

DOWNTOWN AND NUTANA ROUTE OPTIONS - WALKSHED ANALYSIS

Several BRT route options through Downtown and Nutana have emerged from project team and stakeholder conversations. This memo provides a walkshed analysis of the route options, along with recommendations for options to move forward for further planning and design.

Several BRT route options have emerged from project team and stakeholder conversations that took place during the winter and spring of 2018. The route options are concentrated in two areas: Downtown and Nutana. Outside of Downtown and Nutana, the BRT route network remains consistent with previous BRT concepts, as shown in Figure 1. Within the Downtown, the options are concentrated on either 1st Avenue or 3rd Avenue. For both options, a dedicated runningway is recommended along either 1st Avenue or 3rd Avenue. Station locations are discussed in the analysis section of this document.

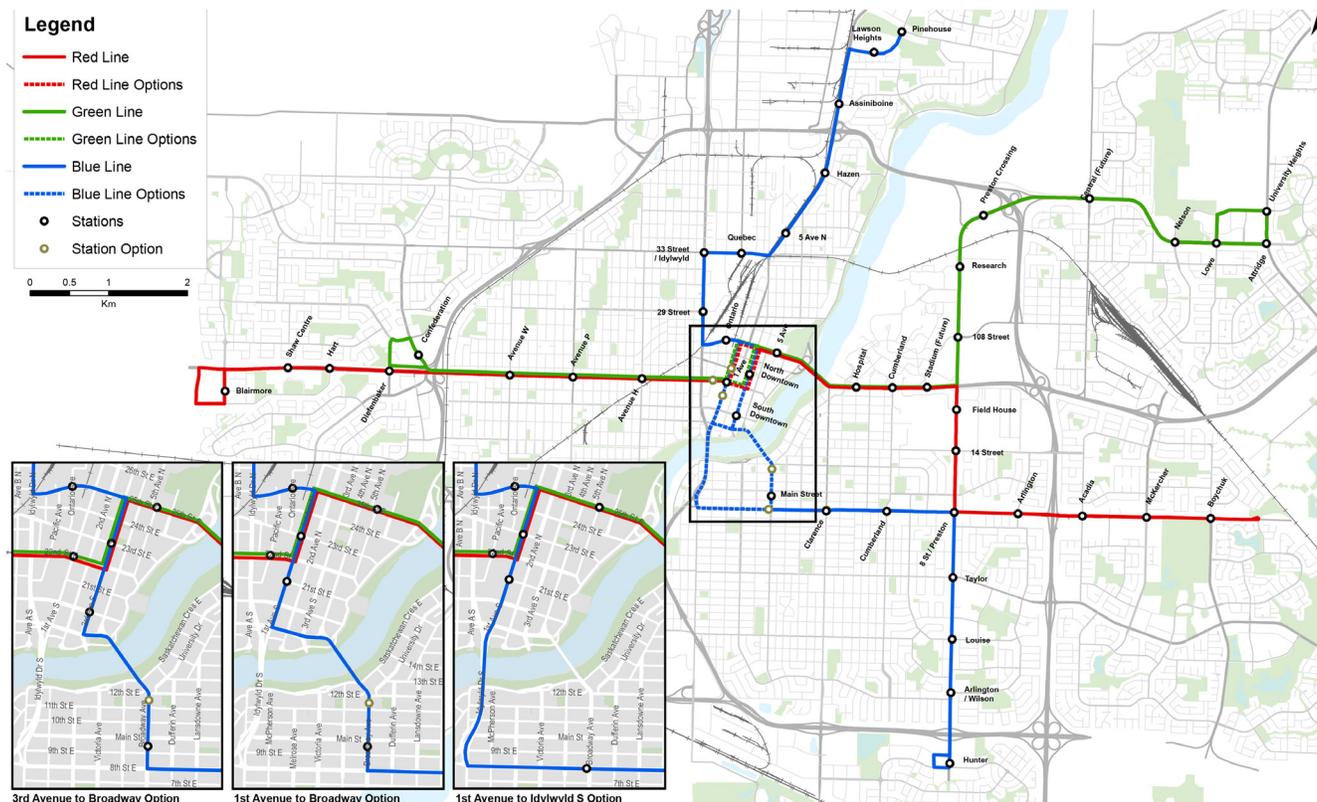


Figure 1. BRT Network with Route Options

The Nutana options are concentrated on either Broadway Avenue or Idylwyld Drive and 8th Street. For the Idylwyld route option, the BRT would run in mixed traffic. For the Broadway route option, there are two runningway options. The first is a dedicated runningway, the second is a mixed traffic runningway. Station locations are discussed in the analysis section of this document.

