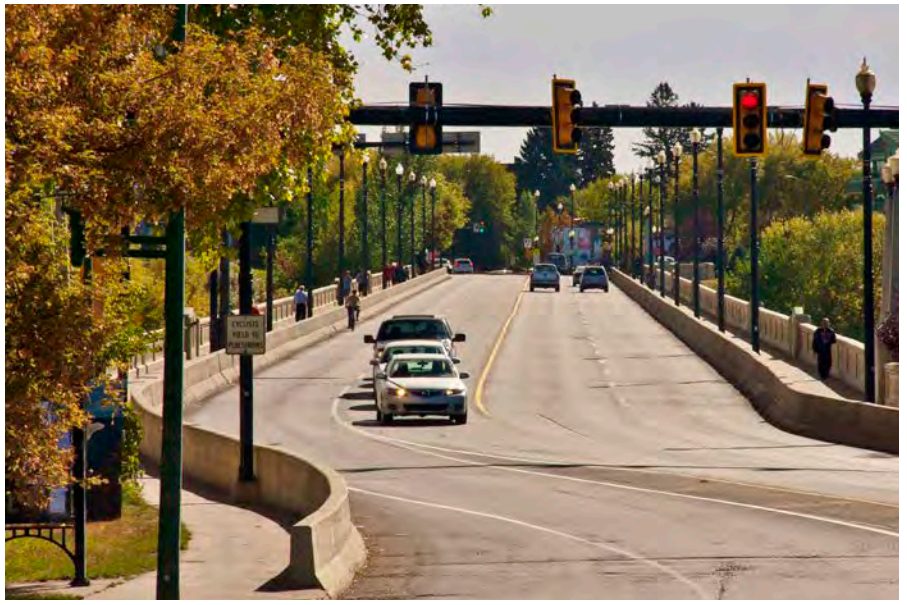
Operating Revenues:	^ Transit Fares, Program Revenues, Charters & Special, Event Fees ^ Advertising	
Local Property Tax		
Park-and-Ride Facility Charges		
Surcharges	^ Parking Surcharge ^ Sales Surcharge ^ Vehicle Registration Levy	^ Motor Vehicle Fuel Surcharge
Private Sector Partnerships	^ Partnership with Major Employers ^ Land Value Capture & Leases	
Senior Government	^ Capital Grant Programs ^ Regional Partnership Initiatives ^ Building Canada Fund	^ Provincial Grants and Funding to be explored

Table 2 - Potential Funding Sources

Downtown Transit Hub, Saskatoon, SK, Source: Urban Systems

University Bridge, Saskatoon, SK, Source: Urban Systems

CRP Rail Bridge, Saskatoon, SK, Source: Urban Systems



Broadway Bridge, Saskatoon, SK, Source: Urban Systems

PART 4: Core Bridges

As with many North American cities, the movement of people, goods and services in Saskatoon is predominantly supported by municipal roads and highways. The city's road network is well developed, with a distinct hierarchy of local, collector, arterial, and freeway roads. As a city almost evenly bisected by the South Saskatchewan River, the six river crossings (including the Traffic Bridge) represent focal points of the road network and are defining elements of daily travel in Saskatoon.

In its planning, the City considers ongoing build-out and improvements to the road network within and outside Circle Drive to accommodate planned growth to half a million people. With increased commitment to sustainable growth patterns and transportation choices, the City is also carefully considering pressures on core area bridges (inside Circle Drive) and surrounding roads.

Forecasted travel demands across bridges and potential strategies to increase the people-carrying capacity of existing and potential future river crossings in Saskatoon's core area are explored as an integrated strategy of the Growth Plan.

University Bridge, Saskatoon, SK, Source: Urban Systems

4.1 Existing Major Roads and Core Bridges

Saskatoon's road network inside Circle Drive is distinctly different than the network outside Circle Drive. In the older, more established areas inside Circle Drive, a grid system of roads provides continuous north-south and east-west routes. With the exception of river crossings, the grid system provides a variety of route options, which reduces the need for six or eight lane roads within the urban area. The grid road system also helps to maintain the quality of urban areas by providing a coherent, walkable block structure with parcels that can easily redevelop over time.

Outside Circle Drive, the street system is more curvilinear and indirect; in some areas, there is only one route in and out of a neighbourhood. These areas tend to be less walkable and bicycle friendly. They are also challenging for transit as routes in and out are indirect and more difficult to serve.

Today, major roads and bridges inside core areas carry approximately 30% more vehicles in the afternoon peak period than in the morning. Since the opening of the Circle Drive South, core area bridges in Saskatoon now accommodate approximately 96,000 vehicles per day. At the same time, transit supports approximately 10,000 person trips per day across core bridges (approximately 10% of all daily travel).

With the construction of alternative routes such as Circle Drive South Bridge, core area bridges are increasingly serving local area travel demands to, from, and within established areas as opposed to trips across the city. As seen in other cities however, the capacity of bridges (such as the University Bridge and Broadway Bridge) often exceeds that of the urban streets they connect to. This means that signalized intersections on either side of the city's core area bridges typically create the traffic line-ups on the bridges and beyond during morning and afternoon peak periods.

4.2 Future Trends Without the Growth Plan

The City of Saskatoon and the Saskatchewan Ministry of Highways and Infrastructure have identified medium and long-term road network improvement projects needed to accommodate city growth as well as regional travel in and around the city over the next 30 years. These improvements, illustrated previously in **Figure 5**, include construction of the Traffic Bridge and North Commuter Parkway Bridge and associated roads, scheduled for completion by 2018.

