

BUS RAPID TRANSIT ROUTE AND CONFIGURATION FOR DOWNTOWN

ISSUE

As part of its long-term Growth Plan, the City of Saskatoon (City) is working towards implementing a Bus Rapid Transit (BRT) system to improve transportation options in the community and transform the way in which the City delivers public transit. Due to its unique features, the Downtown BRT network requires special consideration as to how it would integrate with both a comprehensive BRT system and a potential Downtown Active Transportation Network. How can a potential Downtown BRT network best achieve those objectives?

BACKGROUND

History

In 2016, Saskatoon City Council approved “The Growth Plan to Half a Million.” The plan charts a course for long-term growth and revitalization that balances and promotes quality of life, sustainability and economic development. Also in 2016, City Council approved the “Active Transportation Plan” as a component of the overall Plan for Growth. The Active Transportation Plan arose from and supports the goals of the Plan for Growth.

A key element of the Plan for Growth and Active Transportation Plan is rethinking the way in which the City provides transportation options to existing and future residents. As Saskatoon grows to 500,000 people, it will require a variety of transportation options to ensure the safe and efficient movement of people and goods throughout the City.

The Plan for Growth includes a “Transit Plan” that aims to redefine public transit in Saskatoon. The BRT is intended to form the backbone of a more modern transit system and is a catalyst for the corridor growth component of the Plan for Growth.

The proposed transit plan focuses primarily on building a BRT system and identifies changes needed to the current transit system to support high-frequency, direct service along the city’s major corridors. For the system to be successful, Saskatoon needs to reconfigure its transit network around the BRT line, and this means fundamental changes in how the transit system operates.

In November 20, 2017, City Council approved a “preferred configuration and conceptual network” for the BRT system as the basis for further engagement and design.

One component defined in the Preferred Configuration is BRT runningways. Runningways include buses moving in mixed traffic and dedicated bus lanes.

The preferred configuration included dedicated lanes as the recommended runningway configuration for BRT along select short road sections in the Downtown. In June 2018, City Council heard and considered public comments on the proposed BRT configuration. During that meeting, some key stakeholders from the Downtown area

expressed concerns about having dedicated BRT lanes as proposed along 3rd Avenue. Refer to Appendix 1 for more details on public engagement results.

The Active Transportation Plan includes direction to expand and enhance the network, including an action to develop a complete and connected bicycle network for all ages and abilities throughout Saskatoon. This network is an important component of encouraging more walking and cycling by offering practical route options to those who are interested in active transportation. More specifically, the Active Transportation Plan also included an action to develop a Downtown network of All Ages and Abilities bicycle facilities.

Current Status

As approved by City Council, Administration has proceeded with functional planning and detailed design for most components of the BRT system, excluding those that have been identified as issues through stakeholder and public engagement – specifically the portions of the system running through Downtown and Nutana. More thorough analysis and engagement has been undertaken on these segments to develop potential policy options that are addressed later in this report.

Before functional planning and detailed design can be finalized for the complete BRT system, enabling further stages of implementation to proceed, City Council will be required to make decisions on how best to configure these specific BRT routes and configurations to meet the overall objectives of the Plan for Growth Transit Plan.

One such decision focuses on choosing a BRT route through Downtown. The Administration has consulted with stakeholders and has evaluated potential routes and infrastructure configuration options to ensure that the Downtown routing meets the goals and objectives of the Plan for Growth. Options presented also consider the needs of local stakeholders and considers integration with a potential Downtown Active Transportation Network.

OPTIONS

This section provides two potential BRT options for the Downtown, 1st Avenue or 3rd Avenue. Given the previous direction provided by City Council for the development of a comprehensive BRT system, a status quo option—meaning no BRT in the Downtown was considered but deemed infeasible. A status quo transit routing and infrastructure in the Downtown, combined with a BRT system outside of the area, would present insurmountable operational challenges to the transit system. BRT could not function outside of the Downtown without a reconfiguration of routes and function within the Downtown.

As a result of this direction and stakeholder input, there are two viable options for north-south routing for each of the systems – BRT and Downtown Active Transportation (AT) network. The Downtown AT Network options are addressed in detail in a separate report, but are factored into the options evaluation in this report. Before this report describes and evaluates those options, some additional context is required.