A walkshed analysis was performed for all downtown route options. A walkshed is the geographical catchment based on the pedestrian walking network and distances passengers are typically willing to walk. For bus and bus rapid transit planning a walkshed of 400m to 600m (a five to seven minute walk for the average person) are commonly used to assess transit coverage based on corridor and station locations. These distances are industry standards for system design, which are based on observation of how far riders of public transit will typically walk, longer distances for higher frequency and faster modes are observed. Some people will still choose to walk further distances to take public transportation. The number of people willing to walk to take public transit declines with the distance that they must walk to get to it, but there is not a hard line between the distance all people will walk and the distance that no one will walk. For example, shifts in walkshed coverage for a 1st Avenue route through downtown will not rule out access for residences and employers in the east of downtown but it will reduce the appeal for potential riders to use the system that access areas further east.

3rd Avenue Option

For this option, the Red and Green Lines would run along 22nd Street, 3rd Avenue to 25th Street and across the University Bridge. The BRT would run in a dedicated runningway along 3rd Avenue and in mixed traffic outside of 3rd Avenue. A curbside station would be located at: 22nd Street & 1st Avenue; a median station at 3rd Avenue & 22nd Street; and a curbside station at 25th Street & 5th Avenue.

The Blue Line would run along 25th Street, 3rd Avenue, 19th Street, and across the Broadway Bridge. The BRT would run in a dedicated runningway along 3rd Avenue and in mixed traffic outside of 3rd Avenue. A curbside station would be located at: 25th Street & Ontario Avenue; a median station at 3rd Avenue & 23rd Street; and a median station at 3rd Avenue & 20th Street.

The results of the walkshed analysis 3rd Avenue stations is shown in Figure 2.

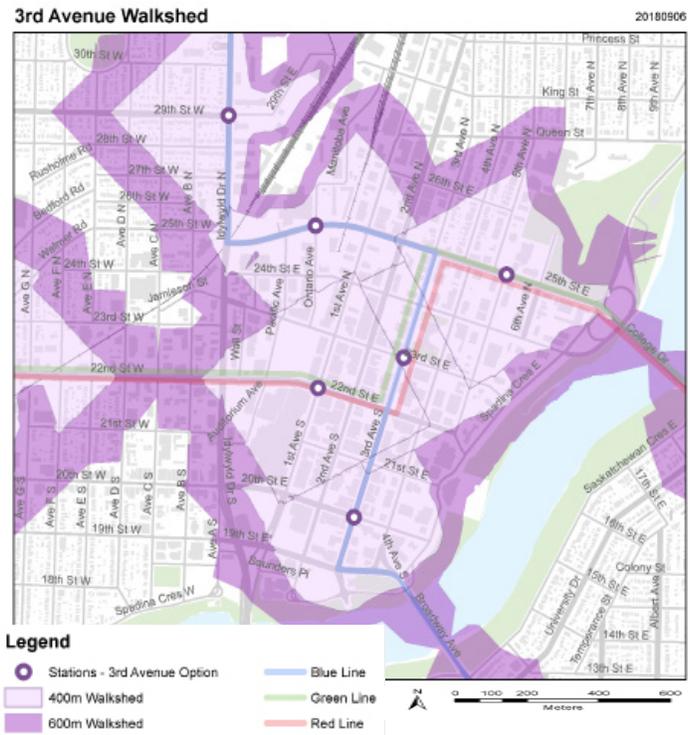


Figure 2. Downtown Walkshed – 3rd Avenue Option

The walksheds show that the 3rd Avenue option provides good overall coverage of Downtown. Spadina Crescent to the east and Idylwyld Drive to the west are both within a 600m walking distance of the two 3rd Avenue stations. The gaps in the walksheds around the 1st Avenue and Avenue H stations could be mitigated with the addition of a station at 22nd Street & Avenue C.

