DOWNTOWN ALL AGES AND ABILITIES
CYCLING NETWORK STUDY

City of Saskatoon
Transportation Division
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Authorization

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Appendix A - Engagement Event Summary
Following the conclusion of the Downtown Protected Bike Lane Demonstration in November 2017, the Administration began the Downtown All Ages and Abilities (AAA) Cycling Network study to determine the ‘right streets’ for a complete and connected AAA cycling network in downtown Saskatoon.

To ensure that the most appropriate streets host AAA facilities, the assessment took into consideration how cycling facilities connect to Saskatoon’s wider cycling network, integration with other key downtown projects, and the impacts to all users in the downtown. In total, 12 streets were assessed using 12 factors, which correspond to one of the following six categories: Bicycle Network, Cyclist Safety, People Driving, People Walking, Transit and Business.

Selected Streets:

- North-South streets
  - Idylwyld Drive (consistent with the Imagine Idylwyld project), and
  - 4th Avenue.
- East-West streets:
  - 23rd Street, and
  - 19th Street.

Image 1: Proposed AAA Network Configuration
These streets were selected based on a detailed understanding of trade-offs between the variety of users and functions that these downtown streets serve, striving to achieve a balance amongst all users. The network takes into consideration other downtown initiatives, integrating the impacts of those projects where applicable, as well as within the city wide cycling network.

The proposed streets introduce a network of AAA cycling facilities in the downtown, providing an interconnected system of facilities that is comfortable and attractive for all users. The streets chosen achieve the desired coverage of 400m facility spacing, and provide connections to and from downtown with all areas of the city. Improvements to connections outside of the study area have been identified and will be addressed through detailed design to ensure high-quality connections and seamless transitions.

### 2.1 SUMMARY OF ASSESSMENT

<table>
<thead>
<tr>
<th>North-South Streets</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Idylwyld Drive</strong></td>
<td></td>
</tr>
<tr>
<td>20&lt;sup&gt;th&lt;/sup&gt; Street to 25&lt;sup&gt;th&lt;/sup&gt; Street</td>
<td></td>
</tr>
<tr>
<td>• The Imagine Idylwyld project recommends the inclusion of a raised cycle track through the downtown, facilitating connections between major downtown attractions such as TCU, River Landing, Farmers’ Market, and major retail destination in Downtown and Riversdale.</td>
<td></td>
</tr>
<tr>
<td>• The Downtown AAA Cycling Network study supports this recommendation, and has included Idylwyld Drive in the downtown AAA network.</td>
<td></td>
</tr>
<tr>
<td><strong>1&lt;sup&gt;st&lt;/sup&gt; Avenue</strong></td>
<td></td>
</tr>
<tr>
<td>19&lt;sup&gt;th&lt;/sup&gt; Street to 25&lt;sup&gt;th&lt;/sup&gt; Street</td>
<td></td>
</tr>
<tr>
<td>• 1&lt;sup&gt;st&lt;/sup&gt; Avenue, while having good connectivity beyond the study area, does not connect well with existing or planned AAA facilities.</td>
<td></td>
</tr>
<tr>
<td>• Adding a AAA facility to 1&lt;sup&gt;st&lt;/sup&gt; Avenue had the largest negative impact to motor vehicles, increasing corridor travel time and decreasing LOS at key intersections such as 22&lt;sup&gt;nd&lt;/sup&gt; Street.</td>
<td></td>
</tr>
<tr>
<td>• This impact to traffic was deemed to be too great a trade-off to consider 1&lt;sup&gt;st&lt;/sup&gt; Avenue for the AAA network.</td>
<td></td>
</tr>
<tr>
<td><strong>2&lt;sup&gt;nd&lt;/sup&gt; Avenue</strong></td>
<td></td>
</tr>
<tr>
<td>Spadina Crescent to 25&lt;sup&gt;th&lt;/sup&gt; Street</td>
<td></td>
</tr>
<tr>
<td>• 2&lt;sup&gt;nd&lt;/sup&gt; Avenue has excellent connectivity beyond the study area, great downtown coverage, a number of destinations along it, and limited impact to motor vehicle travel time and LOS at intersections.</td>
<td></td>
</tr>
<tr>
<td>• However, 2&lt;sup&gt;nd&lt;/sup&gt; Avenue, being a retail oriented street, also possesses the highest number of parking spaces and therefore would incur the highest number of parking losses (nearly half of the current spaces would be removed) with the inclusion of a cycling facility.</td>
<td></td>
</tr>
<tr>
<td>• This impact to parking was deemed to be too great a trade-off to consider 2&lt;sup&gt;nd&lt;/sup&gt; Avenue for the AAA network.</td>
<td></td>
</tr>
<tr>
<td><strong>3&lt;sup&gt;rd&lt;/sup&gt; Avenue</strong></td>
<td></td>
</tr>
<tr>
<td>Spadina Cr to 25&lt;sup&gt;th&lt;/sup&gt; Street</td>
<td></td>
</tr>
<tr>
<td>• 3&lt;sup&gt;rd&lt;/sup&gt; Avenue has excellent connectivity beyond the study area, great connections to the Traffic Bridge to the south, excellent coverage through the downtown, and serves a number of destinations.</td>
<td></td>
</tr>
<tr>
<td>• However, 3&lt;sup&gt;rd&lt;/sup&gt; Avenue has been identified as the route through downtown for Bus Rapid Transit (BRT). The cross section being proposed for BRT along 3&lt;sup&gt;rd&lt;/sup&gt; Avenue is centre-running, and does not leave enough space for a AAA facility to be located along this street in conjunction with BRT.</td>
<td></td>
</tr>
<tr>
<td>• The presence of BRT along this street removed 3&lt;sup&gt;rd&lt;/sup&gt; Avenue from consideration for the AAA network.</td>
<td></td>
</tr>
<tr>
<td>Avenue</td>
<td>19th Street to 25th Street</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>4th Avenue</td>
<td>4th Avenue has good connectivity beyond the study area, with some challenges noted at the connection to the Broadway Bridge that should be addressed through intersection improvements. The street is fairly central to downtown providing decent coverage, and there are city-wide destinations along this street. Adding a AAA facility to 4th Avenue does impact motor vehicles, increasing corridor travel time and decreasing LOS at key intersections such as 22nd Street, however the impact to motor vehicles along this corridor are less than the impacts to motorist vehicles on 1st Avenue. The addition of a AAA facility does reduce the number of parking spaces, but the impacts to parking are significantly less along 4th Avenue than 2nd Avenue. In comparing the trade-offs between the available north-south streets, 4th Avenue was selected as a AAA network street as it offered the most balanced impact to all users.</td>
</tr>
<tr>
<td>Spadina Cr</td>
<td>20th Street to 25th Street</td>
</tr>
<tr>
<td>20th Street</td>
<td>20th Street has good connectivity, and ok coverage of the downtown. The street does not connect directly to any bridges, but does connect to the proposed AAA facility on Idylwyld Dr. 20th Street has a number of retail shops and restaurants west of Idylwyld Drive, but less though downtown. 20th Street has been identified as a future transit route (not BRT) and therefore may have conflicts with transit operations or stops in the future. Adding a AAA facility to 20th Street does impact motor vehicles, increasing corridor travel time and decreasing intersection LOS at all intersections. Introducing a AAA facility to 20th Street also reduces parking opportunities on the street. 20th Street was not selected as AAA network street.</td>
</tr>
<tr>
<td>22nd Street</td>
<td>22nd Street has decent connectivity and great coverage of the downtown due to its central location. It does not connect directly to any bridges. Adding a AAA facility to 22nd Street does impact motor vehicles, increasing corridor travel time, however, there were no impacts to intersection LOS, with the exception of 3rd Avenue and 22nd Street (LOS B to LOS C).</td>
</tr>
</tbody>
</table>

### East-West Streets

<table>
<thead>
<tr>
<th>Avenue</th>
<th>19th Street Avenue A to Spadina Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>19th Street</td>
<td>19th Street was found to have good connectivity, but limited coverage due to its location at the edge of the study area. However, the connections to Traffic Bridge and Broadway Bridge make it an excellent candidate to serve the city-wide cycling network. 19th Street west of Avenue A is also proposed to have a AAA cycling facility through the 19th Street Corridor Review Project. The inclusion of a AAA facility had minimal impact to motor vehicle intersection LOS and corridor travel time. Additionally, no parking would need to be removed to add a AAA facility to 19th Street. 19th Street was selected as a AAA network street.</td>
</tr>
<tr>
<td>20th Street</td>
<td>20th Street Idylwyld Drive to Spadina Cr</td>
</tr>
<tr>
<td>20th Street</td>
<td>20th Street has good connectivity, and ok coverage of the downtown. The street does not connect directly to any bridges, but does connect to the proposed AAA facility on Idylwyld Dr. 20th Street has a number of retail shops and restaurants west of Idylwyld Drive, but less though downtown. 20th Street has been identified as a future transit route (not BRT) and therefore may have conflicts with transit operations or stops in the future. Adding a AAA facility to 20th Street does impact motor vehicles, increasing corridor travel time and decreasing intersection LOS at all intersections. Introducing a AAA facility to 20th Street also reduces parking opportunities on the street. 20th Street was not selected as AAA network street.</td>
</tr>
<tr>
<td>22nd Street</td>
<td>22nd Street Idylwyld Drive to Spadina Cr</td>
</tr>
<tr>
<td>22nd Street</td>
<td>22nd Street has decent connectivity and great coverage of the downtown due to its central location. It does not connect directly to any bridges. Adding a AAA facility to 22nd Street does impact motor vehicles, increasing corridor travel time, however, there were no impacts to intersection LOS, with the exception of 3rd Avenue and 22nd Street (LOS B to LOS C).</td>
</tr>
<tr>
<td>Street</td>
<td>Start/End</td>
</tr>
<tr>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>22nd St</td>
<td>Idylwyld Drive to Spadina Cr</td>
</tr>
<tr>
<td>23rd St Idylwyld Drive to Spadina Cr</td>
<td>Great connectivity and the highest coverage of downtown. Connects Blairmore Bikeway to west and University Bridge to east.</td>
</tr>
<tr>
<td>24th St Idylwyld Drive to Spadina Cr</td>
<td>Good connectivity beyond study area, better connection to University Bridge than 23rd Street. Decent coverage of downtown.</td>
</tr>
<tr>
<td>25th St Idylwyld Dr to Spadina Cr</td>
<td>Good connectivity at either end of study area. Limited coverage due to proximity on edge of study area. Connects University Bridge and West/Central Multi-Use Corridor.</td>
</tr>
</tbody>
</table>
3 INTRODUCTION

3.1 STUDY SCOPE
Following the conclusion of the Downtown Protected Bike Lane Demonstration in November 2017, the Administration began the Downtown All Ages and Abilities (AAA) Cycling Network study to determine the ‘right streets’ for a complete and connected AAA cycling network in downtown Saskatoon.

The study area included all streets within the Central Business District neighbourhood, which is bound by Idylwyld Drive to the west, Spadina Crescent to the east, 25th Street to the north, and 19th Street to the south. All streets within the study area were assessed for suitability for hosting AAA facilities. AAA facilities offer practical route options for people who are interested in cycling, but who may not be comfortable riding on busy streets with high traffic volumes and speeds.

The following foundations were established to guide the Downtown AAA Cycling Network study:

- The network must take into consideration how cycling facilities connect to Saskatoon’s wider cycling network;
- The network must integrate with other key downtown projects such as the Bus Rapid Transit plan development along 3rd Avenue and the opening of the Traffic Bridge in fall of 2018; and,
- The network must consider the impacts to all users in the downtown to ensure that the most appropriate streets host AAA facilities.

The study used a three-phase approach to determine suitability:

- Pre-screening to eliminate any street that did not meet the AAA Network Principles and project foundations;
- Detailed assessment of suitable streets to consider the impacts to all users when introducing a AAA facility; and
- Following endorsement of the recommended routes by City Council, detailed design will proceed on each corridor.
4 BICYCLE NETWORK DESIGN PRINCIPLES

4.1 CITY WIDE CYCLING NETWORK PRINCIPLES
A well-designed cycling network needs to be visible, intuitive and provide connections between destinations and neighbourhoods.

Ideally, a cycling network serves users of all ages and abilities – in other words, people from age 8 to age 80 – offering practical route options for those who are interested in cycling, but who may not be comfortable riding on busy streets with high traffic volumes and speeds.

The design and development of a long-term bicycle network for Saskatoon is based on five network planning principles:

1. Provide an interconnected system of facilities that is comfortable and attractive for all users.
2. Increase coverage to ensure all residents are within 400m of a designated bicycle route. The designated route may include both AAA and non-AAA facilities.
3. Focus on high-quality connections to and from downtown with all areas of the city and create a downtown network.
4. Provide a network that provides direct access to major shopping centres, key employment areas, schools, and recreational areas/facilities.
5. Improve and connect to existing cycling routes.
4.2 **All Ages and Abilities (AAA) Bicycle Network Principles**

Building on the city-wide cycling network principles, there are three key principles of developing and designing cycling facilities that offer options for people of all ages and abilities: safety, comfort and connectivity. The facility must:

1. **Safety**: Be safe because cyclists are vulnerable road users;
2. **Comfort**: Be comfortable in order to attract new cyclists; and
3. **Connectivity**: Connect not only to other facilities but also to key destinations in order to be practical.

<table>
<thead>
<tr>
<th>Table 1: AAA Cycling Network Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SAFETY</strong></td>
</tr>
<tr>
<td>Minimize and consolidate conflict points between modes (for example, at intersections or driveway crossings).</td>
</tr>
<tr>
<td>Reduce speed and enhance visibility at intersections and conflict points.</td>
</tr>
<tr>
<td>Provide each mode with a clearly defined space for travel.</td>
</tr>
<tr>
<td>Provide consistent treatments to promote predictable behavior for all users.</td>
</tr>
<tr>
<td>Ensure facilities are easy to maintain to facilitate safe cycling conditions.</td>
</tr>
</tbody>
</table>
5 CONNECTIONS TO WIDER CYCLING NETWORK

As part of the initial phase of the process, six downtown streets were eliminated as they did not integrate to the wider cycling network beyond the study area.

