



Long-term Possibilities

GROWTH PLAN REPORT #2



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Prepared for the City of Saskatoon by Urban Systems Ltd.

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PERKINS+WILL

In very low demand areas or periods of operation, some Community Shuttle services can operate on a demand responsive basis – such as with dial-a-bus or simply route and stop deviations on request by customers. Rather than expand conventional transit services, some suburban area travel today and in the long-term could be better served by more flexible services which support local trip making and are generally less expensive than conventional bus services. In fact, various forms of Community Shuttle services may be an interim step toward providing fixed-route, conventional transit service in some areas.

Community Shuttle services can operate up to every 15 minutes during peak and 30 minutes during off-peak periods, depending on ridership.

- **Commuter Service** can be used to serve longer distance regional travel to primarily support peak travel patterns between communities with a base level of service (<30 minute peak and 60 minute off-peak). Commuter Services in Saskatoon can provide connections between surrounding areas such as Warman / Martensville and primary destinations in the city such as the industrial area, downtown and the University. Although Commuter Services are included in the long-term Transit Plan, they would be financially supported by surrounding municipalities and possibly contracted to Saskatoon Transit or a private operator. These services should be supported with strategically located park-and-ride facilities.

3.4 Potential Long-term Transit Plan

The long-term Transit Plan provides guidance on the overall structure of transit services to be implemented across the city over the next 30 years. In this regard, it provides the framework for implementing the range of services as previously described. Annual and three year service plans can provide visible steps toward the long-term structure and intent of the 30 year Transit Plan.

The long-term Plan is also designed to support planned growth and development within the city to half a million people. Frequent and rapid transit services are needed to serve city-wide travel and support travel to key Strategic Growth areas such as the Downtown, North Downtown and University as well as the existing and planned Suburban Centres. Higher density, mixed-use development will also be encouraged along those major transit corridors served by frequent and rapid transit. Growth along major corridors is essential to not only the livability of the City, but to support attractive service levels.

The discussion below highlights the key features of the preliminary Transit Plan as illustrated in **Figure 3.4**.

3.4.1 Proposed Rapid Transit Corridors

The long-term Transit Plan includes proposed rapid transit corridors that will be required to shape growth and development along major corridors, and to serve primary transit travel markets that exist today between the downtown and University areas of the city through to the Suburban Centres such as Confederation, Blairmore, Holmwood, University Heights, Centre Mall, Lawson Heights, and Nutana.

The Transit Plan includes two potential rapid transit connections. The proposed east-west rapid transit connection serves travel between Blairmore, University Heights and Holmwood, while the north-south rapid transit connection serves transit travel between Nutana and Lawson Heights. The candidate rapid transit corridors serving these connections are briefly described below.

- A) **Red Line (Blairmore – University Heights – Holmwood)**. As described in Technical Report #1, east-west transit services support the largest ridership in the city today. In fact, many of the existing transit generators are located along these proposed east-west rapid transit corridors illustrated below in **Figure 3.3**.