1st Avenue to Broadway and Idylwyld South Options

For this option, the Red and Green Lines would run along 22nd Street, 1st Avenue, 25th Street and across the University Bridge. The BRT would run in a dedicated runningway along 1st Avenue and in mixed traffic outside of 1st Avenue. A curbside station would be located at: 22nd Street & Pacific Avenue; a median station at 1st Avenue & 22nd Street; and a curbside station at 25th Street & 5th Avenue.

The Blue Line would run along 25th Street, 1st Avenue, 19th Street, and across the Broadway Bridge. Alternatively, the Blue Line could run along 25th Street, 1st Avenue and Idylwyld Drive to the Sid Buckwold Bridge. The BRT would run in a dedicated runningway along 1st Avenue and in mixed traffic outside of 1st Avenue. For both options, a curbside station would be located at 25th Street & Ontario Avenue; and two median stations at 1st Avenue & 23rd Street and 1st Avenue & 21st Street.

The walkshed analysis results for 1st Avenue stations is shown in Figure 3. The walkshed shows generally good coverage of Downtown; however, there are some eastern areas that are beyond a 600m walking distance to a 1st Avenue station, near Spadina Crescent and the Broadway Bridge. The gap in coverage along the southeast edge of downtown may be mitigated with the addition of a station along 19th Street, around 2nd or 3rd Avenue.

Much like the 3rd Avenue option, there remains a gap around Avenue C, even with the station moving from the intersection of 1st Avenue to Pacific Avenue. In this case, the gap could be mitigated with the addition of a station at Avenue C.