Table 2: Streets Eliminated from Detailed Downtown AAA Cycling Network Assessment

<table>
<thead>
<tr>
<th>STREETS ELIMINATED</th>
<th>REASON FOR ELIMINATION</th>
</tr>
</thead>
</table>
| 5th Avenue between 22nd Street and 25th Street | • Does not connect well to the south end of the study area  
• Highly residential in nature with a low number of city wide destinations |
| 6th Avenue between 24th Street and 25th Street | • Only extends for one block within the study area                                     |
| 21st Street E                           | • Low connectivity on east and west ends as it terminates at 1st Avenue and Spadina Crescent |
| Ontario Avenue, Wall Street, Pacific Avenue | • Streets do not connect well to the north and south ends of study area  
• Potential in the future to serve as a secondary cycling connection to provide local access |

These streets have been excluded from the detailed assessment of streets suitable for supporting AAA connections to the city-wide network. The exclusion of these downtown streets does not preclude them from being a part of the local cycling network circulation. The exclusion of these streets from the overall AAA network were presented at the first stakeholder meeting and generally supported by attendees.
6 INTEGRATION WITH KEY DOWNTOWN PROJECTS

The proposed network takes into consideration the Bus Rapid Transit (BRT) route identified through downtown, the recommendations included within the Imagine Idylwyld project, and the Traffic Bridge replacement. Discussions occurred with the respective project managers throughout the development of the Downtown AAA Cycling Network study.

Table 3: Integration with Key Downtown Projects

<table>
<thead>
<tr>
<th>DOWNTOWN PROJECT</th>
<th>PROJECT DETAILS</th>
<th>IMPACT TO PROPOSED AAA NETWORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Rapid Transit</td>
<td>19th Street: Curb running, no stations</td>
<td>BRT along 19th Street uses the travel lane and does not include stations. Therefore it is compatible with a AAA facility.</td>
</tr>
<tr>
<td></td>
<td>25th Street: Curb running, stations present</td>
<td>BRT along 25th Street uses the travel lane and does include stations. 25th Street is not being proposed as a AAA network street at this time.</td>
</tr>
<tr>
<td></td>
<td>3rd Avenue: Centre-running, stations present</td>
<td>Centre-running BRT along 3rd Avenue does not leave enough space for the inclusion of a AAA cycling facility, eliminating 3rd Avenue as an option for the AAA network.</td>
</tr>
</tbody>
</table>
| Imagine Idylwyld     | • Raised cycle track along Idylwyld Drive from 20th Street to 23rd Street  
                       | • Multi-Use Pathway (MUP) from 23rd Street to 25th Street E. | The AAA cycling facilities along Idylwyld Drive have been incorporated into the proposed AAA network. |
| Traffic Bridge / Victoria Avenue Cycle Track | Contains 3.0m MUP on both sides of the structure and raised cycle track from 8th Street to Traffic Bridge. | Connections from the MUP along the Traffic Bridge to the proposed facility along 19th Street and the transitions between the facilities are being included in the detailed design. |
Assessment of Suitable Streets

Downtown streets support a number of different land uses through a variety of travel modes. When assessing the appropriate streets for a AAA cycling facility, it is important to consider the impacts to all users in the downtown. The factors used for the assessment relate to one or more of the Principles outlined earlier. The factors used to complete the assessment and the findings are outlined on the following pages.

### SUMMARY OF EVALUATION CRITERIA

<table>
<thead>
<tr>
<th>Bicycle Network</th>
<th>People Driving</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Linkages to surrounding areas:</strong> Corridors providing better linkages across major barriers such as busy streets and river crossings should be preferred.</td>
<td><strong>Automobile travel time:</strong> Corridors with the least impact on automobile delay and travel time should be preferred.</td>
</tr>
<tr>
<td><strong>Linkages with other cycling facilities:</strong> Corridors that offer a strong potential for interconnection with existing and planned City bicycle facilities should be preferred.</td>
<td><strong>Transit</strong></td>
</tr>
<tr>
<td><strong>Current and potential bicycle traffic:</strong> Corridors where a large number of existing and potential bicycle trips originate and terminate should be preferred.</td>
<td><strong>Transit stop conflicts:</strong> Corridors with fewer bus stops and lower frequency of bus service should be preferred because there will be fewer conflicts between cyclists and passengers entering or exiting buses.</td>
</tr>
<tr>
<td><strong>Transit operations:</strong> Corridors with the least impact on transit travel time should be preferred.</td>
<td><strong>Transit</strong></td>
</tr>
<tr>
<td><strong>Business</strong></td>
<td><strong>Parking:</strong> Corridors where implementation of the bicycle facility will have the lowest relative impact on the total parking supply should be preferred.</td>
</tr>
<tr>
<td><strong>Parking:</strong> Corridors where implementation of the bicycle facility will have the lowest relative impact on the total parking supply should be preferred.</td>
<td><strong>Street environment:</strong> Implementation of the cycling facility will increase the distance between the sidewalk and moving automobiles, with likely benefits for street-level commerce. Corridors with a significant amount of street-level commerce should therefore be preferred.</td>
</tr>
<tr>
<td><strong>Accessibility:</strong> Corridors where implementation of the bicycle facility will have lowest relative impact on users with mobility needs should be preferred.</td>
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</tr>
</tbody>
</table>

**Cyclist Safety**

- **Conflict with motor vehicles:** Corridors with fewer number of turning movements at intersections, driveways, and lanes should be preferred.
- **Merit of segregation:** Corridors with higher overall traffic volumes, higher truck traffic volumes, higher traffic speeds, and that have a higher potential for illegal stopping should be strongly preferred. Separation on such corridors will provide the greatest benefit to cyclists.

**People Walking**

- **Pedestrian improvements:** Corridors that have potential to improve the pedestrian safety should be preferred. For example, pedestrian separation from motor vehicles and cyclists or changes to crossing distances at intersections improve conditions for people walking.
- **Accessibility:** Corridors where implementation of the bicycle facility will have lowest relative impact on users with mobility needs should be preferred.
7.1 **BICYCLE NETWORK**

7.1.1 **Linkages to surrounding areas**
Corridors providing better linkages across major barriers such as busy streets and river crossings should be preferred. To determine how well each corridor connected to the surrounding area each downtown street was assessed for:

- **Connections beyond downtown**: How well does the street connect beyond the study area?
- **Coverage**: What percentage of downtown falls within 400 m of the street?¹

Table 4: Bicycle Network - Linkages to Surrounding Areas for N-S streets

<table>
<thead>
<tr>
<th></th>
<th>Idylwyld Drive</th>
<th>1st Avenue</th>
<th>2nd Avenue</th>
<th>3rd Avenue</th>
<th>4th Avenue</th>
<th>Spadina Crescent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connections - South</td>
<td>Terminates at 20th Street. Connects through Avenue A to 19th Street.</td>
<td>Southbound terminates at 19th Street. Northbound begins at 20th Street due to Idylwyld Freeway Ramps.</td>
<td>Terminates at Spadina Crescent.</td>
<td>Terminates at Spadina Crescent.</td>
<td>Intersection improvements are planned that will improve the connection to the Broadway Bridge.</td>
<td>Terminates at 2nd Avenue. Connects with Meewasin Trail system.</td>
</tr>
</tbody>
</table>

Coverage

|               | 40% | 65% | 75% | 75% | 70% | 55% |

Table 5: Bicycle Network - Linkages to Surrounding Areas for E-W streets

<table>
<thead>
<tr>
<th></th>
<th>19th Street</th>
<th>20th Street</th>
<th>22nd Street</th>
<th>23rd Street</th>
<th>24th Street</th>
<th>25th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connections - West</td>
<td>Continues to Avenue M.</td>
<td>Continues to Vancouver Avenue.</td>
<td>Continues to City Limits.</td>
<td>Continues to Vancouver Avenue with a slight deflection at Jamieson Street.</td>
<td>Terminates at Idylwyld Drive.</td>
<td>Terminates at Idylwyld Drive.</td>
</tr>
</tbody>
</table>

Coverage

|               | 35% | 50% | 65% | 70% | 60% | 40% |

¹ The AT Plan recommends that cycling facilities be installed at 400 m spacing to provide balanced access to cycling facilities.
7.1.2 Linkages with other bicycle facilities
Corridors that offer a strong potential for interconnection with existing and planned City bicycle facilities should be preferred. To assess how well each corridor connected to existing and future AAA facilities, downtown streets were assessed for:

- **Bridges**: How well does the corridor connect to the existing bridge infrastructure?
- **Existing AAA facilities**: How well does the corridor connect to existing all ages and abilities cycling facilities?
- **Proposed AAA Facilities**: How well does the corridor connect to future all ages and abilities cycling facilities?

Table 6: Bicycle Network: Linkages with other Bicycle Facilities for N-S streets

<table>
<thead>
<tr>
<th>Idylwyld Drive</th>
<th>1st Avenue</th>
<th>2nd Avenue</th>
<th>3rd Avenue</th>
<th>4th Avenue</th>
<th>Spadina Crescent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bridges</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct connection to Sid Buckwold Bridge but the link to walkway is challenging.</td>
<td>Direct connection to Sid Buckwold Bridge but the link to walkway is challenging.</td>
<td>Indirect connection to Traffic Bridge and Broadway Bridge by way of 19th Street.</td>
<td>Direct connection to Traffic Bridge. Connection to Broadway Bridge by way of 19th Street.</td>
<td>Northbound connection from Broadway Bridge to 4th Avenue is adequate. (Intersection improvements are planned.)</td>
<td>Direct connection to University Bridge and Traffic Bridge. Does not connect with Broadway Bridge.</td>
</tr>
<tr>
<td><strong>Existing AAA Facilities</strong></td>
<td>Connects with Blairmore Bikeway and WC Multi-Use Corridor.</td>
<td>None</td>
<td>2nd Avenue becomes 3rd Avenue to connect with 33rd Street Multi-Use Pathway</td>
<td>Connects with 33rd Street Multi-Use Pathway to the north. Direct connection to Traffic bridge and Cycle Track on Victoria Avenue.</td>
<td>None</td>
</tr>
<tr>
<td><strong>Proposed AAA Facilities</strong></td>
<td>Connects through Avenue A to proposed 19th Street protected bike lane (Avenue A - Avenue H).</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>
Table 7: Bicycle Network: Linkages with other Bicycle Facilities for E-W streets

<table>
<thead>
<tr>
<th>Bridges</th>
<th>19th Street</th>
<th>20th Street</th>
<th>22nd Street</th>
<th>23rd Street</th>
<th>24th Street</th>
<th>25th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct connection to Traffic Bridge and Broadway Bridge.</td>
<td>No bridge connections.</td>
<td>No bridge connections.</td>
<td>Indirect connection to University Bridge.</td>
<td>Indirect connection to University Bridge.</td>
<td>Direct connection to University Bridge.</td>
<td></td>
</tr>
</tbody>
</table>

| Existing AAA Facilities | None | None | None | Connects to Blairmore Bikeway | None | Connects to WC Multi-Use Corridor. |

| Proposed AAA Facilities | Connects to proposed 19th Street protected bike lane (Avenue A - Avenue H). | Connects to proposed raised cycle track on Idylwyld Drive. | Connects to proposed raised cycle track on Idylwyld Drive. | Connects to proposed multi-use pathway on Idylwyld Drive. | Connects to proposed MUP on Idylwyld Drive. |

7.1.3 Current and potential bicycle traffic

Corridors in which a large number of existing and potential bicycle trips originate and terminate should be preferred. To assess the potential for bicycle trips, downtown streets were assessed for:

- **Key destinations served**: How many city-wide destinations would be served by a cycling facility on this corridor?

Table 8: Bicycle Network: Key Destinations Served for N-S streets

<table>
<thead>
<tr>
<th>Idylwyld Drive</th>
<th>1st Avenue</th>
<th>2nd Avenue</th>
<th>3rd Avenue</th>
<th>4th Avenue</th>
<th>Spadina Crescent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Destinations Served</td>
<td>• Midtown Plaza • TCU Place</td>
<td>• Gov’t of Canada Building • Midtown Plaza • Scotia Centre</td>
<td>• Remai Modern • River Landing • Scotia Centre • Lots of retail • Lots of restaurants</td>
<td>• Francis Morrison Library • City Hall • Sturdy Stone • Some retail shops • Some restaurants • Educational intuitions</td>
<td>• Francis Morrison Library • City Hall • Sturdy Stone • More office than retail • Some restaurants</td>
</tr>
</tbody>
</table>

Table 9: Bicycle Network: Key Destinations Served for E-W streets

<table>
<thead>
<tr>
<th>19th Street</th>
<th>20th Street</th>
<th>22nd Street</th>
<th>23rd Street</th>
<th>24th Street</th>
<th>25th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Destinations Served</td>
<td>• River Landing • Remai Modern • Farmer’s Market • Prov. Court • Midtown Plaza</td>
<td>• Midtown Plaza • Several retail shops west of Idylwyld Drive</td>
<td>• TCU Place • Sturdy Stone • Some office /retail</td>
<td>• Francis Morrison Library • City Hall • Medical Offices</td>
<td>• Kinsmen Park • City Hall • Police Station</td>
</tr>
</tbody>
</table>
7.2 Cyclist Safety

7.2.1 Conflict with motor vehicles:
Corridors with fewer number of turning movements at intersections, driveways, and lanes should be preferred. Two metrics were used to assess each street:

- **Average Daily traffic volume:** How many vehicles, on average, use this street on a daily basis?
- **Number of driveways and rear lanes per block:** How many potential conflict points are present along each block fact of this street?