Figure 3.3 - Alternative East-west Rapid Transit Corridors

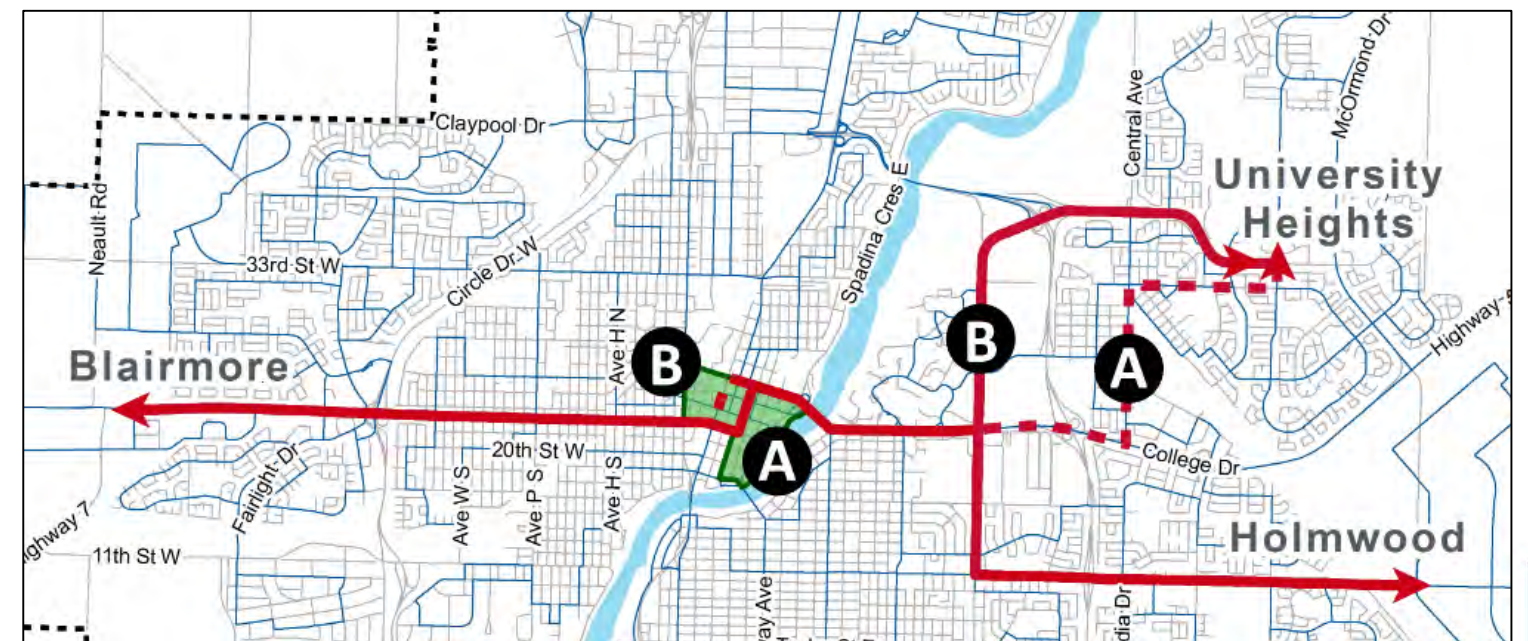
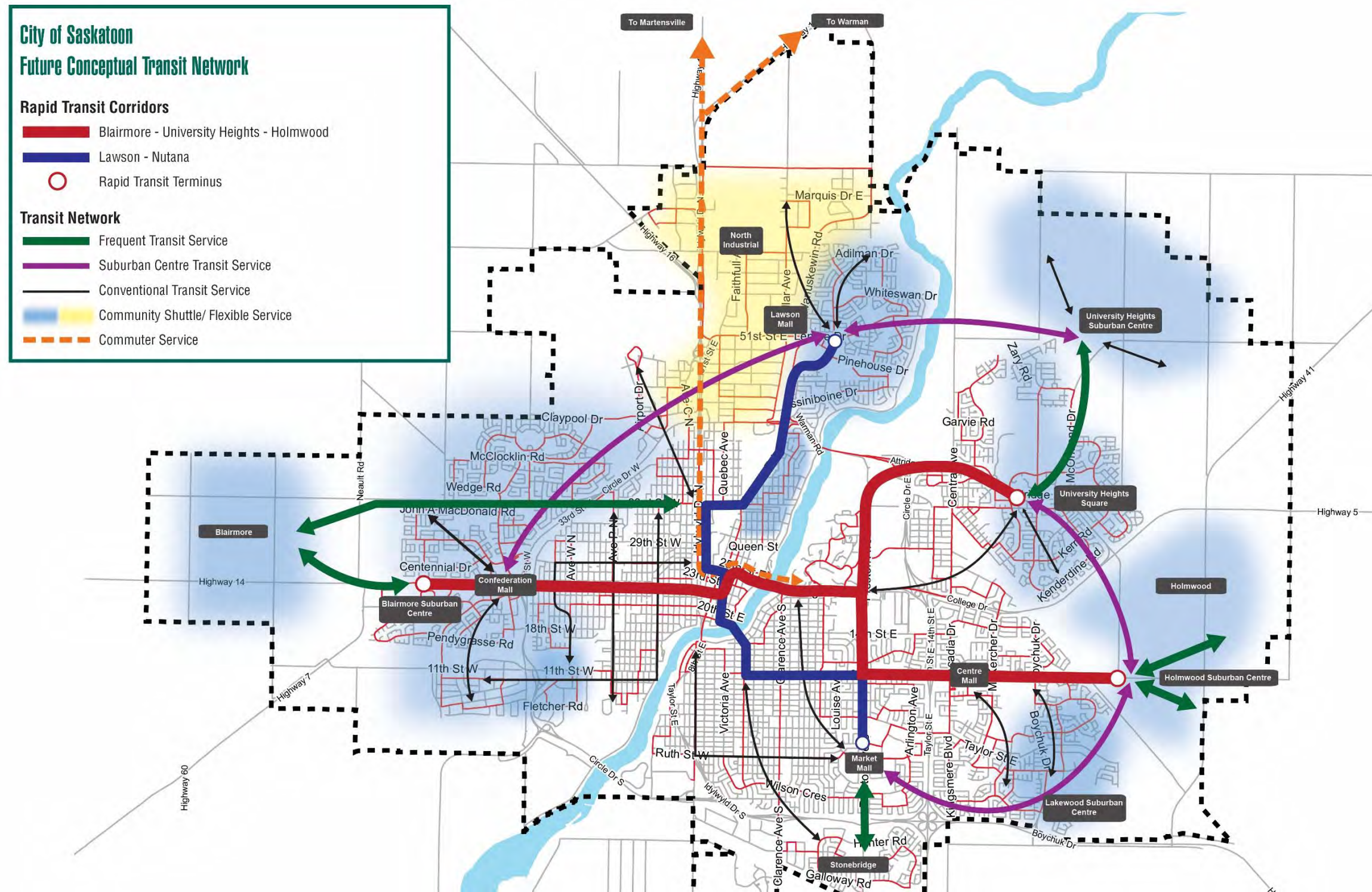