If transit services expand at a rate lower than population growth ('business as usual' approach discussed in Part 3), Saskatoon's road network will support 100,000 additional vehicle trips during the afternoon peak hour by 2045. Although average travel distances by car will increase from 6 km to 10 km, average vehicle travel times throughout the city will increase by more than 300%. Based on forecast growth in travel, the established road network inside the Circle Drive area will be operating at or beyond capacity in many locations. At the same time, forecast travel demands across core area bridges will exceed capacity, with a projection of severe congestion by 2045. These inherent relationships are illustrated in **Figure 32**.

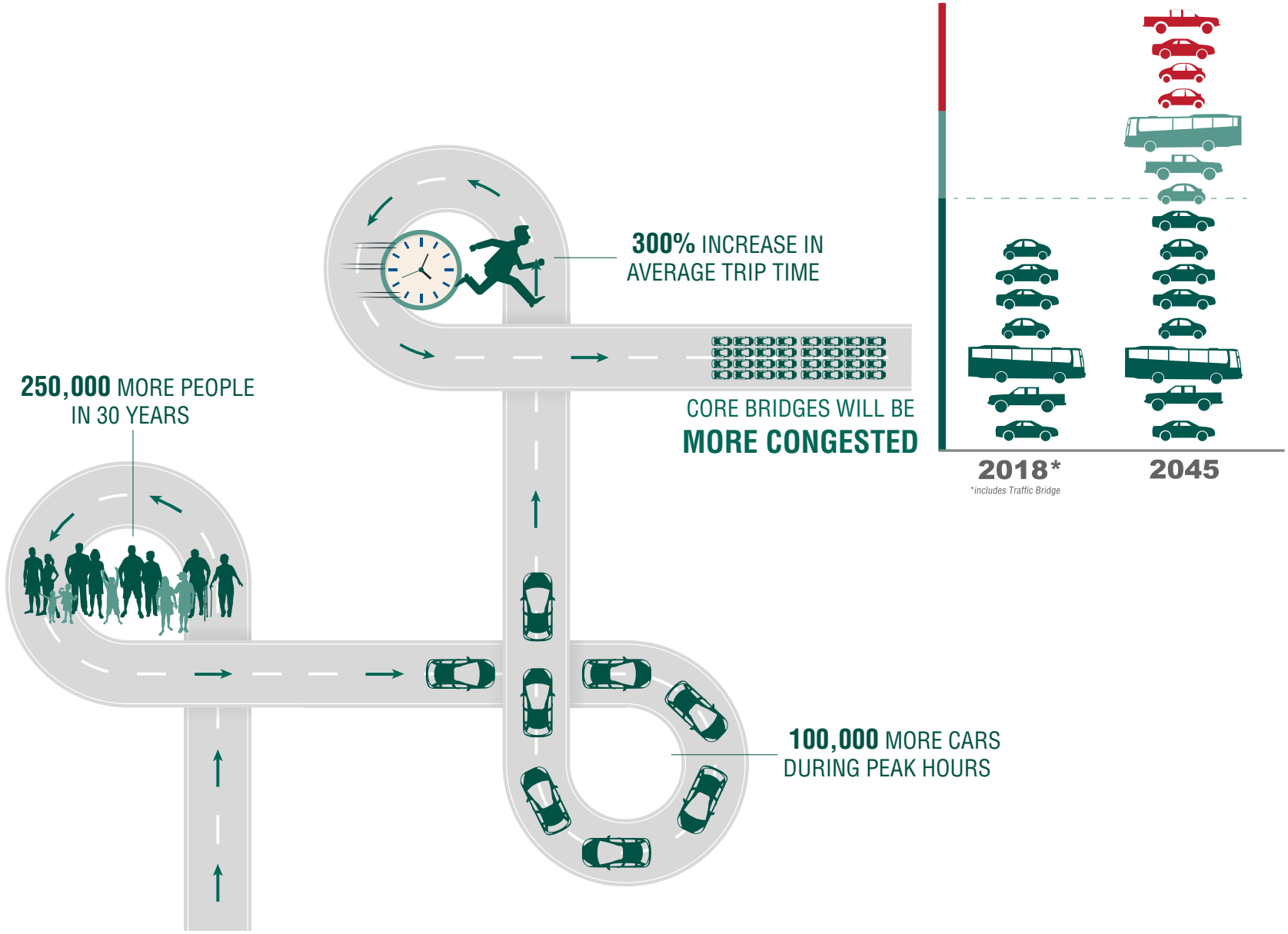


Figure 32 - 'Business as Usual' Patterns

4.3 Aspirations for Core Bridges

Core area bridges will continue to be primary routes to and from established areas of the city, while planned peripheral roads and bridges will support travel between suburban growth areas, as well as to areas outside city boundaries. In the public engagement process, citizens supported the need to increase 'people-carrying capacity' across the river by either converting bridge lanes to rapid transit and/or building a new bridge to accommodate increased vehicle travel and rapid transit. Only a small proportion of citizens preferred to 'do nothing' or take the 'business as usual' approach to the long-term challenges of core area bridge congestion.