For the BRT System, 3rd Avenue and 1st Avenue are considered viable north-south route options with associated trade-offs depending on which is selected. In both scenarios, College Drive and 22nd Street would remain as east-west connectors in the network. The network configuration at the south end of Downtown is dependent on both the Downtown and Nutana routing options. If an east-west connection is required, 19th Street has been identified with mixed traffic.

The technical analysis for both BRT and the Downtown AT Network independently arrived at a technical preference for 3rd Avenue as the north-south route through Downtown. However, the available right-of-way and safety constraints do not permit both BRT and AT routes to be located on the same street.

Since route choice for one system affects viable alternatives for the other system, the Administration has evaluated the north-south connection options for the BRT in consideration of the potential AT network options. All options evaluated in this report are considered viable and will enable successful BRT, subject to appropriate, supportive implementation steps. Each option has some associated trade-offs.

Option 1 - 1st Avenue BRT

This option proposes to implement a BRT route and infrastructure along 1st Avenue. It would run in dedicated transit lanes constructed in the centre of 1st Avenue with two centre median BRT stations. One station is proposed to be constructed at the intersection of 1st Avenue and 21st Street and the other at the intersection of 1st Avenue and 23rd Street. Of the 961 people who participated in an engagement event, 166 preferred this option. Refer to Appendix 2 for an illustration of this option.

The estimated capital financial implications for this option are \$3.6 million. The costs are primarily related to the construction of BRT stations along this portion of the route. The City's financial contributions to the project could be offset by potential federal and provincial infrastructure funding opportunities, see the Section on "Additional Implications/Consideration below for more information.

There are some negative social implications with this option as a preliminary Crime Prevention Through Environmental Design (CPTED) review found this option would have less natural surveillance in the early stages, compared to the 3rd Avenue option. This option would require the greatest degree of land use and public realm intervention in order to establish a transit-supportive environment around the station at 1st Avenue and 23rd Street, and along the corridor in general.

Advantages:

- Good system reliability in terms of on-time performance, from day one and in the long-term.
- Provides good geographic coverage and residents / jobs catchment generally, but reduces coverage of east and southeast portions of Downtown.
- Supports investment in corridor growth.
- Opportunity for an update of the public realm / streetscaping.

- Provides best support for potential arena/convention centre locations.
- Preserves both potential options for Downtown north-south AT corridors – 3rd Avenue and 4th Avenue.
- No expected net gain or loss to on-street parking.

Disadvantages:

- Current land use and development pattern along 1st Avenue is less transit-supportive, particularly north of 22nd Street.
- Ridership target may be more difficult to achieve in the short- to medium-term due to northern station's lack of proximity to employment and activity areas.
- Achieving transit-supportive land use and built form will require significant interventions for redevelopment adjacent to the BRT line – both from the City and private landowners.
- Current land use provides less natural surveillance than the 3rd Avenue option.
- Requires change to roadway infrastructure.
- Significant construction impacts on area stakeholders.

Option 2 - 3rd Avenue BRT

This option proposes to implement a BRT route and infrastructure along 3rd Avenue. It would run in dedicated transit lanes constructed in the centre of 3rd Avenue with two centre median BRT stations. One station is proposed to be constructed at the intersection of 3rd Avenue and 20th Street and the other at the intersection of 3rd Avenue and 23rd Street. Of the 961 people who participated in an engagement event, 138 preferred this option. Refer to Appendix 2 for an illustration of this option.

According to previous analysis, BRT routing on 3rd Avenue provides the BRT system with the best mix of Downtown coverage in terms of both geographic distribution and walkshed catchment of residents and jobs. A long-term build-out analysis of the Downtown showed that this could remain the case as the city grows to 500,000.

The estimated capital financial implications for this option are \$4.3 million. The costs are primarily related to the construction of BRT stations along this portion of the route. The City's financial contributions to the project could be offset by potential federal and provincial infrastructure funding opportunities, see the Section on "Additional Implications/Consideration below for more information.

Preliminary CPTED review found this option had better natural surveillance which can contribute in the early stages to ensure the safety and security of users.

Advantages:

- Good system reliability in terms of on-time performance, from day one and in the long-term.
- Provides best coverage and marginally better residents/jobs catchment from day one and in the long-term – to the 500,000 growth scenario.