Figure 3.4 - Proposed Long-term Transit Plan



3.0 POSSIBILITIES - TRANSIT PLAN AND
RAPID TRANSIT

Table 3.1 - Evaluation of Alternative East-West Rapid Transit Routes

The proposed corridors for the east-west rapid transit service are briefly highlighted below by segment:

- i. **22nd Street** from Blairmore to 1st or 3rd Avenue downtown;
- ii. **Option A: 3rd Avenue OR Option B: 1st Avenue** would serve as the north-south connection between 22nd Street and 25th Street within the downtown. Both 3rd and 1st Avenues are four lane roadways with on-street parking on both the east and west sides of the street. Peak hour, peak directional traffic volumes on 1st Avenue are approximately twice that of 3rd Avenue which is generally a function of the difference in network connectivity. 1st Avenue serves north-south travel entering the downtown area from the Sid Buckwold Bridge and serves as an alternative to Idylwyld Drive, while 3rd Avenue generally serves the downtown area between 19th Street and 25th Street.

The comparative assessment of each route alternative through the downtown is summarized in **Table 3.1** in terms of relative land use patterns, potential transit ridership, and roadway suitability. Based on this review, 3rd Avenue serves a larger proportion of the population and employment within the downtown area than 1st Avenue today and in the long-term. In other words, a larger number of residents and jobs are located within closer walking distance to 3rd Avenue than the 1st Avenue corridor.

The implementation of rapid transit along either north-south corridor will also require the removal of one general purpose traffic lane in each direction and potentially on-street parking in select locations to accommodate station areas. Existing and forecast traffic volumes, as well as the broader network connectivity suggests that the impacts of reducing travel lanes on 1st Avenue is slightly greater than 3rd Avenue. Based on these factors, **Option A: 3rd Avenue is recommended** as the preferred rapid transit corridor through the downtown area.