Table 10: Cyclist Safety: Conflicts with Vehicles for N-S streets

<table>
<thead>
<tr>
<th>Motor Vehicles per Day</th>
<th>1st Avenue</th>
<th>2nd Avenue</th>
<th>3rd Avenue</th>
<th>4th Avenue</th>
<th>Spadina Crescent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idylwyld Drive</td>
<td>28,000 – 31,000 (2016 AADT(^2))</td>
<td>13,000 – 22,000 (estimated(^3))</td>
<td>5,000 - 16,000 (estimated)</td>
<td>7,000 – 9,000* (estimated)</td>
<td>12,000 – 22,000* (estimated)</td>
</tr>
<tr>
<td>19th Street</td>
<td>17,000 – 25,000* (estimated)</td>
<td>13,000 – 20,000* (estimated)</td>
<td>15,000 – 30,000* (estimated)</td>
<td>7,000 – 12,000* (estimated)</td>
<td>8,000 – 13,000* (estimated)</td>
</tr>
</tbody>
</table>

Table 11: Cyclist Safety: Conflicts with Vehicles for E-W streets

<table>
<thead>
<tr>
<th>Motor Vehicles per Day</th>
<th>1st to 2nd</th>
<th>2nd to 3rd</th>
<th>3rd to 4th</th>
<th>4th to Spadina</th>
</tr>
</thead>
<tbody>
<tr>
<td>19th Street</td>
<td>17,000 – 25,000* (estimated)</td>
<td>13,000 – 20,000* (estimated)</td>
<td>15,000 – 30,000* (estimated)</td>
<td>7,000 – 12,000* (estimated)</td>
</tr>
</tbody>
</table>

\(^2\) 2016 Average Annual Daily Traffic (AADT) from City of Saskatoon
\(^3\) Estimated based on PM peak hour projections
7.2.2 Merit of segregation
Corridors with higher overall traffic volumes, higher truck traffic volumes, higher traffic speeds, and which have a higher potential for illegal stopping should be strongly preferred. Separation on such corridors will provide the greatest benefit to cyclists.

When speeds are over 30 km/hr and traffic volumes exceed 1,500 vehicles per hour, AAA facilities should be separated from motor vehicles. As was noted previously the downtown streets considered for detailed review exceed this volume and speed, and therefore merit segregation.
7.3 **People Walking**

7.3.1 **Pedestrian improvements**

Corridors that have potential to improve the pedestrian safety should be preferred. For example, pedestrian separation from motor vehicles and cyclists or changes to crossing distances at intersections improve conditions for people waking. Downtown streets were assessed for existing pedestrian conditions (such as streetscaping) and whether inclusion of a cycling facility could provide any additional benefit for pedestrians.

- **Opportunity for improvements**: Does adding a cycling facility to this corridor improve conditions for pedestrians?

Table 12: **People Walking: Opportunity for Pedestrian Improvements to N-S streets**

<table>
<thead>
<tr>
<th>Idylwyld Drive</th>
<th>1st Avenue</th>
<th>2nd Avenue</th>
<th>3rd Avenue</th>
<th>4th Avenue</th>
<th>Spadina Crescent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunity for Improvements</td>
<td>Imagine Idylwyld proposes crossing modifications and streetscape amenities.</td>
<td>Better crossings for pedestrians north of 22nd Street.</td>
<td>Already a pedestrian priority street with significant pedestrian amenities and short crossing distances.</td>
<td>Enhancements possible through BRT project.</td>
<td>Already streetscaped but offer increased buffer from vehicle traffic. East side has promenade. West side could benefit from sidewalk enhancements.</td>
</tr>
</tbody>
</table>

Table 13: **People Walking: Opportunity for Pedestrian Improvements to E-W streets**

<table>
<thead>
<tr>
<th>19th Street</th>
<th>20th Street</th>
<th>22nd Street</th>
<th>23rd Street</th>
<th>24th Street</th>
<th>25th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunity for Improvements</td>
<td>Increased buffer from motor traffic.</td>
<td>Increased buffer from motor traffic.</td>
<td>Increased buffer from motor traffic.</td>
<td>Increased buffer from motor traffic.</td>
<td>Already streetscaped but offer increased buffer from motor traffic.</td>
</tr>
</tbody>
</table>

7.3.2 **Accessibility**

Corridors in which implementation of the bicycle facility will have lowest relative impact on users with mobility needs should be preferred. Accessibility needs are an essential part of ensuring that the needs of all users can be accommodated on downtown streets. Accessibility needs, such as accessible parking or raised curb treatments, can be applied to all of the candidate corridors and will be addressed through detailed design.
7.4 Transit

7.4.1 Transit stop conflicts
Corridors with fewer bus stops and lower frequency of bus service should be preferred as there will be fewer conflicts between cyclists and passengers entering or exiting buses. Downtown streets were assessed for the number of transit stop conflicts:

- **Current number of stops**: How many transit stops exist along this corridor today?
- **Future number of stops**: How many transit stops are planned for this corridor?

Table 14: Transit: Transit Stop Conflicts for N-S streets

<table>
<thead>
<tr>
<th>Idylwyld Drive</th>
<th>1st Avenue</th>
<th>2nd Avenue</th>
<th>3rd Avenue</th>
<th>4th Avenue</th>
<th>Spadina Crescent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current # of Transit Stops</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Future # of Transit Stops</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 15: Transit: Transit Stop Conflicts for E-W streets

<table>
<thead>
<tr>
<th>19th Street</th>
<th>20th Street</th>
<th>22nd Street</th>
<th>23rd Street</th>
<th>24th Street</th>
<th>25th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current # of Transit Stops</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Future # of Transit Stops</td>
<td>None Identified</td>
<td>Possibility of future stops</td>
<td>2 BRT Stations</td>
<td>None Identified</td>
<td>None Identified</td>
</tr>
</tbody>
</table>

7.4.2 Transit Operations
Corridors with the least impact on transit travel time should be preferred. Downtown streets were assessed for whether a transit route was present or planned:

- **Current transit route**: Does transit currently operate along this corridor?
- **Future transit route**: Has Transit identified this corridor as a future route?
Table 16: Transit: Transit Operations for N-S streets

<table>
<thead>
<tr>
<th>Idylwyld Drive</th>
<th>1st Avenue</th>
<th>2nd Avenue</th>
<th>3rd Avenue</th>
<th>4th Avenue</th>
<th>Spadina Crescent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Transit Route</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Future Transit Route</td>
<td>Not Identified</td>
<td>Not Identified</td>
<td>Not Identified</td>
<td>Identified center-running BRT route</td>
<td>Not identified</td>
</tr>
</tbody>
</table>

Table 17: Transit: Transit Operations for E-W streets

<table>
<thead>
<tr>
<th>19th Street</th>
<th>20th Street</th>
<th>22nd Street</th>
<th>23rd Street</th>
<th>24th Street</th>
<th>25th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Transit Route</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Current transit terminal conflict from 2nd Avenue to 3rd Avenue</td>
<td>Yes</td>
</tr>
<tr>
<td>Future Transit Route</td>
<td>Identified as curb-running BRT route from 4th Avenue to 3rd Avenue.</td>
<td>Identified as possible high-frequency route west of 3rd Avenue.</td>
<td>Identified as curb-running BRT route.</td>
<td>None identified</td>
<td>Identified as curb-running BRT route from Spadina to 3rd Avenue</td>
</tr>
</tbody>
</table>

Identified as possible high-frequency route west of 3rd Avenue.
7.5 BUSINESS

7.5.1 On-Street Parking
Corridors where implementation of the bicycle facility will have the lowest relative impact on the total on-street parking supply should be preferred. Parked cars near intersections and driveways limit motor vehicle driver visibility of approaching cyclists and motor traffic. The number of parking spaces along a street were quantified to understand the number of parking spaces that would be removed by the installation of a cycling facility on the corridor.

The current number of parking spaces identified below are from the 2016 Parking Study.

- **Current number of parking spaces**: How many spaces are currently available along this corridor?
- **Number of parking spaces with cycling facility**: How many spaces are available with a cycling facility along this corridor?
- **Change in number of parking spaces**: How many spaces are removed when a cycling facility is added to this corridor?

**Table 18: Business: Impacts to On-street Parking with Addition of Cycling Facility for N-S streets**

<table>
<thead>
<tr>
<th></th>
<th>Idylwyld Drive</th>
<th>1st Avenue</th>
<th>2nd Avenue</th>
<th>3rd Avenue</th>
<th>4th Avenue</th>
<th>Spadina Crescent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current number of Spaces</td>
<td>0</td>
<td>120</td>
<td>322</td>
<td>156</td>
<td>152</td>
<td>92</td>
</tr>
<tr>
<td>Number of Spaces with AAA</td>
<td>0</td>
<td>72</td>
<td>146</td>
<td>102</td>
<td>94</td>
<td>12</td>
</tr>
<tr>
<td>Change in Number of Spaces</td>
<td>0</td>
<td>-48</td>
<td>-176</td>
<td>-54</td>
<td>-58</td>
<td>-8</td>
</tr>
</tbody>
</table>

**Table 19: Business: Impacts to On-street Parking with Addition of Cycling Facility for E-W streets**

<table>
<thead>
<tr>
<th></th>
<th>19th Street</th>
<th>20th Street</th>
<th>22nd Street</th>
<th>23rd Street</th>
<th>24th Street</th>
<th>25th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current number of Spaces</td>
<td>17</td>
<td>118</td>
<td>96</td>
<td>103</td>
<td>124</td>
<td>58</td>
</tr>
<tr>
<td>Number of Spaces with AAA</td>
<td>17</td>
<td>80</td>
<td>63</td>
<td>90</td>
<td>66</td>
<td>50</td>
</tr>
<tr>
<td>Change in Number of Spaces</td>
<td>0</td>
<td>-38</td>
<td>-33</td>
<td>-13</td>
<td>-58</td>
<td>-8</td>
</tr>
</tbody>
</table>

7.5.2 Street environment
Implementation of a bicycle facility will provide sidewalks with additional buffering from automobiles and improve the pedestrian environment, with likely benefits for street-level commerce. Corridors with a significant amount of street-level commerce should therefore be preferred. Generally speaking, the higher number of building entrances the more active the street level environment will be. The numbers

---

4 Angle parking converted to parallel parking
5 Parking on west side removed
6 Parking added in transit terminal
7 Parking removed on south side between Ontario Avenue & Idylwyld Drive
were outlined below were obtained from inventory gathered in phase one of the City Centre Plan: Public Spaces, Activity + Urban Form Strategic Framework.

- **Number of building entrances**: How much street-level activity is there along each corridor?

*Table 20: Business: Number of Building Entrances for N-S streets*

<table>
<thead>
<tr>
<th></th>
<th>Idylwyld Drive</th>
<th>1st Avenue</th>
<th>2nd Avenue</th>
<th>3rd Avenue</th>
<th>4th Avenue</th>
<th>Spadina Crescent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of building</td>
<td>35 (3.8 per block face)</td>
<td>54 (4.5 per block face)</td>
<td>124 (8.8 per block face)</td>
<td>96 (6.8 per block face)</td>
<td>41 (3.4 per block face)</td>
<td>28 (4.6 per block face)</td>
</tr>
</tbody>
</table>

*Table 21: Business: Number of Building Entrances for E-W streets*

<table>
<thead>
<tr>
<th></th>
<th>19th Street</th>
<th>20th Street</th>
<th>22nd Street</th>
<th>23rd Street</th>
<th>24th Street</th>
<th>25th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of building</td>
<td>7 (1.2 per block face)</td>
<td>23 (2.3 per block face)</td>
<td>31 (3.1 per block face)</td>
<td>21 (1.5 per block face)</td>
<td>33 (2.0 per block face)</td>
<td>24 (1.6 per block face)</td>
</tr>
</tbody>
</table>
7.6 **PEOPLE DRIVING**

Corridors with the least impact on automobile delay and travel time should be preferred. Downtown streets were evaluated to determine the streets that have spare existing capacity and could accommodate reducing the number of vehicle lanes and replacing them with protected bike lanes.

For each street in the downtown, two street configurations were compared:

- **Existing street configuration**: Does not include the changes made to 23rd Street 4th Avenue as part of the Downtown Protected Bike Lane Demonstration Project.
- **AAA facility configuration**: Traffic lanes and parking adjusted to make room for a AAA cycling facility.

The traffic volumes used to conduct this analysis are consistent with Saskatoon at a population of 300,000 with Bus Rapid Transit (BRT) implemented. Specific assumptions include:

- Traffic Bridge is open.
- Parcel YY in River Landing is built out (increase in traffic due to development).
- Transit Mall on 23rd Street is no longer present. Through traffic movements along 23rd Street have been added.
- BRT along 3rd Avenue reduces traffic lanes and prohibits turning movements. All analyses consider the changes in travel pattern in the downtown.
- No change in mode share from private motor vehicle toward transit, walking or cycling.
- Idylwyld Drive was not included in this assessment because the Imagine Idylwyld included extensive traffic capacity analysis.

### 7.6.1 **Right-of-Way Width Constraints**

Downtown streets have varying Right-of-Way (ROW) widths. As well, the pavement width between curbs are different depending on streetscaping and traffic controls. All downtown streets were determined to have adequate space with the exception of Spadina Crescent, which was ruled out for a AAA facility because of limited available ROW due to the wide promenade on the east side with mature trees and elevation differences between the sidewalk and boulevard on the west side.

*Table 22: People Driving: Available Right-of-Way and Pavement Width for N-S streets*

<table>
<thead>
<tr>
<th></th>
<th>1st Avenue</th>
<th>2nd Avenue</th>
<th>3rd Avenue</th>
<th>4th Avenue</th>
<th>Spadina</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pavement (m)</td>
<td>ROW (m)</td>
<td>Pavement (m)</td>
<td>ROW (m)</td>
<td>Pavement (m)</td>
</tr>
<tr>
<td>19th to 20th</td>
<td>ramp</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
</tr>
<tr>
<td>20th to 21st</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
</tr>
<tr>
<td>21st to 22nd</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
</tr>
<tr>
<td>22nd to 23rd</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
</tr>
<tr>
<td>23rd to 24th</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
</tr>
<tr>
<td>24th to 25th</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
</tr>
</tbody>
</table>
Table 23: People Driving: Available Right-of-Way and Pavement Width for E-W streets

<table>
<thead>
<tr>
<th>Street</th>
<th>Pavement (m)</th>
<th>ROW (m)</th>
<th>Pavement (m)</th>
<th>ROW (m)</th>
<th>Pavement (m)</th>
<th>ROW (m)</th>
<th>Pavement (m)</th>
<th>ROW (m)</th>
<th>Pavement (m)</th>
<th>ROW (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idylwyld to 1st</td>
<td>19.0</td>
<td>31.6</td>
<td>24.1</td>
<td></td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
<td>13.4</td>
<td>20.1</td>
</tr>
<tr>
<td>1st to 2nd</td>
<td>19.0</td>
<td>30.2</td>
<td>23.9</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
</tr>
<tr>
<td>2nd to 3rd</td>
<td>22.9</td>
<td>30.2</td>
<td>21.4</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
</tr>
<tr>
<td>3rd to 4th</td>
<td>22.9</td>
<td>30.2</td>
<td>20.1</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
<td>transit</td>
<td></td>
<td>16.8</td>
<td>30.2</td>
</tr>
<tr>
<td>4th to Spadina</td>
<td>20.1</td>
<td>30.2</td>
<td>22.9</td>
<td>30.2</td>
<td>16.8</td>
<td>30.2</td>
<td>12.2</td>
<td>30.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7.6.2 Potential AAA Street Configurations

Three types of AAA facilities are typically used in urban settings, such as downtown Saskatoon. Each has different minimum allowable design dimensions.

