SUMMARY REPORT: BUS RAPID TRANSIT ROUTE AND CONFIGURATION - NUTANA

OPTIONS FOR CONSIDERATION

This section provides five potential options that attempt to address how to implement Bus Rapid Transit (BRT) in the Nutana area of Saskatoon. The options range from bypassing Broadway Avenue to the installation of dedicated lanes on Broadway Avenue.

Each option is evaluated based on how well it supports the City's strategic objectives, growth plan principles, and sustainability principles (including safety considerations). The options have also been evaluated on more technical matters including their accessibility, feasibility, functionality, and efficiency. There are no direct positive or negative environmental implications with any of the options - environmental benefits accrue from the entire project.

The options analysis excludes Victoria Avenue and therefore the Traffic Bridge as a potential BRT route option. An evaluation of this option determined that it would be technically infeasible for a properly functioning BRT to operate along this roadway, particularly for safe, reliable winter operations. The Victoria Avenue/Traffic Bridge route is feasible for spring, summer and fall operations on a temporary basis as a designated detour. A status quo option was considered but deemed infeasible since direction has been given to plan and design the rest of the BRT system.

Status quo transit routing and infrastructure in Nutana, combined with a BRT system outside of the area, would present significant operational challenges due to the gap in infrastructure.

Several of the options described below propose relatively small changes to infrastructure and could be considered "close to status quo".

OPTION 1 - Bypass Broadway - 8th Street to Idylwyld Drive

This option implements a BRT route along 8th Street to Idylwyld Drive. The BRT would operate as mixed flow, meaning no dedicated lanes. It avoids Broadway Avenue completely and travels in an east-west direction heading along 8th Street and into Downtown across the Senator Sid Buckwold Bridge. To implement this option a pair of station platforms would be constructed near the intersection of Broadway Avenue and 8th Street to provide access to Broadway Avenue and local transit routes. Additionally, a pair of stations would be introduced near the 8th Street and Lorne Avenue intersection to provide connectivity to the west end of the corridor.

Of the 961 people who participated in an engagement event, 170 preferred this option.

The estimated capital financial implications for this option are $3.2 million. The costs are primarily related to the construction of BRT stations along this portion of the route.

There are some negative social implications with this option as a preliminary safety review found this option may lack "natural surveillance" to ensure the safety and security of users. This option would require the greatest degree of land use and public realm support in order to establish a transit-supportive environment around the stations(at both Broadway Avenue and Lorne Avenue).

Advantages:

- Provides good system reliability in terms of on-time performance both in the short and long term;
- Minimal construction impacts to Broadway area businesses and residents;
- Minimal, if any, change to Broadway Avenue road infrastructure;
- Improved signal coordination along 8th Street;
- Some potential to support investment in corridor growth along Broadway Avenue but would likely be limited to one to two blocks immediately north and south of 8th Street; and,
- Addition of 19 on-street parking stalls on Broadway Avenue, primarily through the removal of some existing transit stops.

Disadvantages:

- Reduces transit access and coverage for Broadway Avenue between 10th Street and 12th Street;
- Has little "natural surveillance" from surrounding land uses;
- Sub-optimal connection to a potential 3rd Avenue BRT line;
- May be an impediment to achieving transit ridership targets;
- Provides limited or no opportunities to improve public amenities and streetscaping on Broadway Avenue and,
- Adjacent land use is less supportive of transit.

OPTION 2 - Broadway Avenue Mixed Flow

This option proposes to implement a BRT system along Broadway Avenue in a north-south direction from 8th Street to 12th Street. It proposes to construct two pairs of BRT stations on either side of Broadway Avenue at 12th Street and at 9th Street.

Under this option, there are no dedicated BRT lanes along Broadway Avenue, but Transit Signal Priority measures would be installed in traffic signals. The proposed BRT would "mix" with motor vehicle and cycling traffic that typically travel along Broadway Avenue, as well as vehicles entering and leaving on-street parking spaces.

Of the 961 people who participated in an engagement event, 83 preferred this option.

The estimated capital financial implications for this option are $3.7 million. The costs are primarily related to the construction of BRT stations along this portion of the route.

There are some positive social implications with this option, as a preliminary safety review found this option may provide a higher degree of natural surveillance.

Advantages:

- Provides the highest level of coverage (from among the options) for Broadway Avenue with the installation of two station locations near the north and south ends of the commercial main street area of the street;
- Strong potential to support investment in corridor growth along Broadway Avenue;
- Improved signal coordination along Broadway Avenue;
- Provides good natural surveillance to improve safety and security for users; and,
- Addition of 19 on-street parking stalls on Broadway Avenue, primarily through the removal of some existing transit stops.