- iii. **25th Street / College Drive** from 3rd Avenue to Preston Avenue;
- iv. **Option A: College Drive / Central Avenue / 115th Street OR Option B: Preston Avenue / Attridge Drive** would provide a connection between Preston Avenue nearby the University and the University Heights area. College Drive and Central Avenue are classified as major arterial roads and 115th Street is classified as a major collector roadway. East of Preston Avenue, College Drive supports six travel lanes and Central Avenue and 115th Street support two travel lanes and on-street parking in some sections. Preston Avenue north of College Drive and Attridge Drive are classified as major arterial roads that support four to six travel lanes. On-street parking is restricted along both roadways.

The relative land use, ridership and roadway suitability assessment of each corridor for rapid transit is summarized in **Table 3.1**. In terms of land use patterns, **Preston / Attridge (Option B)** offers greater potential for rapid transit based on existing employment and future potential transit-oriented growth than Option A. In the long-term, potential ridership along the Option B route is projected to be moderately higher than Option A.

When comparing roadway suitability, Option B also rates higher than Option A. The constrained right-of-way and impact of rapid transit on parking would increase the impacts of rapid transit along Central Avenue and 115th Street. In comparison, rapid transit could generally be accommodated within the right-of-way along Preston Avenue and Attridge Drive with potential widenings in some locations.

Criteria	A. 3 rd Avenue (22 nd Street to 25 th Street)	B. 1 st Avenue (22 nd Street to 25 th Street)	A. College Dr to Central Ave to 115 th St to Kenderdine Dr to University Heights	B. Preston Avenue to Attridge to University Heights
Existing Population	●	○	●	○
Existing Employment	●	●	○	●
Potential for TOD growth	●	●	●	●
Relative Ridership Potential	●	●	○	●
Roadway Suitability	●	○	●	●
Comments	<ul style="list-style-type: none"> • Connects with more jobs and residents • Similar ridership potential 2,000 passengers/hr in pk direction • Secondary downtown street with 400 veh/hr /direction today & 900 v/h/d future • Permanent transit lane physically possible 	<ul style="list-style-type: none"> • Ridership Potential (2040): 2,000 passengers/hr in pk direction • Vehicle volumes: 800 Ex. (1,300 Fut. Base) vehicles/hr in pk direction • Permanent transit lane physically possible • Primary N-S traffic corridor • Higher traffic volumes impacted 	<ul style="list-style-type: none"> • Ridership potential (2040): 500 passengers/hr in pk direction • Vehicle volumes: 800 Ex. (1,500 Fut. Base) vehicles/hr in pk direction • Established community & 'main street' through Sutherland • Central Ave - Limited travel lanes & ROW crossing delays 	<ul style="list-style-type: none"> • Ridership potential (2040): 700 passengers/hr in pk direction • Vehicle volumes: 800 Ex. (2,400 Fut. Base) vehicles/hr in pk direction • Serves major regional shopping centre & significant planned growth • Serves north UofS campus and research park
Recommendation	Recommended	Not Recommended	Not Recommended	Recommended

● High

● Medium

○ Low

- v. **Preston Avenue** from College Drive to 8th Street; and,
- vi. **8th Street** from Preston Avenue to Holmwood.

accommodate rapid transit would severely impact the capacity of both crossings and ability to existing travel demands.