The plan for core area bridges and surrounding roads supports the Growth Plan by maximizing existing infrastructure through localized improvements and increasing people-carrying capacity through transit investments. The addition of a new bridge should focus on the following goals:

- ☑ Connecting arterial roads that serve travel between growing infill communities in Saskatoon
- ☑ Primarily serving core area travel rather than travel that starts and ends outside Circle Drive
- ☑ Connecting pedestrians, cyclists, transit, and vehicles to promote sustainable modes of travel within the core area
- ☑ Continuing the existing grid road system in the core area to promote alternative modes of travel and minimize impacts of increasing traffic on neighbourhoods
- ☑ Creating an urban street character on both sides of any new crossing in the core area

4.4 Considering the Possibilities

Although the capacity of existing bridges is largely influenced by connecting streets and intersections on either side, improvements to the surrounding street system will not address long-term challenges.

With input from the community, several possibilities to enhance the capacity of existing crossings were considered. The possibility of widening existing bridges was found to be limited by their structural design. Reversible lanes (three lanes in the peak direction and one lane in the off-peak direction) were also considered. However, because traffic volumes crossing the bridge in the off-peak direction are approximately 85% of the peak direction, this concept would not be effective at moving more people. This means that any increase to the people-carrying capacity of core area bridges will need to be achieved by significant increases to transit service and/or a new river crossing. Alternative crossing possibilities examined in the Growth Plan are illustrated in **Figure 33** and briefly described below.

1. **'Business as Usual'.** The first scenario included building planned roads for peripheral area growth, limited change to roads inside Circle Drive, and modest increases to transit service levels. Although the large proportion of people who participated in the public engagement process did not favour a 'business as usual' approach, it remained on the table for comparison purposes.
2. **Transit Plan and Rapid Transit** (plus 'business as usual' road improvements). The second scenario included significant increases to transit services (from 2.5% to 3.0% per year) to increase the people-carrying capacity of existing major roads and core area bridges. This scenario included the provision of Red and Blue Line BRT corridors (Section 3.6). Dedicated bus-only lanes would be

implemented across the University Bridge and connecting roads on the east (e.g. College Drive, Preston Avenue and Attridge Drive) and west (e.g. 25th Street, 3rd Avenue and 22nd Street) sides.

3. **Build a New Bridge** (33rd Street/Preston Avenue or Queen Street). The third scenario included building a new bridge to serve planned growth of approximately 125,000 people in Strategic Infill, Neighbourhood Infill, and Corridor Growth areas described in the Growth Plan. This crossing strategy would also include the 'business as usual' improvements to planned road networks as well as modest transit investments.

Two alternative crossings were considered. A 33rd Street/Preston Avenue bridge would connect arterial roads on the east and west sides of the river—33rd Street and Preston Avenue/Attridge Drive. This alignment would support the University of Saskatchewan's plans for growth and development of endowment lands as envisioned in its Vision 2057: University Land Use Plan. The Queen Street crossing was identified through feedback received during public events. The crossing would connect the collector road on the west side of the river at Spadina Crescent to the central area of the University of Saskatchewan campus on the east side, before connecting with Preston Avenue. Due to anticipated impacts to