1. One-way protected bike lane
2. One-way raised cycle track
3. Bi-directional protected bike lane

The minimum design criteria used for AAA facility design were based on guidelines provided by the Transportation Association of Canada (TAC), Federal Highway Administration (FHWA), National Association of City Transportation Officials (NACTO), and American Association of State Highway and Transportation Officials (AASHTO). Where existing pavement width was too constrained to meet these design criteria, very modest reductions were made to the protected bike lane widths and/or the buffer from parking lane. Minimum recommended widths used were:

- One-way protected bike lane width: 2.1 m
- Two-way protected bike lane width: 3.4 m
- One-way raised cycle track width: 2.6 m
- Buffer from traffic lane: 0.5 m
- Buffer from parking lane: 1.0 m
- Buffer from sidewalk (raised cycle track): 0.5 m

Sidewalk widths were to be maintained at existing dimensions or possibly widened to try to achieve the dimensions outlined in the City of Saskatoon’s Complete Streets Design and Policy Guide (2017) as follows:

- Furnishing zone: 0.5 m minimum, 1.75 m recommended
- Sidewalk: 1.8 m minimum, 2.5 m recommended
- Frontage zone: 1.0 m minimum

---

8 Design criteria for the protected bike lanes are based on five main sources:

- FHWA Separated Bike Lane Planning and Design Guide (2015)
BI-DIRECTIONAL PROTECTED BIKE LANE

ONE-WAY RAISED CYCLE TRACK

ONE-WAY PROTECTED BIKE LANE
The number of lanes could vary depending on available pavement width.

- Traffic Lanes: 3.0 m to 3.6 m depending on presence of transit routes
- Right turn lanes: 2.5 m minimum
- Two-Way Left-Turning Lane (TWLTL): 3.6 m but could vary
- Left Turn Bays (LT bays): 3.0 m to 3.6 m
- Parking Lanes: 2.2 m (plus 0.25 m gutter width if adjacent to a curb)

Table 24: People Driving: Street Configuration with Addition of Cycling Facility for N-S streets

<table>
<thead>
<tr>
<th></th>
<th>1st Avenue Existing</th>
<th>AAA</th>
<th>2nd Avenue Existing</th>
<th>AAA</th>
<th>3rd Avenue Existing</th>
<th>AAA</th>
<th>4th Avenue Existing</th>
<th>AAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>19th to 20th</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>2 + TWLTL</td>
<td>4 + LT bays</td>
<td>2 + LT bays</td>
<td>4</td>
<td>2 + TWLTL</td>
</tr>
<tr>
<td>20th to 21st</td>
<td>4 + TWLTL</td>
<td>2</td>
<td>2</td>
<td>2 + TWLTL</td>
<td>4 + LT bays</td>
<td>2 + LT bays</td>
<td>4</td>
<td>2 + TWLTL</td>
</tr>
<tr>
<td>21st to 22nd</td>
<td>4 + TWLTL</td>
<td>2</td>
<td>2</td>
<td>2 + TWLTL</td>
<td>4 + LT bays</td>
<td>2 + LT bays</td>
<td>4</td>
<td>2 + TWLTL</td>
</tr>
<tr>
<td>22nd to 23rd</td>
<td>4 + TWLTL</td>
<td>2</td>
<td>2</td>
<td>2 + TWLTL</td>
<td>4 + LT bays</td>
<td>2 + LT bays</td>
<td>4</td>
<td>2 + TWLTL</td>
</tr>
<tr>
<td>23rd to 24th</td>
<td>4 + TWLTL</td>
<td>2</td>
<td>2 + LT bays</td>
<td>2 + TWLTL</td>
<td>4 + LT bays</td>
<td>2 + LT bays</td>
<td>4</td>
<td>2 + TWLTL</td>
</tr>
<tr>
<td>24th to 25th</td>
<td>4 + TWLTL</td>
<td>2</td>
<td>2 + TWLTL</td>
<td>2 + TWLTL</td>
<td>4</td>
<td>2 + LT bays</td>
<td>4</td>
<td>2 + TWLTL</td>
</tr>
</tbody>
</table>

Table 25: People Driving: Street Configuration with Addition of Cycling Facility for E-W streets

<table>
<thead>
<tr>
<th></th>
<th>19th Street Existing</th>
<th>AAA</th>
<th>20th Street Existing</th>
<th>AAA</th>
<th>22nd Street Existing</th>
<th>AAA</th>
<th>23rd Street Existing</th>
<th>AAA</th>
<th>24th Street Existing</th>
<th>AAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idylwyld to 1st</td>
<td>4</td>
<td>4</td>
<td>4 + LT bays</td>
<td>4</td>
<td>6 + LT bays</td>
<td>4</td>
<td>2 + TWLTL</td>
<td>2</td>
<td>2 + TWLTL</td>
<td></td>
</tr>
<tr>
<td>1st to 2nd</td>
<td>4 + LT bays</td>
<td>4</td>
<td>4 + LT bays</td>
<td>4</td>
<td>4 + LT bays</td>
<td>4</td>
<td>2 + TWLTL</td>
<td>4</td>
<td>2 + TWLTL</td>
<td></td>
</tr>
<tr>
<td>2nd to 3rd</td>
<td>4 + LT bays</td>
<td>4</td>
<td>4 + LT bays</td>
<td>4</td>
<td>4 + LT bays</td>
<td>4</td>
<td>transit terminal</td>
<td>2 + TWLTL</td>
<td>4</td>
<td>2 + TWLTL</td>
</tr>
<tr>
<td>3rd to 4th</td>
<td>4 + LT bays</td>
<td>4</td>
<td>4 + LT bays</td>
<td>4</td>
<td>4 + LT bays</td>
<td>4</td>
<td>2 + TWLTL</td>
<td>4</td>
<td>2 + TWLTL</td>
<td></td>
</tr>
<tr>
<td>4th to Spadina</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

7.6.3 Motor vehicle traffic flow assessment

Synchro and SimTraffic traffic analysis software programs were used to model the downtown street network. This program includes traffic information, roadway configuration information, and traffic signal design and timing information as inputs. Program outputs include traffic performance measures and parameters that can be used to set signal timing and change or optimize traffic signal performance. Synchro can be readily used to forecast traffic changes through a change in the street configuration to add a AAA facility or reassign vehicle traffic lanes. It can readily predict changes in traffic performance and may suggest minor changes in signal timing to alleviate potential problems.
The Synchro model was adjusted to remove one vehicle lane or turn lanes and add turn lanes where necessary to accommodate protected bike lanes and manage conflicts. All downtown streets were determined to have spare capacity.

**7.6.3.1 Intersection delay (Level of Service)**

Delay is defined as “the additional travel time experienced by a driver” in the Highway Capacity Manual (HCM). This includes time spent decelerating, waiting at a signal, and accelerating. Intersection delay is the average control delay for all approaching vehicles based on the amount of volume within each lane approaching the signal. Typically, the Level of Service (LOS) within a central business district during the peak hours should be better than LOS E.

*Table 26: Motor vehicle Level of Service (LOS) Thresholds at Signalized Intersections*

<table>
<thead>
<tr>
<th>LOS</th>
<th>Average Delay per vehicle (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤ 10</td>
</tr>
<tr>
<td>B</td>
<td>&gt; 10-20</td>
</tr>
<tr>
<td>C</td>
<td>&gt; 20-35</td>
</tr>
<tr>
<td>D</td>
<td>&gt; 35-55</td>
</tr>
<tr>
<td>E</td>
<td>&gt; 55-80</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 80</td>
</tr>
</tbody>
</table>

**7.6.3.2 Automobile travel time**

Travel time through the signalized corridors of each street was evaluated using SimTraffic to account for accumulated delays and queues between intersections. 3rd Avenue was not reconfigured for the traffic analysis because the evaluation assumes that BRT has been implemented and traffic diversion has occurred through the rest of downtown.

*Table 27: People Driving: Intersection LOS and travel time with the addition of cycling facility for N-S streets*
Table 28: People Driving: Intersection LOS and travel time with the addition of cycling facility for E-W streets

<table>
<thead>
<tr>
<th></th>
<th>19th Street</th>
<th>20th Street</th>
<th>22nd Street</th>
<th>23rd Street</th>
<th>24th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Existing</td>
<td>Existing</td>
<td>Existing</td>
<td>Existing</td>
<td>Existing</td>
</tr>
<tr>
<td>Existing AAA</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>1st</td>
<td>C</td>
<td>C</td>
<td>B</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>2nd</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>3rd</td>
<td>C</td>
<td>C</td>
<td>B</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>4th</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>C</td>
<td>B</td>
</tr>
<tr>
<td>Travel time (min)</td>
<td>1.7</td>
<td>2.6</td>
<td>1.8</td>
<td>3.7</td>
<td>2.2</td>
</tr>
<tr>
<td>Change (min)</td>
<td>+ 0.9</td>
<td>+ 1.9</td>
<td>+ 1.6</td>
<td>negligible</td>
<td>+ 1.0</td>
</tr>
<tr>
<td>Peak direction</td>
<td>Eastbound</td>
<td>Westbound</td>
<td>Westbound</td>
<td>None</td>
<td>Eastbound</td>
</tr>
</tbody>
</table>

Ontario

Pacific

1st

2nd

3rd

4th

Pacific

Ontario
8 OVERVIEW OF NETWORK DECISION MAKING

As illustrated in the assessment, downtown streets support a number of different land uses through a variety travel of modes, and it is important to consider the impacts to all users. The assessment did not weight any category above another, rather, it was used to understand the trade-offs among all road users that could result from the inclusion of a AAA cycling facility.

8.1 SUMMARY OF NORTH-SOUTH STREETS

Cycling Network: All streets provide decent connectivity beyond the study area. 2nd Avenue, 3rd Avenue, and 4th Avenue provide better coverage as they are more central to the downtown.

Impact to Motorists: All streets experienced impacts to LOS and corridor travel time. 1st Avenue had the highest negative impact.

Parking: There are reductions in parking supply for all streets.

Transit: BRT on 3rd Avenue does not provide enough room to include a AAA facility.

8.2 SUMMARY OF EAST-WEST STREETS

Cycling Network: All streets provide decent connectivity beyond the study area. 23rd Street provides the most coverage of downtown.

Impact to Motorists: All streets experienced impacts to LOS and corridor travel time. 20th Street and 22nd Street had the highest negative impacts.

Parking: There is no impact to parking supply along 19th Street and minimal impact to parking along 23rd Street.

Transit: 22nd Street is not an ideal choice for because BRT stations are planned for this street.
9 PROPOSED AAA NETWORK

Through conducting the assessment it became clear that certain streets within downtown serve specific functions and possess unique constraints. By reviewing all of the factors and constraints, the Administration arrived at the proposed AAA network configuration:

- North-South streets
  - Idylwyld Drive (consistent with the Imagine Idylwyld project), and
  - 4th Avenue.
- East-West streets:
  - 23rd Street, and
  - 19th Street.

![Image 8: Proposed AAA Network Configuration](image.png)
Below is a summary of the key factors on the streets proposed to host AAA cycling facilities.

**Table 29: Summary of North-South Street Assessment**

<table>
<thead>
<tr>
<th>Key Factor</th>
<th>Summary of Assessment</th>
<th>Impact on Proposed AAA Streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicycle Network</td>
<td>All streets provide decent connectivity beyond the study area.</td>
<td>• 4th Avenue is fairly central to the downtown and connects to Broadway Bridge.</td>
</tr>
<tr>
<td>Motor Vehicles</td>
<td>Adding a AAA cycling facility increased motor vehicle travel time along all corridors.</td>
<td>• Adding a AAA cycling facility to 4th Avenue increases travel time (+2:17).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The intersections of 20th Street, 21st Street, and 22nd Street change from LOS B to LOS C. There is no change in LOS at 19th Street, 23rd Street, or 24th Street.</td>
</tr>
<tr>
<td>Business</td>
<td>Adding a AAA facility resulted in reduced street parking on all streets.</td>
<td>• Adding a AAA cycling facility on 4th Avenue reduces parking by 58 spaces (from 152 to 94).</td>
</tr>
<tr>
<td>Transit</td>
<td>Streets are not identified as future bus routes, with the exception of 3rd Avenue which is identified as a BRT route with centre-running BRT.</td>
<td>• 4th Avenue is not identified as a future BRT route. Presently, there are 3 transit stops.</td>
</tr>
</tbody>
</table>

**Table 30: Summary of East-West Street Assessment**

<table>
<thead>
<tr>
<th>Key Factor</th>
<th>Summary of Assessment</th>
<th>Impact on Proposed AAA Streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicycle Network</td>
<td>All streets provide decent connectivity beyond the study area.</td>
<td>• 23rd Street provides the most coverage of downtown, and connects with the existing Blairmore Bikeway west of Idylwyld Drive.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 19th Street connects most directly with existing bridges.</td>
</tr>
<tr>
<td>Motor Vehicles</td>
<td>Adding a AAA cycling facility had range of impacts across each street.</td>
<td>• 23rd Street has negligible impact to travel time and no change to LOS.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 19th Street has the second lowest impact to travel time (+0:52) and no change to LOS.</td>
</tr>
<tr>
<td>Business</td>
<td>Adding a AAA facility resulted in reduced street parking on most streets.</td>
<td>• Adding a AAA cycling facility on 23rd Street reduces by 13 spaces (from 103 to 90).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Adding a AAA cycling facility on 19th Street results in no loss of parking.</td>
</tr>
<tr>
<td>Transit</td>
<td>Most streets are not identified as future bus routes, but all streets do have existing transit stops.</td>
<td>• 23rd Street is not identified as a future BRT route or secondary route. Presently, there are 9 transit stops and the bus terminal.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 19th Street is identified as a future BRT route (curb running), but does not include any future stops. Presently, there are 5 transit stops.</td>
</tr>
</tbody>
</table>
These streets were selected based on detailed understanding of trade-offs between the variety of users and functions that these downtown streets serve, striving to achieve a balance amongst all users. The network takes into consideration other downtown initiatives, integrating the impacts of those projects where applicable, and with the city-wide cycling network.