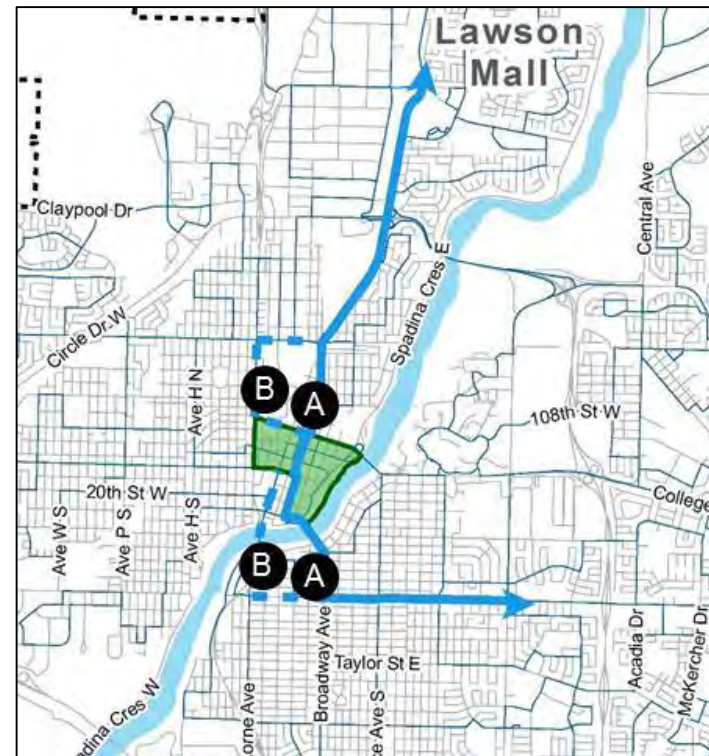
Based on these factors, Option B – Preston / Attridge is the preferred rapid transit corridor between the University and University Heights.

B) Blue Route (Nutana – Lawson Heights).

North-south transit routes in the city currently support the second largest markets of transit ridership, particularly between Nutana, downtown and Saskatchewan Polytechnic. Over the next 30 years, growth in the Nutana and Lawson Heights areas is expected to be modest relative to the planned Suburban Development Area in the western and eastern parts of the city. However, growth and development in the downtown area in addition to planned employment growth in the northern areas of the city in the long-term are anticipated to increase travel demands and potential for transit ridership.

In the long-term, the proposed Nutana-Lawson Heights rapid transit routing would serve up to approximately 500 to 600 passengers per direction in the peak hour at the maximum load point outside the downtown area. These long-term ridership levels would generally not require dedicate transit only lanes. However, consideration may be given toward preserving road space and/or removing parking during peaks for rapid transit in the long-term.

Figure 3.5 - Alternative North-south Rapid Transit Corridors



The routing of this proposed north-south rapid transit corridor is briefly described by segment below and summarized in **Table 3.2**:

- i. **8th Street** from Preston Avenue to Broadway Avenue;
- ii. **Option A: Broadway Avenue** to 19th Street and 3rd Avenue **OR** **Option B: 8th Street/ Idylwyld Drive** to 22nd Street and then to 3rd Avenue would connect services from the south area of the city and along 8th Street through to the downtown area and then to Lawson Heights. Broadway Avenue to downtown is classified as a minor arterial roadway supporting four travel lanes and parking on both the east and west sides of the street. 8th Street west of Broadway Avenue and Idylwyld Drive are classified as a major arterial and highway respectively, and support six travel lanes through to the downtown area. The Broadway and Sid Buckwold Bridges carry approximately 1,700 and 2,500 vehicles per hour in the peak directions respectively and are forecast to increase significantly in the long-term. Lane reductions on the bridges to

Table 3.2 - Evaluation of Alternative North-South Rapid Transit Routes

Criteria	A. Broadway Ave to 19 th St to 3 rd Ave	B. 8 th St / Idylwyld to 1 st St to 25 th St	A. 2 nd Ave to Warman Rd	B. 25 th to Idylwyld to 33 rd St to Warman Rd
Existing Population	◐	○	◐	○
Existing Employment	●	●	◐	●
Potential for TOD growth	●	◐	●	●
Relative Ridership Potential	◐	◐	○	◐
Roadway Suitability	◐	◐	◐	○
	<ul style="list-style-type: none"> • Ridership potential (2040): 500 passengers/hr in pk direction • Vehicle volumes: 1,700 Ex. (2,500 Fut. Base) vehicles/hr in pk direction • Serves existing residential and commercial area • Permanent (or peak) removal of parking on Broadway 	<ul style="list-style-type: none"> • Ridership Potential (2040): 500 passengers/hr in pk direction • Vehicle volumes: 2,500 Ex. (4,700 Fut. Base) vehicles/hr in pk direction • Does not serve a transit oriented zone on 8th or Idylwyld • Removal of parking on 8th St 	<ul style="list-style-type: none"> • Ridership potential (2040): 400 psg/hr/dir • Vehicle volumes: 1,300 Ex. (1,500 Fut. Base) vehicles/hr in pk direction • Mix of land uses • Future 'main street' • Misses Sask. Polytechnic (600m away) • Narrow ROW along 3rd Avenue (2nd to Warman) 	<ul style="list-style-type: none"> • Ridership potential (2040): 600 passengers/hr in pk direction • Vehicle volumes: 1,400 Ex. (2,400 Fut. Base) vehicles/hr in pk direction • Serves Sask. Polytechnic • Moderate potential growth on Idylwyld • Limited opportunities for transit only lanes
Recommendation	Recommended – Shared Lanes w/ select transit priority improvements	Not Recommended	Not Recommended	Recommended – Shared Lanes w/ select transit priority improvements