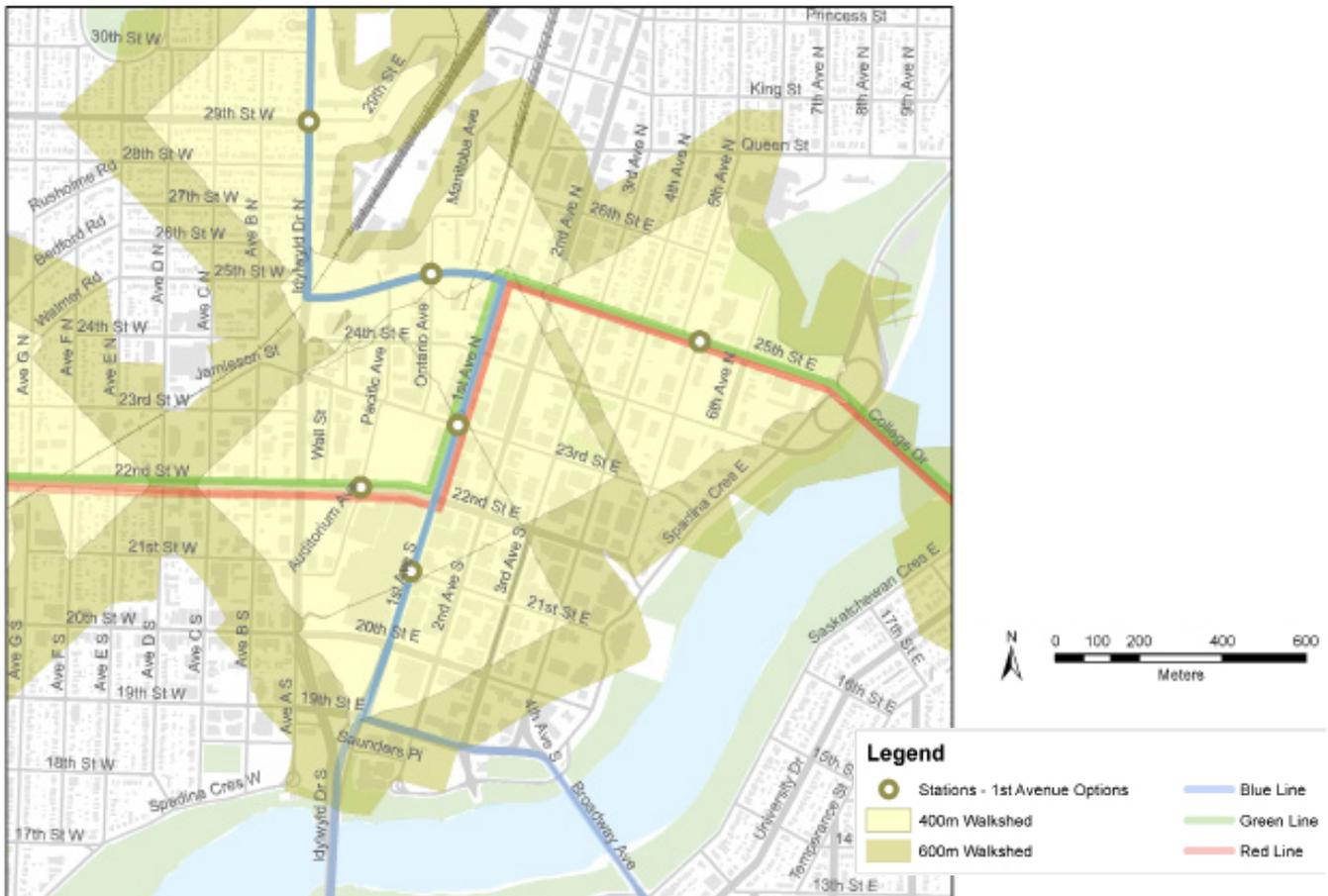


Figure 3. Downtown Walkshed – 1st Avenue Options

Broadway Option – Dedicated Runningway

From downtown, the Blue Line would cross the Broadway Bridge to continue onto Broadway Avenue. From 12th Street to 8th Street, the BRT would enter a dedicated runningway. A median station would be located at Broadway Avenue & Main Street.

The walkshed analysis result for this option is shown in Figure 4. The walkshed shows that Broadway Avenue, from 12th Street to 7th Street is within a 400m walking distance of the BRT station. Victoria Avenue, from 11th Street to 8th Street is within a 600m walking distance of the BRT station. Main Street, from Victoria Avenue to Landsdowne Avenue is also within a 400m walking distance of the BRT station.