The network supports the City-Wide Cycling Network Principles discussed in Section 4.0:

- The proposed streets introduce a network of AAA cycling facilities in the downtown, providing an interconnected system of facilities that is comfortable and attractive for all users.
- The streets chosen achieve the desired coverage of 400m, and provide connections to and from downtown with all areas of the city.
- The proposed streets provide good connections beyond the downtown to all areas of the city.
- The proposed streets provide access to a major downtown attractions, key employment areas, and recreational areas.
- Improvements to connections outside of the study area have been identified and will be addressed through detailed design to ensure high-quality connections and seamless transitions.

10 ENGAGEMENT SUMMARY

10.1 STAKEHOLDER IDENTIFICATION
At the beginning of the project, the Administration mailed letters to approximately 1,170 downtown property owners, businesses and other stakeholder organizations introducing the project and asking interested recipients to add their names to a contact list for future project updates. Stakeholders who opted in for updates, as well as several targeted stakeholders such as organizations representing health care professionals, cyclists, pedestrians, and older adults, were invited to attend two separate stakeholder meetings (January 30th and March 1st). Invitations to attend were emailed to more than 120 stakeholders. The Downtown Business Improvement District also shared the invitation with 180 recipients on their contact list.

10.2 ENGAGEMENT EVENTS
Below is a summary of the engagement events that took place for the Downtown AAA Cycling Network Study.

10.2.1 Active Transportation Advisory Group – January 18th, 2018
An overview of the content to be presented to stakeholders on January 30th was provided to ATAG for their comments. The feedback received at this meeting was supportive of the overall approach to the Downtown AAA Cycling Network Study.

10.2.2 Open House – January 30th, 2018
The first stakeholder engagement event comprised two open house sessions at TCU Place, each approximately 90 minutes in length. The format included a brief presentation followed by a series of informational boards and engagements activities. The intention of the event was to:

- Describe the principles that form the basis for the importance of a AAA network;
• Obtain input on the factors used to complete the assessment;
• Hear thoughts about challenges and opportunities for each street.

The sessions were attended by between 40 and 50 stakeholders in total. A detailed summary of the comments received is included in Appendix A.

10.2.3 Active Transportation Advisory Group – February 15th, 2018
The results of the stakeholder workshop on January 30th was presented and an overview of the content to be presented to stakeholders on the March 1st meeting was provided to ATAG for their comments.

10.2.4 Stakeholder Workshop – March 1st, 2018
A second stakeholder workshop was offered in two sessions at Le Relais Hall. The event included a brief presentation, followed by an opportunity to view information boards and ask questions. The purpose of this event was to:

• Describe how the assessment was informed by both the technical analysis and stakeholder input;
• Share the results of the evaluation of the downtown streets; and
• Present the recommended downtown AAA cycling network.

Approximately 20 people attended. Comments from stakeholders were generally positive. Although different people have different preferences for AAA cycling corridors, most participants suggested that the network presented was the best selection given the many trade-offs considered.

10.2.5 Public Open House – March 7th, 2018
The final engagement activity was the public open house held in conjunction with the Plan for Growth Community Open House at the Western Development Museum. The purpose of this event was to present the Downtown AAA Cycling Network and discuss the study’s process with the public.

Approximately 400 people attended the Community Open House. Generally speaking, feedback was supportive of a AAA cycling network and of the streets that were selected. Of those who supported the network, many agreed with the streets selected and supported the evaluation process used to arrive at those streets. Some comments were received around improving connections to bridges, ensuring good pavement quality in the lanes, and providing access through the existing transit terminal. Generally, those who were not supportive of the AAA cycling network were not supportive of any protected cycling facility within the downtown, citing negative impacts to motorists and cost implications.
Appendix A

Downtown All Ages and Abilities (AAA) Cycling Network Stakeholder Session

Prepared for:
City of Saskatoon
222 3rd Ave North
Saskatoon, SK S7K 0J5

Submitted by:
FAST CONSULTING
117 - 3rd Avenue South
Saskatoon, SK S7K 1L6
Stakeholder Session
Downtown All Ages and Abilities (AAA) Cycling Network - Stakeholder Session

Background
The City of Saskatoon’s Complete Streets Design and Policy Guide is designed to achieve a more balanced approach to street design, one that accommodates the safe movement of people of all ages and abilities by multiple modes (i.e. walking, cycling, transit, and vehicle). The City’s Active Transportation Plan identifies the importance of providing an interconnected system of bicycle facilities that is comfortable and attractive for users of all ages and abilities.

When the Downtown Protected Bike Lane Demonstration (4th Avenue and 3rd Street) wrapped up in November 2017, City Council directed the City administration to report back on what a complete, connected downtown AAA cycling network would look like in Saskatoon.

The City mailed letters to approximately 1,170 downtown property owners, businesses and other stakeholders (e.g. the cycling community) on January 8th, 2018. The letter described aspects of the AAA initiative, including that it will:

- Take into consideration how cycling facilities connect to Saskatoon’s wider cycling network.
- Determine how to integrate with other key downtown projects, such as the Bus Rapid Transit (BRT) plan along 3rd Avenue and opening of the Traffic Bridge in fall 2018.
- Consider the impacts on all downtown users to ensure that the most appropriate streets host AAA facilities.

A follow-up email was sent on January 15, 2018. Recipients of the letter and email were asked to add their names to a contact list for future project updates. Stakeholders who opted in for updates, as well as several targeted stakeholders such as organizations representing cyclists, pedestrians, older adults, and many more, were invited to attend the open house sessions on January 20, 2018. The sessions were an opportunity for stakeholders to share their knowledge and insights regarding the development of the Downtown All Ages and Abilities (AAA) Cycling Network.

Session Format
There were two stakeholder events, each approximately 90 minutes in length. Each session began with a brief PowerPoint presentation that included an explanation of the Active Transportation Plan and how it integrates with the Complete Streets Design and Policy Guide, the Growth Plan and the City’s Photo source: City of Saskatoon Active Transportation Plan

Downtown AAA Cycling Network Stakeholder Session
Fast Consulting
February 2018
Strategic Plan, as well as noting other influencing factors and projects (e.g. BRT, Imagine Idylwyld, Traffic Bridge, 3rd Avenue and 19th Street intersection upgrades).

The presentation referenced the timeline for the Downtown Protected Bike Lane Demonstration Project (2015 – 2017), the provision that protected bike lanes (PBLs) be included in the Downtown AAA Cycling Network, and that the current PBLs on 4th Avenue and 23rd Street be retained until the Downtown network is presented to City Council.

The presentation defined the downtown study area and highlighted the three guiding principles of the AAA cycling network:

- **Safety** – Cyclists are vulnerable and travel more slowly than motor vehicles.
- **Comfort** – This is an important part of attracting more people to bicycling as a mode of travel.
- **Connectivity** – Cyclists need a network of continuous low-stress routes that provide connections to local and city-wide destinations.

The presentation was followed by discussion and engagement activities between stakeholders and the Active Transportation Program Manager, with four City Transportation Engineers stationed at informational display boards (see Appendix).

Stakeholders were asked to provide input regarding criteria that could be used to assess which downtown streets are best suited for a AAA cycling facility, as well as challenges and opportunities for each street.

**Who Attended**

The sessions were attended by between 40 and 50 people in total (not everyone signed in). Stakeholders in attendance included individuals who signed on behalf of the Saskatchewan Health Authority, as well as civic facilities such as TCU Place, Saskatoon Fire Department and Saskatoon Public Library. Stakeholders from the Saskatoon Chamber of Commerce, Downtown Business Improvement District, Meewasin Valley Authority, Open Door Society and Partners in Employment also attended. Downtown business people attended, although they appeared to be limited in number. There were also stakeholders from Saskatoon Cycles as well as university students. The City Councillor representing the downtown Saskatoon ward was also in attendance.

**Evaluation Criteria**

What’s more important to stakeholders in terms of where AAA cycling facilities should go? Stakeholders were asked to prioritize the criteria being used by the City in their evaluation of streets on which to locate AAA cycling facilities. Stakeholders did this by allocating dots to the criteria (posted on display boards) they felt should receive priority. Each stakeholder was given six dots, which they could allocate in any manner they chose for the six criteria. This “dotmocracy” is a cumulative voting method used to identify preferences regarding specific criteria.

**SUMMARY OF STAKEHOLDER INPUT**

The following is a summary of stakeholder input regarding the evaluation criteria. Of the six criteria presented, stakeholders allocated the majority (59%) of dots to two criteria—bicycle network (34% of dots) and cyclist safety (25% of dots).
### EVALUATION CRITERIA (DOTMOCRACY)

<table>
<thead>
<tr>
<th>Category</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bicycle Network (34%)</strong></td>
<td></td>
</tr>
<tr>
<td>Linkages to surrounding areas</td>
<td>17%</td>
</tr>
<tr>
<td>Linkages with other bicycle facilities</td>
<td>13%</td>
</tr>
<tr>
<td>Current and potential bicycle traffic</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Cyclist Safety (25%)</strong></td>
<td></td>
</tr>
<tr>
<td>Merit of segregation</td>
<td>18%</td>
</tr>
<tr>
<td>Conflict with vehicles</td>
<td>7%</td>
</tr>
<tr>
<td><strong>People Walking (14%)</strong></td>
<td></td>
</tr>
<tr>
<td>Pedestrian improvements</td>
<td>10%</td>
</tr>
<tr>
<td>Accessibility</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Business (14%)</strong></td>
<td></td>
</tr>
<tr>
<td>Street environment</td>
<td>11%</td>
</tr>
<tr>
<td>Parking</td>
<td>3%</td>
</tr>
<tr>
<td><strong>People Driving (8%)</strong></td>
<td></td>
</tr>
<tr>
<td>Automobile travel time</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Transit (5%)</strong></td>
<td></td>
</tr>
<tr>
<td>Transit operations</td>
<td>3%</td>
</tr>
<tr>
<td>Transit stop conflicts</td>
<td>2%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>

### CYCLIST SAFETY

This is followed by cyclist safety (25%), with most prioritizing segregation of cyclists from higher overall traffic volumes and the idea that separation on such corridors will provide the greatest benefit to cyclists. Fewer stakeholders (7%) prioritize corridors with fewer turning movements at intersections and driveways.

### PEDESTRIANS (PEOPLE WALKING)

Stakeholders allocate priority to evaluation criteria around pedestrian safety or impact on pedestrians with mobility needs (10%). These considerations also come up in discussions.

### STREET ENVIRONMENT (BUSINESS)

Some priority (11%) is placed on with additional buffering to improve the pedestrian environment and street level commerce.

### PARKING

Stakeholders are less likely to allocate priority to evaluation criteria that involves impact on parking (3%). As a general rule, it appears that most stakeholders agree that AAA facilities cannot exist on streets with angle parking.

### IMPACT ON MOTORISTS

Some priority (8%) is placed on criteria that consider corridors with the least impact on travel time of people driving.

### TRANSIT

Little priority is allocated by stakeholders for evaluation criteria to consider corridors in terms of their potential to conflict with transit (2%) or the idea that corridors with the least impact on transit travel time should be preferred (3%).

### LINKAGES (BICYCLE NETWORK)

Stakeholders gave priority to bicycle network linkages (30%), including corridors providing linkages to surrounding areas and with bicycle facilities in other parts of Saskatoon. Few stakeholders (4%) prioritize corridors in which large numbers of existing or potential bicycle trips originate and terminate.
Participant Suggestions on Maps

The presentation featured two stations with large maps showing both existing and potential AAA routes. During discussion of opportunities and challenges, participants were asked to write their comments on sticky notes and attach to the maps. Those comments are summarized below. They have been organized into several categories, including bridge access, parking, traffic lights, preferred routes and excluded routes.

Broadway Bridge, Traffic Bridge and Access to AAA Network
- Connectivity via AAA network to Riversdale area on 19th Street. Close outside lanes, make bike path Avenues A to H.
- New Traffic Bridge is going to be nicest bridge for cyclist crossings; connecting it with north/south AAA routes in an appealing way is key.
- Connectivity via the University Bridge between Saskatoon City Hospital and Royal University Hospital and the University of Saskatchewan is important and needed by a large number of year-round cyclists.
- Need improved connections for cyclists and pedestrians coming off bridges.
- The bike lane should be on 3rd Avenue off the Traffic Bridge.
- When Traffic Bridge opens, need excellent way findings to access Farmers’ Market via River Landing.
- Route across Broadway Bridge to get to Farmers’ Market is challenging if you cross on the south side of the bridge and proceed west; cyclists have to stay on sidewalks.
- The bottom of the Broadway Bridge needs work. Cyclists travelling south on 4th Avenue should be able to get to the SW side of the bridge. Cyclists travelling down the north (right) side of the bridge should be able to access 19th Street.
- Better signage on all bridges depicting expectations for pedestrians, cyclists and cars would be helpful.
- Dangerous for pedestrians and cyclists where Broadway Bridge accesses 4th Avenue; this multi-use trail has poor visibility (curved) where it becomes 4th Avenue and is too narrow for shared use by pedestrians and cyclists.