A comparative assessment of each route alternative is summarized in **Table 3.2**. In general, the Broadway Avenue route (**Option A**) supports a greater mixture of land uses in terms of population and employment. Planned long-term land use patterns suggest that this corridor will continue to support transit-oriented development and be a significant generator of transit trips for the city.

With the moderate long-term ridership projections and significant traffic volumes forecast for both Idylwyld Drive and Broadway Avenue, as well as limited right-of-way to expand roadways for rapid transit, full time implementation of dedicated rapid transit facilities along either route option is restrictive. In the long-term, transit priority treatments or peak period / peak direction transit lanes may be suitable strategies to reduce delays to transit and to increase overall ridership. Along Broadway Avenue, removal of on-street parking in the peak directions may enhance mobility for transit along segments of the street with modest impacts. Conversely, widening or removal of peak directional travel lanes along Idylwyld Drive for rapid transit would have significant impacts.

Based on these factors, the **Option A: Broadway Avenue is recommended** as the preferred long-term rapid transit corridor through to the downtown area from Nutana.

- iii. **3rd Avenue (see above)** from 19th Street to 25th Street as previously recommended within the downtown area.
- iv. **Option A: 25th Street/ 2nd Avenue / 3rd Avenue OR Option B: 25th Street / Idylwyld Drive / 33rd Street** could support rapid transit services between the downtown and Warman Road. Both roadways are classified as major arterials and generally support four travel lanes and no on-street parking. Existing peak hour, peak directional traffic volumes along both roadways are generally comparable (<1,400 vehicles) with slightly higher growth projected for Idylwyld Drive.