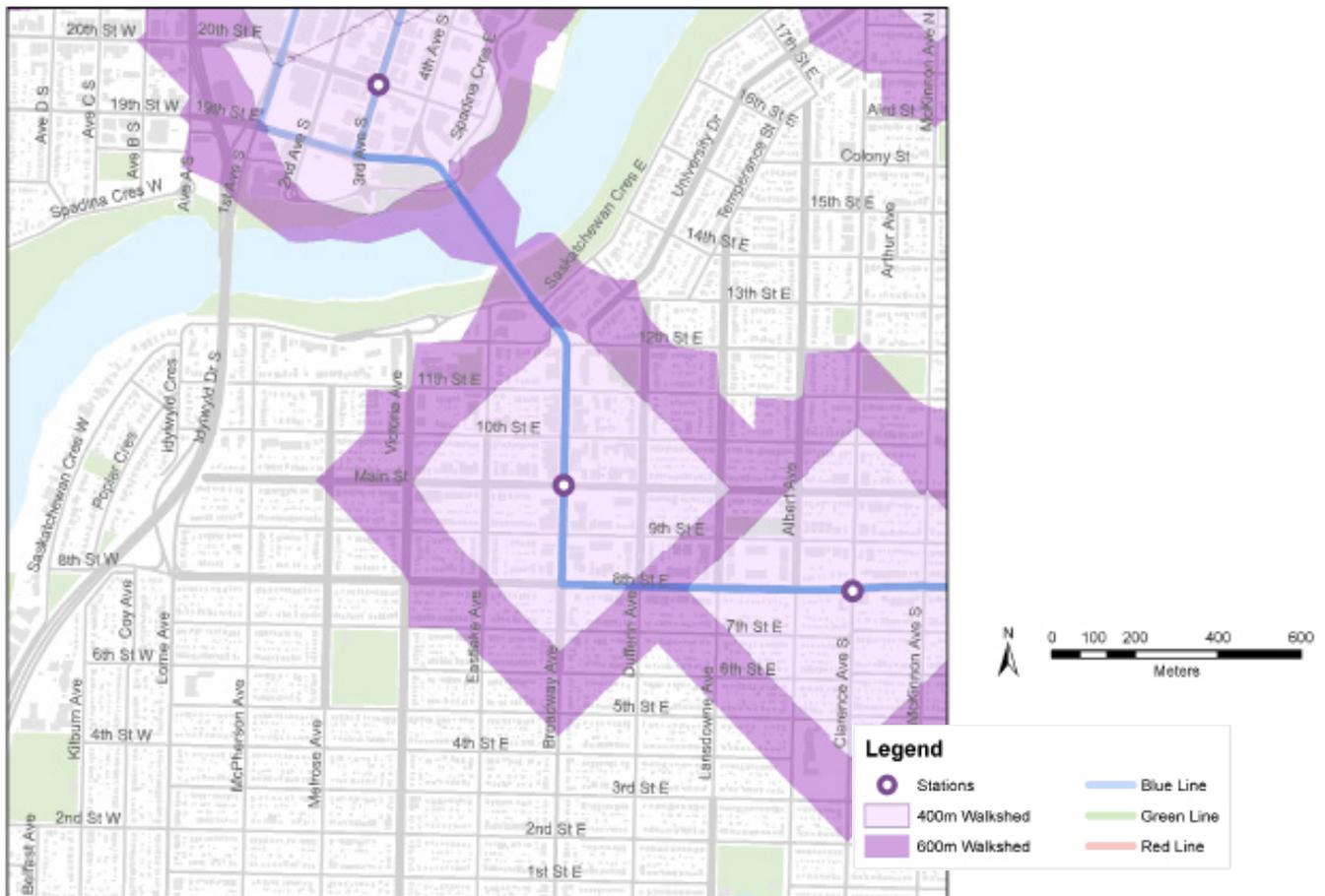


Figure 4. Nutana Walkshed – Broadway Dedicated Option

Broadway Option – Mixed Traffic Option

From downtown, the Blue Line would cross the Broadway Bridge to continue onto Broadway Avenue. Unlike the previous option, the BRT would continue to run curbside in mixed traffic, with stations at Broadway Avenue & 12th Street and Broadway Avenue & 9th Street.

The walkshed analysis results for this option is shown in Figure 5. Broadway, between the river and 6th Street, is well within a 400m walking distance of a BRT station. Victoria Avenue, from the river to 8th Street is within a 600m walking distance of a BRT station. Main Street, from Eastlake Avenue to Dufferin Avenue is within a 400m walking distance of a BRT station.