Parking
- There are issues for the PBL on 4th Avenue with the parkade between 21st and 22nd Street. Parkade users need to be informed of the bike lane and potential hazards to cyclists from cars exiting the parkade, particularly during rush hour.
- The parkade on 4th Avenue between 21st and 22nd Streets will be a bottleneck whether there is a PBL there or not. Don’t let bad design of parkade bring down an ideal bike lane street.
- Better demarcation of parking stalls would assist with motorists and where they can park.
- City vehicles, taxis, delivery trucks and dumpsters are often parked on the PBL on 4th Avenue, right after 21st Street.

Traffic Lights
- Dedicated lane plus lights would work better for cyclists.
- Would like to see traffic light changes; bike specific lights with different timing for bikes using AAA routes and green lights for right turns for motorists.
- Work needs to be done on traffic lights on existing PBL – need advanced start for cyclists to enable them to enter intersections before motorists and no right turn on red light.
for motorists. If right turn is needed for traffic flow, include a green arrow in light sequence.

Preferred Routes

- The natural and best east-west corridor for a bike path is Meewasin Trail along Spadina Crescent. It connects to 4 bridges downtown. Could put separate lane for bikes adjacent to pedestrian path on Meewasin Trail.
- 3rd Avenue is the most logical way to travel north-south across downtown by transit and bicycle. Good connectivity, including to north residential areas. Prioritize bus and bikes before cars on this route.
- BRT could go north on 4th Avenue and south on 3rd Avenue; would provide room for a two-way cycle path on 3rd Avenue.
- 4th Avenue PBL is a great place to bike.
- I’d like to see a second north-south PBL on 1st Avenue from 19th Street to Queen Street.
- 21st Street presents a great opportunity to improve bike safety; a route here would encourage cycling downtown and provide an opportunity for businesses, cyclists and pedestrians to work together. Great route if used properly.
- 23rd Street is a good street for cycling; work on modifying the Bus Mall to better accommodate cyclists.
- For east-west network segments, 25th, 23rd and 19th Street would work well for providing east-west coverage, both for destination stops and commuting through.
- 2nd Avenue does not work due to angle parking, so 3rd and 4th Avenues are best options; 1st Avenue is also very wide.
- Remove 2nd Avenue from consideration for AAA; angled parking and street design create too many restrictions. 21st Street has same challenges, should also be removed from consideration.
- 2nd Avenue would be a good option if angle parking eliminated.
- Transit Mall in the way of PBL on 23rd Street is disruptive.
- PBL should be on 25th Street; provides access from University Bridge, University of Saskatchewan and College Drive. Street is so busy that cyclists use sidewalk.
- Consider moving to one-way streets downtown to open up more options for dedicated bike corridors.
- Split up network in logical east-west, north-south sections equal distances apart: Meewasin Trail, Idylwyld Drive, 23rd Street and Queen Street.
  - Response from fireman: No; current street width in front of #1 Fire Station is required to allow truck to back in.

Routes Excluded from Consideration

Several comments were collected at the station identifying downtown streets excluded from consideration (see appendix).

- Four of five notes agree with exclusion of all streets listed, including 5th Avenue between 22nd and 25th Street, 6th Avenue between 24th and 25th Street, 21st Street E., and Ontario Avenue, Wall Street and Pacific Avenue.
- There is particular agreement on the exclusion of 21st Street, as this is a great opportunity for a pedestrian priority street.
- One comment disagrees with excluding 5th Ave between 22nd and 25th Street, because it would provide a good connection between Kinsmen Park and north residential area and possibly to 4th Avenue and the PBL.
Other

- If 19th Street is being considered for cycling facility west of downtown, changes have to be made to 19th in downtown as it’s not bike friendly; most cyclists currently use the sidewalk.
- Appreciate the tweaking the City has done, but more needs to be done. At intersections, vehicles need to be stopped further back so they can see the cyclist waiting at the intersection to go forward.
- Separate cyclists and pedestrians at lights.
- If I’m waiting at a red light when cycling, if I’m not on a street that has a PBL, I’m not sure where I should be – in the traffic lane or in the furthest right lane. If I’m in the furthest right lane, I impede motorists trying to turn right.
- Improved snow clearing on bike lanes is important.
- Improved communication to the public about real cost (time and money) of PBLs.
- Would like to see PBLs, but only in summer and by using removable posts and temporary lane markings.
- The sharrow bike lane at the corner of Spadina Crescent and 24th Street narrows too much; needs to be widened for safety of cyclists.
- Crossing Wall Street at 24th Street is a challenge for pedestrians – lots of near misses for our staff. A challenge also for cyclists, but less so than for pedestrians.
- Future connection to the rail corridor and North Downtown should be considered.
- The alley north of 5th Avenue (adjacent to the YWCA) should be bought by the City and used as a bike lane.
- Businesses along 4th Avenue are clearing snow into PBLs.
- Buses along 23rd Street currently stop in PBL. Consider raising cycle lane and having bus stop in driving lane.

- Broken posts separating PBL from road lead cars to park in the bike lane.
- Several PBL posts are down along 23rd Street, sometimes lying across the bike lane. What is maintenance schedule? Will maintenance be improved when AAA is built?
- Short-height jersey barriers would help protect cyclists (sticky note re: Spadina Crescent in front of Bessborough Hotel).
Overview of Discussion at Stations

In addition to capturing comments stakeholders attached to the maps, notes were made of stakeholder discussions at the two stations. The following is a summary of those discussions.

Safety

Safety is one of the most overheard words in discussions at the sessions, and the most important consideration as it provides context for many of the comments at the stations. Stakeholders primarily talk about safety in terms of cyclists, but often for pedestrians and even motorists as well. Some primary safety concerns include difficulty parking, getting in and out of parking facilities or turning right without endangering cyclists using corridors with PBLs.

There are suggestions that motorists experience limited sightlines and that cyclists run the risk of proceeding with an unwarranted sense of security because they are in a PBL, so they proceed with less caution and awareness of pedestrians and motorists that can intrude into their corridor.

Participants also suggest that safety improvements should not only benefit cyclists but also pedestrians and motorists.

Education

Discussions around safety frequently include comments regarding the importance of education—teaching people how the PBLs work. As one participant notes, “We’re learning now how to have dedicated bike lanes, so that in the future when it becomes really important for our city to have them, we’ll all know how they work and how to use them, as cyclists, pedestrians and motorists.” The concern is that all people visiting downtown learn how to use AAA facilities responsibly and safely, regardless of whether they are cyclists using AAA facilities or motorists or pedestrians co-existing with them.

Consistency is part of some discussions about the importance of education; some stakeholders suggest that people find the various types of bike lanes (PBLs, sharrows, etc.) confusing.

PBLs and BRT

Some stakeholders wonder why BRT, currently recommended for 3rd Avenue in the downtown area, and PBLs cannot co-exist on the same street. Some stakeholders do not want to lose the parking along 3rd Avenue that this might entail.

Demonstration Project

Some stakeholders wonder whether or not the criteria for measuring the 4th Avenue and 23rd Street Demonstration Project has been met. If it has (as is the understanding of some participants), the success of the project is not being celebrated. Some have the impression that various elements of the demonstration are being cast in a negative light and used to show that it has not been successful.

One suggestion is that communication about AAA facilities should highlight the fact that everyone benefits, not just cyclists. There is a sense that this is not communicated clearly enough. The PBL demonstration project seemed to place too much focus on comments about the infrastructure benefitting a select group
of people and so was not worth of support. Incorporating messaging that AAA facilities such as PBLs are designed to encourage more people to use cycling as an alternative mode of transportation could counterbalance that argument.

**Corridor Opportunities**

Stakeholders find it easier to point out the challenges as opposed to the opportunities with existing and potential AAA streets. Spadina Crescent is a ‘natural’ corridor, or ‘intuitively’ where some stakeholders want to go. 23rd Street is often mentioned as a good corridor, despite challenges with the bus mall interrupting the PBL.

There are mentions of whether Idylwyld, after it is redesigned as part of the Imagine Idylwyld plan, has been considered for PBLs. 1st Avenue or 2nd Avenue are mentioned as possible corridors. Some stakeholders suggest that 21st Street between the Bessborough Hotel on Spadina Crescent and Midtown Plaza on 1st Avenue would be a good corridor; however, most suggest this is more appropriate for pedestrian traffic. Overall, there did not appear to be consensus among stakeholders regarding preference for any specific corridors.

**Corridor Challenges**

Some of the challenges discussed by stakeholders with the 4th Avenue corridor revolve around too much traffic, restricted sightlines for motorists turning right (and fear of collisions with cyclists they cannot see when doing so), problems with entering and exiting parking facilities because of having to cross the PBL and risks of crossing into motorist lanes for cyclists that want to turn left at intersections along the corridor.

**Connectivity is a Challenge**

Connecting a potential downtown AAA corridor to other parts of Saskatoon via any of the bridges—Broadway, Traffic, Idylwyld or University—is seen as a major challenge for the network.

**Destination**

Some people say it’s important to know where cyclists are going in terms of destinations in order to design good bike routes, but others respond that cyclists are just like everyone else in that they are going to all sorts of places. They are not necessarily “just going to the library,” for example. Some are going through downtown; some are going to destinations downtown.

**Downtown Business**

DTN YXE (Downtown Business Improvement District) has five principles it wanted to reinforce at the session in terms of the downtown AAA network, including:

- **Urban Connectivity** – Bike lanes are an opportunity to build links between urban districts.
- **Suburban Connectivity** – It’s important to connect Downtown to the suburbs.
- **Car Convenience** – Motor vehicles remain an important mode of transportation for downtown, and cycling networks should minimize negative affect on parking and congestion.
- **Safety** – Network design must create safe environments for cyclists and non-cyclists.
• Destination-driven – The network should take cyclists past major destination businesses downtown to encourage people to stop and enjoy the area.

Some downtown business people suggest that residents from outside of Saskatoon use vehicles to visit the city and will not be likely candidates for cycling. One businessperson says no one comes to their store on a bicycle.

Others point to significant vehicle traffic from people travelling from rural Saskatchewan to medical areas downtown (i.e. Medical Arts building on Spadina Crescent, medical offices on Wall Street).

**Considering the Future**

Some stakeholders mention that AAA corridors should be thought out, not in terms of current traffic flow, but in light of significant pedestrian, motor vehicle and cyclist traffic changes coming as a result of development along 19th Street from River Landing residential, hotel and office high-rise buildings underway, as well as significant commercial and residential development in the area immediately adjacent to the Farmers’ Market and Riversdale.

There are also changes on the horizon from the City Centre, North Downtown and Imagine Idylwyld plans, which should be considered in developing the network. More traffic will also be coming from the City fulfilling its density strategy in core areas around Broadway and the riverbank. Connectivity from the bridges will become an even more important consideration with these developments and plans.

**Survey Form Comments**

The following are verbatim comments recorded on survey forms completed by stakeholders.

**WHAT WENT WELL? WHAT DID YOU APPRECIATE?**

- I think the set-up works well; allows for general information and then discussion.
- Nice to have the context set at the beginning.
- The interactive respect of the process.
- Very easy to provide comments and engineers are available for discussion.
- Our group was small so it was easy to provide input and ask questions and discuss with City employees.
- I liked the dots to show which was most important.
- Being part of the process; firsthand knowledge helping shape our city.
- Great to talk directly to engineers, see progress being made.
- Good visuals – maps and boards, people to answer questions.
- The opportunity to give feedback.
- Being able to put formation directly on to the maps.
- The presentation was professional, clear and short.
- Attentive City staff, appeared to genuinely receive and consider comments; provided appropriate feedback/clarification when warranted. Less presentation, more conversation makes sense.

**WHAT DIDN’T WORK?**

- The maps were vague as to what I should provide on them.
- The evaluation criteria seemed a little repetitive.
• Education should be well understood: cost of maintenance of roads due to cars, low cost of bike lane infrastructure vs. car infrastructure, explain general economic benefits.
• I’m still leery that ‘complainers’ voice is the one that’s focused on; I hope that isn’t the case moving forward with decision.
• The questions or input seemed a bit narrow; meaning, there didn’t seem to be an option to express that bike lanes should not be pursued.
• Early in process, so still very open-ended; when options are narrowed down, would hope that user groups are more directly engaged as it didn't appear they had been to this point (cyclists in particular) based on responses from City staff.

I UNDERSTOOD WHAT WAS EXPECTED OF ME AS A PARTICIPANT ... HOW CAN WE IMPROVE IN THIS AREA?

• I would have liked to know ahead of time that we would be looking at maps to find/comment on problematic areas. I would have liked to have time before the day to look at the maps on my own and organize my thoughts ahead of time. I apologize if there was an email ahead of time that mentioned this and I missed it.

I FEEL MY INPUT WAS ADEQUATELY CAPTURED AND RECORDED ... HOW CAN WE IMPROVE IN THIS AREA?

• Note-taking by staff was evident. Not sure if “sticky note” concept really works, as people are engaged in conversations, which is what should be expected. Notes taken by City staff listening in are probably more valuable.

I UNDERSTAND HOW MY INPUT WILL BE USED ... HOW CAN WE IMPROVE IN THIS AREA?

• Process from this point forward could have been more clearly explained.

WHAT ELSE WOULD YOU LIKE US TO KNOW?

• I heard one person complain that nobody used bicycles before lanes were implemented, but I personally would not bike without them because I felt unsafe. But with protected lanes would be 100% more likely to bike downtown.
• Poor bike parking facilities at the venue – one hidden bike rack that is too wide for a u-lock.
• I am generally very supportive of what you are doing. Be courageous, you are doing the right thing.
• Keep in mind that if AAA facility is not 100% safe, it is not a failure. It’s not realistic to remove all/any risk – but improve, make it as safe as physically possible. In communication efforts, it’s safer than current options (e.g. painted bike lanes, sparrows, nothing). With current PBL, because there are still safety/sightline issues at driveways, etc., there was dissenting voice that they were unsafe, needed to go. But they are markedly safer than the previous 4th Avenue painted bike lane. You are challenging the status quo and there is bound to be pushback in the community. Courage and political leadership is key to stay the course. Thanks for all your efforts at changing both our physical environment for the better as well as the social normative environment.
• The integration of plans (cycling / transit / pedestrian) is an important aspect of this process.
• It was great to hear from others with their concerns.
• I do not believe bike lanes are necessary in this city due to the time we spend in freezing weather and the imposition it puts on vehicle traffic. Just building bike lanes in my opinion will not mean that more people will cycle to work. I do not feel that streetscaping that involves reducing the number or size of traffic lanes improves the downtown area; it may keep people from travelling downtown.