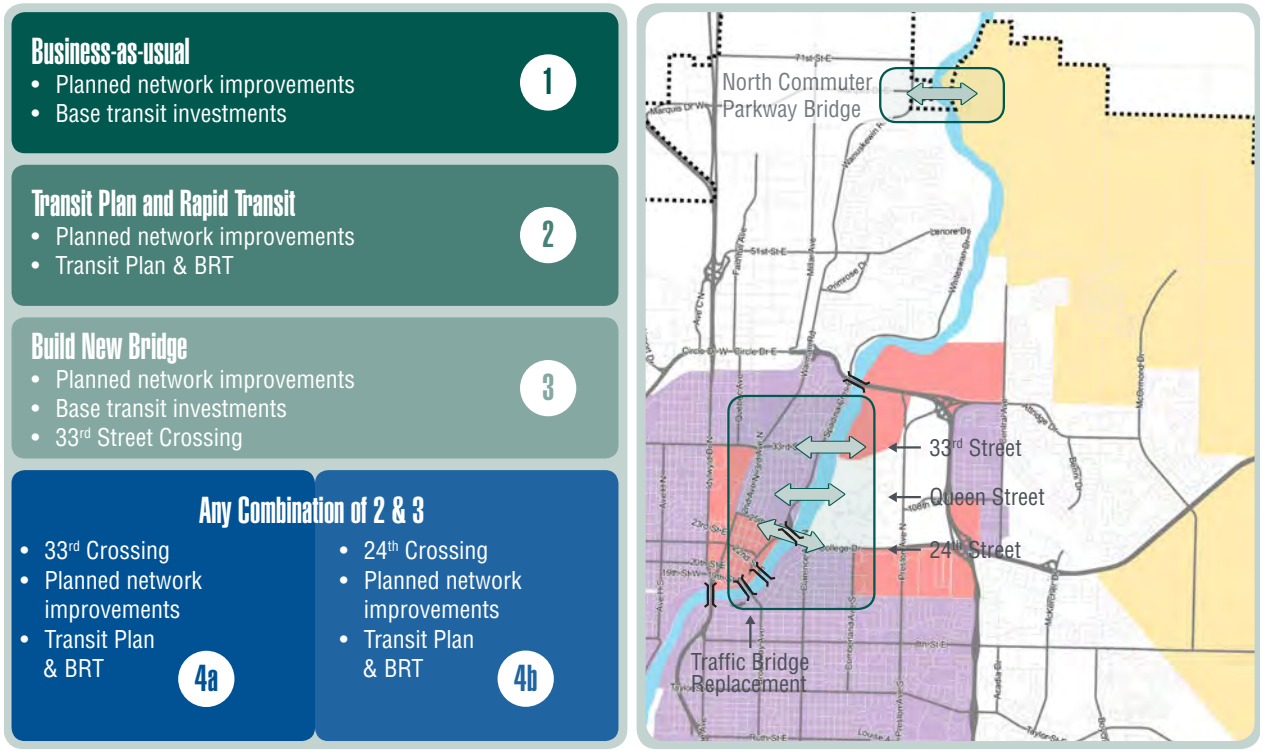


Figure 33 - Core Area River Crossing Possibilities

existing buildings, future development plans, and environmentally-sensitive areas on or near the University campus, this option was ruled out from further consideration. From a technical perspective, the 33rd / Preston Avenue crossing provided the following overall benefits:

- Connects arterial roads where their function is already designed to serve travel between neighbourhoods and areas of the city;
- Adds to the grid road system within the core area inside Circle Drive to properly disperse traffic;
- Has the ability to handle projected traffic volumes with reasonable improvements to the road network on either side without significant impacts on, or requirements for, adjacent properties;
- Serves core area travel demands today and projections for the long-term with an increase in population and employment in Strategic Infill Areas, Neighbourhood Infill Areas, and Corridor Growth; and,
- Benefits walking, cycling, and transit.

4. **Combined Bridge and Transit Plan.** The fourth and final scenario included combinations of planned network improvements, the Transit Plan, and a new crossing at either 33rd Street / Preston Avenue (Scenario 3) or 24th Street. A 24th Street bridge would support two lanes and function as a one-way couplet with 25th Street and the existing University Bridge. The University Bridge would serve westbound traffic while a 24th Street bridge would serve eastbound traffic. Each crossing would also support dedicated bus-only lanes. The 24th Street crossing was not considered as a standalone option as it would connect to College Drive, which already serves traffic from the University Bridge.

The four core area bridge and network scenarios were technically evaluated based on transportation, community, environmental, and financial impacts and benefits as summarized in **Table 3**.

Overall, the larger transit investments included in Scenarios 2 (Transit Plan), 4A (33rd Street / Preston Avenue and Transit Plan) and 4B (24th Street Crossing and Transit Plan) will provide significant benefits to both transit and vehicle travel across the city. The Transit Plan will increase transit ridership and reduce the amount of vehicle travel substantially. Fewer vehicles means less congestion on the city's major roadways. Additionally, transit reliability and travel times will improve significantly with dedicated BRT lanes and transit priority facilities. As noted however, the addition of the 33rd Street Bridge in Scenario 4A results in slightly lower vehicle delays across the system than implementing a 24th Street Bridge. In this regard, the transportation benefits are slightly higher for Scenario 4A (33rd Street / Preston Avenue and Transit Plan).

Of the two core bridge crossing options, both the 33rd Street and 24th Street crossings would have varying impacts on established communities on the west side of the river. With a new bridge, future traffic would increase substantially on either 33rd Street or 24th Street between Spadina Crescent and Idylwyld Drive. West of Idywyld Drive, traffic is expected to increase on 33rd Street in all scenarios as a result of growth to half a million people. The 33rd Street/Preston Avenue crossing however, improves connectivity for all modes serving planned growth in the City Centre, downtown and University lands.

Given the importance of encouraging alternative modes of transportation, the need for a new river crossing may be deferred for the long-term through accelerated investments in transit services and facilities, sustainable land use patterns, and provision of enhanced pedestrian and cycling facilities.

Criteria		SCENARIO 1 (Business-as-Usual)	SCENARIO 2 (Transit Plan)	SCENARIO 3 (Build New 33rd Street / Preston Crossing)	SCENARIO 4A (33rd Street / Preston Crossing & Transit Plan)	SCENARIO 4B (24th Street Crossing & Transit Plan)
TRANSPORTATION						
Vehicle Mobility Savings: Change in travel time per vehicle		-	◖	◖	●	◖
Transit Mobility Savings: Change in travel times per person		-	●	○	●	●
Traffic Diversion: Traffic diversion from other river crossings		-	○	●	●	◖
Transit Ridership Change: Change in PM peak hour transit ridership		-	●	○	●	●
Walking & Cycling: Potential for increased walking and cycling		-	○	◖	◖	○
COMMUNITY						
Neighbourhood Impacts: Degree of community severance		-	○	○	○	◖
Property Requirements: Impacts on property		-	●	○	○	○
Community Connectivity: impacts on community connectivity		-	◖	◖	●	◖
ENVIRONMENT						
GHG Emissions: Vehicle emission reductions		-	◖	◖	●	◖
Sensitive Areas: Potential impact on sensitive areas		-	○	◖	◖	◖
FINANCIAL						
Costs (2014 $)	**Annual Transit Operating Cost Increase:** Estimated increase in annual operating cost		$22-32M	$0	$22-32M	$22-32M
	River Crossing: Estimated Capital Cost		N/A	$100M	$100M	$70M
Benefits	**Transit Travel Time Savings:** % reduction in passenger transit travel time	-	(5.0%)	(0.1%)	(5.0%)	(5.0%)
	Vehicle Travel Time Savings: % reduction in vehicle travel time	-	(3.4%)	(2.9%)	(5.2%)	(3.5%)

Table 3 - Technical Evaluation Summary of Core Bridge Strategies

○ LOW OR NEGATIVE ◖ MODERATE OR NEUTRAL ● HIGH OR POSITIVE

4.5 The Long-Term Plan

Core areas inside Circle Drive are expected to accommodate 50% of the city's long-term growth, with 125,000 new residents concentrated in the Strategic Infill Areas (University, North Downtown and City Centre), as well as along major corridors and through Neighbourhood Infill. This means more people will need to move to, from, and within the core area inside Circle Drive.