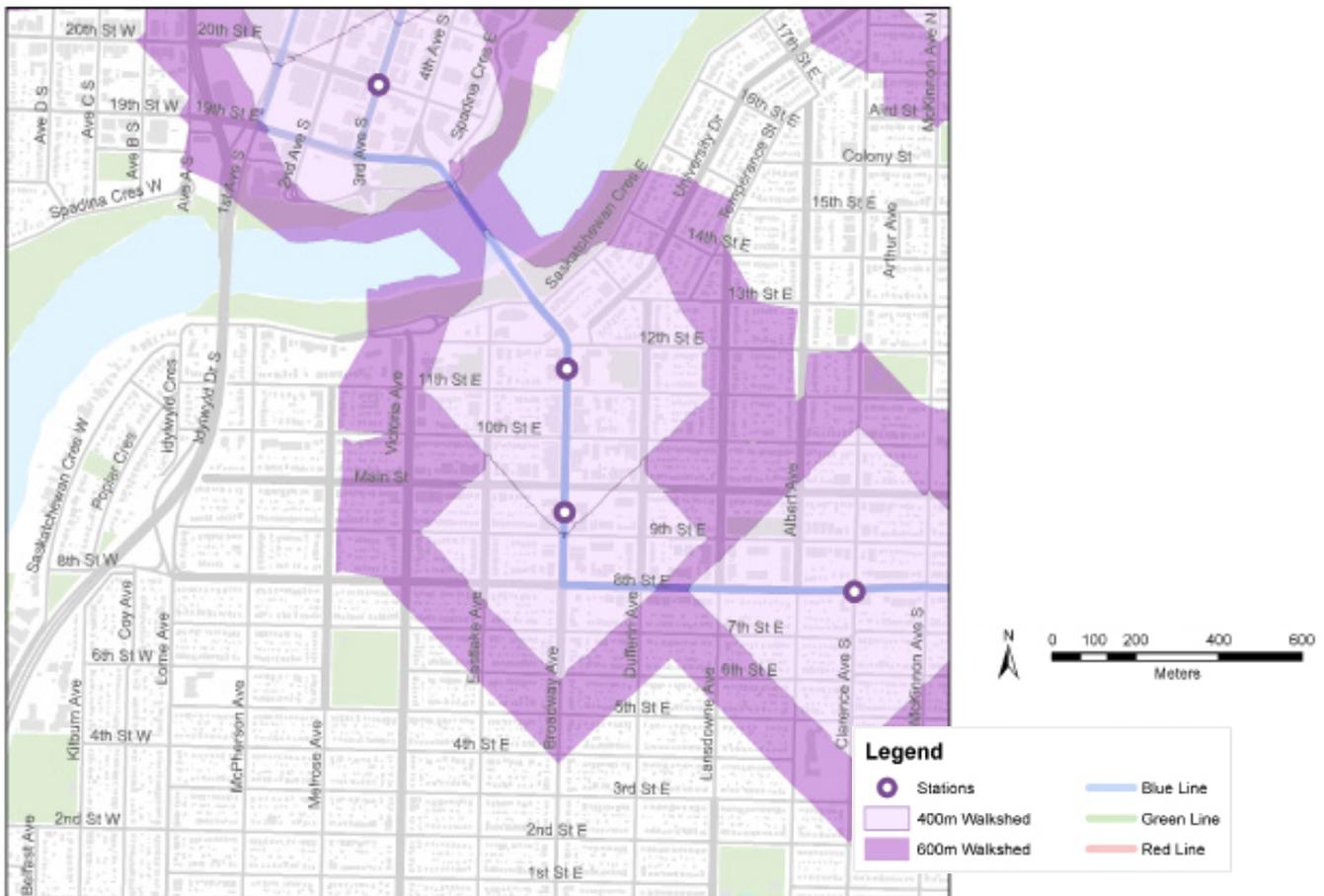


Figure 5. Nutana Walkshed – Broadway Mixed Traffic Option

Idylwyld Option

From downtown, the Blue Line would cross the Sid Buckwold Bridge to Idylwyld Drive South, to connect to 8th Street. The BRT would operate in mixed traffic. A station would be located just west of the 8th Street & Broadway Avenue intersection.

The walkshed analysis results for this option is shown in Figure 6. The walkshed shows that Broadway, from 10th Street to 5th Street is within a 400m walking distance of the station. The north end of Broadway, starting at 12th Street, is beyond a 600m walking distance of the station. Compared to the other Nutana options, a smaller section of Victoria Avenue, from Main Street to 6th Street is within a 600m walking distance of the station. Also, a smaller portion of Main Street, from Eastlake Avenue to Dufferin Avenue, is within a 400m walking distance of the BRT station. Overall, this option does not provide as much coverage of commercial section of Broadway Avenue; and instead, extend coverage further south of 8th Street.