• This event was well thought out and clearly presented, I appreciated being invited.

• Very important to consider keeping the primary designated street for each "mode" separate; biggest concern of those attending was safety, and this would lead to the least likelihood of conflict.
As a stakeholder, your local knowledge about our downtown streets is important. What challenges and opportunities need to be considered when designing a cycling corridor on downtown streets? Tell us by placing a sticky note on the map!
Active Transportation in Saskatoon

The City of Saskatoon’s Active Transportation Plan (ATP) is a long-term plan for improving walking and cycling in Saskatoon. The plan is based on the goals of improving the city’s cycling and walking infrastructure and increasing the overall level of cycling and walking in the city.

Active Transportation Plan Outcomes

The goals of the ATP are to:

1. Increase cycling and walking opportunities
2. Improve safety and security of cyclists and pedestrians
3. Provide a network of bike lanes and trails
4. Promote the use of active transportation for daily trips

Active Transportation Plan Strategies

The strategies of the ATP include:

1. Implementing bike lanes and trails
2. Improving infrastructure for cycling and walking
3. Promoting active transportation for daily trips
4. Providing education and awareness campaigns

The implementation of the ATP is expected to lead to an increase in cycling and walking in Saskatoon, which will contribute to a healthier and more sustainable city.

Existing Bicycle Network

Existing network of bike lanes and trails in Saskatoon.

Active Transportation Plan | Proposed Bicycle Network

Using the network principles previously discussed, the ATP identified a city-wide network of AAA and non-AAA cycling facilities.

This map shows the proposed routes from the ATP. While many of the proposed routes are still under construction, this map shows what a city-wide network of cycling facilities could look like for Saskatoon.

City Wide Cycling Network Principles

A well-designed cycling network needs to be safe, accessible, and provide connections between destinations and neighborhoods. Ideally, a cycling network serves users of all ages and abilities. In other words, people from age 0 to 80+—offering potential route options for those who are interested in cycling, but who may not be comfortable riding on busy streets with high traffic volumes and speeds.

The design and development of a long-term cycling network for Saskatoon is based on five network planning principles:

1. Provide an interconnected system of facilities that is COMFORTABLE and attractive for all users
2. Provide COVERAGE in areas all residents live within 400m of a designated bicycle route. The designated route may include both AAA and non-AAA facilities
3. Focus on high-traffic CONNECTIONS to and from downtown with all areas of the city and create a downtown network
4. Provide a network that provides direct ACCESS to major shopping centers, key employment areas, schools, and recreational activities
5. IMPROVE and connect to existing cycling routes
Downtown AAA Cycling Network Stakeholder Session

February 2018

Fast Consulting

All Ages and Abilities (AAA) Bicycle Network Principles

**SafetY**
People riding bicycles are vulnerable road users because they have fewer protection and travel more slowly than motor vehicles.

- An All Ages and Abilities Network should:
  - Minimize and consolidate conflict points between modes (for example, at intersections or driveway crossings).
  - Reduce speed and enhance visibility at intersections and conflict points.
  - Provide each mode with a clearly defined space for travel.
  - Provide consistent treatments to promote predictable behavior for all users.
  - Ensure facilities are easy to maintain and to facilitate safe cycling conditions.

**Comfort**
Attention to user comfort is an important part of attracting more people to bicycling as a mode of travel.

- An All Ages and Abilities Network should:
  - Separate bicycle from motor vehicles when speeds are 30 mph or traffic volumes exceed 1,500 vehicles per hour.
  - Ensure the amount of delay for people riding bikes is reasonable and balanced with other users.
  - Minimize encounters between people riding bikes and those driving vehicles.
  - Accommodate side-by-side cycling and passing movements, where possible.
  - Provide smooth vertical transitions and pavement surfaces free from obstructions.

**Connectivity**
People who ride bicycles need a network of continuous low-stress routes that provide connections to local and city-wide destinations.

- An All Ages and Abilities Network should:
  - Provide direct and convenient connections that traverse towns.
  - Connect to local and city-wide destinations.
  - Integrate into the larger multimodal transportation network.
  - Provide seamless transitions between different types of cycling facilities (for example, from a combined cycle track to a multi-use pathway).
  - Ensure key destinations and regional routes are interconnected with the bicycle network.

**Evaluation Criteria**

<table>
<thead>
<tr>
<th>Bicycle Network</th>
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</thead>
<tbody>
<tr>
<td>Linkages to surrounding areas</td>
</tr>
<tr>
<td>Linkages with other bicycle facilities</td>
</tr>
<tr>
<td>Connectivity of bicycle facilities</td>
</tr>
<tr>
<td>Conflict with vehicle</td>
</tr>
<tr>
<td>People Driving</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cyclist Safety</th>
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<tbody>
<tr>
<td>Multi-modal integration</td>
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<tr>
<td>Conflict with vehicle</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
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<tbody>
<tr>
<td>Transit</td>
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<tr>
<td>Pedestrian Environment</td>
</tr>
<tr>
<td>People Walking</td>
</tr>
<tr>
<td>Business</td>
</tr>
</tbody>
</table>

Using the AAA Network Principles as a pre-screening tool, a few Downtown streets have been evaluated with detailed consideration. This board identifies the administered streets and reason why.

**What do you think?**
Do you agree with these initial exclusions from the network?

Write your thoughts on a sticky note and place it in the corresponding box.

<table>
<thead>
<tr>
<th>Street</th>
<th>Reason for Exclusion</th>
<th>Merits Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th Avenue, Between 21st Street and 25th Street</td>
<td>• does not connect well to the south end of the study area</td>
<td></td>
</tr>
<tr>
<td>6th Avenue, Between 24th Street and 25th Street</td>
<td>• only extends for one block within the study area</td>
<td>• highly residential in nature</td>
</tr>
<tr>
<td>21st Street E</td>
<td>• low connectivity on east and west ends as it terminates at 1st Avenue and Spalding Crescent</td>
<td>• few number of city-wide destinations</td>
</tr>
<tr>
<td>Ontario Avenue, West Street, Pacific Avenue</td>
<td>• streets do not connect well to the north and south ends of study area</td>
<td>• potential in the future to serve as a secondary cycling connection to provide local access</td>
</tr>
</tbody>
</table>

**What do you think?**
Tell us which of the 12 are most important to you by placing a dot in the corresponding box.

You may put as many dots on each item as you think important.

Are there any criteria missing? Write down your suggested criteria on a sticky note!
## Satisfaction with Session

<table>
<thead>
<tr>
<th></th>
<th>★★★★★</th>
<th>★★★★</th>
<th>★★★</th>
<th>★★</th>
<th>★</th>
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</thead>
<tbody>
<tr>
<td>Overall, how was your experience</td>
<td>42%</td>
<td>58%</td>
<td></td>
<td></td>
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<tr>
<td>This was a valuable use of my time and energy.</td>
<td>33%</td>
<td>58%</td>
<td>8%</td>
<td></td>
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</tr>
<tr>
<td>It was easy for me to participate in the process.</td>
<td>42%</td>
<td>58%</td>
<td></td>
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<tr>
<td>The information was clear and understandable.</td>
<td>33%</td>
<td>58%</td>
<td>8%</td>
<td></td>
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<tr>
<td>I understood what was expected of me as a participant.</td>
<td>67%</td>
<td>25%</td>
<td>8%</td>
<td></td>
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<tr>
<td>The facilitator kept us engaged and focused.</td>
<td>42%</td>
<td>42%</td>
<td>8%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>All participants were given the opportunity to contribute.</td>
<td>75%</td>
<td>17%</td>
<td>8%</td>
<td></td>
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<tr>
<td>I believe that my voice mattered in this conversation.</td>
<td>33%</td>
<td>58%</td>
<td>8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I understand how my input will be used.</td>
<td>33%</td>
<td>50%</td>
<td>8%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>I will likely accept the outcome of this process, regardless of</td>
<td>25%</td>
<td>25%</td>
<td>42%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>what decision that is made.</td>
<td></td>
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Fast Consulting  Downtown AAA Cycling Network Stakeholder Session  February 2018
Appendix A: Engagement Event Summary

All Ages and Abilities (AAA) Cycling Network: Stakeholder Event #2

1 Engagement Objectives

- Provide an overview on the project and Saskatoon’s wider cycling network;
- Describe how the technical analysis and stakeholder input informed the development of the downtown AAA cycling network;
- Share the results of the evaluation of the downtown streets; and
- Present the recommended downtown AAA cycling network.

1.1 What We Asked

Approximately 14 display boards were set up and manned by project staff. Staff discussed the content of the boards with attendees and answered questions. The boards contained the following information:

- Why Active Transportation is important in Saskatoon, including information on the Council endorsed plans supporting cycling initiatives: Growth Plan, Active Transportation Plan, and Compete Streets Design and Policy Guide.
- What types of cycling facilities are considered when planning a cycling network, including what types of facilities are considered All Ages and Abilities, and which are not, and a description of what makes a facility appropriate for people of all ages and abilities.
- The results of the evaluation of all streets considered for AAA facilities was communicated, including consideration for other users and uses along these corridor such as transit, people driving, and businesses. A rationale for why the recommended streets were selected was also provided.
- A map of the proposed AAA downtown cycling network was provided, as well as how this network would connect to existing and future AAA facilities beyond the downtown.

1.2 What We Heard

Approximately 20 people attended one of two sessions (presentations at 4:30pm and 6:00pm) for the proposed AAA cycling network, on March 1, 2018 at the Le Rais Hall in downtown Saskatoon. Feedback and comments from participants was generally positive; although different people have different preferences for bike lane corridors, most participants suggested that the corridor presented at the session is the best selection that could be done given all of the things that the City had to weigh in the balance in terms of network planning, design consideration and other evaluation and decision-making criteria. Some people attending the session had suggestions around messaging that the City could consider, including messages around equity (not everyone in Saskatoon has a motor vehicle) and the importance of options for safe cycling for the quality of life of citizens. There is confidence among from participants that the popularity of PBLs will continue to increase as they are adopted and used by more and more residents.
Appendix A: Engagement Event Summary

1.2.1 Summarized Comments

Design

- Like the design, including the ‘design bends’ at intersections along 4th Ave to help cyclists be more visible to motor vehicles turning right from their lanes across the bike paths.
- I’d like to see a curb between the bike lane and the cars

Positive

- Great east west corridor route selection, especially 19th Street, which brings the PBL alongside the new River Landing development, the Remai Modern Art Gallery, the Farmer’s Market and the new condo developments there.
- There is bike parking in the City of Saskatoon parkade under the Art Gallery alongside 19th Street corridor.
- Like that we are not losing motor vehicle lanes along 19th Street because it is already wide enough to accommodate PBL’s, lanes for motor vehicles and parking.
- Like that Idylwyld was selected for north south corridor – makes good sense for this newly redesigned and repurposed Idylwyld corridor, from a highway running through the centre of downtown, to a more bike and pedestrian friendly corridor (under the ‘Imagine Idylwyld’ initiative/strategy), even though the planners will have to figure something out for the connection between 19th St and Idylwyld via Avenue A.
- We’re spending money on redeveloping Idylwyld anyway under the new plan for this corridor, so selecting it for the north south corridor of the PBL makes a lot of sense.
- I like the connections and am excited about the improvements to the connections that are part of the cycling corridor presented today.
- It will be important to make connections to transit work for cyclists.
- I think more people bike downtown than downtown businesses realize – they might be getting customers who walk into their stores, but after they cycled to work at their office.
- Good connectivity.

Other Options

- I would have preferred 1st Ave, but I’m also ok with the corridor selected by the consultants on the basis of the decision-making criteria that they used.
- I would have preferred 3rd Ave to 4th Ave – understand that the City took this option out of the mix because of the BRT potentially going there, but don’t agree that this is the way to go. I’m not optimistic that we can build the necessary critical mass of residents choosing to use transit to make BRT a positive thing for our city – I think it will be very disruptive.
- I would have preferred the PBL be located on Spadina, which does not have any of the traffic lights at intersections that interrupt east-west travel.
- Important to ensure accessible transit stops are provided

Maintenance is Important

- The City seemed to do a great job of keeping the pilot PBLs along 4th Ave and 23rd St clear of snow on a regular/continual basis.
Appendix A: Engagement Event Summary

- Some businesses along 4\textsuperscript{th} Ave are clearing the snow from their sidewalks, as required by law, but moving it into the PBLs alongside the sidewalk, which then makes it difficult for bikes to use the lanes. Snow can be moved from sidewalks to the road where it is then moved by the City, but businesses should be reminded not to put it into the PBLs after they have already been cleared by the City.
- The exact details of the new PBL do not matter to me – it’s just great to have it.
- Snow clearing at night makes noise and disrupts downtown residents.

Messaging

- Citizens should be reminded that the cost of the PBL is very small compared to the cost of road building and maintenance – that it is a great investment for citizens relative to its cost and the benefits that it brings to Saskatoon.
- Initiatives like the PBL are important to attract people to our city and keep them here – having these types of amenities are important for the quality of life of people living here and keeps us competitive with other cities such as Calgary that have PBL networks to help people without motor vehicles move around.
- PBLs are criticized for slowing traffic in the downtown core and other corridors with high traffic. But bikes can legally use motor lanes, so what if messages that were developed that show that PBLs actually help traffic flow by keeping cyclists out of motor vehicle lanes?
- The presentation today indicates that traffic delays for motorists at peak times as a result of PBLs for cyclists are nominal – a few minutes at worst. Can this be messaged to public?
- We need the type of cyclist counters used in Calgary and we need to celebrate usage milestones to reflect back to residents of Saskatoon the positive aspects of having PBLs.
- COS employees, especially planners, should be encouraged to forgo using motor vehicles to commute to their workplace downtown and use the PBLs.