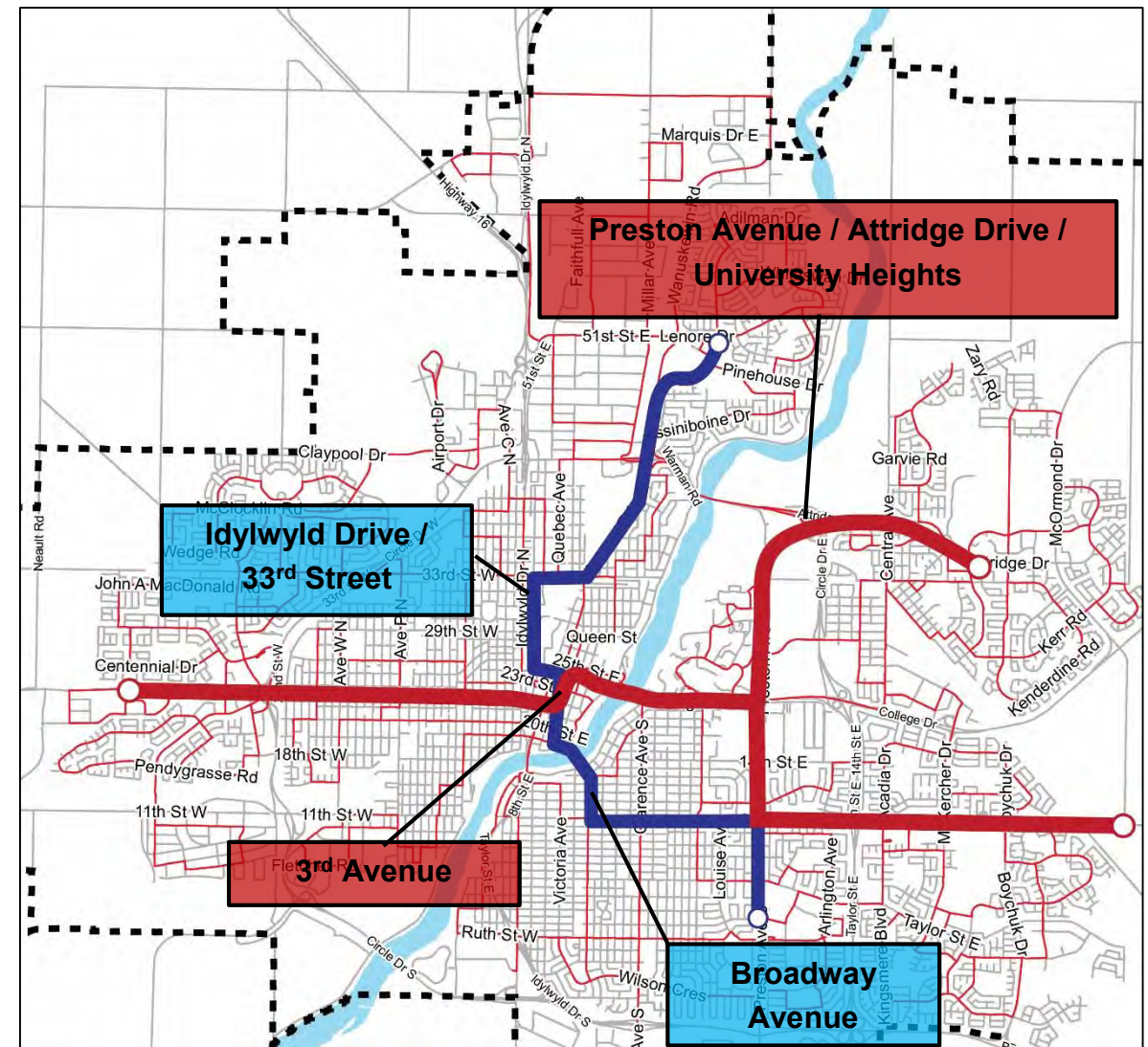
A comparative assessment of each route alternative is summarized in **Table 3.2**. Overall, both routes support transit-oriented land use patterns and generators that benefit from attractive transit services. The Idylwyld route (Option B) serves employment and student populations of Saskatchewan Polytechnic, while 2nd Avenue (Option A) serves existing residential and employment areas with strong potential for the future. As described in Technical Report #1, Saskatchewan Polytechnic is a significant generator for the transit system which is expected to expand in the long-term with planned growth.

Possibilities for dedicated rapid transit travel lanes are restricted by the constrained right-of-way along both routes in addition to the forecast traffic volumes and moderate transit ridership of 400 to 600 passengers per hour in the peak direction. As such, the Idylwyld / 33rd Street (Option B) routing is preferable as it directly serves Saskatchewan Polytechnic and opportunities for transit priority treatments can be considered in the long-term. As previously indicated for Broadway Avenue, transit priority treatments should be considered along this preferred route with rapid transit.

- v. **Warman Road** from 33rd Street to Primrose Drive (Lawson Heights Mall)

Figure 3.6 displays a conceptual route map for the Red and Blue rapid transit corridors, outlining the recommended routing options.

Figure 3.6: Recommended Future Rapid Transit Network



3.4.2 Grid System of Bus Services

Today, the transit services in Saskatoon are designed as a hub-and-spoke system to serve the primary transit customers travelling to and from the downtown and the University areas. With planned growth outside Circle Drive for suburban development areas as well as planned land uses in the established areas (e.g. strategic growth areas, neighbourhood infill, and growth near major corridors), more origins and destinations will benefit from direct and attractive transit services.

The roadway network inside the core area of Saskatoon is largely established with a grid system of arterial, collector and local roads that in some cases extend to the suburban development areas. In order to better serve the core areas of the city, a grid system of east-west and north-south transit services can be implemented to complement and