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- Supports investment in corridor growth.
- Current land use and built form is more transit-supportive than the 1st Avenue option. 3rd Avenue's pedestrian-oriented development pattern supports transit.
- Opportunity for an update of the public realm / streetscaping.
- Addition of 22 on-street parking stalls on 3rd Avenue, primarily through the removal of some existing transit stops.

Disadvantages:

- Requires change to relatively recently constructed roadway infrastructure, trees, medians, etc. (though key segments are preserved).
- Significant construction impacts on area stakeholders.
- Located further from potential arena/convention centre locations (though coverage is still provided).
- Eliminates potential for AT network corridor on 3rd Avenue.

RECOMMENDATION

That City Council approve the 1st Avenue option as the north-south Downtown connection for the BRT network.

RATIONALE

From a purely transit perspective, the 3rd Avenue route is the preferred option. However, when considering all modes of transportation together with all advantages and disadvantages, a 1st Avenue BRT north-south route connection is the Administration's recommended option. Selection of this option achieves an appropriate balance of transit system function and city-building benefits, and preserves both 3rd Avenue and 4th Avenue as unencumbered potential AT corridors.

While 1st Avenue will require land use and public realm intervention to help it to become more transit supportive, there is significant growth opportunity within close proximity of this corridor as well as potential locations for a future arena/convention centre.

ADDITIONAL IMPLICATIONS/CONSIDERATIONS

During the June 20, 2018 meeting of the Governance and Priorities Committee, Administration was requested to provide further details about the projected locations for development within Downtown and the implications for the transit system. Projections of scenarios for potential development, population density and employment density were conducted to a citywide population of 500,000. Detailed results and assumptions are available in Appendix 3.

The long-term development potential within the walksheds of a 1st Avenue or a 3rd Avenue BRT route are summarized below:

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| | | 3 rd Avenue | 1 st Avenue |
|-------------|--------------------|------------------------|------------------------|
| Population: | 400 metre walkshed | 13,242 | 11,681 |
| | 600 metre walkshed | 15,000 | 14,652 |
| Jobs: | 400 metre walkshed | 27,549 | 20,937 |
| | 600 metre walkshed | 30,558 | 28,931 |

Both options provide similar coverage of jobs and residents overall, within a 600 metre (7-10 minute) walkshed of anticipated station locations. However, 3rd Avenue provides better coverage of jobs and residents within a 400 metre (5 minute) walkshed.

It should be noted that a Downtown arena and convention centre was not factored into the walkshed analysis above. Since the most likely potential locations for these facilities are west of 1st Avenue, the 1st Avenue BRT scenario is expected to provide better access. However, both options provide good coverage for potential arena/convention centre locations.

Predicting long-term growth and development for the Downtown is highly uncertain. The above analysis represents one possible scenario of many. There will be significant variability in terms of how the build-out of Downtown will occur.

To offset the costs associated with constructing and implementing the BRT in Saskatoon, the City is working with federal and provincial governments on potential funding for various infrastructure projects. The BRT is an excellent candidate project for federal and provincial funding under the Investing in Canada Infrastructure Plan (ICIP). If successful under the ICIP, the City would be required to cover approximately 27% of the total eligible costs, while the balance would be covered by the governments of Canada and Saskatchewan.

From a horizontal policy perspective, the City's Official Community Plan Bylaw No. 8769 includes a "Planned Growth Map" that identifies 3rd Avenue as a "Rapid Transit Corridor". However, if City Council adopts Option 1: 1st Avenue BRT or any other routing for BRT through Downtown that does not align with this map, the Administration would need to undertake consequential amendments to the Official Community Plan.

COMMUNICATION ACTIVITIES

Following City Council's decision on this and associated BRT reports, the Administration will update the project web page and Engage page with information about the finalized BRT route, including supporting materials, as well as issue a Media Release on the decision. A "BRT Update" communique will be shared with project stakeholders through established channels, including the Plan for Growth and BRT eNewsletters, and social media.

As detailed design and construction planning proceeds, the project team will work with key stakeholders to address specific design and implementation matters throughout BRT implementation.

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PUBLIC NOTICE

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

APPENDICES

1. Engagement Summary
2. Bus Rapid Transit Downtown Option Summary
3. Modelling Growth to 500,000 in Downtown Saskatoon

REPORT APPROVAL

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