The overarching vision guiding the review and evaluation of alternative core area river crossing strategies is creating a transportation system that supports vibrant communities in the core area and prioritizes mobility for transit, walking, and cycling. In doing so, any core area bridge strategy must connect arterial roads, primarily serve core area travel needs, increase sustainable modes of travel, continue the grid road system characteristic of Saskatoon's core area, and contribute to enhancing the urban character of major roads.

After an extensive process that considered all possibilities, the plan for core area river crossings has three distinct features essential to supporting the overall growth of Saskatoon to half a million people.

A. MAXIMIZE CAPACITY OF EXISTING RIVER CROSSINGS

The capacity of bridges in Saskatoon is largely influenced by the streets and intersections they connect to. The City will consider operational strategies (e.g. intersection improvements on both sides of existing bridges) to improve and maximize the vehicle carrying capacity of the streets that connect to bridges.

B. IMPLEMENT THE TRANSIT PLAN

The long-term Transit Plan **(Figure 24)** will not only provide transportation choice, it will also support planned growth across the city over the next 30 years. The Transit Plan is essential to reducing pressures on the city's road network, in particular the core area river crossings. Implementation of the Transit Plan will potentially allow major road investments and additional core area bridges to be deferred.

C. NEW RIVER CROSSING

With planned growth of approximately 125,000 people concentrated in Strategic Infill Areas (University, North Downtown and Downtown) as well as along major corridors and through Neighbourhood Infill, a new river crossing would connect growing areas on both sides of the river. The crossing would provide a multi-modal connection, including up to four travel lanes, separate bicycle facilities, and sidewalks on both sides of the bridge. As a long-term approach, further information will be required before a final decision on a new river crossing is required. This Strategy will be revisited following completion of the Traffic and North Commuter Parkway Bridges to evaluate changes in travel demand patterns. Monitoring the impact of transit and active transportation investments to ensure they are achieving their intended objectives will also occur before pursuing further analysis and technical evaluations that would be required for a new river crossing.

4.6 Implementing the Core Area Bridge Plan

The long-term plan for core area bridges is a multi-faceted approach that includes investing in transit and maximizing use of existing river crossings before building a new crossing. The following implementation priorities support the overall Growth Plan.

A. 5 YEAR PRIORITIES

Within the first five years, the City will explore operational improvements to the urban street system (e.g. intersection improvements) connecting core area river crossings in order to maximize the existing capacity and investments. These shorter-term improvement strategies may include signal timing and prioritization for major roads connecting to bridges, signal coordination along connecting roads, additional lanes or modifications, and/or turn restrictions.

During the initial stage, the City will also begin implementation of the Red Line BRT corridor with dedicated bus-only lanes and stations along College Drive and 3rd Avenue. The investments in transit services and facilities will ensure not only that residents across the city have attractive travel choices, but that investments are made in areas that have the greatest potential for increased transit ridership. This strategy will reduce pressure on core area bridges by increasing the people-carrying capacity of the existing road network.

B. 10 YEAR PRIORITIES

Between years 5 and 10, the City will review changes in vehicle and transit travel across core area bridges, some of which will occur as a result of the opening of the Traffic and North Commuter Parkway bridges. Changes in core area bridge travel will be assessed in relation to the long-term Core Bridge Strategy. Results may inform and even accelerate further investments in operational improvements on either side of the bridge and/or in transit services and facilities serving customers crossing the river. During this period, the City will continue to invest in improving transit services to support the largest customer markets and increase the people-carrying capacity of Saskatoon's major roads.

C. LONG-TERM (BEYOND 10 YEARS)

The long-term plan includes a new river crossing to serve development on the University of Saskatchewan lands, North Downtown, and Downtown Strategic Infill areas as well as to support east-west travel. Before investing in a new crossing, the City will monitor progress on planned growth and development in these key areas as well as transit travel demand patterns.