Disadvantages:

- Reduces short- and long-term system reliability and on-time performance due to no dedicated BRT lane;
- Requires some change to Broadway Avenue infrastructure for stations and Transit Signal Priority;
- Produces construction impacts on area businesses and residents;
- Provides limited opportunities to enhance public amenities and streetscaping;

OPTION 3 - Broadway Avenue Deferred Configuration Decision

This option proposes to confirm Broadway Avenue as the final route choice but defers a final decision on a permanent BRT design configuration on Broadway (Mixed Traffic or Dedicated Lanes) to a future date. This will keep the level of investment in infrastructure to the minimum level necessary to operate a BRT. All local bus routes would continue to use the current stops on Broadway Avenue. The components included under this option are as follows:

- Communication cable installations to each intersection.
- Transit signal priority (TSP) measures at each intersection.
- A single curbside stop for the Blue Line near the proposed dedicated station between Main Street and 9th Street.

This option enables a short-term solution to allow planning, design and overall implementation of the BRT system to proceed subsequent to future City Council approval. It ultimately defers a final decision on a permanent BRT design configuration through Nutana.

Public engagement input is not provided on this option as it was developed by the Administration after the engagement was conducted to address some of the feedback. In terms of design and function, this option could be considered most like a limited version of **Option 2: Broadway Avenue Mixed Flow.**

The estimated capital financial implications for this option are $500,000. The costs are primarily related to the installation of communication cables and Transit Signal Priority measures along this portion of the route.

Advantages:

- Provides good coverage for Broadway Avenue;
- Minimal construction impacts to area residents, businesses and institutions;
- Signal coordination along Broadway Avenue;
- May support investment in corridor growth along Broadway Avenue;
- Enables functional benefits of BRT at minimal investment; and,
- Flexible to enable future decision on infrastructure configuration and implementation timing.

Disadvantages:

- Reduces short-term system reliability and on-time performance;
- May impact ability to achieve transit ridership targets; and,
- Provides limited or no opportunities to update public amenities and streetscaping on Broadway Avenue.

OPTION 4 - Broadway Avenue Phased Implementation

This option proposes to confirm Broadway Avenue as the final route choice, and to confirm the long-term configuration on Broadway as either Mixed Traffic or Dedicated Lanes, while delaying the implementation on Broadway until a future date. This will keep the level of investment in infrastructure to the minimum level necessary to operate a BRT. All local bus routes would continue to use the current stops on Broadway Avenue. The components included under this option are as follows are the same as those listed in option 3.

This option enables a short-term solution to allow planning, design and overall implementation of the BRT system to proceed subsequent to future City Council decision on the timing for implementation.

Public engagement input is not provided on this option as it was developed by the Administration after the engagement was conducted. In terms of design and function, this option could be considered most like a limited version of **Option 2: Broadway Avenue Mixed Flow**.

The estimated capital financial implications for this option are $500,000. The costs are primarily related to the installation of communication cables and transit signal priority measures along this portion of the route.

Advantages:

- Provides good coverage for Broadway Avenue;
- Minimal construction impacts to area residents, businesses and institutions;
- Signal coordination along Broadway Avenue;
- May support investment in corridor growth along Broadway Avenue;
- Enables functional benefits of BRT at minimal investment; and,
- Flexible to enable future decision on implementation timing.

Disadvantages:

- Reduces short-term system reliability and on-time performance;
- May impact ability to achieve transit ridership targets; and,
- Provides limited or no opportunities to update public amenities and streetscaping on Broadway Avenue.

OPTION 5 - Broadway Avenue Dedicated Lanes

This option proposes to implement dedicated BRT lanes along Broadway Avenue from 8th Street to 12th Street. The dedicated lanes are proposed to run contraflow to existing traffic (flows in the opposite direction of the surrounding lanes), constructed in the centre of Broadway Avenue with one centre median BRT station. One station is proposed to be constructed at the intersection of Broadway and Main Street.

Of the 961 people who participated in an engagement event, 143 preferred this option.

The estimated capital financial implications for this option are $2.5 million. The costs are primarily related to the construction of the dedicated lanes and BRT stations along this portion of the route.

There are some positive social implications with this option. For example, a preliminary safety review found that this option provides a high degree of natural surveillance compared to **Option 2: Bypass Broadway – Idylwyld Drive to 8th Street.**

Advantages:

- Provides very good coverage of Broadway Avenue from 12th Street to 8th Street for area residents, businesses and institutions;
- Offers high reliability in both short- and long-term planning horizons;
- Improved signal coordination along Broadway Avenue;
- Strong potential to support investment in corridor growth along Broadway Avenue; and,
- Provides significant opportunity to improve public amenities and streetscaping.

Disadvantages:

- Requires substantial change to Broadway Avenue infrastructure;
- Produces short-term construction impacts for area businesses and residents; and,
- Results in the loss of 14 parking stalls.

RECOMMENDATION

The Administration recommends that City Council adopt OPTION 3: Broadway Avenue Deferred Configuration Decision.

RATIONALE

Broadway Avenue is the most suitable corridor for BRT as it is a major destination and is within a 400 metre walking distance to residential, commercial and retail uses. The BRT corridor would connect approximately 54,000 residents with the businesses and destinations on Broadway Avenue. It also connects directly to Broadway Bridge linking the corridor with Downtown.

Deferring the configuration decision of BRT along Broadway provides some of the functional benefits of BRT without the initial investment and construction. This option provides the opportunity to monitor the impacts of BRT along Broadway to traffic flows, business impacts and transit ridership prior to making a decision on the design configuration.