Future Considerations

- May have to start posting and enforcing speed limits in the PBLs as the popularity of electric bikes, most of which travel at speeds exceeding 40kms per hour, seems to be taking off in Saskatoon.
- Biking of all forms is significantly less costly than owning and operating motor vehicles, and cycling will become more and more popular in the future as a result.
- I’d like to see bicycle signals added for safety
Appendix A: Engagement Event Summary

2 Boards

Active Transportation in Saskatoon

- The Active Transportation in Saskatoon program is led by the City of Saskatoon and aims to improve safety and connectivity for all modes of transportation.
- The program focuses on reducing traffic congestion, improving pedestrian and bicycle infrastructure, and enhancing public transit options.

Active Transportation (AT) Plan | City Wide Cycling Network Principles

- Active Transportation (AT) Plan
  - AT Plan Network Facility Types
  - All Ages & Abilities (AAA)
  - Secondary (Low-Impact)

City Wide Cycling Network Principles

- A well-designed cycling network needs to be visible, intuitive, and present
  - Identify cycling network connections between destinations and neighborhoods
  - Enable a cycling network of all ages and abilities
  - Include features that are needed for all users

Examples of AAA Facility Types

- One-Way Protected Bike Lane
- One-Way Raised Cycle Track
- Bi-Directional Protected Bike Lane

Examples of Design Considerations

- Right-Turning Vehicles
- Loading Zones / Accessible Parking Spaces
- Raised Transit Platforms

Project Timeline

- Phase 1
  - High level review of all potential downtown streets
  - Identify improvement opportunities
  - Present progress to stakeholders

- Phase 2
  - Develop Downtown AAA Cycling Network
  - Present progress to stakeholders

- Phase 3
  - Design
  - Report to City Council

All Ages and Abilities (AAA) Bicycle Network Principles

- SAFETY
  - People riding bicycles are vulnerable road users because they have less protection and travel more slowly than motor vehicles.
  - An All Ages and Abilities Network should:
    - Provide accommodation for cyclists between existing facilities.
    - Maintain safe and attractive cycling routes at intersections and within parks.
    - Provide a network that is clearly defined;
    - Provide signaled intersections appropriate for all ages.
    - Reduce the distance of travel between people riding bikes and other road users.

- COMFORT
  - Attention to user comfort is an important part of attracting more people to bicycling as a mode of travel.
  - An All Ages and Abilities Network should:
    - Reduce the amount of delay for people riding bikes in relation to other traffic.
    - Minimize interactions between people riding bikes and other road users.

- CONNECTIVITY
  - People who ride bicycles need a network of continuous low-stress routes that provide connections to local and city-wide destinations.
  - An All Ages and Abilities Network should:
    - Provide direct and convenient connections that enhance diversity.
    - Connect to local and intercity connections.
    - Integrate with other modes of transportation.

- Examples of Design Considerations

Integration with other users of the street is important for the successful function of the street. Conflicts between users are inevitable, but design treatments can be applied to ensure all users can safely navigate the space.
Appendix A: Engagement Event Summary

PROPOSED AAA NETWORK: Map of Recommended Streets

PROPOSED AAA NETWORK
- Proposed AAA Network
- Existing Bicycle Facilities
  - Shared-Use On-Road Cycling Lanes
  - Cycle Track
  - Bike Boulevard
  - Multi-Use Trails or Pathways
  - Local Roads
  - Exclusive Bike Lanes
  - Sharrows Wide Lane and Narrow Lanes
  - On-Street, Sharrow the Road or Bike Route
  - Expert Riders - Street with high speed and high volume of traffic

PROPOSED AAA NETWORK
Connections To Existing And Proposed AAA Facilities

TRAFFIC LEVEL OF SERVICE & TRAVEL TIME ANALYSIS [PM PEAK PERIOD]
The City of Salt Lake used the Highway Capacity Manual (HCM) to determine Level of Service (LOS). LOS is a measure of average delay per motor vehicle of each intersection. The illustrations below show the change in LOS at each intersection and the change in travel time for each corridor when an AAA facility is added to the street.

PROPOSED AAA NETWORK: Overview of Network Decision Making

PROPOSED AAA NETWORK
Connections To Existing And Proposed AAA Facilities

Downtown streets support a number of different landuses through a variety of modes. When assessing the appropriate streets for a AAA cycling facility, it is important to consider the impacts to all users in the Downtown.

The chart below provides a high-level overview of the detailed analysis for each of the streets considered for a AAA facility.
Appendix A: Engagement Event Summary

AAA EVALUATION CRITERIA: COMPARISON OF NORTH-SOUTH STREETS

<table>
<thead>
<tr>
<th>1st Avenue</th>
<th>2nd Avenue</th>
<th>3rd Avenue</th>
<th>4th Avenue</th>
<th>Utopia Pkwy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Avenue</td>
<td>2nd Avenue</td>
<td>3rd Avenue</td>
<td>4th Avenue</td>
<td>Utopia Pkwy</td>
</tr>
</tbody>
</table>

BICYCLE NETWORK

Connectivity North
- Great
- Good
- Fair
- Poor

Connectivity South
- Good
- Fair
- Poor

Coverage: Linkages to Surrounding Area
- 90%
- 75%
- 50%
- 25%

Bicycles Proposed
- Yes
- No

Existing 1st Avenue
- Yes
- No

Proposed Changes
- Yes
- No

Key Destinations Served
- Yes
- No

People Walking
- Pedestrian Improvements

Opportunity for Improvement
- Yes
- No

AAA EVALUATION CRITERIA: COMPARISON OF EAST-WEST STREETS

<table>
<thead>
<tr>
<th>1st Street</th>
<th>2nd Street</th>
<th>3rd Street</th>
<th>4th Street</th>
<th>20th Street</th>
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</thead>
<tbody>
<tr>
<td>1st Street</td>
<td>2nd Street</td>
<td>3rd Street</td>
<td>4th Street</td>
<td>20th Street</td>
</tr>
</tbody>
</table>

BICYCLE NETWORK

Connectivity East
- Great
- Good
- Fair
- Poor

Connectivity West
- Good
- Fair
- Poor

Coverage: Linkages to Surrounding Area
- 90%
- 75%
- 50%
- 25%

Bicycles Proposed
- Yes
- No

Existing 1st Avenue
- Yes
- No

Proposed Changes
- Yes
- No

Key Destinations Served
- Yes
- No

People Walking
- Pedestrian Improvements

Opportunity for Improvement
- Yes
- No

Cyclist Safety
- Conflict with Traffic

Movement Analysis
- People Driving

Transit
- Transit Queue
- Transit Operations

Business
- Business Environment

Notes: Arrow Directions shall be consistent throughout all maps. Traffic volume movement through 33rd Street has been adjusted.

Traffic Analysis Assumptions:
- All data is subject to change in future.
- Traffic volume movement through 33rd Street has been adjusted.
- Pedestrian volume movement along 33rd Street has been adjusted.
- Committed Travel Time (CTT) for each measure has been modified to account for changes in traffic conditions.
- Due to removal of parking or changes in on-street presence, all measures did not change.

1st Avenue
- Traffic
- Parking

2nd Avenue
- Traffic
- Parking

3rd Avenue
- Traffic
- Parking

4th Avenue
- Traffic
- Parking

Utopia Pkwy
- Traffic
- Parking

Note: The above text is a simplified representation of the diagrams. For a detailed analysis, please refer to the original document.
Appendix A: Engagement Event Summary

All Ages and Abilities (AAA) Cycling Network: Community Open House Engagement Summary

1 Engagement Objectives

- Provide an overview on the project and Saskatoon’s wider cycling network;
- Describe how the technical analysis and stakeholder input informed the development of the downtown AAA cycling network;
- Share the results of the evaluation of the downtown streets; and
- Present the recommended downtown AAA cycling network.

1.1 What We Asked

Approximately 14 display boards were set up and manned by project staff. Staff discussed the content of the boards with attendees and answered questions. The boards contained the following information:

- Why Active Transportation is important in Saskatoon, including information on the Council endorsed plans supporting cycling initiatives: Growth Plan, Active Transportation Plan, and Compete Streets Design and Policy Guide.
- What types of cycling facilities are considered when planning a cycling network, including what types of facilities are considered All Ages and Abilities, and which are not, and a description of what makes a facility appropriate for people of all ages and abilities.
- The results of the evaluation of all streets considered for AAA facilities was communicated, including consideration for other users and uses along these corridor such as transit, people driving, and businesses. A rationale for why the recommended streets were selected was also provided.
- A map of the proposed AAA downtown cycling network was provided, as well as how this network would connect to existing and future AAA facilities beyond the downtown.

1.2 What We Heard

Generally speaking, many attendees were supportive of an all ages and abilities network and of the streets that were selected. Of those who supported the network, many agreed with the streets selected and supported the evaluation process used to arrive at those streets. Some comments were received around improving access at key entry points such as the bottom of the Broadway Bridge, ensuring good pavement quality in the lanes, and providing access through the existing transit terminal. Generally, those who were not supportive of the network were not supportive of any protected cycling facility within the downtown, citing negative impacts to motorists and cost implications.
Appendix A: Engagement Event Summary

2 Boards

Active Transportation in Saskatoon

Active Transportation (AT) Plan | City Wide Cycling Network Principles

City Wide Cycling Network Principles

EXAMPLES OF AAA FACILITY TYPES

EXEMPLARY DESIGN CONSIDERATIONS

PROJECT TIMELINE
Appendix A: Engagement Event Summary

PROPOSED AAA NETWORK: Map of Recommended Streets

PROPOSED AAA NETWORK: Connections To Existing And Proposed AAA Facilities

PROPOSED AAA NETWORK: Overview of Network Decision Making

TRAFFIC LEVEL OF SERVICE & TRAVEL TIME ANALYSIS [PM PEAK PERIOD]

The City of St. Paul uses the Highway Capacity Manual (HCM) to determine Level of Service (LOS). LOS is a measure of average delay per motor vehicle of each intersection. The illustrations below show the change in LOS at each intersection and the change in travel time for each control when an AAA facility is added to the street.

<table>
<thead>
<tr>
<th>Street</th>
<th>Percentage of Through Traffic</th>
<th>Percentage of Turn Traffic</th>
<th>Level of Service</th>
<th>Traffic Analysis Annotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>24th Street</td>
<td>50%</td>
<td>50%</td>
<td>D</td>
<td>- Traffic patterns across the street are not significantly impacted.</td>
</tr>
<tr>
<td>25th Street</td>
<td>50%</td>
<td>50%</td>
<td>D</td>
<td>- Traffic patterns across the street are not significantly impacted.</td>
</tr>
<tr>
<td>26th Street</td>
<td>50%</td>
<td>50%</td>
<td>D</td>
<td>- Traffic patterns across the street are not significantly impacted.</td>
</tr>
<tr>
<td>27th Street</td>
<td>50%</td>
<td>50%</td>
<td>D</td>
<td>- Traffic patterns across the street are not significantly impacted.</td>
</tr>
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</table>

Downtown streets support a number of different land uses through varied travel modes. When assessing the appropriate streets for a AAA cycling facility, it is important to consider the impacts to all users in the Downtown.

The charts below provide a high-level overview of the detailed analysis for each of the streets considered for a AAA facility.

- Full - West Streets
- North - South Streets

Traffic Level of Service (LOS)

- LOS A: Freeway
- LOS B: Collector
- LOS C: Local
- LOS D: Uncontrolled
- LOS E: Signalized

Impact Analysis Considerations

- Environmental impacts
-Vegetation and wetlands
- Pedestrian and bicycle safety
- Drainage and stormwater
- Utility conflicts
- Lighting and traffic signals
- Noise and vibration
- Energy efficiency
- Stormwater management

Downtown streets are designed to accommodate a variety of travel modes and land uses. When assessing the appropriate streets for a AAA cycling facility, it is important to consider the impacts to all users in the Downtown.
Appendix A: Engagement Event Summary

### AAA EVALUATION CRITERIA: COMPARISON OF NORTH-SOUTH STREETS

#### BICYCLE NETWORK

<table>
<thead>
<tr>
<th>Street</th>
<th>1st Avenue</th>
<th>2nd Avenue</th>
<th>3rd Avenue</th>
<th>4th Avenue</th>
<th>South Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity North</td>
<td>Great</td>
<td>Good</td>
<td>Moderate</td>
<td>Poor</td>
<td>Poor</td>
</tr>
<tr>
<td>Connectivity South</td>
<td>Great</td>
<td>Good</td>
<td>Moderate</td>
<td>Poor</td>
<td>Poor</td>
</tr>
<tr>
<td>Coverage: Existing &amp; Proposed Facilities</td>
<td>45%</td>
<td>65%</td>
<td>75%</td>
<td>75%</td>
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### ENGAGEMENT EVENT SUMMARY

- **Bicycles**: Linkages to Surrounding Areas
- **People Walking**: Pedestrian Improvements
- **People Driving**: Street Safety
- **Transit**: Transit Operations
- **Business**: Business Environment

#### CYCLIST SAFETY

| Location | Conflicts | Conflict with
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1st Avenue</td>
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<tr>
<td>4th Avenue</td>
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#### PEDESTRIAN IMPROVEMENTS

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<tbody>
<tr>
<td>Opportunity for Improvements</td>
<td>No</td>
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<td>No</td>
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#### TRANSIT OPERATIONS

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#### BUSINESS ENVIRONMENT

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<th>Street</th>
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<th>3rd Avenue</th>
<th>4th Avenue</th>
<th>South Drive</th>
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<tbody>
<tr>
<td>Opportunity for Improvements</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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**NOTES AND ASSUMPTIONS**:
- *Note 1: Traffic volume reduction is based on historical data.
- *Note 2: Bicycle lane width is based on current standards.
- *Note 3: Existing infrastructure is subject to future development.
- *Note 4: Estimated Travel Time (ETT) is based on historical data.
- *Note 5: Proposed improvements are subject to future implementation.
- *Note 6: Bicycle and pedestrian safety is based on historical data.*