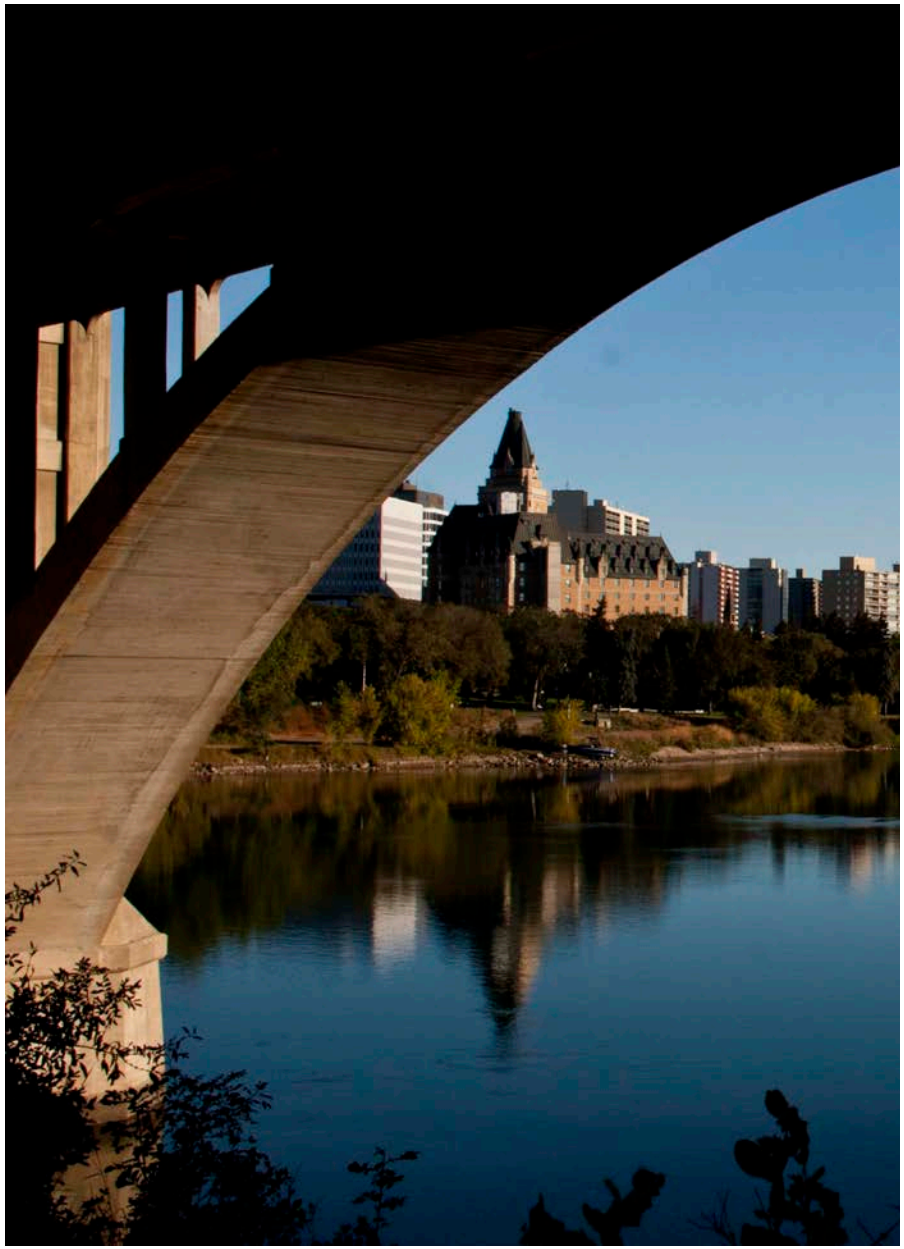
If growth is occurring as planned and transit investments are resulting in ridership increases across core area bridges, the City will need to undertake additional analysis of the river crossing options for deliberation before a final decision is made on the location for a new river crossing. After a location is chosen, the City would plan and design the river crossing and any necessary connections. Consistent with the aspirations of Corridor Growth (Part 2), the river crossing and connecting streets will be designed to create a vibrant street environment and to support the land uses surrounding them. Methods to minimize traffic impacts on existing neighbourhoods will be part of the initial planning and design process.

4.7 Financing Core Bridges

In support of the Growth Plan, the City recently completed a study on funding growth related to infrastructure (Financing Growth Study). Consistent with the Planning and Development Act, the City has the authority to impose development levies for road-related infrastructure (including bridges) needed to support growth. There are three approaches to funding core bridges and associated roadworks:

- **Development Levies.** The City of Saskatoon imposes development levies for local and offsite services required to service new development. Levies for roads can be applied as a city-wide charge, where all development pays the same rate regardless of location.
- **Property Taxes and Government Grants.** Provincial and federal cost sharing has been used extensively to fund major road and transportation infrastructure projects related to growth, which may or may not be supported by development levies. Within the City, major road improvements, such as the North Commuter Parkway, are also funded through property taxes and other government grants.
- **Subdivision Agreements.** For 'on-site' related growth, subdivision agreements may require construction of adjacent major roads.

Broadway Bridge, Saskatoon, SK, Source: Urban Systems



Views of Downtown from University Bridge, Saskatoon, SK, Source: Urban Systems

Spadina Crescent, Saskatoon, SK, Source: Chris Uhl

Fireworks Festival, Saskatoon, SK, Source: Tourism Saskatoon

PART 5: Conclusion

The City's Strategic Plan 2013-2023 defines seven strategic goals. The Growth Plan advances these goals and provides the foundation for achieving a world-class city. The initiatives outlined in this part of the Growth Plan include Corridor Growth, Transit, and Core Bridges. Each of these strategic initiatives is inextricably linked and serves as a cornerstone to accommodating half a million people over the next 30 years.