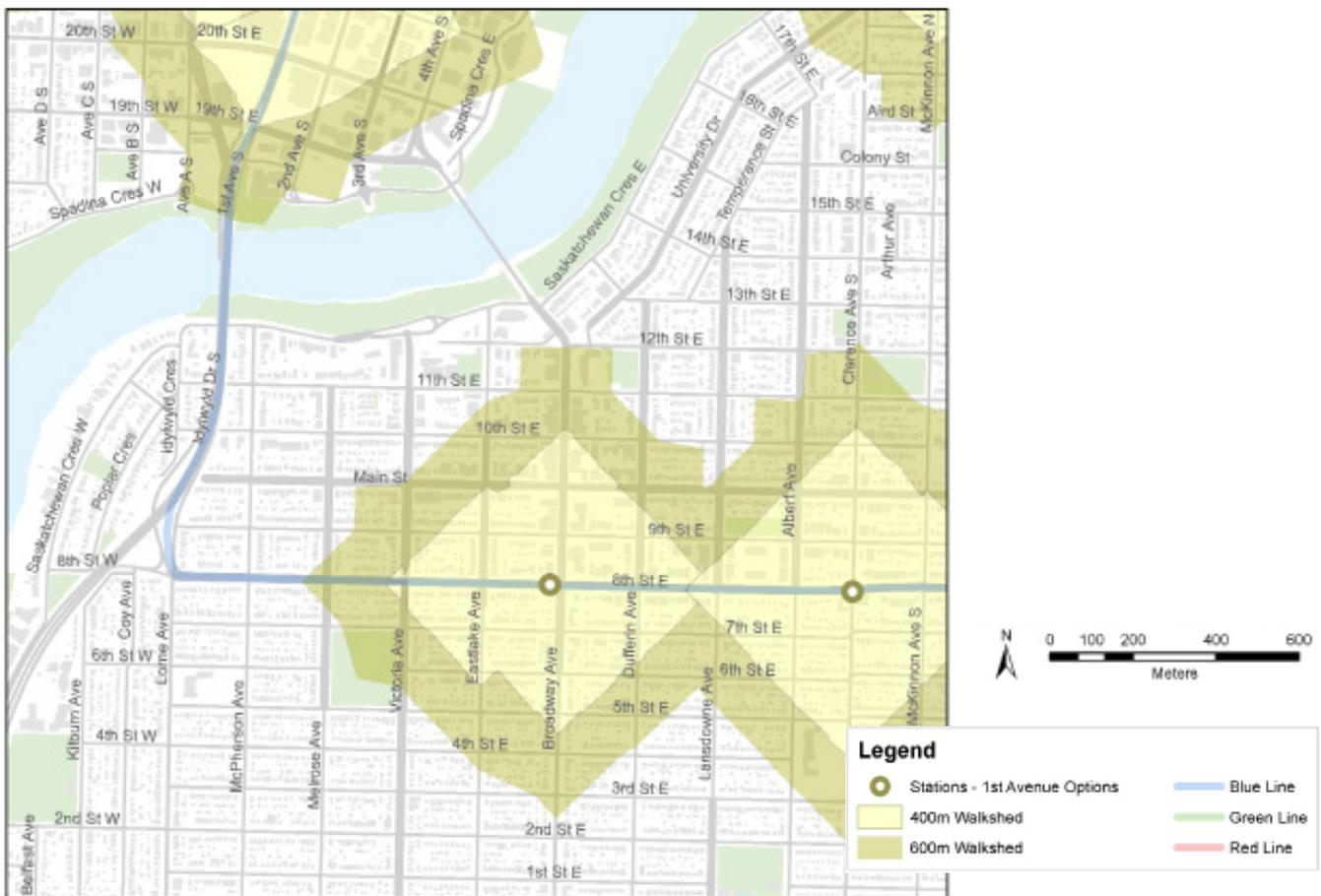


Figure 6. Nutana Walkshed – Idylwyld Option

Recommendation

For Downtown, the 3rd Avenue option provides the best service coverage, whereas the 1st Avenue option provides reasonable coverage of Downtown. With regards to the 1st Avenue option, there would be longer walking distances to access BRT stations from the eastern edges of Downtown.

For either Downtown option, the area along 22nd Street west of downtown would benefit from a new station at 22nd Street and Avenue C.

For Nutana, the two Broadway options provide excellent coverage of the commercial / mixed-use core along Broadway, making it easier for residents, employees and visitors to access homes, places of work, and places to shop and recreate via transit. The Idylwyld route with a station at 8th Street extends the walkshed coverage south; however, the area north of 12th Street is beyond a 600 metre walking distance to the station.