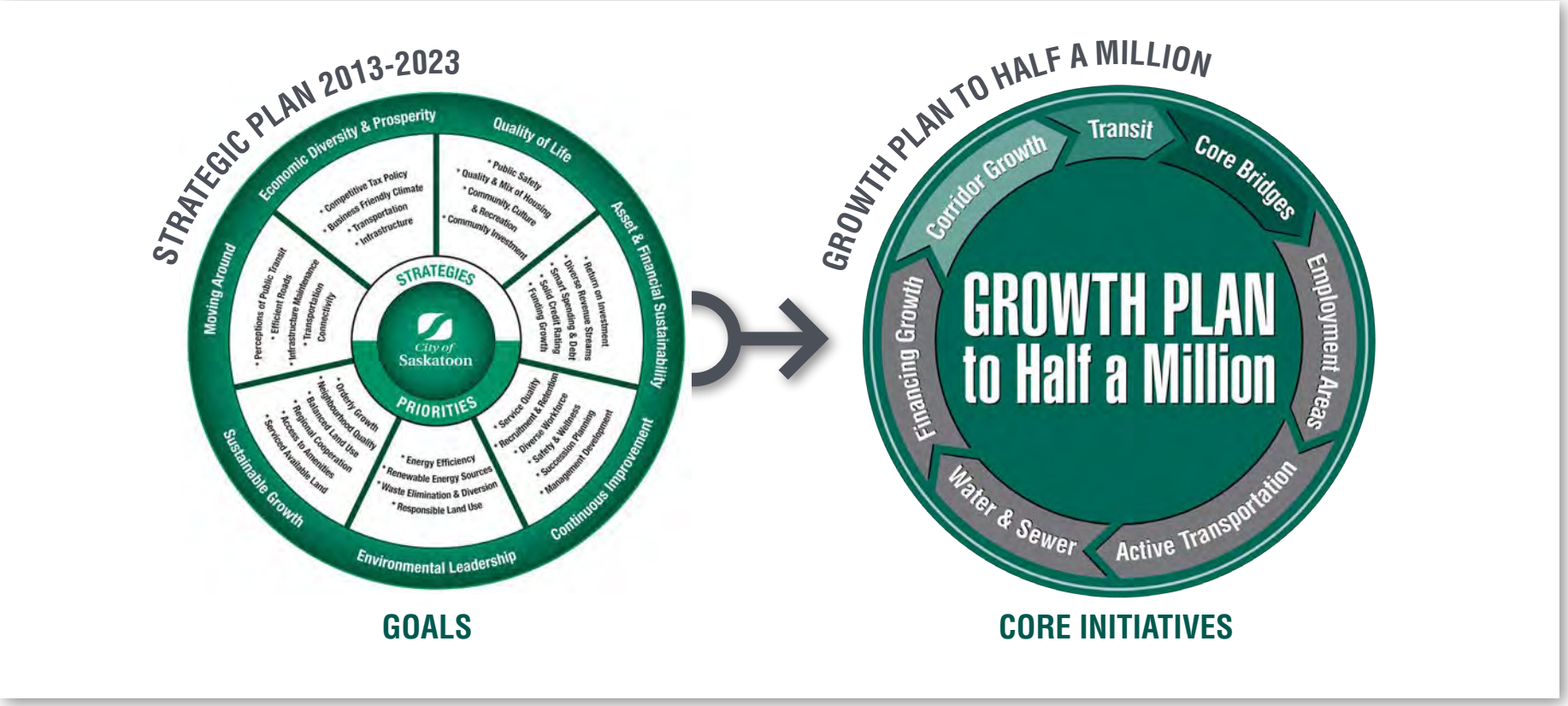


Figure 35 - Strategic Plan 2013-2023 Goals & Growth Plan Core Initiatives

5.1 Corridor Growth

The Growth Plan identifies opportunities for developing vibrant communities along major corridors, supported by attractive transit services. A shortlist of major corridors with the greatest potential for redevelopment, along with their relative priority based on several key ingredients, includes 22nd Street, 8th Street, College Drive, and Idylwyld Drive.

Together, these priority corridors have the potential to accommodate anywhere from 11,000 to 22,000 dwelling units. While Corridor Growth will be primarily residential in nature, there will also be supporting retail, office, and institutional development, particularly near rapid transit stations. These uses are vital to establishing well-connected urban villages and supporting an efficient rapid transit system for Saskatoon.

Redevelopment of these priority corridors can significantly shift growth patterns for Saskatoon, while improving the street environment and options for moving around. In fact, the high priority corridors could account for up to 15% of the city's growth over the next 30 years, helping to shift the balance of growth to 50% suburban and 50% infill.

5.2 Transit

The Growth Plan provides guidance for the way transit services will be provided in Saskatoon. It lays out the amount and types of services that will be available and the implementation of rapid transit over the next 30 or more years.

The Transit Plan outlines long-term changes that can begin immediately. Whether adding and reshaping services or enhancing the customer experience, the City can take bold steps toward making transit an attractive choice that will help to shape sustainable growth patterns. The four interrelated initiatives outlined in the Transit Plan include:

A. IMPROVING THE CUSTOMER EXPERIENCE

Whether residents are planning a trip or getting to their destination, many improvements will be implemented to enhance the experience for customers of all ages and abilities. Some are continuous improvements to existing practices, while others are new initiatives designed to increase use of conventional transit services in Saskatoon.

B. SERVICE PLAN

The amount, type, and quality of services will be dramatically improved to make transit more attractive. This will include:

- Growing the amount of services available in Saskatoon faster than population growth in order to enhance service levels.
- Increasing the range of services to better suit differing customer needs.
- Shifting the structure of the transit system from a hub-and-spoke system designed to principally serve University and Downtown travel to a grid system to serve other destinations.
- Directing most services to the largest transit markets rather than providing equal transit service everywhere.

C. RAPID TRANSIT

Bus Rapid Transit (BRT) will form the spine of the transit network serving travel demands for the next 30 or more years and support planned growth. BRT corridors will form the 'spine' of the transit system, and will accommodate services from different areas of the city to deliver a bus approximately every 5 minutes. BRT facilities (such as bus-only lanes, bus queue jumpers at intersections, dedicated stations, and other customer amenities) will help make transit trips quicker and more comfortable for customers.

In the long-term, the Red Line BRT corridor will provide approximately 22 km of bus-only lanes and 25 BRT stations between Blairmore, University Heights, and Holmwood, with direct connections to the Downtown and University areas. The Blue Line BRT corridor will extend approximately 12 km, supporting transit services between Nutana and Lawson Heights Suburban Centres. Both rapid transit corridors will also be equipped with BRT stations with shelters, ticket vending machines, security cameras, and real-time information.

D. SUPPORT FACILITIES

Support facilities will enhance the customer experience and overall operation of the transit system. These include bus fleet replacement and expansion, transit priority treatments, and Park-and-Ride lots.

5.3 Core Bridges

As with many North American cities, the movement of people, goods, and services in Saskatoon is predominantly supported by municipal roads and highways. The City of Saskatoon and the Saskatchewan Ministry of Highways and Infrastructure have identified medium and long-term network improvements needed to accommodate city growth as well as regional travel in and around the city over the next 30 years.

Saskatoon's road network will support 100,000 additional vehicle trips during the afternoon peak hour by 2045. Based on forecast growth in travel, the established road network inside the Circle Drive area will be operating at or beyond capacity in many locations. At the same time, forecast travel demands across core area bridges will exceed capacity, with a projection of severe congestion by 2045.

The plan for core area bridges and surrounding roadways outlined in the Growth Plan centres on:

A. MAXIMIZE CAPACITY OF EXISTING RIVER CROSSINGS

The capacity of existing river crossings will be maximized through operational strategies. For example, intersection improvements on both sides of existing bridges will help to improve and maximize the vehicle carrying capacity of the streets that connect to the existing river crossings.

B. IMPLEMENT THE TRANSIT PLAN

Implementing the Transit Plan will provide transportation choice and support planned growth across the city over the next 30 years. The Transit Plan is essential to reducing pressures on the city's roadway

network, in particular the core area river crossings. Accelerated Transit Plan investments will allow major roadway investments and additional core area bridges to be deferred. Investments in Active Transportation will also be an important part of reducing pressures on the roadway network as the city grows.

C. BUILD A NEW RIVER CROSSING

With planned growth of approximately 125,000 people concentrated in Strategic Infill Areas (University, North Downtown and Downtown) as well as along major corridors and through Neighbourhood Infill, a new river crossing within Circle Drive will be needed in the long term to provide a multi-modal connection to these growing communities, and to address increased travel demand.

5.4 Implementation Priorities

Growth Plan implementation can begin immediately to prepare the city for growth and change. Once approved, implementation of the initiatives will begin with the following 10 year priorities:

Corridor Growth. Development of Corridor Area Plans for high priority corridors and adoption of design guidelines to direct growth and redevelopment activities.

Transit. Annual reviews to optimize transit services with increased investment in fleet, services, facilities, and customer service initiatives.

Core Bridges. Emphasis will be on increasing the people-carrying capacity of existing roads and bridges as core areas of the city grow.

Downtown, Saskatoon, SK, Source: Urban Systems

	SHORT-TERM (<5 YEARS)	MEDIUM-TERM (5-10 YEARS)	LONG-TERM (BEYOND 10 YEARS)
CORRIDOR GROWTH	▪ Develop Corridor Area Plans for 8th Street East (Preston to McKercher Drive), Preston Avenue and Holmwood Suburban Centre ▪ Adopt and implement TOD Design and Complete Streets Guidelines	▪ Develop Corridor Area Plans for 22nd Street and Confederation Suburban Centre	▪ Develop Corridor Area Plans for Idylwyld Drive (25th Street to Circle Drive) and 8th Street (Preston Avenue to Broadway Avenue)
TRANSIT	▪ Annual reviews to optimize service delivery, restructure routes and transition towards long-term Transit Plan ▪ Customer service improvements (outreach, real time arrivals, mobile app, website upgrades, customer satisfaction surveys) ▪ Fleet renewal and expansion ▪ Service hour and frequency increases to high ridership areas ▪ Plan, design and construct Red Line BRT on 3rd Avenue and College Drive ▪ Design and construct priority measures for Blue Line BRT on 8th Street and Broadway Avenue ▪ Plan and design park-n-ride lots for Confederation, Wildwood and University Heights	▪ Continue annual reviews to optimize service delivery and ensure Transit Plan implementation is on track ▪ Customer service improvements (outreach, real time arrivals, website upgrades, customer satisfaction surveys) ▪ Continue fleet renewal and expansion ▪ Continue increasing service hours and frequencies to high ridership areas ▪ Plan, design and construct Red Line BRT on 22nd Street and 25th Street ▪ Design and construct priority measures for remainder of Blue Line BRT ▪ Construct park-n-ride lots for Confederation, Wildwood and University Heights	▪ Continue annual review to optimize service delivery and ensure Transit Plan implementation is on track ▪ Customer service improvements (outreach, website upgrades, customer satisfaction surveys) ▪ Continue fleet renewal and expansion ▪ Continue increasing service hours and frequencies to high ridership areas ▪ Plan, design and construct remaining Red Line BRT ▪ Design and construct park-n-ride lots for Lawson Heights and Nutana Suburban Centres
CORE BRIDGES	▪ Maximize existing crossings and focus efforts and investments in developing transit and active transportation networks		▪ Reconfirm the need for and finalize the location of the new core river crossing

Figure 36 - Short-, Medium- and Long-term Implementation Priorities

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